

**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



*Thesis Submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy of the University of Calicut*

By

**Dr. P.N. Suresh Kumar**

**Department of Psychology**

**University of Calicut  
Kerala-673635, INDIA**

**June-2006**

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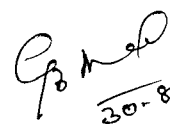
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***BONAFIDE CERTIFICATE***

This is to certify that the thesis “**Life events, social support and coping strategies in attempted suicide**” submitted by Dr. P.N .Suresh Kumar to the Department of Psychology, University of Calicut in partial fulfilment of the requirements for the Degree of Doctor of Philosophy is a bonafide research work carried out by him under my supervision and guidance. The results embodied in the thesis have not been submitted to any other university or institute for the ward of any degree or diploma.

  
30-8-06

**Dr.C.B.Asha**  
**Professor**  
**Department of Psychology**  
**University of Calicut**

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### ***DECLARATION***

I, Dr.P.N.Suresh Kumar do hereby declare that the work reported in the thesis is original and carried out by me in the Department of Psychology University of Calicut under the supervision of Prof (Dr) C.B.Asha. I further declare that this thesis or any part of there to has not been submitted for any degree, diploma, recognition or title in this or any other university or institute.



**Dr.P.N.Suresh Kumar**

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**Dr. P.N.Suresh Kumar**

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**CHAPTER I**  
**INTRODUCTION**

# INTRODUCTION AND STATEMENT OF THE PROBLEM

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# CHAPTER 1

## INTRODUCTION AND STATEMENT OF THE PROBLEM

### INTRODUCTION

The word 'suicide' was first used by Sir Thomas Browne in his *Religio Medice* in 1642 and subsequently by Walter Charleton in 1661. Prior to the introduction of the word suicide, self-destruction, self-killing and self-murder was in currency conveying the same meaning (Schneidman, 1976). Suicide has been defined variously for psychological, legal, social and administrative purposes. Schneidman (1976) defined suicide 'as the human act of self-inflicted, self-intentional cessation'. It is an act committed out of constricted thinking, tunneled logic and acute anguish. Currently in the Western world suicide is a conscious act of self-induced annihilation, best understood as a multi-dimensional malaise in a needful individual who defines an issue for which suicide is perceived as the option (Schneidman, 1985). The concept of suicidal behaviour has been extended by Meninger (1938) to include states that he terms as partial and chronic suicide, namely drug addiction, alcoholism, self-mutilations, refusal of treatment for serious illness and indulging in dangerously adventurous behaviour. As a concept, suicide is not difficult to expound. The World Health Organization (1968) defines suicide act as "the injury with varying degrees of lethal intent and that suicide may be defined as a suicidal act with fatal outcome." However, such definitions are inherently difficult for use in clinical work. It is difficult to determine whether a particular death was a suicide, since any definition of suicide requires that injuries leading to death should be self-inflicted. This may be obvious in most cases but in many others it is impossible to ascertain. Durkheim

(1951) defined suicide as “death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result”. This excludes those who survive the attempt. Menninger (1938) implied that in committing suicide, the individual kills himself, murders somebody and also fulfills his wish to die. However, Stengel (1964) restricted the term suicide to all the fatal acts. The non-fatal acts of self injury, undertaken with more or less conscious self-destruction intent were termed as “attempted suicide”. Later some workers included suicides and suicide attempts characterized as self-destructive intention., and all the self damaging behaviour, not consciously aimed at death can be designated as “Para suicide” (Rao,1992)

Para suicide, a coinage by Kreitman, Philip, & Green (1969) includes events like self-mutilation, excessive dosage of drugs and other similar events, which are mostly non-suicidal attempts. The “attempted suicide” terminology is now recommended to be used only to denote events in which there has been a failure of conscious efforts to end life (Schneidman, 1985). These are the people who are committed to end their lives through suicide but some how survive. Para suicide, on the other hand, represents a non-suicidal cry for help, conscious or unconscious manipulation, unplanned impulsive act or just the wish to ‘opt out’ for a while. The same author has also out-lined the differences between Para suicide and suicide. The common stimulus for suicide is an endurable psychological pain, which is quantitatively different in Para suicide. The purpose of suicide is to seek solution to an overwhelming problem while it is to evoke response in Para suicide. Suicide is conclusive, Para suicide evocative. Suicide is autistic while Para suicide is enacted on an interpersonal stage. The goal of suicide is stopping life and in Para suicide it is changing of life. Hopelessness and helplessness are the dominant emotions in suicide, where as disconnectedness and disenfranchisement

mark Para suicides. Subject's attitude in suicide is one of ambivalence to live or die; whereas in Para suicide it is trivalent: "living, suffering and dying". The cognitive state in suicide is one of intellectual and perceptual constriction, whereas in Para suicide there is obsessional and ruminative painfulness. In suicide, the communication consists of the decision while in parasuicide, it is one of states of unhappiness, a call for rescue. The action in suicide is an escape, one of leaving life whereas in Para suicide it is towards emotional linking. In clinical situation it is difficult to differentiate suicide from attempted suicide because of more overlap than differences.

### **Historical, Religious, Philosophical and Cultural Background**

Suicide has been an act of condemnation and commendation through the ages. The philosophers approach hinges on the central query that whether man can decide to take off his life? However, people have been killing themselves from the beginning of recorded history. The Epicureans upheld man's right to kill himself. The Stoic supported the same view. Cata, Pling and Seneca have also found suicide acceptable. However, Plato condemned suicide, as did Virgil, Ovid and Cicero. Kant viewed suicide as "an insult to humanity (Grollman, 1971)

When Saul the first king of Israel committed suicide to avoid mockery and torture by his enemy it was considered as an act of courage by the Jews. A Jewish community in 73AD committed mass suicide in the fortress of Masada when their capture by Romans became inevitable. Mass suicide in Jones Town, in recent history is another instance (Kilduff & Javers, 1978). The Talmund decreed that suicide victim was to be buried apart and was to receive no eulogy or public mourning. Early in the Christian era, suicide was acceptable, but later disapproval came when St.

Augustine (354 – 430AD) called it a sin. Thomas Aquinas (1224 – 1274 AD) also opposed suicide upholding the same view.

In the seventeenth century, John Donne reacted against the Church attitude when he argued that suicide was neither a violation of law nor of reason. David Hume, Voltaire and Rousseau defined suicide under certain circumstances (Grollman, 1971). David Hume decriminalized suicide and extricated it from the inventory of sins. He argued that suicide was neither a crime nor a sin against god. In modern times, many clergymen view suicidal behaviour not only from the theological angle but also against the psychosocial background.

Suicide is forbidden in Koran. Suicide is lowest during Ramadan month of fasting. Ramayana and Mahabarata have reported instances of suicide. Bhagavad-Gita is against self-torture and self-killing. Brahmnic view was that any one who tries to kill one self but fails should fast for a stipulated period. During Vedic and Upanishadic times, apart from Sati, death from drowning at the confluence of rivers to achieve 'punya', the self destruction for incurable diseases, ascetics undertaking a great journey towards the last year of life (Mahaprasthan), were allowed. Vedic and Upanishadic period penalized suicide in general but with the above exceptions. Some studies have shown that in comparison to Jews and Catholics, the Protestants have a higher rate of suicide.

### **Classification of Suicide**

The first major contribution to the study of social and cultural influences on suicide was made at the end of the last century by the French sociologist Durkheim (1897). In an attempt to explain statistical patterns, Durkheim divided suicides into three social categories- egoistic, altruistic and anomic. Egoistic suicide applies to those who are not strongly

integrated into any social group. Lack of family integration can be used to explain why the unmarried are more vulnerable to suicide than the married. Altruistic suicide applies to the group whose proneness to suicide stems from their excessive integration into a group, with suicide being the outgrowth of this integration. Anomic suicide applies to those persons, whose integration into society is disturbed, thereby depriving them of the customary norms of behaviours. Anomie can explain why those whose economic situation has changed drastically are more vulnerable than they are before their change in fortune.

### **Hendin's Classification of Suicidal Behaviour**

Hendin (1961) classified suicides into five different types, depending on how death is viewed, based on variables like patient's age, beliefs, mental mechanisms and affectivity.

1. **Retaliatory abandonment:** Death is viewed as an act of leaving or abandonment. This concept is derived during childhood. Most often children view the dead people as someone who left voluntarily. Sometime they view death as a violent act inflicted on the dead. Children who have lost their parents react as though he/she has chosen to abandon them.
2. **Retroflexed murder:** Suicide is considered as a murderous rage, which is turning in and is not repressed. Usually in young, disturbed, and seriously suicidal patients, suicide can be the outcome of a severe struggle with the overt desire to murder. These patients can be basically aggressive and violent with an overt desire to murder.

3. **Reunion:** Death is viewed as a pleasurable act and is incorporated into the fantasy of reunion with the parental figures, with life partners, loved ones, and siblings who are already dead and gone.
  4. **Self-punishment:** Suicidal self-punishment occurs in men over failure at work, failure at fulfilling their duty to the class or country. Some women, who have inability to love and look after the child, have a self-expectation and expectation by others that she should feel what she is not feeling. This expectation and their inability in combination produce self-hatred, with the consequent need for self-punishment.
- **Seeing oneself as already dead:** This is manifested as strong feelings of detachment, repressed aggression and affectivity, which has gone into a frozen state and is perceived by some patients as their emotional death. Clinical manifestation of this is apathy rather than depression. They see suicide as a way out, a solution to their torture.

### **Schneidman and Farberow's Classification**

Farberow & Schneidman (1961) have classified suicide into four groups: -

1. Patients who conceive suicide as a means to better life.
2. Patients who commit suicide as a result of psychosis, with associated delusions and hallucinations.
3. Patients who commit suicide out of revenge against a loved person.

4. Patients who are old and infirm for whom suicide is said to be a relapse. Schneidman classified suicidal behaviour into parasuicide and suicide, which have been explained before.

### **Classification based on the strength of suicidal thought and the determination/decision taken towards ending of the life**

Suicide ideators will have a wish for death. It can be just a thought that death could have been better than the psychological pain of living with certain situations in life. It may be expressed much more freely than the similar idea of an attempter or a completer. It may not be serious than the attempter's or completer's idea. It may or may not evolve into attempt or completion (Unni, 1999).

## **Epidemiology**

### **Global Situation**

Epidemiological studies for the identification of suicide risk factors include studying the prevalence and incidence and also the determinants of suicidal behaviour. One in every thousands of people commits suicide in the world. 4,00,000 people commit suicide every year around the world. Suicide is among the ten leading causes of death for all ages in most of the countries. Rates per year as high as one per 1, 000 population (Falkland Islands) and 1 per 1, 500 population (Hungary) are reported. In some countries, it is among the top three causes of death for people between 15 and 34 years. Suicide is underreported by 20% to 100%, according to prevailing beliefs and consequent negative sanctions attached to it in different cultures of the world. Developed and developing countries with quite distinct cultural traditions (eg. Surinam, Srilanka, Switzerland and Japan) are affected by this social problem. Islamic countries may be

exceptional with low suicide rate (W.H.O., 1993). The world scenario is illustrated in Table- 1.

Suicide accounts for 0.4 – 0.9% of all deaths. It accounts for 0.3-1% of all casualty admissions. According to a recent report of W.H.O. on Violence and Health (2002) about 8,15,000 people died from suicide in the year 2000, around the world. This represents an annual global suicidal rate of about 14.5 per 100000 population or one suicidal death about every 40 seconds.

The phenomenal increase in suicide during the last 5 decades had lead to the fact that today, it is one of the 3 leading causes of death in 15-44 years. The total global burden of suicides was estimated to be 1.8% in 1998. A significant observation has been the alarming increase of suicides among young adults in both high and low industrialized countries. Even though there has been an increase, the causes of suicide are still little understood within developing countries due to the complex interaction of social, health, economic, demographic and environmental factors. This diversity in its recurrence and causation has heralded the development – implementation and evaluation of intervention strategies.

**Table 1**  
**Suicide Rate per 100,000 in Different Countries**

<b>Suicide rate by sex</b>	<b>Male</b>	<b>Female</b>	<b>Both sexes</b>
Hungary	58.0	20.7	38.6
Sri Lanka	48.8	22.3	35.8
Finland	48.9	11.7	29.8
Switzerland	34.3	11.6	22.7
Belgium	32.0	13.8	22.7
Austria	34.6	11.6	22.6

<b>Suicide rate by sex</b>	<b>Male</b>	<b>Female</b>	<b>Both sexes</b>
Denmark	30.0	15.1	22.4
France	29.6	11.1	20.1
Sweden	26.8	10.6	18.6
Czechoslovakia	27.3	8.9	17.9
Germany	24.9	10.7	17.5
Japan	20.6	11.8	16.1
Norway	23.3	8.0	15.5
Poland	23.9	4.4	13.9
Singapore	14.7	11.5	13.1
Canada	20.4	5.2	12.7
USA	19.9	4.8	12.2
Puerto Rico	19.4	2.1	10.5
Uruguay	16.6	4.2	10.3
Netherlands	12.3	7.2	9.7
Portugal	14.9	4.6	9.6
Ireland	14.4	4.7	9.5
UK	12.4	3.6	7.9
Spain	11.6	3.9	7.7
Italy	11.2	4.1	7.5
Thailand	4.5	4.5	5.8
Chile	9.8	1.5	5.6
Venezuela	7.8	1.8	4.8
Greece	5.5	1.5	3.5
Colombia	5.1	1.5	3.3
Mexico	3.9	0.7	2.3

## **National Scenario**

The massive demographic, socio-economic, cultural, epidemiological transformation with some progress in control of communicable diseases has been resulted in the emergence of man-made, behaviour linked and multifactorial non-communicable diseases. “Suicides” considered to be “a thing of past”, “a culture related syndrome” and “mental health problem” is slowly recognized as a public health problem.

The only source of information on suicides has been the “National Crime Record Bureau” (NCRB) reports under the Ministry of Home Affairs by Government on India. The Bureau compiles information from all states and union territories and publishes annual reports. With difficulties in reporting, notification, analysis, compilation and dissemination of suicide data due to complexities in underreporting, misclassification, lack of suitable and simple methodologies, the precise magnitude of the problem is not clearly understood. This report is also subject to variation in reporting practices and may not present a true picture of the entire nation. Nevertheless, it serves as a pointer of problems, changes, trends, variations and loss to the country.

Some facts from NCRB are a testimony to the increasing problem of injuries and suicides in India. During 1967 nearly 39 years back, 1,67,000 died due to accidental deaths and suicides. At the turn of century, during 1999, 3,82,000 died due to the same cause. These numbers are likely to be much higher considering the issues of non-reporting from several parts of the country, especially from rural areas. From 40,000 suicides in 1968, the numbers have risen to nearly 1,10,000 by 1999, an increase of 175%. Compared with the rate in 1998, suicides increased by 5.6% during 1999. The national suicide rate for India stands at 10.4 per 1,00,000 population

(NCRB, 2003). It is stunning to learn that, Kerala ranks first in India for its suicidal rate (SCRB, 2004) for the seventh time (27.64 per 1,00,000), which is almost three times higher than the national average and many developed countries. Pondichery, A&N Islands, Tripura, Karnataka are other states top in the list of suicides.

It is assumed that the official suicide rates under-estimate the true rates by 20% to 100% (Issac, 2003). Applying this ratio the number of persons committing suicide in the country every year will be around 1,50,000-1,75,000 (incidence figures based on other earlier suicide incidence studies and recent injury under reporting studies), which is 1.5 times higher than the reported figures (Gururaj et al, 2000).

Like wise, there is no way of knowing the number of people who attempt suicide but do not succumb to it. Studies show that the number of people who attempt suicide is about eight to ten times the number of people who actually succeeds in their attempt. By applying this ratio there would be 88-110 per 1 lakh population attempting suicide in India every year. The National scenario is illustrated in Table- 2.

**Table-2**  
**Suicide Rate in India per 1,00,000 Population**

Year	Rate
1987	7.50
1988	8.07
1989	8.47
1990	8.94
1991	9.23
1992	9.24
1993	9.5

1994	9.9
Year	Rate
1995	9.7
1996	9.5
1997	10.0
1998	10.8
1999	11.2
2000	10.8
2001	10.6
2002	10.5
2003	10.4

### **Kerala Scenario**

Increasing suicide rate has become an important public health problem in Kerala in recent years. In the print media, visual media as well as in seminars and conferences this problem has been discussed widely. Our state contributes 10.1 percent of all the suicides occurring in India, while our population forms only 3.4 percent of the nation's populace. During the period 1991-2004 suicides peaked in the year 1999 (30.6/1,00,000) (Figure 1). According to latest reports (SCRB, 2004) Kerala ranks first in its rate of suicide (27.64 /1,00,000), which is almost three times the national average (10.4 /1,00,000; NCRB, 2003). Kerala stands first in the rate of suicide among the other states for the 8<sup>th</sup> time. The annual global suicidal rate is about 14.5 /1,00,000 population or one suicidal death about every 40 seconds.

On an average, there are 8,900 plus suicides in the state each year. In Kerala, on an average 26 people are committing suicides per day.

Majority of suicide victims are between the ages of 30 to 60 years. In western countries suicide is more common in older age groups. On a closer analysis it is clear that the proportion of young people committing suicide is increasing in Kerala over the years. Younger age for suicide victims has been reported by many studies from Kerala. It could be due to the difficulties in securing stable jobs, financial problems and problems arising out of marriages (suicide is high among the married in Kerala), which take place increasingly during the early phase of life, might have enhanced the suicidal risk in younger age group.

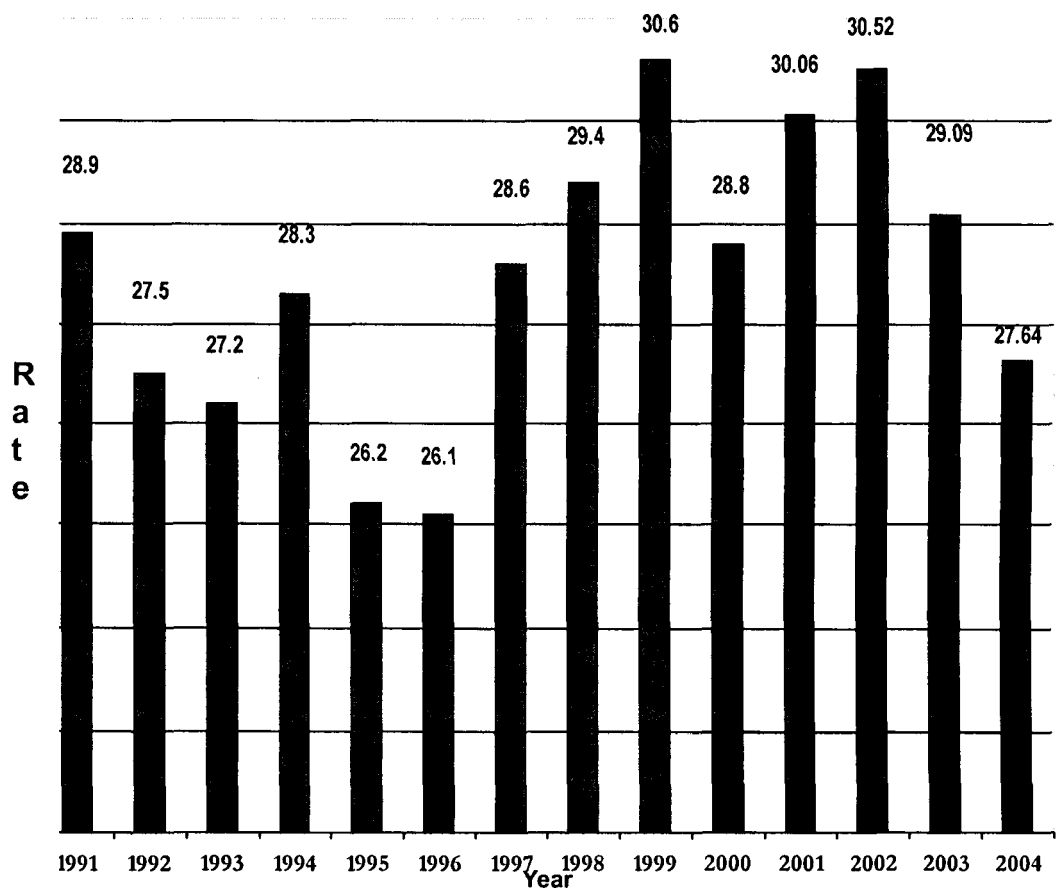
The male to female ratio in suicide in this state is 7:3. The dominance of male in suicide shown in western literature is not seen in Kerala. The diminishing gender difference in Keralite is quite interesting. For the last few years many studies from Kerala, India as well as from other developing countries have also reported an increasing female proportion in suicide.

Studies show that the number of people who attempt suicide is about eight to ten times the number of people who actually succeeds in their attempt. By applying this ratio there would be 221-276 per 1,00,000 population attempting suicide in Kerala every year. In absolute terms it is approximately 72,424 to 90,530 individuals in a year.

Another phenomenon that has attracted public attention in Kerala is increasing family suicide in which often husband and wife commit or attempt suicide after killing their children. Kerala also ranks first in the rate of family suicides. The despair and hopelessness related to family life arising out of severe financial crisis is reported and projected as the reason. The concern towards the children may be making the parents wish that their children should not suffer after their exit from the world. It may also

be that their act would gain completion only if children also join in it. Though suicide attempt originates as a purely personal idea, it gains the status of a family act in these cases. Mental health experts, social activists and others blame growing consumerism for this trend.

Figure-1 Suicide rate in Kerala per 1,00,000 population from 1991-2004



### District-wise Break up

In the year 2004, Idukki district (42.34) had the highest suicide rate (per 1 Lakh population) followed by Kollam (41.07), Wayanad (36.49), Thiruvananthapuram (35.51), Palakkad (32.94), Pathanamthitta (32.92)

etc. For the last 10 years Idukki, Wayanad, Kollam, Palakkad, Pathanamthitta and Thrissur have reported higher suicide rates (above 30 /1,00,000) (Table 3). Interestingly in Thiruvananthapuram district the suicide rate had a steep increase from 17.2 in 1995 to 35.51 in 2004. In Pathanamthitta suicide rate was 23.5 in 1995, which rose sharply to 32.92 in 2004. Like wise there is a sharp rise in suicide rate in Kollam from 32.0 in 1995 to 41.07 in 2004. Similar hike is noticed in Alapuzha also (19.9) in 1995 to 22.53 in 2004. Some of the districts like Malappuram (12.0 in 1995 and 12.77 in 2004) and Kasargode (24.8 in 1995 and 22.75 in 2004) the suicide rate is more or less constant over the years.

The drastic fall in the price of agricultural products might be the reason for high rate of suicides in the farmers dominated districts. Ever increasing rate of alcohol dependence is another reason for this alarming rate. Another reason could be the increasing rate of mental illnesses particularly depression and the influence of migration of Keralite to the Middle East. Almost every second family with a relative in the Gulf has a history of mental illness. The worst victims seem to be women between 15 and 25 years of age. It could be the incompatibility with in-laws that leads to most women developing mental problems.

During the last ten years, lowest suicide rate was reported from Malappuram (12.77 in 2004). Islam clearly forbids suicide, encouraging submission to God's will in suffering and sickness. As a consequence Muslim patients do not readily talk about suicide. Often one finds in clinical practice, depressed Muslim patients, who divulge their suicidal ideas, quickly go on to state that they would not carry out their act because it is against their religion. It takes that much more for a Muslim to cross the bridge and therefore if a Muslim patient mentions suicidal plans he should be taken seriously.

**Table 3**  
**Districtwise Suicide Rate in Kerala per 100,000**

District	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Idukki	48.6	41.1	43.3	43.0	43.0	41.5	49.2	49.7	51.0	42.3
Kollam	32.0	33.5	32.1	31.2	33.4	33.2	44.0	43.6	43.1	41.1
Wynad	44.4	39.1	38.6	39.4	51.7	48.4	39.5	40.0	45.0	36.5
Thiruvananthapuram	17.2	33.2	40.6	41.3	39.8	41.4	41.5	38.4	32.7	35.6
Pathanamthitta	23.5	19.8	21.1	27.4	29.4	22.6	35.6	38.2	32.6	33.0
Thrissur	37.5	33.1	35.1	35.3	37.1	34.0	34.2	34.5	33.7	31.0
Palakkad	32.3	32.7	33.4	33.2	34.1	34.4	35.0	32.9	33.1	33.0
Kannur	27.7	29.3	29.2	30.1	27.5	26.7	32.0	32.2	29.5	27.0
Ernakulam	26.0	23.0	27.5	26.4	26.4	24.7	26.4	27.8	24.0	23.0
Kasargod	24.8	22.0	24.1	22.5	24.0	19.0	22.0	25.9	23.4	22.8
Kottayam	23.5	20.8	23.1	25.1	24.4	21.8	24.6	25.4	26.0	22.5
Alappuzha	19.9	19.3	20.4	23.6	23.2	22.9	20.9	25.3	25.1	22.5
Kozhikode	22.0	21.4	24.5	24.6	24.8	23.7	25.6	24.3	22.7	21.4
Malappuram	12.0	14.6	10.1	14.2	13.5	14.7	11.8	11.8	12.9	12.8

## **Employment Status**

According to the recent SCRB report (2004), majority of suicide victims were housewives (16.7%) followed by unemployed (14%), farmers (10%), businessmen (4.3%), students (3.7%), private sector employees (2.7%), etc. An alarming finding is that over the last few years, housewives have occupied number one position in Kerala suicides. The proportion of farmers committing suicides is also very high in Kerala. Unemployment is another important factor in Kerala suicides. Kerala accounts for only 3.4% of India's population but has nearly 16% of the unemployment status among the Indian States. Kerala has the highest rate of unemployment of the educated. It could be the frustrated, educated, unemployed youths who resort to suicide.

Married people (72.9%) outnumbered unmarried (27.17%) among the suicide victims in Kerala. In Western countries, suicide is more common in unmarried and separated individuals. India in general as well as in Kerala marriage is a social obligation and is performed by elders irrespective of the individual's fitness for it. Further, marriage is believed to be part of the treatment for mental illness and the mentally ill are more likely to get married sooner than the mentally healthy. Hence there could be several adjustment problems among the married mentally ill in India. In the West on the other hand, marriage is believed to be a measure of emotional stability and married people have lower rate of mental illness

Suicides more common among married and housewives have been reported by previous Indian studies also. Suicides more common among women below 30 of Indian origin have been reported from Malaysia and Fiji. It is held that females in India are submissive, docile and non-assertive and these traits have built into their psyche with the result that they find

themselves unable to deal with their negative feelings adequately. Among the stresses the marital ones appear to be most frequent in women. Amidst the hostile environment of the families with problems of a difficult husband and dowry demanding in laws, they feel helpless with the threat of losing their husband's sympathies with none to turn to. This results in the choice of suicide as a way out from psychological pain, anguish and suffering. This calls for measures to cultivate and improve their coping styles to face the domestic conflicts and dowry related problems.

### **Educational Break up**

In the recent statistics (2004) 58.8% were primary and middle class educated, 30.5% were matriculate and intermediate, 2.5 % were graduates or diploma holders and 0.2% were postgraduates and above. Only 8.0% were illiterates.

### **Mode of Attempt**

2004 data shows that majority of suicide victims including males and females took their lives by hanging (43%), followed by consuming insecticides and other poisons (24%). Another note worthy point is that a significant proportion of females committed suicide by self- immolation (12.3%) and drowning (10.8%).

Factors like feasibility, accessibility, credibility and rapidity of action and degree of suicide intent could be behind the choice of method for committing suicide. The availability of methods becomes more important when the suicidal act is impulsive in nature. In our state, majority of males being farmers, they have an easy accessibility to insecticides. Similarly for females because of limited mobility outside home as majority are housewives they have more accessibility to native

poisons, medicines, corrosives, kerosene etc. However in both genders stronger suicidal intention might have led them to choose more lethal method like hanging as sure means to commit suicide. It has been revealed in Indian studies that domestic burns as a method of completing suicide by young women and most lethal one with a promise of a high degree of success. Burns in general have reported more in younger women.

## CAUSES

The causes or the factors that are reported for suicidal attempts differ in police records and in clinical experience. In the clinical situation various problems in the family such as marital problems, difficulties in social life, love affairs, failure in examinations, financial difficulties etc. emerge as the reasons in that order.

According to SCRB data (2004), 22.4% of suicides were caused by family problems, 16% mental illnesses, 16% physical illnesses and 10% financial problems. Factors like unemployment, love failure, failure in exams and professional/career problems etc have contributed only to lesser extent in Kerala suicides.

Mental illness is identified as an important cause, accounting for 16% of suicides in Kerala, which is far higher than the all-India average of 5%. The prevalence of mental illness in Kerala is 283 per 1,00,000, which is two times higher than the national rate 132 per 1,00,000. Among the mental illnesses depression, alcoholism and schizophrenia score top in the percentage of suicide. Taken together physical and mental illnesses constitute 31% of total suicides in Kerala.

However, on a closer scrutiny it would be observed that mild and moderate difficulties, lack of competence in handling them and the

emotional difficulties arising from it are responsible for majority of suicides. This is the real background of many suicides where financial difficulties are projected as the causal factor. More than the gravity of the financial difficulties and genuine problems in looking after the family, it is the incompetence and lack of confidence in handling these difficulties and the feeling of helplessness emerging from it are setting the stage for the suicidal behaviour. The influence of consumerism, the increasing prevalence of alcoholism, the ruthless and competitive life style, all collaborate to set the tragedy of the individual in the contemporary Kerala society. Aspirations and needs are quite high for an average Keralite but resources are limited. Many tend to buy things through installments. Migration adds to this. People who go abroad (especially to the Gulf) try to inculcate the same living standards and culture here. Moreover, the pampered child rearing practices, geographical over protection of the state from natural calamities, all have made a typical Keralite an individual without much fortitude or frustration tolerance and emotional immunity.

Media reporting and portrayals have been identified as having an important influence on suicides in Kerala especially copycat suicides. Young people and elderly people appear more vulnerable than those in their middle years to the media related suicide contagion. In adults, a form of social contagion may be operative whereby someone is more likely to harm himself/herself if exposed to someone who has done so. A crucial issue in the social contagion hypothesis is the influence of media. There is a steady and constant exposure to suicide in the television and cinema – often giving tasteless and lurid details of the actual process. The print media often highlights and justifies or even glorifies acts of suicide. Epidemics of suicide following sensational reporting of suicide in the media have been noticed in many parts of the world. Perhaps teenagers are

more vulnerable and impressionable than adults in the face of media influences.

## **Socio-demographic Pattern**

### **Age**

Suicide rate increases with age. Among men, suicide peaks after age 45 and among women, the greatest number of completed suicide occurs after age 55. Rates of 55 per 1 lakh are found in men aged 65 and older. The elderly attempt suicide less often than do younger people but are successful more often, accounting for 25% of suicides, although the elderly make up only 10% of the total population. The rate for those 75 or older is more than three times the rate of that among the young. A peak among males is also found in late adolescence (15-24yrs) when death by suicide is exceeded only by death attributed to accidents and cancer. The suicide rate for females in this age group showed only a slight increase (Unni, 1999).

### **Sex**

Men commit suicide more than 3 times as often as do women, a rate that is stable over all ages. Women on the other hand, are three times as likely to attempt as men (Unni, 1999).

### **Race**

Suicide rate among whites is recorded at nearly twice the rate as among non-whites, but these figures are increasingly called into question. Among the black, ghetto youth and certain Native American and Alaskan Indian groups, suicide rate greatly exceed the national rate. Two out of every three suicide are by white males (Unni, 1999).

## **Religion**

Historically, suicide among catholic population has been recorded as lower than the rate among Protestants and Jews (Unni, 1999). It may be that the degree of orthodoxy and integration within a religion are more accurate measures of risk with this category than is simple institutional religious affiliation.

## **Marital Status**

Marriage, reinforced by children seems to significantly lessen the risk of suicide. Among married persons, the rate is 11/1,00,000. Single, never married persons register an overall rate of nearly double the married rate. Previously married persons show sharply higher rates; 24/1,00,000 among the widowed; 40/1,00,000 among divorced person, with divorced men registering 69/1,00,000 as compared with 18/1,00,000 for divorced women (Unni, 1999).

## **Occupation**

The higher a person's social status is, the greater is the suicidal risk, but a fall in social status also increases the risk. Work, in general protects against suicide. Among occupational rankings, with respect to risk for suicide, physicians have traditionally been considered to stand out, and psychiatrists are considered to be at greatest risk followed by ophthalmologists and anesthesiologists. Special at risk populations are musicians, dentists, law enforcement officers, lawyers and insurance agents. Suicide is higher among unemployed persons than among employed persons. During economic recessions, depression, and at times of high unemployment, the suicide rate increases. During times of high employment and during war, the suicide rate decreases (Roy, 1995).

## **Health**

The relationship of physical health and illness to suicide is significant. Prior medical care appears to be a positively correlated risk indicator of suicide. 32 percent of suicides have had medical attention within the six months of death. Postmortem studies show that a physical illness is present in some 25 to 75 percent of all suicide victims. Among the suicide attempters studied, more than one third of persons were actively ill at the time of attempt, and more than 90% of the attempters were influenced by some illness. In both groups, psychosomatic illnesses constituted the majority of diagnoses (Unni, 1999).

Factors associated with illness and contributing to both suicide and attempts were loss of mobility among persons for whom physical activity was occupationally or recreationally important. In addition to the direct effects of illness, investigators noted the secondary effects of illness—for example disruption of relationships and loss or required change of occupational status.

## **Psychiatric Illness**

Psychiatric patients' risk for suicide is 3 to 10 times greater than that of non-psychiatric patients. The degree of risk varies according to age, sex, diagnosis and inpatient or outpatient status. Male and female psychiatric patients who have at some time been inpatients have five and ten times higher suicide risk, respectively than that for the general population. For male and female psychiatric patients who have never been admitted, the suicide risk is three and four times greater, respectively. Greater suicidal risk in inpatients is due to greater severity of illness necessitating hospitalization. Studies report that psychiatric patients who commit suicide tend to be relatively young. This is partly due to the fact that too early

onset, chronic psychiatric disorders like schizophrenia and recurrent mood disorders – accounted for just half of all these suicides. A small but significant percentage of psychiatric patients who commit suicide do so while they are inpatients especially in the first week after hospitalization in both sexes. Among psychiatric patients the period after discharge is a period of increased suicide risk. Patients attending emergency services, especially those with panic disorder also have an increased suicide risk (Roy, 1995).

### **Depression**

Mood disorder is the diagnosis most commonly associated with suicide. The age adjusted suicide rate for patients suffering from either depression or dysthymia is 400 and 190 per 100, 000 respectively for male patients and 180 and 90 for female patients. The chance of depressed patients killing themselves is increased by their being male, single, separated, divorced, widowed or recently bereaved. Suicide among depressed patients is more likely at the onset of or the end of a depressive episode (Roy, 1995).

### **Schizophrenia**

The suicide risk is high among schizophrenic patients: up to 10 percent die by committing suicide. Since the age of onset of schizophrenia is typically in the adolescence or early adulthood, most schizophrenic patients who commit suicide do so during the first few years of their illness. Majority of schizophrenic suicide victims are unmarried, and depressive symptoms are closely associated with these suicides. Only a small percentage committed suicide because of hallucinatory instructions or to escape persecutory delusions. Up to 50 percent of suicides among schizophrenic patients occur during the first few weeks and months after

discharge from a hospital; only a minority commit suicide while inpatients. The risk factors for suicide among schizophrenic patients are young age, male sex, single marital status, a previous suicide attempt a vulnerability to develop depressive symptoms, and a recent discharge from a hospital (Roy, 1995).

### **Alcoholism**

Upto 15 percent of alcoholics commit suicide. Alcoholic suicide victims tend to be male (reflecting the sex ratio of alcoholism), middle aged, unmarried, friendless, socially isolated, and currently drinking. Up to 40 percent have made a previous suicide attempt. Studies show that many alcoholics who eventually commit suicide may be depressed at the time of attempt and many have experienced the loss of a close affectionate relationship during the previous year. It is likely that such interpersonal loss and other types of life events are brought out by alcoholism and contributes to the development of mood disorder symptoms (Roy, 1995).

### **Drug Dependence**

Studies in different countries have demonstrated that there is an increased suicide risk among drug abusers. The suicide rate for heroin addicts is about 20 times greater than that for the general population. The availability of lethal amount of drugs, intravenous use, associated antisocial personality disorder, chaotic life style, and impulsivity are some of the factors that predispose drug dependent persons to suicidal behaviour, particularly when they are dysphoric, depressed or intoxicated (Roy, 1995).

## **Personality Disorders**

A high proportion of suicide victims have serious associated personality difficulties or disorders. Having a personality disorder may be a determinant of suicidal behaviour in several ways; by predisposing to major psychiatric disorders like depression or alcoholism, by leading to difficulties in relationships and social adjustment, by precipitating undesirable life events, by impairing the ability to cope with a psychiatric or physical disorder, and by drawing persons into conflicts with those around them, including family members, physicians and hospital staff members. An estimated 5 percent of patients with an antisocial personality disorder commit suicide (Roy, 1995).

## **Previous Suicidal Behaviour**

A past suicide attempt is perhaps the best indicator of future suicide. About 40% of attempters have made a previous attempt, and between 13 and 35% of attempters make another attempt during the next two years. During that time upto 7% make two or more attempts, and 1% make five or more attempts. Thus there appear to be a subgroup of repeaters: the very occasional repeater, the person who repeats several attempts within a short time period, and the chronic, habitual repeater.

Six factors may be helpful in identifying the person at risk of making another suicide attempt: problems with alcohol, the diagnosis of antisocial personality disorder, previous inpatient psychiatric treatment, a previous attempt that has lead to admission, and living alone (Roy, 1995).

## **Family History of Suicide**

A family history of suicide significantly increases the probability of a suicide attempt, especially of a violent attempt, among the depressed

patients. One study reported that among 5,845 consecutive inpatients, 243 had a family history of suicide (4.2%, Quoted by Roy, 1995). A Belgian study found that 123 (17%) of 713 depressed inpatients had a first- or second-degree relative who had committed suicide (Quoted by Roy, 1995). Roy (1995) concluded that approximately 10% of depressed patients have a family history of suicide.

## **Psychological Factors**

### **Life Stress**

Extensive empirical research on life events and illness had demonstrated that life stress may result in problems in both physical and mental health (Cohen, 1980; Paykel & Dowlathahi, 1988; Herbert & Cohen, 1993) Increasing knowledge strongly suggest that life events exposure is not random in the general population but is associated with certain environmental, socio-demographic, personal, psychopathological and genetic factors (Miller, Dean, Ingham, Kreiarn, Sashidharan & Surtees, 1986; Fergusson & Horwood, 1987; Sieevewright, 1987; McLeod & Kessler, 1990 ; Kendler, Neale, Kessler, Heath & Eaves, 1993). Life without stress cannot be imagined. Psychological Stress forms an inseparable part of life and up to a degree may be essential for normal personality development. However if these stressors become too severe or too numerous they may affect psychiatric equilibrium, producing maladaptive patterns of behaviour and possibly mental disorders. Selye (1956) in his classical work postulated that any type of life change could act as a stressor causing physiological arousal and enhanced susceptibility to illness. Stress operates via the autonomic nervous system and endocrine glands, though the precise relationship between neurogenic and hormonal regulation in normal and pathological conditions is not very clear. Stress is

not necessarily unpleasant. Essentially stress can be of two types: pleasant stress called as Eustress, and unpleasant stress called as Distress (Bernad, 1968).

### **Conceptual Models**

The exact nature of the casual link between life stress and psychiatric disorders is largely a matter of speculation. Various conceptual models have been proposed, some of which are as follows:

Rahe, Floistad & Bergon (1974) proposed a model by using the principle of optics. A series of lenses and filters are employed to indicate the various steps along the pathway between the subject's exposure to recent life stress and his subsequent illness. A subject's past experience may alter the significance of his recent life change. Defense mechanisms are employed which diffract away some of the life change events. Those not diffracted away stimulate a multitude of physiological processes. The subject may then 'absorb' some of the physiological reactions, e.g. lower blood pressure by relaxing large muscle groups. Prolonged, unabsorbed psycho physiological activations eventually lead to organ system dysfunction and bodily diseases.

The "Crisis Theory" proposed by Linderman and elaborated by Satin (1973) maintains that when an individual is faced with new situation (stress) he goes into a period of equilibrium (crisis). The outcome of crisis may be adaptive in terms of the enlargement of individuals experience and coping resources, and thus may be a part of maturation. It may be maladaptive in terms of development of a pathological state of avoidance of the adjustment problem, the development of displaced problem (such as physical illness) or the exhibition of symptoms of strain (emotional illness or reduced functional capacity).

Brown, Sklair & Harris (1973) have suggested two extreme positions regarding the causal role of events. The first emphasizes the importance of predispositional factors and, at most, the events are seen as triggering an illness, which may at most bring the onset forward by a short period of time and perhaps makes it more abrupt. The opposing position is that the events play an important formative role and the onset is either substantially advanced in time by the event or brought about by it altogether. Both triggering and formative factors may be either short term or long term. They are the opposite end of a continuum rather than qualitatively different processes.

Kagan & Levi (1974) have proposed a “Cybernetic model” in which the sequence of interactions is not a one-way process, but constitutes a part of cybernetic system with continuous feedback. The combined effect of psychosocial stressors and psychological programme (genetic factors and earlier environmental influences) determine the psychological or physiological reactions, which may lead to precursor of disease and / or disease itself. The sequence of events can be promoted or counteracted by intervening variables.

### **Methodological Aspects**

Life event research is facing many methodological problems considering methods of data collection, reliability of reporting, distortions of recall, and fall-off in reporting during time course (Paykel, 1983; Creed, 1993; Saxeian & Mohan, 1982; Sriram, 1987). In general, interview methods are superior to self-report questionnaires in accuracy and reliability in data collection. A “recent life event”, by definition, represents a change in the external social environment that can be dated approximately, in contrast to a chronic difficulty or problem, such as bad

marriage or chronic poverty (Paykel, 1989). The change is external and not just one of perception; some actual changes in the circumstances are essential. One “non-external life event” is physical illness, which is externally verifiable and carries major implications for change of life pattern.

### **Life Events and Suicide**

Suicide attempts and completed suicide are separate phenomena, and those who have attempted and committed suicide represent different but overlapping groups. Of the suicides a proportion of 30-40% had previously attempted suicide (Maris, 1992), about 1-2% of the attempters die annually by suicide (Hawton, 1992), and 3-10% may do so eventually (reviewed by Gunnell & Frankel, 1994). Suicide attempts vary in terms of medical seriousness, suicidal intent, and motive from one case to another. Those attempters at high risk resemble completed suicide victims in many characteristics (Michel, 1987). The rate of suicide attempts has been estimated to be 10-50 times higher than that of fatalities (Hankoff, 1982; Ostamo, Lonnqvist, Heinonen, Leppavouri, Liikkanen, Marttila, & Monkkonen, 1991).

Suicide attempters may have experienced a greater number of stressful life events in the months or weeks prior to the attempt than before (Papa, 1980; Power, Cooke & Brooks, 1985). Preceding the act, suicide attempters had experienced adverse events more often than general population controls (Cochrane & Robertson, 1975; Paykel, Prusoff, & Myers, 1975; O'Brien & Farmer, 1980; Isherwood, Adam & Hornblow, 1982; Bronisch & Hecht., 1987; de Vanna, Paterniti, Milievich, Rigamonti, Sulich, & Faravelli, 1990). They had also experienced more commonly adverse events than did depressive controls (Paykel et al, 1975;

Slater & Depue, 1981), or other psychiatric patients (Greer, Gunn & Koller, 1966; Luscomb, Clum & Patsiokas, 1980; Morano, Cisler & Lemerond, 1993). Suicide research literature (Heikkinen, Aro & Lonnqvist, 1994) has shown links between suicidal behaviour and a variety of stressful life events including interpersonal conflict, economic problems, school-related difficulties and legal or disciplinary problems. The events shown to precipitate suicide attempt may act as precipitating factors for suicidal behaviour only when they occurs in individuals who are vulnerable to suicidal behaviour (Rich, Warsrad, Nemiroff, Flower & Yound, 1991). A particular problem in life event and suicide research lies in ascertaining the extent to which life events that precede suicidal behaviour are independent of, or caused by, antecedent factors including socio-demographic factors, personality factors, social support, coping styles and psychiatric disorders.

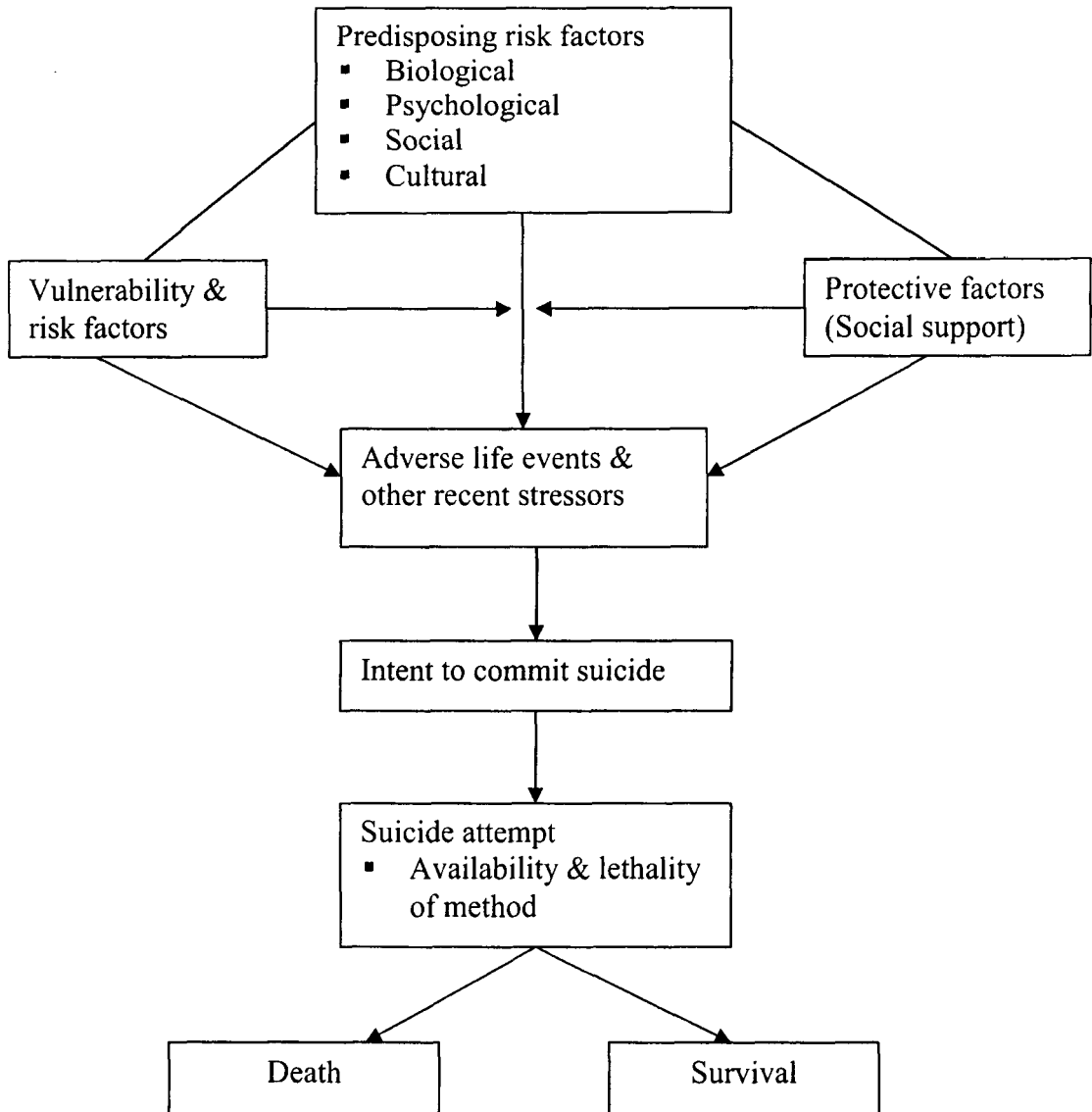
### **Life Events in the Suicide Process**

Theoretically, the role of life events in the suicide process differs in important aspects from the role of life events in illness. Suicidal behaviour, unlike physical illness, is a self-inflicted act, often of short duration. Applying a systematic approach, suicide can be considered as a time advancing process that is affected by complex biological, psychological, social, cultural and societal factors (Blumenthal, 1990; Heikinen, Aro & Lonnqvist, 1993) (Figure-1: The suicide process model). Using this approach as a conceptual framework, separate research findings may be integrated into a hypothetic model. The suicide process model is applied to contemplate and organize the factors associated with suicide, not to create a new theory of suicide (Heikinen, 1994). In this threshold model of suicidal behaviour, certain predisposing risk factors such as family history of suicide and biological vulnerability can interact with risk/vulnerability

factors which develop later in life, such as psychiatric illness, exposure to suicide, or chronic difficulties, for example.

Precipitating or triggering factors such as adverse life events and other recent psychosocial stressors occur close to suicide; when a person with risk factors/vulnerability undergoes a humiliating life experience or other psychosocial adversity and when there is an available method for suicide, the threshold for suicidal behaviour may be lowered. In many cases, suicide may be seen as an escape from intolerable, although probably transient, period of emotional turmoil, triggered by recent adversity. Counteracting these provoking factors, by acting as a barrier to suicidal behaviour, protective factors such as strong social support systems, cognitive flexibility, hopefulness, and appropriate treatment for an associated psychiatric disorder operate at phases during the process. Lack of protective factors may indicate increased vulnerability. During an individual's life course, the equilibrium between risk factors and protective factors varies from time to time. Suicidal intent is not constant with an individual person. It waxes, wanes, and disappears, and it may surface abruptly (Murphy, 1983). Recent life events may act as precipitant stressors, which make the person, take the step from suicidal thoughts to suicidal acts. The suicide process model may help to explain why some people do not become suicidal given certain conditions and why others do.

**Figure 2: The Suicide Process Model**



## **Social Support**

### **General Concepts**

Interpersonal networks may afford “social support” that provides assistance and encouragement to individuals with physical and emotional problems in order that they may better cope (Henderson, 1984; Veiel,

1988). Informal support is usually provided by friends, relatives or peers, while formal assistance is provided by churches, groups etc. Such support is thought to help to maintain emotional well-being and mitigate the effects of adverse life events. There is debate whether the effect of social support on mental health direct or indirect. Two different views have been proposed, and both have gained some support from the literature. Lack of social support may be stressful independently or it may indicate a lack of a buffer against psychosocial stress originating from life events (Aneshensel & Stone, 1982; Thoits, 1982; Cohen & Wills, 1985; Parry & Shapiro, 1986; Alloway & Bebbington, 1987; Galanter, 1988; Overholser, Normen. & Miller, 1990).

The term social support refers to the mechanisms by which interpersonal relationships protect people from deleterious effects of stress (Kessler, 1989). Social support has a very important role to play in maintaining an optimum level of efficiency and is necessary for feelings of physical as well as psychological well being (Broadhead, Kaplan, James, Wagner, Schoenbach, Grimson, Heyden, Tibblin & Gehlbach, 1983) A number of community surveys and case reports have shown that social support plays an important part in protecting against both onset as well as anticipation of psychopathology (Kessler, 1989)

### **Conceptualization of Social Support**

Although definitions of social support vary, the underlying implication is that persons who are supported instrumentally and emotionally are healthier than those who are not supported. The view posited by Heller, Swindle Jr. & Dusenbury (1986) is that social support is involved in social activity if it is 'perceived by the recipient of the activity as esteem enhancing or if it involves the provision of stress related

interpersonal aid (emotional support, cognitive structuring, or instrumental aid“. The first theme ‘perception’ refers to a subjective assessment of, and belief in (a) being cared for and valued by significant others (b) having significant others available in time of need and (c) being satisfied with these relationships. Mobilization of social support is conceptualized as an aid to coping ‘refers to the provision of direct help or material aid.

Social support is considered as a personal experience as opposed to a set of objective circumstances. Social support as described by Coyne & DeLongis (1986) is a “cognitive appraisal or property of the person, rather than a reflection of a set of circumstances or of the transactional unit of a particular circumstance”. Some scientists have viewed social support as function of personality, for example some persons may “have the capacity to seek out and obtain support from any environment at all times and particularly when order stress” (Flaherty, Gaviria & Pathek, 1983) There is evidence that not all types or sources of support are equally efficacious in reducing stress. Harm may result from supportive actions that are not consistent with either the expectations or the personal coping style of the one in need of social support (Schilling, 1987).

Certain specific health- sustaining functions of social support can be reduced to (a) esteem support, or information that one is esteemed, accepted or affirmed (b) informational support, sometimes referred to as advice or coping support (c) affiliative support aimed at facilitating positive affective moods and (d) instrumental support, or the provision of either tangible or intangible aid. Despite the social support research that has accumulated over the last decade, the process by which social support accomplishes a health protective functioning is neither clearly understood nor adequately documented (Schilling, 1987). Some authors question whether the social support literature has relevance to intervention or if

social support is of any causal significance to mental health (Coyne & DeLongis, 1986).

### **Operational Models of Social Support and Stress**

Two general models of the influence of social support on stress have been proposed, each representing a different process through which social support can affect well-being. Neither hypothesized model has been strongly or consistently demonstrated.

#### **Direct Effect Model**

The direct (main) effect model of social support can prevent exposure to certain stressors, induce more benign appraisals of threat and/or boost morale and sense of well-being (Gottlieb, 1981). This effect influences the well-being in ways that do not necessarily involve improved means of coping with actual stressors or stressful events. In this model, social support is seen on its own as an important etiological variable, and is “conceptualized as a basic human need that must be satisfied in order for an individual to enjoy a sense of well-being”. Social support bears a direct relationship to measures of psychological disorders in this model and is a means of primary prevention. Emotional sustenance or esteem enhancing components of social support are more critical to health maintenance than are the more practical stress reducing functions of cognitive or instrumental aid (Shumaker & Brownell, 1984). Interestingly, on the basis of review of literature on social support (Cohen & Wills, 1985). It is concluded that there is a dearth of evidence to support the greater impact of emotional and informational support versus tangible support and companionship on well-being. The literature reviewed strongly supports the proposition that social support has a significant direct relationship on physical and psychological

well-being. However, the connections are “likely to be complex, reciprocal and contingent” (Coyne & DeLongis, 1983).

### **Buffering Effect Model**

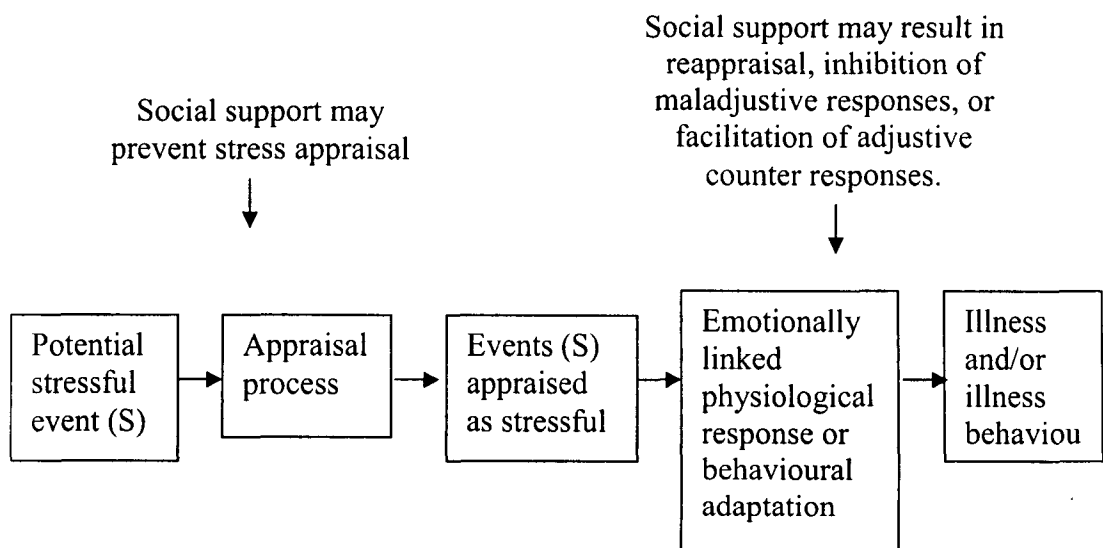
The buffering (interaction) effect model hypothesizes that social support mediates or ‘buffers’ the adverse effects of chronic or adverse life stressors (Cohen & Wills, 1985). This effect influences problem-solving coping directed at changing or managing the stress situation (Thoits, 1986). This is the most widely researched theory of social support buffering effect and it is claimed to offer a social model of mental disorder.

Stress arises when one appraises a situation as threatening or otherwise demanding and does not have the appropriate coping response. Characteristic effects of stress appraisal include negative affect, elevation of physiological response, and behavioural adaptations. Although a single stressful event may not place great demand on coping abilities of most persons, it is when multiple problems accumulate, persisting and straining the problem solving capacity of the individual, that the potential for serious disruption of neuroendocrine or immune system functioning, marked change in health related behaviours (eg. Excessive alcohol use, poor diet or exercise patterns), or various failures in self-care)(Cohen & Wills, 1985). The psychological definition of stress closely links with appraisal stress with feelings of helplessness and the possible loss of self-esteem. Feeling of helplessness arises because of the perceived inability to cope with situation that demand effective response. Loss of esteem occur to the extent that failure to cope adequately is attributed to one’s own ability or stable personality traits as opposed to some external cause.

Following these propositions, the possible buffering mechanisms of social support are depicted in Figure 2. As indicated by Figure 1, support

may play a role at two different points in the causal chain linking stress to illness. First, support may intervene between the stressful event (or expectation of that event) and a stress reaction by attenuating or preventing a stress appraisal response. That is, the perception that others can and will provide necessary resources may redefine the potential for harm posed by a situation and bolster one's perceived ability to cope with opposed demands, and hence prevent a particular situation from being appraised as highly stressful. Second, adequate support may intervene between the experience of stress and the onset of pathological outcome by reducing or eliminating the stress reaction or by directly influencing the physiological processes. Support may alleviate the impact of stress appraisal by providing a solution to the problem by reducing the perceived importance of the problem by tranquilizing the neuroendocrine system so that people are less reactive to the perceived stress, or by facilitating healthful behaviours (Cohen & Wills, 1985).

**Figure- 3 Two points at which social support may interfere with the hypothesized causal link between stressful events and illness**



The critical point of the buffering effect model is that social support modifies the effects of stress; specifically at the effect of stress on psychological adaptation. A major caveat in the testing of buffering hypothesis has been lack of attention given to the circumstances in which perception of support and adaptational consequences arise.

Although empirical validation of both models does exist, “overall the results are mixed”. More current research points to simultaneity between functioning of the two models as opposed to a mutually exclusive model (Ryan & Austin, 1989). Citing studies of social support in the mental health field, Flaherty et al (1983) concluded that ‘social support emerged as a better predictor of outcome than life events, causing speculation that there is a direct effect in addition to that of buffering stress.

### **Social Support and Suicide**

A body of research in recent years has focused on social support in maintaining the emotional well-being and moderating the effects of adverse life events. The variables used in measuring social support include marriage, living alone, interaction between family members, recent moves, number of close friends, and other variables relating to change in social integration, especially when the interaction is positive. Social support can reduce the risk of mental disorder by buffering the adverse effects of stressful life events, or it can have a direct, independent effect on mental health irrespective of the presence or absence of stressful life events (Parey & Shapero, 1986; Overholser et al, 1990).

So far, little attention has been paid to the role of social support in suicide. Although considerable literature has linked social support and

suicidal ideation, few studies have considered the relationship between social support and suicidal behaviour with any specificity (Rudd, 1993).

Life events and coping styles can alter the situation and function of the social support system in terms of size, frequency of interaction, and stability and such changes may be associated with suicidal behaviour.

### **Coping Styles or Strategies**

The word coping has two connotations in stress literature. It has been used to denote the way of dealing with stress, or the effort to “master” conditions of harm, threat or challenge when a routine or automatic response is not readily available (Lazarus, 1974). Coping behaviour or the things people do to reduce the stress has recently become the focus of research. How people cope with stress may be more important than the frequency or severity of stress.

Hamburg & Adams (1967) defined coping as the seeking and utilization of information”. Lazarus (1974) has emphasized the key role of cognitive process in coping activity and the importance of coping in determining the quality and intensity of emotional reactions to stress. Freedman, Kaplan & Sadock (1979) described coping as “conscious and unconscious ways of dealing with stress without changing one’s goals. Pearlin & Schooler (1978) conceptualized it as “any response to situational life stressors that serves to prevent, avoid or control emotional distress”. All definitions imply that stressors are not passively received by the individual, but that he actively engages in certain thoughts and behaviours to mitigate and avoid their impact.

## **Psychoanalytical Background**

Theoretical antecedents of coping can be traced back of psychoanalytic and egopsychology. Freud (1937) postulated that the ego mechanisms of defense described as habitual, unconscious and sometimes pathological processes that are employed to resolve conflicts between individual's impulses and the constraints of external reality. Both these theories have provided the basis for formulating developmental perspectives that focused on the gradual accumulation of personal coping resources over an individual's life span. Erikson (1963) described 8-life stages each representing a new challenge that must be negotiated successfully in order that the individuals cope adequately with the next stage of development.

## **Coping Traits and Coping Styles**

Two different approaches to the study of coping have been perused by various investigators. One is general coping traits, styles or dispositions, while the other is active ongoing strategy in a particular stress situation. Coping traits refer to a disposition to respond in a specific way in situations. Coping styles imply a broader, more encompassing disposition. Traits and styles are fundamentally similar ideas. Both are characteristic ways of handling situation, they are stable tendencies on the basis of which inferences are drawn about how an individual will cope in some or all types of stressful situations.

## **Classification of Coping Responses**

Although there are many ways to classify coping responses, most approaches distinguish between strategies that are active in nature and oriented toward confronting the problem, and strategies that entails an

effort to reduce tension by avoiding dealing with the problem. Most of the approaches to study coping behaviour are three broad perspectives a) ego processes b) traits and c) the special demand of specific situations. In terms of processes, Hann (1969) formulated a tripartite model of ego functioning comprising of 10 generic ego processes, expressing it in 3 modes; coping, defense and fragmentation. Based on this model, normative ratings, Q-sorts and empirically derived questionnaires have been used to collect data on the processes. However, conceptualizing coping in terms of defenses has certain difficulties in that being unconsciously used by the individual, they have to be inferred.

Trait measures of coping have been comprehensively reviewed by Lazarus et al (1974). They are dispositional or personality attributes that lead to specific responses (e.g.: Repression–Sensitization). Trait measures taken alone however are poor predictors of coping behaviour as they assume that people are behaviourally consistent across situations.

Situation – oriented coping views coping behaviour in terms of special demands of specific kinds of situations such as illness (Hacket & Cassam, 1975) or bereavement (Parker, 1972). Although this method has virtue of studying comprehensively coping in relation to particular situations the finding found to be situation specific with limited generalisability.

Various paper pencil measures of coping behaviour have been developed to study specific things that people do when faced with stress. Moss & Billings (1982) have organized the dimensions of appraisal and coping in the measurement procedure into 3 dimensions.

### **Appraisal Focused coping**

It involves attempts to define the meaning of a situation and includes such strategies as logical analysis and cognitive redefinition.

### **Problem Focused Coping**

This seeks to modify or eliminate the source of stress to deal with the tangible consequences of a problem or actively change the self and develop the most satisfying situation.

### **Emotion Focused Coping**

This includes responses whose primary function is to manage the emotions aroused by stress and thereby maintain effective equilibrium

These categories, are however, not mutually exclusive. Their primary focus is on appraising and reappraising a situation, dealing with reality of the situation, and handling the emotion aroused by the situations.

Maddi & Kobara (1984) have identified two forms of coping a) transformational and b) regressive. Transformation coping involves altering the life events so that they are less stressful. To do this one has to interact with the events and by thinking about them optimistically and acting towards them decisively, change them in a less stressful direction. Regressive approach is a strategy where when one thinks about the events pessimistically and acts evasively to avoid contact with them. There are certain resistance resources that increase the likelihood of meeting stressful events with transformational rather than regressive coping. Personality hardiness combines three tendencies, namely, toward "commitment" rather than alienation, toward "control" rather than powerlessness and toward "challenge" rather than threat. When stressful events occur, hardly people

do experience them as harmful, but as somewhat interesting and important (commitment), at least somewhat influential (control) and of potential value for personal development. The more of these resources one has, the greater is its buffering effect against stress.

Lazarus (1974) has suggested a classification of coping processes into two major categories namely direct actions and palliative modes. Direct actions include behaviours or action which when performed by the individual in the presence of a stressful situation is expected to bring a change in stress causing environment. The palliative mode of coping refers to those thoughts or actions whose purpose is to relieve the individual of any emotional impact or stress. There is, however no clear consensus as to which coping strategies or modes of coping are most effective. Coping may either take the form of passive or avoiding the situation (reactive strategy) which is termed as “dysfunctional style” or confronting and approaching the realities of stress consciously, and taking some action to solve problem themselves or with the help of people (reactive strategy) which is termed as “dysfunctional style” (Pareek, 1983).

Approach or effective strategies of coping include efforts to increase physical and mental preparedness of coping (through physical exercise, yoga and meditation or diet management), creative diversions for emotional enrichments (music, art, theatre etc.) and strategies of dealing with the basic problems.

Plutchick & Conte (1989) have developed the Albert Einstein College of Medicine (AECOM) coping styles scale to assess various coping styles such as suppression (avoiding the problem), help seeking (asking for help) replacement (dealing with problems by finding alternative solutions), blame (blame others for the problems) substitution (engaging in

tension reduction activities such as sports), mapping (collecting information about the problem), reversal (acting opposite of the way one feels) and minimization (minimizing the importance of the problem). This scale measures above-mentioned 8 basic coping styles that are reducing stress and coping with life problems.

### **Coping and Outcome**

Coping can have an effect on three kinds of outcome- Psychological, Social and physiological (Pestonjee, 1999). From a psychological prospective, coping can have an effect on the person's morale (the way one feels about oneself and one's life), emotional reaction (level of depression or anxiety, or the balance between positive trend and negative feelings), the incidence of psychiatric disorders and even performance. From a social prospective, one can measure its impact on functional effectiveness such as employability, community involvement and sociability, the effectiveness of interpersonal relationships or the degree to which useful social rules are filled (acting out, antisocial behaviours etc, are avoided). From a physiological prospective, outcome includes short-term consequences, such as the development and progression of a particular disease.

### **Coping and Suicidal Behaviour**

Coping mechanisms serve as an internal source of emotional strength and mediates a personal reaction to any perceived stress whether internal or external. It appears that it is not the stressor alone that leads to serious outcome, but the way in which the person perceives and responds to it. It has been reported that individuals who attempt suicide have more difficulties in coping with interpersonal problems than do non-suicidal psychiatric patients of general population (Lineham, Chiles, Egan, Devine

& Laffau, 1986). Suicidal patients are less able to consider alternatives and they have less flexibility in thinking. It has been found that suicidal patients were less likely to use the coping style of minimization to deal with life problems (Kotler, Finkelstein, Moracho, Botsis, Plutchik, Brown & Van Prag, 1993) than do psychiatric controls. This coping style refers to a personal tendency to de-emphasize the burden and importance of a perceived stressful event. This may make them unable to buffer and neutralize the impact of stressors and that may “make mountains out of mole hills”. This may contribute to their exaggerated reaction to stressful situations, which results in suicide attempt as a last resort.

Suicidal patients also lack the coping style- mapping (Schneidman, 1982). Hence they lack the ability to obtain information and fail to look for alternative solutions. Because of this suicidal person is unable to differentiate between important and unimportant sources of pressure, and has difficulty in finding alternatives to the problems of every day life.

Three coping styles (blame, suppression and substitution) are reported to be excess in suicidal patients (Horesh, Rolnick, Dannon, Lepkifker, Apter & Kotler, 1996). It appears that blaming others for one’s problems, avoiding the problem or engaging in indirect tension reducing approaches, serve to augment suicidal behaviours. The coping styles like replacement and reversal were negatively correlated with suicidal risk. Learning about the situation and looking for alternative ways to solve it and bring to make best out of the situation decreases the suicidal risk, thus functioning as alternatives. Help seeking activities were not more frequent in suicidal patients. Because these patients did not seek help as frequently as non-suicidal patients, the detection of suicidal behaviour would be more difficult.

Some of the defense mechanisms like denial and repression also play a significant role in suicidal behaviour with coping styles of suppression and minimization operating at the cognitive level (Apter, Plutchik, Sevy, Korn, Brown & Van Prag, 1989). The existing literature evidence in the area of coping and suicide concludes that enrichment of repertoire of adaptive coping strategies of such individuals, with emphasis on their use of minimization, as well as mapping, might re-channel their typical pattern of self destructive behaviour to more mature patterns of response in subsequent stressful situations (Horesh et al, 1996).

### **Quality of Life**

Diseases affect human life in a profound way. They cause premature death resulting in decreased “quantity” of life, but more often they cause structural and functional limitations that may seriously affect the “quantity” of life. Death is easier to identify and record; hence morality has been a standard method for quantifying the impact of diseases. Quality of life (QOL) has been difficult to measure; hence its use in health care setting has been comparatively recent.

Assessment of QOL has several uses in health care. It provides a measurement of functioning and well-being rather than of diseases and disorders, hence is more comprehensive and compatible with the WHO’s concept of health (1948). It can guide appropriate management strategies (Gelber, Goldhirisch & Cavalli, 1991) and also act as one of the outcome measures for comparing them (Ganz, Lee & Siau, 1991) including drug trials (Saxena & Orley, 1997). QOL assessment focuses attention on aspects of a patients’ life beyond symptoms and signs. It thus sensitizes healthcare personnel to look for and correct direct and indirect effects of disease and treatment on individuals. QOL also helps in policy research

including programme evaluation and resource allocation (Patrick & Erickson, 1993).

Quality of life assessment has been widely used in behavioural medicine (Orley, Saxena & Herman, 1998). Most instruments used for assessing QOL were constructed in the developed countries and their cross-cultural compatibility has not been demonstrated. This makes their direct application in developing countries questionable.

QOL assessment has been extremely rare in India. One of the important reasons for this is non-availability of suitable instruments. WHOQOL developed by Saxena, Chandiramani & Bhargawa (1998) is an ideal tool for measurement of QOL in Indian set up.

### **The Concept and Definition**

There has been a lack of clarity in the concept of QOL, with different group of workers using the term in widely different ways (Patrick & Erickson, 1993). There is also some overlap between functional status, subjective well being, health-related QOL and subjective QOL. WHO has defined QOL as individuals' perceptions of their positions in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHOQOL Group). It is a broad concept incorporating in a broad way in individual's physical health, psychological state, level of impendence, social relationships, personal beliefs and her/his relationships to salient features of the environment. The definition highlights QOL as a subjective self-report from the individuals, which is not based on reports or judgments from others (e.g. family members, clinicians). QOL is also multidimensional, incorporating positive (e.g. feeling happy, contented, energetic) as well as negative aspects (e.g. sadness, sexual difficulties).

Though consequences of diseases affect QOL in a major way, these are not themselves assessed while measuring QOL. Only the effects of symptoms on person's life are assessed. This method of measuring QOL by generic questionnaires is conceptually sounder because a number of mediating factors determine how much and what kind of effects diseases will have on a person's QOL. These factors include personal and environmental contextual variables. For example, a knee injury may limit a joint movement. For a young man whose aim in life is to become a professional football player, this disability seriously affects his QOL. But for another person whose profession involves mainly reading and writing, the same disability affects QOL to a lesser extent. Hence, a QOL questionnaire aims to assess the extent to which significant aspects of a person's life has affected, rather than what symptoms and disabilities are present. This concept of measuring QOL also makes it easier to construct a generic instrument that can be applied to individuals suffering from illness of diverse nature and severity than to devise an instrument for each condition separately.

### **Quality of Life and Suicide**

QOL is an important component in assessing the suicides risk. Since this is relatively a new area, only few studies have looked into this aspect in suicidology (Lester, 2001; Yang & Lester, 2001; Berlim, Mattevi, Papvanello, Caldieraro & Fleck, 2003; Sarfati, Bouchaud & Hardy-Bayle, 2003; Jarbin & Von Knorring, 2004). Most of the studies in this area have reported a negative association between QOL and suicide (Koivumaa-Honkanen, Honkanen, Vinamakai, Kaipro & Koskenvuo, 2001; Goldney, Fisher, Wilson & Cheok, 2001; Philips et al, 2002; Thatcher et al, 2002; Ponizovsky, Grinshpoon, Levav & Ritsner, 2003; Li et al, 2003; Blow et al, 2004).

## **PRESENT STUDY**

As per the latest report (SCRB, 2004), the suicide rate in Kerala has shown a significant increase with recent a rate of 27.64 per one lakh (SCRB, 2004). Kerala ranks first in suicide rate consecutively for the 8<sup>th</sup> time among all other states in India. As per the latest report, everyday twenty-seven people are committing suicide in Kerala. Another trend recently noticed in Kerala is the increased number of family suicides. If this state of affair continues very soon our state may become the suicide capital of the world. The number of people who attempt suicide is 8-10 times the victim. By applying this ratio there would be 221-276 per 1,00,000 population attempting suicide in Kerala every year. Unfortunately no reliable data are available regarding suicide attempters because many of these are under reported fearing punishment, as it is a legal offence in our country.

The percentage of suicide by causes (SCRB, 2004) shows that majority is caused by family problems. Prolonged mental illness is the second most important cause accounting for 7% of suicides in Kerala, higher than the National average of 5%. Moreover it is alarming to note an increasing incidence of mental disturbance in the state. The problem of mental illness has been found to be severe especially in the “Gulf pockets” of the state. In Thrissur district, which has the highest number of migrants to the Middle East, almost every second member of family with a relative in the Gulf has a history of mental illness (Gulati, 2001). The worst victims seem to be women between 15 and 25 years of age. It would be their incompatibility with in-laws, which leads to psychological breakdown in woman.

Bankruptcy is another major cause of suicide in Kerala. It is interesting to note that the middle class and the salaried class of Kerala get in to the debt trap owing to their “conspicuous consumption” habit. Those who spend beyond their means fall into debt trap with no way out and resort to suicide. The acute unemployment is said to be another important cause for mounting suicide rate in Kerala. Kerala accounts for only 3.4% of India’s population. But has nearly 16% of usual status unemployed persons in India and registers the highest intensity of unemployment among the Indian states. Besides, Kerala has the highest rate of unemployment of the educated. It could be the frustration of the educated and unemployed youths resorted to suicide

The ever increasing life stresses due to upward movement of our population, the lowering social supports, perhaps due to the change from joint family system to nuclear families compounded with the inadequate or non adaptive coping strategies to buffer the stress of everyday and unnatural life stresses may be the reason for the alarming rise of suicide rate in Kerala. Probably all these adverse factors might have led these vulnerable population to have poor quality of life and subsequent suicidal behavior. Though there are thought provoking studies regarding suicides in Kerala (Kumar, 1998, 2000, 2003, 2004a,b,c, 2006; Kumar, Subramanian, Kunhikoyamu & Ranjakumar, 2001; Kumar, Abraham & Kunhikoyamu, 2002; Kumar, Abraham, Biju & Kunhikoyamu, 2003) systematic well-controlled studies exploring the interaction of life stress, social support, coping and quality of life are conspicuously absent. It is in this context the present study is planned. The study specifically reads as **“Life events, social support and coping strategies in attempted suicide”**.

A review of current literature suggests that the influence of a host of other factors in causing suicide. Among them one unique factor seems to be the quality of life of the individuals. Hence an attempt is made to examine the quality of life in attempted suicide.

### **Objectives of the Study**

- To analyze the type and severity of life events, coping strategies and social support of suicide attempters.
- To find the relationship of above factors with other psycho-socio-demographic variables.
- To identify the risk factors leading to suicide

### **Hypotheses**

In order to attain the objectives the following hypotheses were formulated for the investigation.

- The quality and severity of life events differ in suicide attempters and normals
- The quality and the amount of social support differ in suicide attempters and normals
- The coping strategies differ in suicide attempters and normals
- The quality of life differ in suicide attempters and normals
- Suicide attempters can be differentiated from normals based on the unique psycho-socio-demographic profile, life events, social support, coping strategies and quality of life
- In the suicide attempters as well as normals there is inter-relationship among life events, social support, coping strategies and quality of life

**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



*Thesis Submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy of the University of Calicut*

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**CHAPTER 2**  
**REVIEW OF LITERATURE**

# REVIEW OF LITERATURE

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## **CHAPTER 2**

### **REVIEW OF LITERATURE**

The present chapter is an attempt to review available studies relating stressors, social support and coping behaviour in suicide attempters. The relationship of psycho-socio-demographic factors such as age, sex, marital status, occupation, religion, family type, habitat, physical problems and psychiatric diagnoses in relation to stressors, social support and coping behaviour in suicide attempters are reviewed in this chapter.

There is possibly no society where suicidal behaviour is unknown. Also no period of history has been reported when this enigmatic human behaviour had been dormant. However, lot of variables including biological and socio-cultural factors will modify this multifaceted complex behaviour. A study in suicide with special focus on this aspect might reflect not only the psychobiological aspects but also their socio-cultural matrix.

#### **Life Events and Suicide**

Extensive and empirical research on life events and illness has demonstrated that life events may result in problems of both physical and mental health (Paykel & Dowlatashali, 1988). Life events and other psychosocial stressors are commonly associated with suicidal behaviour compared to general population and non-suicidal psychiatric patients (Vizan, Benitez, Marco, Gonzalez & de Riveray Revuella, 1993; Elliot & Frude, 2001; Osvath, Voros & Fekete, 2004; Kinyanda, Hjelmeland, Muisi, 2005). Recent life events were reported in 80% of suicide (Heikkinen et al, 1994a; Yen, Pagano, Shea, Grilo, Gunderson, Skodol, McGlashan, Sanislow, Bender & Zanarini, 2005). Several studies have

reported a strong association between traumatic events and suicidal behaviour (Zhang & Jin, 1998; Goldney, Wilson, Dal Grante, Fisher & McFarlane, 2000; Clark, Colantonio, Heslegrave, Rhodes, Links & Conn, 2004; Zhang, Conwell, Zhou & Jiang, 2004; Kõlves, Värnik, Schneider, Fritze, Allik, 2006).

### **General Population Controls**

There are only few studies on life events and suicide with general population controls. Mac Mohan & Pugh (1965) in a comparative study of widowed suicide and widowed natural deaths found that bereavement of spouse during the last 4 years was more common among suicides than among natural deaths, especially in the previous year. The elevated suicide risk after bereavement has also been noted in mortality studies (Helsing, Comstock & Szklo 1982; Kapiro, Koskenvuo & Rita, 1987). Comparison of suicide victims and living controls by detailed interview and examination of medical records revealed increased rate of bereavement of parent and of mother in suicide victims compared to living controls in previous 3 years (Bunch, Barraclough, Nelson. & Sainsbury, 1971). The same author (Bunch, 1972) using the same methodology has reported increased rate of bereavement of parent or spouse in suicide victims in previous 2 years. Rorsman (1973) has demonstrated increased risk of suicide, more among males than females, during the 4-5 years following the bereavement of a parent or spouse.

In the study by Paykel et al (1975) suicide attempters reported four times as many events in the six months prior to the attempts than general population controls and 1½ times as many as were reported by depressed patients prior to depressive onset. Unlike depression, suicide attempters

were preceded equally by entrances and exits in the social field. There was marked peak of events in the month before the attempt.

In a comparative study of suicides, living controls and natural deaths, Hagnell & Rorsman (1980) found more objectives losses and humiliating experience among suicide victims than natural deaths in final weak and more changes in living condition, work problems and objects losses than general population controls in last year. Contrary to their finding, Borg & Stahl (1982) could not find any difference between suicide victims and living controls though there was tendency to have more key person deaths in suicide victims.

De Vanna et al (1990) compared the incidence of recent life events and difficulties among 50 suicide attempters with control group selected from a random general population. Suicide attempters experienced significantly greater incidence of major life events, although for all life events irrespective of stressfulness and independent events the differences were not significant. The results suggested vulnerability effects as far as three factors are concerned: early separation from one or both parents, absence of paid employment and living in a nuclear family.

In a controlled study (Vassilas, 1990) of women admitted for appedicectomy versus parasuicide patients, parasuicide group were characterized as having recently experienced life stressors containing threat, uncertainty, impaired relationships and choice of action.

The occurrence of life events during the last 3 months and their significance in the suicidal process as subjectively perceived by the surviving partners were studied among a subpopulation suicide victims who has a spouse or cohabitant as an informant (Heikkinen, Aro & Lonqvist, 1992). According to partner's reports, life events during the last

3 months were reported in 85% of suicides. Job problems (33%), family discord (32%) and somatic illness (29%) were most commonly reported. Same author (1994a) conducted a study on the occurrence of life events during the last months in a nation wide suicide population in Finland. Recent life events were reported in 80% of the suicides; job problems (28%), family discord (23%), somatic illness (22%), financial problems (18%), unemployment (16%), separation (14%), death (13%) and illness in the family member were the most common life events.

In an investigation to find the association between negative social events and physical illness in Hong Kong, Shiu, Hui & Lam (1993) have shown that stress induced in the community by major negative social events had been increasing and this stress is associated with attempted suicide but not with diabetes mellitus and coronary heart disease. Most importantly, it is shown that these relationships do not hold for desirable life events but primarily for undesirable events (Vinokur & Selzer, 1975; Kaslow, Thompson, Okun, Price, Young, Bender, Wyckoff, Twomey, Goldin & Parker, 2002).

Using case-control methodology as the principal analytical process (age matched suicide attempters versus normal controls), Beutrais (1998) concluded that exposure to recent life events relating to interpersonal losses and conflicts and legal problems are the main life events leading to suicidal behaviour.

A coroner's office investigation of suicides in the Montreal subway system (Mishara, 1999) from 1986 to 1996 showed recent adverse events like failed relationships, work problems and family difficulties in association with suicide. In a national case-control psychological autopsy study in China (Phillips, Yang, Zhang, Wang, Ji. & Zhou, 2002) suicide

was significantly associated with acute stress at the time of death and severe interpersonal conflict in the 2 days before death. In a case-control analysis and follow up study (Cui, Yang, He. & Zheng, 2003) on the risk factors of suicide in a rural population in Shandong Province, suicide attempts were positively associated with recent stress in life events.

Relationship between traumatic events and suicide risk were studied in two samples of jail inmates with low and high risk (Blaauw, Arensman, Kraaij, Winkel. & Bout, 2002). Suicidal inmates reported a high prevalence of traumatic events especially sex abuse, physical maltreatment, emotional maltreatment, abandonment and suicide attempts by significant others. They also had experienced more traumatic events during childhood, later life, and detention.

### **Life Events and Psychiatric Disorders**

There are a number of studies, which compared recent life events between suicides and psychiatric patient controls. Suicide victims tended to have experienced recent interpersonal losses more frequently than control (Humphrey, 1977). Fernando & Storm (1984) reviewing the case notes in suicide victims and psychiatric patient controls reported more losses in previous year in suicide than controls. Bolin, Wright, Wilkinson & Lindner (1968) in a comparative study reported real, imagined or threatened loss in 67% of suicide victims against 16% in patient controls in the last 6 months.

Mann, Wateraux, Haas & Malone (1999) have comprehensively analysed the risk factors for suicide in more than one psychiatric disorder. Childhood abuse history was more frequent among many other risk factors. Studying the hospital records in a retrospective analysis, Rorsman (1973) found more deaths among male psychiatric patients (18%) than among male controls (2%). Interviewing the available relatives, Pokorny & Kaplan

(1976) found more adverse events among psychiatric patients with suicides especially those with higher defencelessness score during categorized on. Subsequently in a comparative analysis of life events among suicides, homicides and neurotics (Humphrey, 1977), suicide victims had more losses over a lifetime than neurotics and intermediate than homicides.

Paykel (1976) summarized a series of controlled studies and reported that life events particularly exit events and events regarded as undesirable tended to cluster prior to the onset of depression. There was marked peaking of events in the month before the attempt suggesting a crisis in this group.

When adolescent suicide victims with no psychiatric disorder was compared with those who had definite or probable disorder and community controls with no psychiatric disorder the former group had lower rates of total life stressors over the previous 12 months (Brent, Perper, Moritz, Baugher, Roth, Balach & Schweers, 1993).

In a comparative study (Fang, Lu, Zhang & Zhang, 1996) of psychosocial factors related to depressive patients with and without suicidal behaviour negative life events significantly predicted suicidal behaviour.

The relationship of recent life events and completed suicide in bipolar affective disorder was evaluated in a nationwide autopsy study in Finland (Isometsa, Heikkinen, Henriksson, Aro & Lonnqvist, 1995). In about two thirds of both bipolar (64%) and unipolar (66%) victims, at least one life event was reported to have occurred during last 3 months and in 42% of both groups during the final week. The events of bipolar victims were more commonly classified as possibly dependent on their own

behaviour (bipolar 88% versus unipolar 63%). The majority of completed suicides in both bipolar and unipolar affective disorder seem to be associated with recent psychosocial stress. However, the stressors were commonly likely to be dependent on the victim's behaviour.

Shaffer, Perlin & Schmidt (1974) examined the case histories of 12 schizophrenic suicides and 75 living schizophrenics. He could not find any difference though there was finding to have more losses among schizophrenic suicides in last six months. Heilae, Heikkinen, Isometsa, Henrikson, Marttunen & Lonnqvist (1999) compared the life events in schizophrenic suicide victims and age and sex matched victims without schizophrenia as part of a nationwide psychological autopsy study in Finland. In both groups, suicide was preceded by life events independent of the victim's own behaviours, such as death of a close person or illness in the family. Over all, nearly half (46%) of the schizophrenic subjects had adverse life events before suicide, which was significantly less than the non-schizophrenic subjects.

### **Alcohol and Substance Abuse**

The mortality rate among drug users is higher than that of the general population. There is evidence (Klee, 1995) that the suicide is also higher, although major methodological difficulties tend to cast doubt on their accuracy. The factors known to be associated with suicide such as mental and physical problems, poor family relationships, social isolation and stressful life events are also associated with drug misuse. Illicit drugs may be used as a form of self-medication for anxiety and depression and this draws an individual into a life that is likely to increase the stress levels of drug user already categorized and detached from conventional society. The impact of HIV on individuals physically and psychologically damaged by drug misuse is difficult to predict.

Alcoholism is a major risk factor for suicide (Murphy & Wetzel, 1992). Hufford (2001) suggested 4 possible mechanisms for alcohol's ability to increase the proximal risk for suicidal behaviour (1) increase psychological distress (2) increase aggressiveness (3) propel suicidal ideation into action through suicide specific alcohol expectancies, and (4) constrict cognition, which impairs the generation and implementation of alternative coping strategies.

Other possible causal links between alcoholism and suicidal ideation/behaviour include depression and hopelessness, which are likely to have been induced by toxic effects of alcohol (Miller, Mahler. & Gold, 1991). There is a strong suggestion from literature that recent adverse life events (divorce, separation, family arguments) are important factors in alcoholic suicide. Modestin (1986) reported adverse life events to be more common among nine alcoholic suicide victims than among 24 alcoholic inpatients.

Some interview studies have compared interpersonal life events between alcoholic suicides and non-abusing depressive suicides (Murphy & Robins, 1967), between alcoholic/other substance abuser suicides and non-abusing depressive suicides (Rich, Fowler, Fogarty & Young, 1988a), and among victims with alcohol/substance dependence relative to those with mood/anxiety disorders (Duberstein, Conwell & Caine, 1993). These studies have demonstrated that disruption of interpersonal relationship has been more common among alcohol and substance abusers before suicide typically clustering within the last 6 weeks. The types of interpersonal stressors were conflicts/arguments and attachment disruptions. The excess of recent interpersonal crises in relation to the alcoholic's has been demonstrated in other studies as well (Murphy, Armstrong, Hermele,

Fischer & Clendenin, 1979; Beskow, 1979; Berglund, Krantz, Lundqvist, 1987; Berglund & Moberg, 1990).

Duberstein et al (1993) in a comparative analysis of suicide victims with alcohol/substance dependence (S/SD) versus mood/anxiety disorders (M/AD) a substantial majority of the A/SD were confronted with interpersonal stressors in the 6 weeks prior to death. The types of interpersonal stressors were conflicts/arguments and attachment disruptions. Heikkinen, Aro, Henriksson, Isometsa, Sarna, Kuoppasalmi & Lonnqvist (1994b) reported that among male suicides, the alcoholics had experienced more separations and family discord, financial trouble, and unemployment where as the depressives had experienced more somatic illness. Among females adverse interpersonal events were common in both alcoholic and depressive adolescent suicides (Marttunen, Aro, Henriksson & Lonnqvist, 1994). Interpersonal separations and difficulties regarding discipline and law were more common stressors among alcohol abuse victims and interpersonal conflicts and somatic illness among those with depressive disorders.

Brent, Perper, Moritz, Baugher & Allman (1993a) reported interpersonal separations and difficulties with discipline/law to be associated with substance abuse among adolescent suicide victims aged 19 and younger. One study of youthful suicides has failed to find difference in recent interpersonal loss between abuser and non-abuser victims (Runeson, 1990). Heightened sensitivity to interpersonal loss and poor coping skills in response to negative life events are the reported causes for suicide among substance abusing patients with affective disorders (Goldberg, Singer & Garno, 2001).

Pirkola, Marttunen, Henriksson, Isometsa, Heikkinen & Lonnqvist (1999) reported more precipitating life-events in adolescent suicide attempters with comorbid alcohol use disorder/diagnostically subthreshold alcohol misuse than other adolescent suicides.

Two earlier Finnish studies on suicide among alcohol abusers did not find an excess recent loss among alcoholic suicide victims compared with suicides with no evidence of excess alcohol use (Virkkunen, 1971; Lonnqvist & Achte, 1971).

Life events were studied in self-poisoning cases by Farmer & Creed (1989) in a drug dependence clinic at London. They found greatest number of events in those with high levels of extrapunitiveness whereas those who had not experienced a severe life event showed predominance of intrapunitiveness. These patients' suicidal intent was not related to experience of life events but it was associated with high intrapunitiveness.

In a study on cocaine dependent patients a significant proportion reported childhood emotional abuse, sexual abuse, and emotional and physical neglect than patients who had never attempted suicide (Roy, 2001).

### **HIV and Suicide**

AIDS related stressors were studied in relationship to suicidal ideation and suicide. In a study on HIV-infected rural persons in US, suicide ideators experienced more stress associated with AIDS related stigma (Hechman, Miller, Kochman, Kalichman, Carloson & Silverthorn, 2002). In HIV infected persons (none with AIDS) subjects who reported suicidal ideation (compared to those who did not) were more likely to report recent bereavement of partner, recent ARC diagnosis, and multiple

friends with ARC (Schneider, Taylor, Kemeny & Hammen, 1991). Bereavement was related to suicide ideation in another study by Rosegard & Folkman (1997). Generally speaking, while temporally discrete AIDS related events were associated with the report of suicidal ideation ongoing stressor which may more greatly challenge adaptational capacities were more associated with high intent suicide ideation.

### **Follow up Study of Suicide Attempters**

The question of whether high stress leads to attempting suicide or suicide attempters are more likely to have high stress was examined in one year follow up study (Clum, Luscomb & Patsiokas, 1991) of 98 persons, 47 of whom had attempted suicide. A high relationship between stress at base line and stress at follow up provided support for the notion that some individuals experience chronic stress and that such individual may be at high risk for future suicide attempts. In a follow up study (Brent, Kolko, Wartella, Boylan, Moritz, Baugher, Zelenak, 1993b) of adolescent suicide attempters/ideators/no attempt for 6 months, the vast majority of those who attempted suicide had risk factors like death of relative and family financial problems.

### **Multiple versus Single Attempt**

In a comparison of multiple versus single suicide attempts repeaters had more chronic life events and had a higher chronic stress score (Li, Philipps, Ji, Xu & He, 2003).

### **Age Related Variation in Life Events Preceding Suicides**

There are reports that types of life events in suicide vary with age. The age related variation of these events can be regarded in part as coinciding with the life cycle and reflecting the typical variations of life

events experienced in general population. The difference between age related variation of life events in suicide has not been investigated systematically. Many life events experienced by suicide victim can be considered to be normative in relation to the person's stage of life and to reflect the typical variation of life event experiences in the general population. In many cases, life events may be consequences of the victim's own behaviour rather than incidental adverse events beyond his or her control.

Rich et al (1991) reported an age related variation of stressors coinciding with the life cycle decade of age. The combination conflict-separation-rejection was more common among the younger age groups and medical illness among the older. It is possible that separation issues become less descriptive as they occur through out life relationship.

### **Life Events in Childhood and Adolescence**

Events shown to precipitate suicide attempts in this age are common in many young people and it may be that they act as precipitating factors for suicidal behaviour only when they occur in individuals who are vulnerable to suicidal behaviour.

Adverse life events have been more common among adolescents suicide victims than non-suicidal controls during the last few weeks of life (Shafii, Carrigan, Whittinghill & Derrick, 1985; Shafii, Steltz-Lenarsky, Derrick, Beckner & Whittinghill, 1988; Davidson, Rosenberg, Mercy, Franklin & Simmons, 1989; Mardomingo & Catalina, 1992; Brent et al, 1993b; Wilson, Stelzer, Bergman, Kral, Inayathullah & Elliot, 1995; Liu & Tein, 2005) and they have been commonly reported for adolescent suicides in studies without a control group (Shaffer, 1974; Rich, Young & Flower, 1986; Poteet, 1987; Thompson, 1987; Hoberman, 1988; Rich , Sherman &

Fowler, 1988; Hurteau & Bergeron, 1991; Apter, Bleich, King, Kron, Fluch, Kotler & Cohen, 1993; Marttunen, Aro. & Lonnqvist, 1993; Windle & Windle, 1997).

Life events during childhood were found larger during adolescence and still larger during the year before the attempt or interview. Situational risk factors such as family functioning, suicide exposure, social support, life stressors and homosexuality and their combined effect have also been found to be significant in determining adolescent's risk for suicide (Stoelb & Chiriboga, 1998). In a review of suicidal behaviour in school children by Garrison (1998) the following were commonly identified with suicidal behaviour depressive symptoms, social problems, family disorganization and problems, life stress, and poor problem solving skills. Academic problems were not reported as important stressor.

Rich & Bonner (1987) reported that 30% of variation in suicide ideation in students could be accounted for by the linear combination of negative life stress, depression, loneliness, and few reasons for living. In a comparative study (Slap, Vorters, Chaudhuri & Centor, 1989) of adolescent attempters versus adolescent non-attempters, attempters had higher 3 months stress score than non-attempters. In another study (Hurteau & Bergeron, 1991) students who had attempted suicide had major family problems and had experienced stressful events having a negative impact on their lives.

Cole, Protinsky & Cross (1992) reported more life stress in the previous year in adolescents with high suicide ideation. Morano et al (1993) reported recent loss more common among depressed adolescent suicide attempters than depressed non-attempters. Brent, Perper, Moritz, Liotus, Schweers, Balach. & Roth (1994) in case control study to assess the familial risk factors for adolescent suicide reported high rate of parent-

child discord, physical abuse and residential instability and living away from biological parents.

Gisbert, Wheeler, Marsh & Davis (1985) in a study of adolescents reported that most of them had experienced family disruption, and nearly half were functioning poorly at school. Suicide risk correlated with only current stress while depression correlated with life-long as well as current stress. They have also found that repeat adolescent suicide attempters were less successful in school and had undergone more long-term stress. Adams & Adam (1996) reported more self-destructive behaviour in adolescents with family conflict and academic failure.

Interpersonal conflicts, economic problems, school related difficulties and legal or disciplinary problems and rejections (Hawton & Fagg 1992; de Man, Leduce & Lanbreche-Gauthier, 1992; Beutrais, Joyce & Mulder, 1997) are predominant stressors associated with suicide during adolescence and early adulthood. Relationship difficulties and family conflicts have been reported as dominant reasons for suicides in youth as well (Tiller, Kupinski, Burrows, Mackenzie, Hellenstein & Johnston, 1998). In an analysis of youth suicide in Germany from 1972 to 1977, Specht (1980) explained the increase in youth suicide as the effect of transitional conditions especially with overlapping crises in the sphere of life of young people. At this age career choices are being made and implemented and might fail and parental support may no longer be available (Valliant & Milofsky, 1980).

Childhood sexual abuse as a precursor of self-destructive behaviour has been reported by Boudewyn & Liem (1995) and Esposito & Clum (2002) as well. Thatcher, Reininger & Drane (2002) reported childhood physical and sexual abuse as an independent variable associated with

adolescent suicide. Gladstone, Parker, Mithel, Malhi, Wilhelm & Austin (2004) in path analysis have confirmed the role of childhood sexual abuse in self-destructive behaviour among women. Sexual abuse as a cause for adolescent suicide is also reported by McQuillan & Rodriguez (2000).

In a controlled study (Pillay & Wassenaar, 1997) adolescent suicidal subjects have expressed family conflict, problems at school and problems with boys/girls friends during the preceding 6 months. Tiller et al (1998) in a comparative trial of "categorized" youth suicide attempters versus non-hospitalised youth suicide attempters, reported relationship problems and family conflicts as the dominant reason in both groups. Unemployment was cited as a reason in less than 5% of cases. For attempters, there was a history of physical abuse, not reported for those who completed suicide. Completed suicide was not related to any specific life event. Beautrais (2000) while investigating suicide among young people reported the following risk factors – social and educational disadvantage, childhood and family adversity, psychopathology, individual and personal vulnerabilities, exposure to stressful life events and circumstances and social, cultural and contextual factors.

In adolescent girls, suicide attempt was more commonly associated with conflicts within the family, arguing with the parents, break up with law, and abuse (Ribakoviene & Puras, 2002). De Wilde, Kienhorts, Diekstra & Wollers, (1992) have also found adolescent suicide attempters who experienced more turmoil in their families, starting in childhood and not stabilizing during adolescence. They also had history of sexual abuse and in the last year prior to attempt they also had social instability such as change in residence and having to repeat a class.

MCKeown, Garrison, Cuffe, Waller, Jackson & Addy (1998) have reported more negative life events in adolescence especially in childhood and during the preceding year. King, Raskin, Gdowski, Butkus & Opiari (1990) have also reported more undesirable life stresses in adolescent female suicide attempters than matched controls. In an investigation (Tyssen, Vaglum, Gronvold & Ekenberg, 2001) of suicidal ideation among medical students one of the predictive factors was negative life events. A series of structural analysis on childhood stress and later suicidality indicated that early negative life events have a mild impact on suicidal behaviour, but a strong impact on cognitive deficits, which in turn have a strong impact on suicidal behaviour (Yang & Clum, 2000). Gao, Qu & Miao (2003) in a study on the related factors of suicidal ideation in college undergraduates reported that negative life events did not directly affect suicidal ideation but personally did directly or indirectly affect suicidal ideation through coping and defensive response.

### **Life Events in Adulthood**

Epidemiologists (Erlemeier, 1988) have predominantly investigated four groups of risk factors for suicide in older age (1) chronic and painful illness mainly depression (2) conflicts and stress in interpersonal relationships (3) social isolation and (4) loneliness. Conwell, Rotenberg & Caine (1990) reported decreasing trends with aging for job problems, financial trouble, and family discord and increasing trends with ageing for physical illness. Economic problems peaked as a stressor among the suicide victims who were 40-49 years old (Rich et al, 1991). Financial loss was identified as an important life event related to late life suicide in a community based rural sample by Turvey, Stromquist, Kelly, Zwerling & Merchant (2002). In the multivariate analysis financial loss rather than low income remained a significant correlate of suicidal ideation after

controlling for depression. In an ethnic Chinese population above 60 years, financial and relationship problems were significant risk factors for suicide (Yip, Chiu, Chiu, Chi Wai, Conwell & Caine, 2003).

By midlife one is raising and educating children while ageing parents are becoming more dependent. As a result, financial pressures on the middle-aged adult can be enormous. The frequency of illness has also been found to rise precipitously beginning in the 40-49 year old age group (Rich et al, 1991). In a case control design of persons aged 50 or above with age, gender, race, country of residence matched controls, perceived physical illness, family discord and employment change were found to be amplifying suicide risk after controlling for socio-demographic covariates and mental disorders (Duberstein, Conwell, Conner, Eberly & Caine, 2004). This reflects an increased susceptibility to illness as a stressor due to the preoccupation with body image that occurs during the 'midlife crisis' (Colarusso & Nemiroff, 1981).

Osgood (1991) in a review on psychological factors in late-life suicide reported dysfunctional family, numerous losses in middle and late life such as loss of power and control, loss of spouse, and loss of work role and increasing mental health problems such as depression and alcoholism in late life as the major leading precipitating factors in suicide. De Man et al (1992) have found an association between negative life experience and suicide ideation in adults. Clark & Clark (1993) reported that severe life change or stress was not common during the year before suicide in later life suicides aged 65 or more. Prigerson, Bridge, Maciejewski, Beery, Rosenheck, Jacobs, Bierhals, Kupfer & Brent (1992) noted traumatic grief associated with a 5.08 times likelihood of suicidal ideation in adults.

In comparative analysis of suicide attempters versus psychiatric patient attempters (Luscomb et al, 1980) age was found to mediate the relationship between stress and suicide attempt; among the older subjects, stress was greater in the attempt group than the control group, but no difference in stress levels was found for younger subjects.

Age related pattern of variation in life events have reported events like separation, serious family arguments, financial troubles, job problems, unemployment and residence changing to be more common among young victims, whereas somatic illness and retirement to be more common among older victims (Heikkinen, Isometsa, Aro, Sarna & Lonqvist, 1995). Kosky, & Dundas (2000) noted unemployment and experience of personal loss to be more common among young committed suicide by hanging in Australia. Most of the life events in younger age were possibly dependent on the victim's own behaviour.

Heikkinen et al (1995) in an analysis of recent life events in elderly suicide confirmed the same observation. Age groups were similar with regard to proportion of persons living alone, availability of confidants, and friends with common interest and reports of few differences were found among person aged 60-74 compared to age 75 + with regard to rates of life events, living alone, opportunities of social interaction, and complaints of loneliness. Loneliness was reported for persons who experienced loss among both younger and older suicides. Younger men were more likely to have experienced job related events, whereas older men were more likely to have had somatic illness. Zhou, Zhang, Wang, Huang, Phillips & Yang (2004) reported three most common negative life events associated with elderly suicides such as chronic physical illness or injury, major changes in diet, sleeping or other daily routines and financial difficulties.

Studies by Brent et al (1993), Conwell et al (1990) and Rich et al (1991) have also reported interpersonal problems to be common among young adult/adolescent victims and somatic illness among elderly victims. Interpersonal problems, job, financial and academic problems have been more common precipitants among younger suicide victims, where as somatic illnesses have been more common among older victims (Lo & Leung, 1985; Rich et al, 1986).

Vassilas & Morgan (1997) reported a high rate of interpersonal stress in the last 72 hours in suicides among younger males. Weyrauch, Roy-Byrne, Katon & Wilson (2001) using structured interview tools and standardized measurements examined the relationship of life stress and impulsiveness in a sample of suicide attempters. After controlling potentially confounding variables, the number of disrupted interpersonal relationships in the preceding year was a significant predictor of the impulsiveness of the suicide attempt.

Cooper, Appleby & Amos (2003) compared young suicide victims (less than 35 years) with living controls. Specifically, interpersonal and forensic (being arrested, charged or sentenced) events distinguished suicides from controls. Those without any serious mental illness had more life events in the week before the death.

### **Life Events in Different Sexes**

The difference between different genders in the variation of life events has not been extensively evaluated. Some events have been reportedly more common among females than among males. Females had encountered separation due to work more frequently than males (Heikkinen et al, 1994a). Rich et al (1991) reported more economic problems as stressor in females. The associations found between life events and gender

suggests that suicides among males may be more often related to stress than in the case among females. An excess of recent separation among younger male suicides compared with younger females suggest that separation can be a more important factor in male suicides. Unemployment and financial trouble, job problems, separation and life events in general were also common among younger men than women.

In another study, Heikkinen et al (1992) reported that more males had experienced recent life events and the mean number of events was higher among men than among women. Kirmayer, Boothroyal & Hodyins (1998) in an analysis of the risk and protective factors for attempting suicide in youth have also reported a strongest correlation with greater number of recent life events for males. In Fujioka. & Hiraiwa's study (2004) males had more occupational and financial problems and females had difficulties with human relationships and family problems.

Rich and co-workers (1991) have also reported economic problems as a stressor more often among male suicides with male to female ratio of 2:1. The author's explanation is that traditionally men have more self esteem tied up in financial success than women. It may also be that women are more often supported by men in this society than the reverse. In a nationwide psychological autopsy study of recent life events and completed suicide in bipolar affective disorder, Isometsa et al (1995) have found that more bipolar males (86%) had recent life events than females (37%).

There was an excess of serious somatic illness among elder males suicides compared with older females suicides which suggest that somatic illness has a specific stressor effect in terms of suicide among older men (Heikkinen et al, 1995). Quan & Arboleda – Florenz (1999) have demonstrated that in elderly, physical illness and financial difficulty as

precipitant stressors were significantly more frequent among males than females. Mental illness as precipitant stress was more common among females. Similar finding with regard to sex difference in somatic illness has been reported in earlier studies also (Dorpat, Anderson & Ripley, 1968; Whitlock, 1986).

Gladstone et al (2004) have reported the contributory role of childhood sexual abuse to deliberate self-harm in depressed women. Kaslow et al (2002) reported numerous/severe negative life events and history of child maltreatment as risk factors in abused African American women. In a comparative analysis of life events between female parasuicides patients and matched sample of patients admitted for appendicectomy, parasuicide patients reported significant association with recent life stressors containing threat, uncertainty, and impaired relationships (Vassilas et al, 1990). In a detailed analysis of psychopathology, personality and psychosocial stressors of Austrian mothers who had extended suicide attempt, Meszaros & Fischer – Danzenger (2000) reported association with psychosocial stressors such as over strain, marital and/or financial problems.

### **Indian Studies**

Systematic, methodologically sound studies regarding life events and suicidal behaviour are very few.

Maladjustment with significant family members and domestic strife has been cited as the most important cause by many (Nandi, Mukherjee & Banerjee, 1979; Hegde, 1980; Shukla, Verma & Mishra, 1990; Banerjee, Nandi & Nandi, 1990). Elsewhere, it has been pointed out that 12.5% of females have committed suicide due to maladjustment with alcohol and drug abusing husbands (Ponnudurai & Jayaker, 1980). The same authors

have also identified one third of their samples to be psychiatrically ill. Shukla et al (1990) also found out mental illness in 23.5% of their cases. Sharma (1998) showed psychiatric disorders (46.7%), quarrel with spouse/in-laws (13.4%), quarrel with parents/siblings (12%) and failure in love (10.6%) as the most common causes of attempted suicide while no cause could be determined in 14.7% of the cases. In the study by Kumar (2000) mental illnesses constituted the commonest reason (22%) followed by family friction (20%) marital friction (20%), financial problems (14%), physical problems (11%) etc.

Latha, Bhat & D'souza (1994) conducted an exploratory study of life events in suicide attempters using presumptive stressful life event scale. In this study suicidal patients reported more stressful life events including marital discord, conflicts with in-laws or family, problems in love, illness, death in the family and unemployment. Analysis of risk factors in a population based control study (Vijayakumar & Rajkumar, 1999) employing psychological autopsy method, life events were reported to be a significant risk factor with an odds ratio of 15%. In a study (Howard-Pitney, La Fromboise, Basil, September & Johnson, 1992) to find out the correlates of suicide ideation and the social and psychological differences between suicide attempters and non-attempters among American Indian Zuni adolescents, significant correlation has been established with stress. In a comparison of the role of cultural and social factors in the causation of suicidal behaviour between Asian and white patients, Bhugra, Baldwin, Desai & Jacob (1999) reported that Asian attempters had experienced more life events pertaining to relationships than the white.

## **Social Support and Suicide**

Extensive empirical research indicates that life style and social support play an important role in an individual's suicidal ideation and behaviour. Though several studies have looked at suicide and social support (Long & Miller, 1991, Kaslow, Thompson, Meadows, Chance, Puett, Hollins, Jesse & Kellermann, 2000; Hovey, 2000; Turvey et al, 2002; Brown & Vinokur, 2003; Soykan, Araplaslan & Kumbasar, 2003, Zhang et al, 2004) only few studies have been centred on these issues.

Social support was reported as an important protective factor against suicide by Kaslow et al, 2002; Kaslow, Sherry, Bethea, Wyckoff, Compton, Bender Grall, Scholl, Price, Kellermann, Thompson, Parker, 2004; Meadows, Kaslow, Thompson & Jurkovic, 2005; Oyama, Watanabe, Ono, Sakashita, Takenoshita, Taguchi, Takizawa, Miura & Kumagai, 2005). Schutt, Meschede & Rierdam (1994) reported that perceived social support lessens the distress and suicidal thoughts and also buffers homeless persons from the distress associated with traumatic experiences. An epidemiological study of suicide (Pickett, King & Faelker, 2000) among male farm operators in Canada and comparison with those in the general population suggested that the high levels of social support traditionally available in Canadian farm communities protected farm operators from abnormally high rates of suicide.

Social support is provided by networks comprised of family, relatives, friends, neighbours and co-workers, especially when the interaction is positive. Though personal networks may provide social support that help to maintain emotional well-being and buffer the effect of adverse life events, it can have a direct, independent effect on mental

health irrespective of presence or absence of stressful life events (Paykel, Emms, Fletcher & Rassaby, 1980).

The variables used in the social support research related to suicide include marriage, living alone, interaction between family members, recent moves, number of close friends and other variables relating to changes in social integration (Heikkinen, 1994). There is evidence from comparative studies that social support systems have been disintegrated among suicide attempters compared with non-suicidal individuals (Hart, Williams & Davidson, 1988; Veiel, Brill, Hafner & Weiz, 1988; Magne-Ingvar, Ojehagen & Traskman-Bendz, 1992; Kotler et al, 1993). Whatley & Clopton (1992), Hovey (1999), Rutter & Soucar (2002), Botnick, Heath, Cornelisse, Strathdee, Martindale & Hogg (2002), Marion & Range (2003) have reported significant association between lower social support and suicidal ideation. Rosegard & Folkman (1997) noted low level of perceived social support in highly suicidal partners of men with AIDS. Regarding completed suicide, Yang & Clum (1994) have described a stress-social support model in the aetiology of suicidal ideation.

In an assessment of social support as it is perceived by a sample of suicide attempters living in various European areas that differ markedly in terms of socio-economical and cultural factors, majority of suicide attempters in various areas felt that their need for social support is met to a great extent (Bille – Brahe, Egebo, Crepet, De-Leo, Ijelmeland, Kerhko, Lonnnqvist, Michel, Salander-Renberg, Schmidtke & Wasserman, 1999).

## **Variables used in Social Support Studies**

### **Living Alone Status**

Some studies have provided evidence of excess living alone among suicide completers compared with living controls (Barraclough & Pallis,

1975). In consecutive studies, living alone has been reported in 22-25% of the victims (Robins, Gassner, Kayes, Wilkinson & Murphy, 1959; Chynoweth, Tonge & Armstrong, 1980). In an assessment of social support in suicide victims by Robin et al (1959) 22% of victims out of 134 suicides were living alone. Subsequently, Bunch et al (1971) in a controlled study with living controls reported that marriage protects against suicide in recent maternal bereavement. The same investigator in another study (1972) also found that suicide victims visit their relatives less frequently than controls and have poor social support after bereavement. More suicide victims were left living on their own or in hotels after bereavement. Stocks & Scott (1991) in a retrospective analysis of frequent suicidal drug over dose reported that most of them were lacking a partner.

Another investigation conducted in 1973 by Rorsman found that more female suicides (50%) than living controls (16%) were living alone. Interestingly, in this study there was no difference in social support among males. Another group of investigators (Chynoweth et al, 1980) in a controlled study reported that 25% of suicides were living alone compared to 15% of general population living alone.

Another group of investigators (Chynoweth et al, 1980) in controlled study reported that 25% of suicides were living alone compared to 15% of general population. Epidemiologists (Erlemeier, 1988) have predominantly investigated social isolation and loneliness as risk factors for suicide in old age. In Heikkinen et al's study (1994a) living alone was more common among female victims. Females had complained of loneliness more often than males. Those females who had lived alone had countered a recent death more often than other females. The male victims who had lived alone had encountered a recent death more often than other females. The male victims who had lived alone had experienced separation,

financial trouble, and unemployment during the last 3 months more frequently than other males, suggesting a concurrent stressor effect of these recent life events with living alone in male suicides. Ponizovsky & Ritsner (1999) reported living without a spouse as risk factor for suicide in Russian-born Jewish immigrants.

In a controlled study of alcoholic versus depressive non-alcoholic suicides (Heikkinen et al, 1994b) living alone was twice common in alcoholic suicides. Heikkinen & Lonnqvist (1995) have also reported similar proportion of persons living alone and reports of loneliness across all age groups. In an investigation (Tyssen et al, 2001) of suicidal ideation among medical students one of the predictive factors was single marital status. In a study to examine the impact of past exposure to Nazi Holocaust on the development of suicidal ideation, Clarke et al (2004) have reported a negative association between suicidal behaviour and availability of confidant.

Few studies have looked at the age differences in living alone and social interaction factors in suicide. These studies have shown that living alone has been more common among older suicides (Rich et al, 1986; Conwell, Oslin, Caine & Flannery, 1991). Rich et al (1986) who compared the living alone status found that 34% of older suicides (above 30 years) as against 8% of young suicides (below 30 years). Quan & Arboleda-Florenz (1999) have demonstrated that relative to elderly females, males were more likely to be single.

Opposing the popular belief, social isolation however has not been reported to be more common among elderly suicides (Conwell et al, 1990; Younger, Clark, Oehmig-Lindroth & Stein, 1990; Clark & Clark, 1993). In

the study by Osvath & Fekete (2001), high proportion of elderly attempters were living in the family with other relatives or in nursing home.

When repeated suicide attempters were compared with non-repeaters, Ojehagen, Regnell. & Traskmans- Bendz (1991) found that repeaters were less often employed and lacked social support and more often had relational problems.

### **Recent Move**

Sainsbury (1973) reported that more suicide victims (40%) than controls (12%) moved within 2 years and movers were more often single, widowed, child less and living alone. In a comparative analysis of social stress (Hangnell & Rorsman, 1980) between suicide victims and living controls, move in last year was more common among suicides (32%) than controls (13%).

### **Social Network**

There is evidence that social networks among suicide attempters are weaker than non-suicidal individuals (Hart et al 1988). Veiel et al (1988) reported crucial difference in the social network between the attempters and the controls in a controlled study. Social network of people who attempted suicides was investigated by Magne-Ingvar et al (1992). They found that very few suicide attempters had a well functioning relationship and two thirds had problems in their occupational situation. Divorced partners had unsatisfactory social interaction compared with those who were married or co-habiting with those who were single or widowed. In an exploratory study, Ripely & Dorpat (1981) found low social integration in among suicide victims. Heikkinen et al (1993) reported disintegration of social networks and poor social support associated with suicide. Perez-Smith, Spiroti & Boergers (2002) reported higher levels of suicidality

among adolescents who lived in neighbourhood with weak social networks. Dennis, Wakefield, Molloy, Andrews & Friedman (2005) reported poor social network in depressed older adults with self harm compared to same aged depressed older adults with no self harm.

## **Friends**

Regarding completed suicide, Maris (1981) reported that suicide victims have significantly fewer close friends in the year before their death compared with natural deaths. In a comparison of suicides with natural deaths (Maris, 1992), natural deaths and twice as many close friends as suicides. Half of suicides had no close friends compared with one third of natural deaths.

Thompson, Kaslow, Short & Wyckoff (2002) have demonstrated a mediating role for social support from friends and family and perceived effectiveness at obtaining resources in reducing suicide attempt. In Turvey et al's study (2002) there was absence of relatives or friends to confide in late life suicide. Bearman & Moody (2004) reported that having had a friend who committed suicide increased the likelihood of suicidal ideation and attempts for both boys and girls. Female adolescents' suicidal thoughts were significantly increased by social isolation and friendship patterns in which friends were not friends with each other. Suppapitiporn, Thavichachart & Suppapitiporn (2005) reported that depressed patients who attempted suicide had fewer friends and a lower level of social support.

Veiel et al (1988) reported crucial difference between the attempters and the controls in the number of friends with whom the subject had agreeable everyday interactions and in the number of kin that provided crisis support, both psychological and instrumental. Heikinen et al (1995)

reported similar proportion of availability of confidants and with friends with common interests across all age groups in suicide. According to him living alone and diminished opportunity for social interaction were not common factors in late life suicides.

In terms of friendships, more females had a close friend, where as more males had friends sharing common interests (Heikkinen et al, 1994a). A study (Nisbet, 1996) conducted among black females suggests that finding emotional and psychological support in friends and family members helps to safeguard against suicide. The most substantial finding of the study was that for all sex/race categories, seeking support from friendship and familial resources is negatively related to attempted suicide where as seeking support from professional resources is associated with an increase in the likelihood of suicide attempt. This may be due to serious emotional disturbances in the later group. Persons who are in midlife and older and are living with HIV-AIDS (Kalichman, S.C., Hechman, T., Kochman, A., Sikkema, K. & Bergholte, J., 2000) and suicidal ideators were perceived receiving significantly less support from friends and family.

## **Family**

Rubenstein, Heeren, Housman, Rubin & Stechler (1989) reported protective effect for family cohesion and family friendship in suicide attempt among high school students. O'Donnell, O'Donnel, Wardlaw & Stueve (2004) also reported family closeness as a resiliency factor against suicide among African American and Latino youth. De Man, Lanbreche-Gauthier & Leduce (1993) reported that suicide ideation in adolescent boys and girls is related to a parental child-rearing regime that is characterized by control and a lack of sufficient maternal and paternal social support. A

lower family support among alcohol user is reported as a risk factor for adolescent suicide by Windle (2004). Harris & Molock (2001) have reported negative correlation between family support and suicide among African American Psychology students. Hovey (2000a) also reported similar finding. Marion & Range (2003) have reported lower family support as a predictor of suicidal ideation in African American college women.

In an assessment of sheltered homeless adults (Schutt et al, 1994), it was reported that perceived social support lessens distress and suicidal thoughts directly and also buffers homeless persons from the distress associated with traumatic experiences. Distress was found to directly increase the suicidal thought and also in interactions with low levels of social support.

Morano et al (1993) have supported low family support to be more common among depressed adolescent suicide attempters than depressed non-attempters. Eskin (1995) in a comparison of Turkish versus Swedish adolescents low perceived family support and low perceived peer support was found to be commonly associated with past and current suicide attempt in both groups.

Hirsch & Ellis (1995) examined the effects of family support and demographics of suicidal behaviour in adult subjects. This study revealed that the type of primary care giver a person reported having while growing-up is significantly related to serious suicidal ideas, as they were more common among single parent households. This suggests that suicidal behaviours may occur due to complex interaction between social factors and childhood care. The influence of living in a single parent home may contribute to whether or not the person considers suicide.

In an analysis of 1-year transition probabilities and base line predictors of suicidal behaviours in young adolescents, increasing family cohesion was found protective for suicide attempts (McKeown et al, 1998). In a case-control analysis and follow up study (Cui et al, 2003) on the risk factors of suicide in a rural population in Shandong Province, suicide attempts were negatively associated with higher scores for the family cohesion.

### **Religious Beliefs**

In a cross cultural analysis of suicide between African and American population, Gibbs (1997) concluded that in both groups, among many protective factors that mitigate the risks of suicide, religiosity and social support are very important. Both these were found to counter many stressors in the population. Kirmayer et al (1998) reported regular church attendance as negatively associated with attempted suicide in inuit youth. Hovey (2000), Greening & Stappelbein (2002), Marion & Range (2003) and Zhang et al (2004) reported similar findings.

Van Ness & Larson (2002) in a review of the relationship between religiousness/spirituality and mental health reported an inverse association of religiousness with suicide. Jarbin & Von Knorring (2004) have found an inverse relationship between suicidal behaviour and satisfaction with religious beliefs in adolescents with psychiatric disorders. O'Donnell, O'Donnell, Wardlaw & Stueve (2004) also reported religiosity as a resiliency factor against suicide among African American and Latino youth. Satisfaction with religious beliefs was a protective against suicide in adolescents in this study. Duberstein, Conwell, Conner, Eberly, Evinger & Caine (2004) in a case control study have reported poor religious affiliations as a risk factor for suicide.

In a study of natural deaths in adults aged 50 and over, participation in religious activities does appear to reduce the odds of the occurrence of suicide (Nisbet, Duberstein, Conwell & Seidlitz, 2000). This effect remains significant even after controlling the effect of age, sex, race, marital status and frequency of social contacts. In a comparison of attempters versus non-attempters among low-income African American women and men in urban public hospital, Kaslow et al (2004) reported less religiosity/spirituality in attempters.

Dervic, Oquendo, Grunebaum, Ellis, Burke & Mann (2004) reported that religiously unaffiliated subjects had significantly more lifetime suicide attempts and more first-degree relatives who committed suicide than subjects who endorsed a religious affiliation. Unaffiliated subjects were younger, less often married, less often had children, and had less contact with family members. Furthermore, subjects with no religious affiliation perceived fewer reasons for living, particularly fewer moral objections to suicide.

## **Migration**

Immigrants have higher rate of suicidal behaviour than those in their countries of origin and their new countries. Immigration is a stressful life event, which may lead to depression and suicidal behaviour (Hovey, 2000). Chandrasena, Beddage & Fernando (1991) in their study on suicide among immigrant psychiatric patients in Canada noted that foreign-born patients who had come to Canada for family or economic reasons but were unemployed, with poor social integration are at risk of suicide. Sher (1999) has suggested that most immigrants who exhibit suicidal behaviour in the new country had suicidal tendencies, and/or some degree of depression, and/or certain maladaptive personality traits in their country of origin.

An epidemiological survey (Ponizovsky et al, 1997) of suicide ideation among recent adult migrants from former Soviet Union to Israel showed that suicidal ideation was most frequent among socially and emotionally isolated immigrants with lower social support. Immigration from Baltic countries or Moscow, or duration of stay in Israel from 2 to 3 years was found to be a risk factor for suicide in another study by Ponizovsky & Ritsner (1999).

### **Adolescent Suicidal Behaviour and Social Support**

Suicidal ideation and its related factors are studied in adolescents. Students who had attempted suicide had major family problems, lacked social support and had experienced stressful events having a negative impact on their lives (Hurteau & Bergeron, 1991; de Man et al, 1992 & 1993; Windle & Windle, 1997; Esposito & Clum, 2003; Windle, 2004; Rutter & Behrendt, 2004).

Rich & Bonner (1987) have reported that 30% of variation in suicide ideation in students could be accounted for by the linear combination of negative life stress, depression, loneliness and few reasons for living. D'Attilio, Campbell, Lubold, Jacobson & Richard (1992) noted that social support variable accounted for 52% of the variance in suicide potential in adolescents. The greatest proportion of the variance in suicide risk was attributable to the quality of perceived social support.

Haring, Biebl, Barnas, Miller, & Fleichhacker (1991) reported peaking of suicides at the age of 15 and 19 and pointed pronounced psychosocial changes that occur especially in these age group and weakened social integration as the causative factors. King et al (1990) identified adolescent female suicide attempters having fewer support persons, less likely to be living with their mothers, less likely to describe

confiding relationships with parent/guardians and less active and affectionate relationships with mother figures than matched controls. Poor social support as a predictive variable for suicidal ideation in adolescent females is reported by Mazza & Reynolds (1998).

In an evaluation of psycho-social stressors associated with adolescent suicides with alcohol abuse compared with depressive adolescent suicides, Marrtunen (1994) concluded that disruption in adolescent's interpersonal relationships, accumulation of stress and lacking support from the family may be warning signs of suicide potential in former group. Similar finding was reported by de Wilde, Kienhorst, Diekstra & Wolters (1994) when adolescents at high risk for suicide were compared with less risk groups. The high risk group distinguished itself from the psychologically most 'normal' group by reporting less support and understanding from siblings and relations outside the family, more changes in living situation, sexual abuse during adolescence and more siblings leaving home during the preceding year.

Cole et al (1992) found poor quality friendships and lower self esteem in adolescents with high suicide risk. In males, negative life events and daily hassles were significantly associated with suicidal ideation. Involvement in bully victims at school, especially for students with relatively little social support was cited as significantly related to suicidal ideation elsewhere (Rigby & Slee, 1999).

Slap et al (1989) in a comparative study of adolescent attempters versus adolescent non-attempters reported more disturbed family relationships in attempters. In a comparative analysis of the risk factors associated with suicidal risk between Turkish and Swedish adolescents (Eskin, 1995) low perceived family support and low perceived peer support

were found as common variables associated with suicidal risks in both groups. Pronovost, Rousseau, Simard & Counture (1995) reported that communication and parental support was significantly less in families with suicidal teenagers compared to non-suicidal teenagers. In addition, the variations in perception between adolescent and his or her parents are much greater in families with suicidal teens. In an intervention program, Thompson, Eggert & Herting (2000) have reported both direct and indirect effects of teacher and peer group support in reducing suicidal behaviour. De Man & Leduc (1995) reported that stress, social support, anomie, self-esteem and loss of control are significantly related with suicidal ideation along with other personal variables.

### **Social Support of Psychiatric Patients**

A comparison of social support between schizophrenic suicides and living schizophrenics (Shaffer et al, 1974) found no difference in living alone status between suicides and controls. Similar finding is reported by Breier & Astrachan (1984).

Living alone status was compared between depressive suicides and depressive controls by Barraclough & Pallis (1975). They found that more depressive suicides (42%) than depressive controls (9%) were living alone. Another study (Hovey, 1999) which explored social support as a moderator in the relationship between depression and suicidal ideation in Mexican – American immigrant adults found that ineffective social support and high depression was significantly associated with elevated suicidal ideation. Depressive patients with suicidal behaviour were compared with depressive patients without suicidal behaviour (Fang et al, 1996). Subjective social support, severity of depression and negative life events were found to be the leading causes of suicidal behaviour in this study.

Enhancing social support has been found to decrease the suicide risk in posttraumatic stress disorder and other anxiety disorders (Kotler, Lancu, Efroni & Amir, 2001).

### **Social Support in Alcoholism**

Periods of continuous drinking among alcoholics may cause disintegration in social support systems. Accordingly, a strong correlation has been reported between the severity of abuse and the reduction of the prevailing social network (Westermayer & Neider, 1988). Findings from several studies indicate that experience of loneliness may be significant at all stages in the course of alcoholism, and is directly linked to poor prognosis in advanced abusers (Heikkinen, 1994b). Reduced social support predicts depression among alcoholics in treatment (Booth, Russel, Yates, Laughlin, Brown & Reed, 1992). Blow, Brockamn & Barry (2004) reported that drinking among elders elevates suicide risk through interactions with other factors that are more prevalent in this age group such as depressive symptoms, medical illness, negatively perceived health status, and low social support.

Regarding completed suicide in alcoholism, the level of social integration in alcoholic suicide victims may have altered more than among other suicide victims within the last year of life (Ripley & Dorpat, 1981). Living alone at the time of death, 'poor social support' and unemployment are reportedly more common alcoholic suicides than alcoholic controls (Murphy, Wetzel, Robins & McEvoy, 1992). Although living alone may be commoner among alcoholics than depressive suicides (Murphy & Robins, 1967), a comprehensive comparison of social interaction factors in suicides of these diagnostic group is lacking.

In a comparative study of stressors in adolescent suicides with alcohol abuse versus depressive adolescent suicides (Marttunen et al, 1994) weakened parental support was more common among alcohol abuse victims.

### **Indian Studies**

An exhaustive review of literature could not find any studies related to social support and suicide from India. In a study (Howard-Pitney et al, 1992) to find out the correlates of suicide ideation and the social and psychological differences between suicide attempters and non-attempters among American Indian Zuni adolescents, significant correlation has been established with stress.

### **Correlation between Life Events, Social Support and Suicide**

Life events can alter the structure and function of the social support system in term of size, frequency of interaction and stability and such changes may be associated with suicidal behaviour.

Previous studies on social support has demonstrated the presence of either main (network) or buffering (interaction) effects of factors that mitigate the impact of life stress. Flannery & Weiman (1989) in a more comprehensive assessment of both social support resources and life stress found buffering effects but not main network effect having a significant role in reducing life stress.

Risk and protective factors were examined in suicidal and non-suicidal public high school students (Rubenstein et al, 1989). With life stress and depression as independent risk factors, family cohesion was found to offset the effects of stress and friendships to have a more indirect effect. Rudd (1990) in an integrative path model analysis of the

relationship between several variables and suicidal ideations found a significant relationship between social support and both life stress and suicidal ideation. Vassilas (1990) reported excess of life stressors containing threat, uncertainty, impaired relationships and choice of action in female attempters. They would have played some part in bringing about these stressors and to have poor social supports.

Bonner & Rich (1990) in an investigation to cross validate a stress-psychosocial vulnerability model suicidal ideation and behaviour in a jail population indicated that 51% of the variation in suicide ideation could be accounted by the linear combination of low reasons for living, irrational beliefs, jail stress and loneliness. In addition, when the variables were entered into a hierarchical multiple-regression model, interactions between selective psychosocial vulnerability factors and jail stress were found to best explain suicide intent.

Abbar, Caer, Schenk & Castelnaud (1993) in an attempt to understand suicide as being multi determined reported that social and family factors, negative life events and medical illness may interact with psychiatric and personality disorders, genetic variables, biological factors and psychosocial stressors in three ways to produce suicidal acts; as predisposing factors increasing vulnerability, as precipitating or contributing factors. Morano et al (1993) reported influence of recent loss on serious suicide attempts, especially when paired with a perceived lack of family support and hopelessness, which provides evidence for a 'stress vulnerability' model of adolescent suicide behaviour.

In a study to investigate the impact of recent life events and social adjustment on suicide attempters, Ketty, Soloff, Lynch, Haas & Mann (2000) reported that recent life events elevated the suicide risk in groups

already at high risk of suicide completion, where as high levels of social adjustment protected against stress related suicidal behaviour.

Flint, Hays, Krishnan, Meador & Blazer (1998) in an examination of effects of impaired social support and stressful life events on non-lethal suicidal behaviour could not find any of four measures of social interactions (network size, frequency of social interactions, receipt of instrumental support and subjective social support) associated with suicidal behaviour. Impaired social support did not appear to increase the odds of 1-year history of any form of suicide related ideation or attempt.

### **Coping Styles and Suicide**

Coping mechanisms serve as an internal source of emotional strength and mediate a person's reaction to any perceived stress whether internal or external. Several studies have demonstrated a crucial role of coping styles in buffering the impacts of different stressors on the development of overt psychiatric morbidity (Folkman, Lazarus, Gruen & DeLongis, 1986). Coping skills was reported as important protective factor against suicide by many investigators (Goldston, Daniel, Reboussin, Reboussin, Frazier & Harris, 2001; Kaslow et al, 2002; Kaslow, Price, Wyckoff, Bender Grall, Sherry, Young, School, Millington Upshaw, Rashid, Jackson. & Bethea, 2004).

Lineham et al (1986) reported that individuals who attempted suicide have more difficulties in coping with interpersonal problems than do non-suicidal psychiatric patients or members of the general population. In a follow up study of suicide attempters to eight years after crisis intervention treatment (Brauns & Berzewski, 1988) suicidal behaviour was significantly determined by their number and quality of life events, coping behaviour, self concept and socio-demographic variables.

An investigation to differentiate between suicidal patients who complete treatment and those who voluntarily withdraw after resolution of the immediate crisis, Rudd, Joiner & Rajab (1995) found that this behaviour potentially represents another manifestation of overall maladaptive coping, consistent with prominent avoidant, negativistic, and passive aggressive personality traits. Vassilas & Morgan (1997) reported that younger males were less likely than others to seek help.

It is not the stressor alone that leads to serious outcome, but the way in which the person perceives and responds to it. In a study to examine the impact of past exposure to Nazi Holocaust on the development of suicidal ideation, Clark et al (2004) have reported that the chronic stress produced by these traumatic events predisposed survivors to cope ineffectively resulting in suicidal ideation. Yip et al (2003) have found that older adults above 60 years who engaged in active coping (that is who actively seek to manage or control the negative events in their lives) fare better with lower levels of suicidal ideation than those who use passive coping styles.

### **Problem Solving Capacity**

Several studies have examined the impact of different coping styles on suicide risk. Levensen & Neuringer (1971) found that suicidal patients have ineffective problem solving capacity even when more effective strategies are presented to them. In a review of suicidal behaviour in school children by Garrison (1998) poor problem solving skills was commonly identified with suicidal behaviour.

Paistokas, Clum & Lascomb (1979) in an assessment of cognitive characteristics of suicides attempters found that they are not able to think flexibly and to look for alternate solutions. Similar findings are reported by Scchotte & Clum, 1982; Cohen-Sandier & Berman, 1982; Orbach et al,

1987; Obravanil et al, 1990; Rydine, Asberg, Edman & Schalling, 1990. Schneidman (1982) proposed that suicidal person is unable to differentiate between important and unimportant sources of pressure and has difficulty in finding alternatives to problems of everyday life.

Marz & Runco (1994) examined the association between problem solving and suicide ideation. One of these tasks assesses 'problem generation' and was expected to be particularly informative, given that individuals considering suicide may perceive many problems but find few solutions. In this study, problem generation score was significantly correlated with suicide ideation, even after stress was statistically controlled.

In a study (Evans, William, O'Loughlin & Howells, 1992) assessing the relationship between over-general memory recall and problem solving deficits in parasuicide patients, they provided fewer, and less effective problem solving strategies than the control group and a significant association was found between low effectiveness of problem-solving strategies and over-general memory recall in the parasuicide group.

Yang & Clum (1994) have described a stress-problem solving model in the etiology of suicidal ideation. Fremouw, Callahan, T. & Kashden (1993) examined the life stressor and problem solving interactional model of suicide proposed by Clum et al (1991) and reported that suicide attempters were discriminated from the control groups on variables such as problem-solving measures, environmental and family measures and psychological measures. Unexpectedly, life stress did not contribute to the identification of current suicide risk.

In a controlled comparison of measures of problem solving, stress and coping in adolescent suicide attempts versus non-psychiatric controls

(Wilson et al, 1995), the suicidal group did not show evidence of 'rigid' thinking or of deficits in the ability to generate solutions to standardized interpersonal problems. However, they did report recent histories of more severe life stress and had inaccurate appraisal of the extent to which stressful events could be controlled. Although suicidal patients were able to generate as many adaptive strategies as control subjects for coping with their own most severe recent life stressor, they actually used fewer. They were also more likely to identify maladaptive behaviours as ways of coping. These findings support a transactional model of adolescent behaviour, whereby inaccuracies in the appraisal aspects of problem solving (but not in the solution-generation aspects) in the face of high life stress lead to a reduction in the use of adaptive efforts to cope. Lack of coping and problem solving skills stemming from family dysfunction are reported an important risk factor for adolescent suicide (Mc Quillan & Rodriguez, 2000).

Benjaminsen, Thomson, Balslov, Gotzche – Larsen, Berthou, Rask, Petersen, Nielsen & Nielsen (1998) in a comparative study of coping behaviour among alcoholic suicide attempters versus non-alcoholic non-attempters reported that suicide attempters have a significantly lower tendency to make plans to make the best of a stressful situation by growing from it. They were significantly more likely to show mental disengagement, to resort to denial and drink alcohol or take drugs when faced with stressful situations.

Ratnayeke (1998), in his study of suicide in Srilanka found that the most common motive for suicide was disappointment in love, which contributes to the belief that suicide stems from one's inability to cope with negative feelings, emotions and urges coupled with poor coping and decision making skills.

Dear, Slattery, & Hillan (2001) reported problem solving coping as beneficial and catharsis strategies as counter productive in prisoners who attempted suicide. Esposito & Clum (2002) reported moderating effect of problem solving confidence on suicidal behaviour in a juvenile delinquent sample.

In a study of stress, coping styles, and hopelessness in prisoners, Elliot & Frude (2001) found a positive association between hopelessness and stress and the level of hopelessness was also associated with the use problem-focused but not with emotion-focused coping. Gururaj, Issac, Subhakrishna, Ranjini (2004) reported poor problem solving approaches among suicide victims in Indian population.

### **Minimization**

Kotler et al (1993) compared a group of suicidal inpatients with a non-suicidal group and reported that the suicidal patients were less likely to use the coping style of minimization to deal with the life problems. Further, more replacement, reversal and mapping were found to correlate negatively with violence risk. Botsis, Soldatos, Liossi, Kokkevi & Stefanis (1994) compared similar groups and reported that the suicidal group used almost all coping styles less frequently than the non-suicidal group. Among suicidal patients, the risk of suicide was negatively correlated with the coping styles of minimization, replacement and blame.

Horesh et al (1996) compared suicide risk and coping styles in psychiatric inpatients with suicidal behaviour, non-suicidal psychiatric inpatients and healthy controls. Suicidal patients were significantly less likely to use coping styles of minimization and mapping. They were unable to de-emphasize the importance of a perceived problem or source of stress. They also lacked the ability to obtain new information required to resolve

stressful life events. Four coping styles were correlated negatively with suicide risk (minimization, replacement, mapping and reversal) while another three (suppression, blame and substitution) were correlated positively.

In another study (Amir, Kaplan, Efroni, & Kotler, 1999) on suicide risk and coping styles using Plutchik's Coping Styles Questionnaire in posttraumatic stress disorder patients (PTSD), and non-PTSD anxiety disorders and healthy control subjects, suicide risk was significantly negatively correlated with coping mechanisms of mapping (ability to collect information for planning and to seek out alternative solutions to problems), minimization (ability to de-emphasize the burden of stressful events) and replacement (ability to overcome stressful events by engaging in alternative behaviours) and positively correlated with the coping styles of suppression (avoiding the problems or situation). In the anxiety group, suicide risk was positively related with help seeking, reflecting the destructive nature inherent in excessive dependence on the environment. In the healthy control group, suicide risk was predicted heavily by over use of substitution (engaging in tension-releasing activities such as alcohol or drug abuse), reflecting abnormal coping with stressful events through use of alcohol or drugs.

### **Suppression**

Josepho & Plutchik (1994) investigated the relationship interpersonal problems, coping styles and suicide in adult psychiatric inpatients and demonstrated that interpersonal problems and suppression were significantly and positively correlated with suicide risk. In 1989, Apter et al, have reported that the defense mechanisms of repression and denial were positively and negatively correlated, respectively, with suicide

risk. According to them, the parallels of these mechanisms on the cognitive level are the coping styles of suppression and minimization.

### **Reasons for Living**

In a study (Range & Penton, 1994) to estimate the associations among measures of hope, hopelessness and suicidality, scores on three reasons for living scales (coping beliefs, family responsibility and child concerns) were significantly correlated in expected directions with hope and hopelessness score. Further analysis indicated that scores on survival, coping beliefs and the hope subscales agency accounted for 37% of the total variance in suicidality. This study concluded that facilitating college students' hopefulness might bolster their survival and coping beliefs and discourage development of suicidal thoughts or actions.

In an investigation among older adults for their reasons for living and coping abilities (Range & Stringer, 1996) overall coping was significantly positively correlated with two reasons for living subscales such as survival and coping beliefs (SCB) and child related concerns. Women were higher than men in total reasons for living, but not significantly different in coping abilities. Older women may underrate their ability to cope. Rietdijk, van den Bosch, Verheul, Koeter & van den Brink (2001) also reported a positive correlation between SCB and coping strategies 'reassuring thoughts', 'active coping' and 'palliative reaction pattern'. The subscale SCB significantly predicted parasuicidal behaviour.

Mann et al (1999) in a comprehensive analysis of risk factors for suicide in psychiatric disorders reported fewer reasons for living as an important risk factor. In a study by Morrison & Downey (2000) using Reasons for Living Inventory (RFL), European Americans reported fewer reasons for choosing not to kill themselves than their African American

peers. Malone, Oquendo, Haas, Ellis, Li & Mann (2000) tested the hypothesis that 'reasons for living' might protect or restrain patients with major depression from making a suicide attempt. Their study revealed that depressed patients who had not attempted suicide expressed more feeling of responsibility towards family, more fear of social disapproval, more moral objections to suicide, greater survival and coping skills and a greater fear of suicide. Residents in rural locations of Australia reported having significantly more reasons to live for than their urban counter parts (McLaren & Hopes, 2002).

### **Sense of Coherence**

Mehlum (1998) assessed suicidal ideation and sense of coherence in young males using Antonovsky's sense of coherence (SOC) scale reflecting a dispositional orientation, which is associated with coping and resiliency. Suicide ideators and attempters had significantly lower SOC compared to respondents with no suicidal ideation or behaviour. Further, this study revealed SOC to be a good predictor of current suicidal ideation in non-clinical population accounting for 21% of the total variance. Edwards & Holden (2001) reported a unique interaction between SOC and emotion-oriented coping with significant predictive potential of suicidal behaviour in men and women. Gioakos (2003) in a study of Greek male conscripts found that all subgroups with suicidal behaviour had lower SOC compared with the whole sample.

### **Search Activity Concept**

Weinberg (2000) presented an integrative approach to suicidal behaviour in terms of search activity concept. Search activity concept displays a broad and holistic approach to behaviour, adaptation to new environment, body resistance, brain amine metabolism and REM-sleep

functions. Search activity is defined as activity that is oriented to change the situation (or at least the subject's attitude to it) in the absence of precise prediction of the outcome of such activity, but taking into consideration the outcomes at all previous stages of activity. According to the proposed hypothesis, renunciation of search (a state opposed to search activity) leads to a feeling of helplessness, problem solution deficits, inefficient coping, dreams that represent renunciation of search and a drop in the activity of amines. All these factors further exacerbate the state of renunciation of search and elevate suicidal risk. Orbach, Rosenheim & Haray (1987) have found that inability to generate alternative solutions to stressful situations predisposes to suicidal behaviour in children.

### **Coping styles in Children and Adolescents**

In a study of coping responses in depressed, socially maladjusted and suicidal adolescents (Curry, Miller, Waugh & Anderson, 1992), it was reported that lower affective regulations was associated with increased depression, higher emotional discharges was associated with increased social mal-adjustment, and lower problem solving was associated with suicide attempts.

Rohde, Suley. & Mace (1997) identified the correlates of current suicidal ideation and past suicidal attempt among adolescents in juvenile detention center and reported that past attempts were associated with suicidal ideation and ineffective coping for males, with major life event and impulsivity for females. In a study to evaluate the hypothesis that family rigidity and adolescent problem-solving are linked to suicidal behaviour, Carris, Shuber & Howe (1998) confirmed that family rigidity had an indirect effect on adolescent suicidal ideation through its effect on adolescent problem-solving deficits.

A comparative analysis of youngsters at high risks for suicide and non-suicidal youngsters, Kasheni, Suarez, Luchene & Reid (1998) reported that suicidal youngsters have negative perceptions of their families and maladaptive coping behaviour such as self inflicted behaviours, withdrawal from others, little interest in activities, poor concentration, difficulties with sleeping as well as substance abuse. In an analysis of suicide and its related factors in adolescents, Zhang & Jin (1998) found significant correlation of suicidal ideation with personality and psychological symptoms, life events, social support and coping style.

Klimes-Dougan, Fru, Rounsavilla, Stilwell, Welsh & Radke-Yarrow (1999) in a prospective, longitudinal study to examine suicidality in children and adolescents of depressed and well mothers reported a significant link between life reports of suicidality, adolescent mood problems, coping strategies and parental rejection. McQuillan & Rodriguez (2000) while reviewing the literature related to teen suicide highlighted lack of coping as a significant factor among many variables leading to suicide. Olvera (2001) reported poor coping strategies among Hispanic and mixed ancestry adolescents. In a study on suicidal ideation in Hispanic versus mixed-ancestry adolescents, Hispanic group had higher suicidal ideation and was associated with poor coping strategies.

In the study by Piquet & Wagner (2003) adolescent suicide attempters made less effective coping with fewer effortful-approach and more automatic-approach coping responses. Suicidal adolescents have also been reported to use more maladaptive coping strategies than lesser risk group who use more adaptive help-seeking strategies (Gould, Velting, Kleinman, Lucas, Thomas & Chung, 2004). Greater use of disengaging style was reported in homeless youth in Ottawa (Votta & Manion, 2004). Self-blaming was one important coping strategy in adolescent attempters

reported by De Leo & Heller (2004). Coping motives for drinking is reported as a risk factor for adolescent suicide by Windle (2004).

### **HIV Diagnosis, Coping Style and Suicide**

In an analysis of suicidal ideation in partners of men with AIDS, high suicidal ideation was associated with the use of behavioural escape avoidance coping (Rosengard & Foltman, 1997). Upon being notified that a person is HIV positive, he often experiences terror and confusion. At the beginning stages of coping with HIV diagnosis, suicide ideation and behaviour may arise as the infected person begins to envision frightening images of a further life with AIDS.

Siegel & Meyer (1999) in an evaluation of HIV positive men found that suicidal ideation and attempt often provoked a process of coping with HIV disease, leading to a redefinition for the meaning of HIV, enhancing one's sense of control over life, and prompting renewed effort at self-help and help seeking, a new commitment to life and a reappraisal of personal goals. Similar findings have been reported in the study HIV-infected rural persons in US (Hechman et al, 2002). In a study to examine the prevalence and characteristics of suicidal ideation among middle aged and older persons who have HIV infection or AIDS, Kalichman et al (2000) reported that suicidal ideators were more likely to use escape and avoidance strategies for coping with HIV infection and less likely to use positive reappraisal coping.

### **Coping, Childhood Sexual Abuse and Suicidality**

Peters & Range (1995) examined childhood sexual abuse and current suicidality in college men and women. Women reported similar degrees of suicidality as men, but greater survival and coping beliefs and more fear of suicide. Those whose sexual abuse involved touching genitals

were more suicidal and felt less able to cope and less responsibility for their families, than non-abused adults.

Cohen, Spirit, Sterling, Donaldson, Seifer, Plummer, Avila & Ferrer (1996) reported that adolescents who were sexually abused, particularly those who experienced the most severe sexual abuse, used negative coping strategies more often than those not sexually abused.

### **Coping Behaviour among Substance Abusers**

In an investigation of adolescents attempting suicide Windle & Windle (1997) have reported greater use of substances to cope with stressors. In an exploratory study (Neale, 2000) of suicidal intent among drug users with non-fatal overdose, suicidal actions were found to be motivated by a range of psychosocial factors such as predisposing personal circumstances, precipitating events and poor individual coping strategies.

### **Coping and Suicidal Behaviour in Indian Setting**

Till date, the data available regarding coping styles and suicidal behaviour in Indian set up are very few. Gururaj et al (2004) in a case control study on risk factors for completed suicides in Bangalore city reported positive outlook towards life problem solving approaches and coping skills.

### **Quality of Life and Suicide**

QOL is an important component in assessing the suicide risk. Since this is relatively a new area, only few studies have looked into this aspect in suicidology (Lester, 2001; Yang & Lester, 2001; Berlin et al, 2003; Sarfati et al, 2003; Jarbin & Von Knorring, 2004).

In an investigation of self-reported life satisfaction in a 20-year follow up study, dissatisfaction at base line was associated with a higher risk of suicide throughout the 20-year period. The association was somewhat stronger in the first decade than in the second decade. Men with highest degree of dissatisfaction were 24.85 times more prone to commit suicide as satisfied during the first year of follow up period. Throughout the entire follow-up, life dissatisfaction still predicted suicide after adjusting for age, sex, baseline health status, alcohol consumption, smoking status, and physical activity. Subjects who reported dissatisfaction at base line and again six years later showed a high suicide risk compared to those who repeatedly reported dissatisfaction (Koivumma Honkanen et al, 2001).

In a community study by Goldney et al (2001), subjects with suicidal ideation reported greater use of general practitioners, psychiatrists, psychologists, social workers and outpatient clinics, community health services and other □ategorize. These subjects scored poorly on all subscales of health-related quality of life (SF-36) and Assessment of Quality of Life (AQOL) to the extent that they were below the 4<sup>th</sup> percentile on the role emotional and mental health dimensions of the SF-36 and social relationships, psychological well being and over all scores of the AQOL. Suicidal ideation was associated with poor health-related quality of life.

In a national case-control psychological autopsy study in China (Philips et al, 2002) suicide was significantly associated with low quality of life. Thatcher et al (2002) reported self-perception of mental health as an independent variable associated with adolescent suicide.

Ponizovsky et al (2003) when analyzed the relationship between subjective quality of life and suicide attempts in patients with schizophrenia the attempters were less satisfied with regard to a large number of life domains than the non-attempters and the single attempters. Dissatisfaction with QOL in general and with reference to four specific domains was associated with repeated suicide attempts.

In the study by Li et al (2003) repeaters had lower quality of life in the prior month compared with non-repeaters. In a case-control analysis and follow up study (Cui et al, 2003) on the risk factors of suicide in a rural population in Shandong Province, suicide attempts were found to be negatively associated with higher quality of life.

In a study (Haller & Miles, 2003) of suicidal ideation among psychiatric patients with HIV and psychiatric morbidity, six of the seven quality-of-life variables were associated with suicidal ideation, with the strongest correlations found for leisure/social and family/friends. Kalichman et al (2000) have also found poor health related quality of life in middle aged and older persons living with HIV-AIDS who thought of suicide.

Blow et al (2004) has reported that drinking among elders elevates suicide risk through interactions with other factors that are more prevalent in this age group such as depressive symptoms, medical illness, negatively perceived health status, and low social support. Phillips et al (2002) in a logistic regression model to identify the risk factors for suicide in China reported low quality of life as an important predictive factor.

### **Quality of Life and Suicide in Indian Setting**

Till date, no data is available regarding quality of life and suicidal behaviour in Indian set up.

**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



*Thesis Submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy of the University of Calicut*

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**CHAPTER 3**  
**DESCRIPTION OF TESTS USED**

## DESCRIPTION OF TESTS USED

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Adaptation of the test

Estimation of reliability

## **CHAPTER 3**

### **Description of the Tests Used**

The following inventories were used in the study

1. Social Support Scale
2. Presumptive Stressful Life Event Scale
3. AECOM Coping Style Scale
4. WHO QOL – BREF
5. The General Health Questionnaire (GHQ-12)
6. Personal data sheet

#### **SOCIAL SUPPORT SCALE**

Social Support Scale is used to measure perceived social support. The present scale assesses seven relational provisions, namely; attachment, social integration, reassurance, reliable alliance, guidance and opportunity for nurturance as identified by Weiss (1974) and provision for psychological safety. It is a modified version of the scales by Mehra, Kulhara & Verma (1996) and Asha (1996). All these provisions are needed for individuals to feel adequately supported and to avoid loneliness, although different provisions may be most crucial at different stages of life cycle. Each of these provisions may be obtained from a particular kind of relationship, but multiple provisions may be obtained from the same source. The seven relational provisions in social support scale are:

1. Attachment, a sense of emotional closeness and security- usually provided by a spouse or lover.

2. Social integration, a sense of belonging to one group of people who share common interest and recreational activities- usually obtained from friends.
3. Reassurance of worth, acknowledgement of one's competence and skill- usually obtained from co-workers.
4. Reliable alliance, the assurance that can count on others for assistance under any circumstances- usually obtained from family members.
5. Guidance, advice and information- usually obtained from teachers, mentors or parent figures.
6. Opportunity for nurturance, a sense of responsibility for well being of another- usually obtained from one's children.
7. Psychological safety, a sense of being protected and looked after- usually obtained from belief in God or divine power.

### **Preparation of the Preliminary Form**

The present scale is used as a measure of determining the extent to which the individual perceive the support available in the community as satisfactory.

Items for the scale were constructed by combining the Social Support Scale developed by Asha (1996) and the Social Support Scale developed by Mehra et al (1996). Duplicating items were removed for this purpose. The items were phrased in such a way that the individual could easily recognize the feelings or attitudes described by the items. The items in the scale were written in Malayalam, the mother tongue of subjects, with necessary modification by an experienced Malayalam professor without

loosing the meaning of each item. After taking into account some of these modifications the result was a scale containing 46 items. Of these 22 were positively worded and 24 were negatively worded. The positive statements were intermingled with negative statements to reduce the likelihood of response set occurring. An attempt was made to retain approximately the same number of items from each area.

The subjects during administration were directed to indicate whether they received the particular provision by their community life. Answer for each item was provided in the scale itself with specific instructions to rate the response. The respondents were requested to express their agreement by marking '✓' in the appropriate column. Answering to each item was on a 4 point scale of extreme agreement (4), quite a bit (3), a little (2) and not at all (1). The preliminary form of the scale is given in appendix 1.

### **Sample**

The sample for the preliminary investigation consisted of 400 individuals of age ranging from 18 to 60 in and around the city. Care was taken to include representative samples from both sexes of the Hindu, Muslim and Christian communities. The educational status varied from illiterate to degree holders and above. There were working people, retired persons and farmers. A random sampling technique was followed for the collection of sample.

### **Administration and Scoring**

The test was administered individually at their home or working place. Maximum effort was taken to avoid distraction and presence of others while testing. After establishing good rapport with the respondent his / her socio-demographic details were collected as a first step. In the

case of educated subjects whose reading and writing abilities are not affected by aging the booklets and pen were handed over. Then they were instructed as follows ‘ this is a test to see how you view different kinds of supports offered to you by the members of your family, friends and relatives, society, government etc.’ It is also aimed to see how you support yourself. There are 46 statements in this test. You have to read the statements carefully. If you agree with it, put ‘✓’ in the appropriate column against each statement. Please try to answer all the statements and do not waste time pondering over any particular item. Your answers will be kept secret. Kindly answer to the statements as you feel for the first instant.”

In the case of illiterate subjects, the information given by him / her was marked in the appropriate column by the investigator. There after establishing good rapport, the general information about the test was given. An interview with a slow and steady way of reading out the statements in the scale was carried out. The answers were properly recorded. Scoring is done with the help of scoring keys. Higher score indicates more perceived support and vice-versa.

### **Item Analysis and Item Selection**

In the present study the total score of 400 respondents were arranged in the ascending order. 100 answer sheets having the highest criteria score were removed from the rest and it was designated as the upper tail. Similarly 100 answer sheets having the lowest score formed the lower tail. For the purpose of item analysis each item was dichotomized in to either agreement or disagreement by clubbing 4 and 3 in to agreement section and 2 and 1 in to disagreement section depending on each item whether it is positively or negatively worded.

For each item, the number given in the keyed answer was calculated in each tail. These percentages were calculated out of those subjects attempting the item. The final percentages needed for reading the item indices were selected from the item analysis table as follows:

PI: Percentage of individuals in the lower tail marking the key answer.

PII: Percentage of individuals in the upper tail marking the keyed answer.

For analyzing test items various techniques were used in psychological research. But the test that can be most profitably employed in a particular context largely depends upon the type of tests and the purpose of testing (Anastasi 1976). The item analysis was done following the procedure suggested by Ebel (1972). The items having the discrimination index 0.14 and within the difficulty indices range of 0.05 to 0.94 were included in the final form of the scale (Mathew, 1982). The item analysis table is given in appendix II. Thus 39 out of 46 items in the preliminary form were retained in the final form (Appendix III).

A few samples from final form are

- a) I wish people close to me could understand me better
- b) I often feel alone even among friends.

## **Reliability**

### **Test – Retest Reliability**

The test was administered to a sample of 60 subjects (Male N=34; females N=26) in the age group of 18 to 60 years. They were taken from around Calicut city at two occasions with an interval of one month in between. They belonged to the Hindu, Muslim and Christian communities

and to different socio-economic positions. The means and SDs obtained by the sample in the two occasions are given below:

	<i>Mean</i>	<b>SD</b>
First testing	24.16	6.24
Second testing	26.14	5.24

The retest reliability obtained was 0.89. This correlation showed stability of the test scores.

### **Split-half Reliability**

The test was administered to a sample of 30 subjects of the age range 18 to 60 years in Calicut city. People of different socio-economic classes from Hindu, Muslim and Christian communities were included in the sample. The odd and even items of the scale were scored separately. Means and SDs calculated for the odd and even items are given below:

	<i>Mean</i>	<b>SD</b>
Odd items	10.35	4.56
Even items	11.56	3.29

The product moment correlation calculated between the odd and even items in the sample was 0.65.

### **Validity**

The scores obtained by a sample of 60 educated subjects from Calicut city (Males, N=34, Females N=26) within the age group 18 to 60 years on the present scale (Malayalam) were correlated by Social Support Scale developed by Asha (1996). The details are given below:

	<b>Mean</b>	<b>SD</b>
Score of final scale	22.15	4.19
Score scale of Asha	21.14	4.16

The correlation coefficient obtained between the two test scores was 0.87, which may be considered as fairly high and as such an indicator of the construct validity of the inventory (Anastasi et al, 1976).

The reliability and validity coefficient of the test indicates that its items were consistent and reasonably dependable for the purpose for which it is used.

### **Presumptive Stressful Life Event Scale**

The present investigation to a great extent is concerned with the impact of stressful life events on suicidal behaviour in relation to social support, coping behaviour and quality of life. A host of studies have suggested a positive relationship between stressful life events and suicidal behaviour.

Extensive empirical research on life events and illness has demonstrated that life event stress may result in problems of both physical and mental health (Herbert & Cohen, 1993). Increasing knowledge strongly suggest that life event exposure is not random in the general population but is associated with certain environmental, socio-demographic, personal, psychopathological and genetic factors (Kendler et al, 1993).

### **Methodological Aspects**

Life event research is facing many known methodological problems considering methods of data collection, reliability of reporting, distortions

of recall and fall of in reporting during time course. (Paykel, 1983; Sriram, 1987). In general interview methods are superior to self-report questionnaires in accuracy and reliability in data collection. A 'recent life event' by definition, represents a change in the external social environment that can be dated approximately in contrast to a chronic difficulty or problem, such as bad marriage or chronic poverty (Paykel, 1989).

The change is external and not just one of perception. Some actual change in the circumstances is essential. One 'non-external' life event is physical illness, which is externally verifiable and carries major implications for change of life pattern.

Suicide attempters may have experienced a greater number of stressful life events in the months or weeks prior to the attempt than before (Power et al, 1985). Preceding the act, suicide attempters had experienced adverse events more often than the general population controls (Heikkinen, 1994). They had also experienced more commonly adverse events than did depressive controls (Paykel et al, 1975) or other psychiatric patients (Morano et al, 1993).

Most of the investigations in India related to life events have made use of western scales like Social Readjustment Rating Scale (SRRS) by Holmes & Rahe (1967) and Scaling of Life Events by Paykel & Prusoff (1971) with local translations but without any major modifications to suit our population. In view of the various limitations of the existing scales Singh, Kaur & Kaur (1984) constructed a new scale suitable for Indian population, using stressful life event items relevant to our culture and standardized in our population. This scale is used in the present study for the measurement of stressful life events (Appendix 4).

This scale consists of fifty-one life events commonly experienced by normal Indian adult population. Hundred was kept as highest stress score and zero as no perceived stress. Scale items were further classified in to (a) personal or impersonal (not dependent on the individual action) or ambiguous (Appendix 5), (b) desirable or undesirable (Appendix 6).

It has been found that stress experienced on undesirable items is significantly greater ( $p < 0.01$ ) than experienced on desirable items and this may explain why more undesirable events have been included in existing scales and also reported by our population. It has also been observed that sometimes some event is perceived as desirable or undesirable by different individuals or by some individual depending on social circumstance. As in pregnancy has been perceived as both desirable (wanted) and undesirable (unwanted). Hence in clinical use of this scale this point should be noted down specifically.

Both quantitative and qualitative analysis of life events is possible in this scale. It is also possible to measure stress over different time scales. In view of the reported findings that recall of events in recent item period is better than relatively remote events and also other problems of retrospective contamination the item scales are (a) life time (b) past one year.

### **Total Number of Life Events**

There is dissatisfaction with existing life event schedules because of questionable assumptions made in the scoring of events and summation of scores.

Norms obtained from the present study for adult Indian population of experienced stressful life events for lifetime are  $10.34 \pm 5.40$  and over one year it is  $1.90 \pm 2.62$ . This suggests that in our population the average

individual experiences an average of 10 common stressful events in life time without suffering any obvious adverse physical or psychological disturbance. Similarly, the mean number of stressful life events experienced over a period of one year without producing over physical or mental illness is approximately two.

There are no significant differences for males and females, young adults or old age group or for married or single subjects. Thus the drawbacks of existing scales as pointed out in earlier literature does not hold true in this checklist which shows even distribution through different age groups.

### **Frequency of Occurrence of Various life Events**

Some events are more commonly experienced by general population. E.g. Death of close family member, getting engaged or married, pregnancy of wife, illness of family member etc as compared to death of spouse, divorce, wife begins or stops work and outstanding personal achievement which are experienced by fewer number of subjects in our population. Another observation made in this regard is that stress experienced on commonly occurring events is not very large, this suggest that although a single event may produce less stress but their frequent occurrence over a short period of time may have cumulative effect in producing illness equivalent to that produced by an uncommon quantitatively more stressful event.

### **Total Presumptive Stress Scores**

Individuals vary widely in their subjective response to a similar stressful life event depending on number of factors including the individual's personality, social support system and importance of relation

with one person or institution. To take one extreme example, death of spouse may be absolutely shattering for our person, which for another with serious conflict death of spouse may be actually a relief from stress. However, on all human experiences an attempt has to be made to quantify the items in terms of means stress experienced by majority in that population. Because of this reason this scale has assigned weight to each individual item varying from 0 to 100 and then ranked them according to the perceived stressfulness of each event. The scale as given is ranked according to decrease in severity of perceived stress, however, in administration it is recommended that scale be administered in reverse order i.e. starting from lowest stressful event to the most stressful event. Death of spouse coming last; as it is found to be more acceptable and easy in administration and is less threatening to subjects.

No significant differences were observed in the reported stress in different age groups, marital state and education group. However there were marked sex differences in the way certain items were perceived by males and females respectively. Some events e.g. death of friend, sexual difficulties and retirement were perceived to be more stressful by men while other items e.g. death of close family member, family conflict and gain of new family member by women. All these items are related to intra-family events and this may be explained by the fact that in Indian culture majority of women are still closely bound to family with few outside professional and social interests.

### **Reliability**

Reliability of PSLE scale was conducted on 15 patients and relatives (Sharma & Ram, 1988). Life event data collected from each patient was

compared with life events data about the patient given by his relative and was found to be satisfactory (0.8).

### **Adaptation of the Scale**

In adapting the PSLE scale for the present study the English version was translated to simple Malayalam language by a Malayalam professor from reputed college in Calicut city. This was back translated to original English version by an independent translator who is equally competent in both languages. No difference could be detected between the original English and back translated English version.

For the present study Malayalam version was used (Appendix 4). PSLE scale was administered in an open interview method. Each event listed in the PSLE scale was enquired unless it was clearly not applicable. Some probing was done to clarify the information on selective items. In all the instances a significant member (relative or friend) was persuaded to take the interview as a co-informant. All the events were rated as accurately as possible and cross-checked with other family members. Whenever the data is not immediately clear an attempt was made to relate the events to anchor data such as public holidays, which often proved helpful. Whenever there is still doubt about the dating of an event a range of uncertainty was plotted and its midpoint was chosen. The time period for which life events were recorded was lifetime and six months prior from the day of attempt in case cases and day of evaluation in controls. Life events during lifetime also included life events in six months.

### **Estimation of Reliability**

Reliability of this scale was ascertained on the basis of responses of 60 subjects (Male, N=34, female, N=26) in Calicut city. People from

Hindu, Muslim and Christian communities with different economic status of the age range 18 to 60 years were considered for this purpose. The odd even reliability was found to be 0.77. Details of the analysis are show below.

<b>Odd items</b>		<i>Even items</i>		<b>Correlation coefficient</b>
MEAN	SD	MEAN	SD	
22.27	4.9	21.18	5.03	0.77

This value shows that this scale fairly reliable for this particular study.

### **Albert Einstein College of Medicine Coping Style Scale**

#### **Concept**

Coping mechanisms serve as an internal source of emotional strength and moderate a person’s reaction to any perceived stress, whether internal or external. Coping is defined as the ‘cognitive and behavioural efforts used to master, tolerate, and reduce demands that exceed a persons resources. (Cohen & Lazarus, 1979). Several studies have demonstrated ‘crucial role of coping styles in buffering the impacts of different stressors on the development of overt psychiatric morbidity (Folkman et al, 1986). It appears that it is not the stressor alone that leads to serious outcome but the way in which a person perceives and responds to it. It has been reported that individuals who attempt suicide have more difficulties in coping with interpersonal problems than do non-suicidal psychiatric patients or members of the general population (Lineham et al, 1986). Suicidal patients are less able to consider alternatives to think flexibly and may persist in ineffective problem solving even after more effective strategies have been presented. Suicidal patients are also less likely to use the coping style of minimization to deal with life problems (Kotler, 1993). Studies have reported a correlation of suicide risk with minimization, replacement and

blame among suicidal patients (Botsis et al 1994). In another study (Josepho & Plutchik, 1994) a significant positive correlation was reported between suicide risk, interpersonal problems and the coping style of suppression.

### **AECOM Coping Style Scale**

This is a 95-item scale (Plutchik & Conte, 1989) with a four-possibility spectrum ranging from 'never' to 'very often'. The scale measures eight basic coping styles that are used for reducing stress and coping with life problems. These coping styles are (1) Suppression (2) Help seeking (3) Replacement (4) Blame (5) Substitution (6) Mapping (7) Reversal (8) Minimisation.

#### **Suppression**

Avoiding the problem or situation (I avoid thinking about unpleasant things). Thirteen items belong to this category. Range of scores 0-39.

#### **Help seeking**

Asking others for help (when I have a problem I try to let others help me). Eleven items belong to this category. Range of scores 0-33.

#### **Replacement**

Dealing with problems by identifying alternate solution (if an illness or accident prevented me from doing my usual work, I would still find useful things to do). Twelve items belong to this category. Range of scores 0-30.

## **Blame**

Blaming others or the 'system' for your problems (the arguments I get in to are started by other people). Ten items belong to this category. Range of scores 0-30.

## **Substitution**

Engaging in tension reducing activities such as alcohol or drug use (When I get upset, I look for something to eat). Eleven items belong to this category. Range of scores 0-33.

## **Mapping**

Collecting information about the situation or problem (I get as much information as I can before I make a decision). Eight items belong to this category. Range of scores 0-24.

## **Reversal**

Acting opposite of the way you feel (I try to see funny side of upsetting situations). Ten items belong to this category. Range of scores 0-30.

## **Minimization**

Minimizing the importance of the problem or situation (I look on the bright side of things). Twelve items belong to this category. Range of scores 0-36.

## **Internal Reliability**

The internal reliability as measured by Cronbach's  $\alpha$  was as follows: Minimisation – 0.71, suppression – 0.82, help seeking – 0.67,

replacement-0.62, blame-0.73, substitution-0.64, Categor-0.80, reversal-0.46 and 0.78 for the entire scale. The internal validity of the scale was found to have a  $\alpha$  value of between 0.58 and 0.79 with a mean  $\alpha$  value of 0.70. The questionnaire had both predictive validity and discriminative validity.

### **Adaptation of the Scale**

In adapting AECOM coping scale for the present study the English version was translated in to simple Malayalam language without loosing the concept of items by an expert in Malayalam language. This was back translated to English by an independent translator who is equally competent in both languages. There was no difference between the original English and back translated English version. Hence the Malayalam version was found to be satisfactory for this study.

### **Adminstration and Scoring**

AECOM Coping Style Scale was administered in an open interview method. Each item listed in the scale was read out to the subject and the response was entered in a 4-point scale (Appendix 7). Scoring was done as per the directions in the manuel.

### **Estimation of Reliability**

A sample of 60 (Male, N=34, Females, N=26) of the age group 18 to 60 in Calicut city was used for this purpose. The odd-even reliability applying Spearman's Product Moment Correlation Coefficient was found to be 0.77. This value shows that adapted version is fairly reliable for the particular study.

## **Quality of Life**

Diseases affect human life in a profound way. They cause premature death resulting in decreased 'quantity' of life, but more often they cause structural and functional limitations that may seriously affect the 'quality' of life. Death is 'easier to identify and record; hence mortality has been a standard method for quantifying the impact of disease. Quality of life (QOL) is difficult to measure; hence its use in health care settings has been comparatively recent.

Assessment of QOL provides a measurement of functioning and well-being rather than disease and disorders, hence is more comprehensive (WHO QOL Group, 1998). It can guide appropriate management strategies and also act in one of the outcome measures for comparing them including drug trials. QOL assessment focuses attention on aspects of a patient's life beyond symptoms and signs. It then sensitizes the health care personal to look for and correct direct and indirect effects of diseases and treatment of individuals. QOL also helps in policy research including programme evaluation and resource allocation.

QOL assessments have been used most widely in a variety of condition including mental disorders (Saxena et al, 1998). QOL assessments have been extremely rare in India. One of the important reasons for this is non-availability of a suitable instrument. Till date no studies have explored the quality of life of suicide attempters.

### **The Concept and Definition**

WHO has defined QOL as 'individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO QOL

group, 1995). It is believed to be a broad concept incorporating in a complex way an individual's physical health, psychological state, level of independence, social relationships, personal beliefs and his / her relationships to salient features of the environment. The definition highlights QOL as a subjective self-report from the individual, which is not based on reports or judgement from others (e.g. family members, clinicians). QOL is also multidimensional incorporating positive (e.g. feeling happy, contented, energetic) as well as negative aspects (e.g. not having pain, sadness, sexual difficulties).

Though consequences of diseases affect QOL in a major way, these are not themselves assessed while measuring QOL. Only the effects of these symptoms on a person's life are assessed. This method of measuring QOL by asking generic questionnaires is conceptually sounder because a number of mediating factors determine how much and what kind of effects a disease will have on a person's QOL. These factors include personal and environmental contextual variables. For example, a knee injury may limit a joint movement. For a young man whose aim in life is to become a professional football player, this disability seriously affects his QOL. But for another person whose profession involves mainly reading and writing, the same disability affects QOL to a lesser extent. Hence, a QOL questionnaire aims to assess the extent to which significant aspects of a person's life have been affected, rather than what symptoms and disabilities are present. This concept of measuring QOL also makes it easier to construct a generic instrument that can be applied to individuals suffering from illness of diverse nature and severity than to devise an instrument for each condition separately.

## **Structure of WHOQOL – Bref**

Although WHO QOL-100 provides a comprehensive assessment of QOL, its length can limit its use. As a result an abbreviation version (WHOQOL. Bref) of 26 items (Saxena, Carlson, Brillington & Orley, 2001) was developed using data from the field trial version of WHO QOL-100. The WHO QOL Bref contains two items from the overall QOL and general health, one item from each of the remaining 24 facets included in the WHO QOL-100.

### **Domains and items of the WHOQOL-Bref**

#### **Domains1- Physical health and well-being**

G2-Overall health

1.1-To be free of any pain

1.2-Having energy

1.3-Restful sleep

9.1-To move around

10.1-Daily living activities

11.1-To be free of dependence on medicines and treatment

12.1-To be able to work

#### **Domain 2- Psychological health and well-being**

4.1-Happiness and enjoyment of life

4.3-To be able to concentrate

6.1-Feeling positive about yourself

7.1-Bodily image and appearance

8.1-To be free of negative feelings

24.1-Personal beliefs

**Domain-3- Social relations**

13.1-Relationship with other people

14.1-Support from others

15.1-Sexual life

**Domain 4- Environment**

16.1-Feeling physically safe and secure

17.1-Home environment

18.1-Financial resources

19.1-To be able to get adequate health care

20.1-Chances of getting new information and knowledge

21.1-Relaxation and leisure

22.1-Environment

23.1-Adequate transport in everyday life

**Reliability and Validity**

WHOQOL-Bref produces an aggregate score and four domain score but does not provide individual facet scores. Domain scores produced by WHOQOL- Bref have been shown to correlate at around 0.9 with the WHO-100 domain scores and hence provide an excellent alternative to the assessment of domain profile using WHO QOL-100. The brief scale is also likely to be useful in busy clinics and wards since it takes only 5-8 minutes to complete. It can also be conveniently used in studies, which assess QOL longitudinally at several time intervals.

The scale has been shown to have good discriminant validity, sound content validity and good test-retest reliability at several international WHOQOL centres. Despite the heterogeneity of facets included within domains, all domains display excellent internal consistency. Acceptable comparative fit indices were achieved when the data from original pilot field trial and new centres (CFI=0.906, 0.903 and 0.87 respectively) were applied to the four domain structures using confirmatory factor analysis. When three pairs of error variances were allowed to covary (i.e. pain and dependence on medication, pain and negative feelings, home and physical environment) and two items were allowed to cross-load on other domains (i.e. safety on the global domain and medication negatively on the environmental domain) the CFI of new data also increased to 0.901 (WHO QOL Group 1998).

### **Adaptation of the Scale**

In adapting the WHOQOL- Bref for the present study the original English version was translated to simple Malayalam language without losing the concept by an expert (Malayalam professor in a reputed college at Calicut city). This was back translated to English by an independent translator who is well versed in both English and Malayalam. Comparison of the original English version and back-translated English version could not detect any difference. For the present study Malayalam version was used.

WHO QOL Brief was administered in an open interview method. Each item listed in the scale was read out to the subject and the response was rated on a five-point scale (Appendix 8).

## **Estimation of Reliability**

A sample of 60 (Male, N=34, Females, N=26) of the age group 18 to 60 in Calicut city was used for this purpose. The odd-even reliability applying Spearman's Product Moment Correlation Coefficient was found to be 0.77. This value shows that adapted version is fairly reliable for the particular study.

## **General Health Questionnaire**

The General Health Questionnaire (GHQ) (Goldberg & Williams, 1998) is a standard self-report questionnaire used to screen for common mental disorders in primary health care. Its main focus is psychological components of ill health. The 12-item version (GHQ-12) has been widely used in primary care research. It takes 2-3 minutes to complete the questionnaire. The ease of administration and scoring and the high sensitivity and specificity have made it a useful tool for screening common mental disorders. The threshold score (mode) was 2/3 and had a medium sensitivity of 83.7% and a specificity of 79%. Gender, age and educational level did not have a significant effect on the validity of GHQ (Goldberg, Gater, Sartorius, Hstun, Piccinelli, Gureje & Rutter, 1997).

## **Adaptation of the Test**

GHQ-12 was initially translated by an expert who is proficient in English and Malayalam, into Malayalam language. The vernacular version obtained was then back translated to English by another independent expert translator. There was no difference between the original English and back translated English version. Hence the Malayalam version was found to be satisfactory for this study. The final Malayalam was arrived at by a consensus decision by all two translators with attention being paid to

content, semantic, technical and conceptual equivalence of Malayalam version (Appendix 9).

### **Reliability**

A sample of 60 (Male, N=34, Female, N=26) of the age group 18 to 60, in Calicut was used for this purpose. The odd even reliability applying Spearman's Product Moment Correlation Coefficient was to be 0.83. This value shows that the adapted version is fairly reliable for this particular study.

### **Socio-demographic Proforma**

Socio-demographic proforma was prepared for collecting details regarding age, sex, education, occupation, religion, marital status, monthly income, family history and past history of psychiatric morbidity, medical illness, current psychiatric diagnoses and details regarding suicide attempt (Appendix 10).

**LIFE EVENTS, SOCIAL SUPPORT AND  
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By

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**June-2006**

**CHAPTER 4**

**SELECTION OF THE SAMPLE AND**

**ADMINISTRATION OF TOOLS**

## **Selection of the sample and administration of tools**

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#### **Administration of the tests**

Social Support Scale

Presumptive Stressful Life Event Scale

AECOM Coping Style Scale

WHOQOL Bref

GHQ-12

#### **Scoring procedure**

## **CHAPTER 4**

### **SELECTION OF SAMPLE AND ADMINISTRATION OF TOOLS**

#### **Study Sample**

The sample for the study consisted of 50 suicide attempters and 50 normal subjects. Suicide attempters were those admitted to different departments of Medical College Hospital, Kozhikode. This hospital is a tertiary referral centre, which caters the needs of six districts viz. Kozhikode, Waynad, Malappuram, Kannur, Kasaragod and Palakkad. These patients were interviewed within the first week of their admission to the hospital. Patients below the age of 18 years were excluded from this study. Patients whose physical condition did not allow detailed evaluation were excluded from study. Whenever possible relatives, friends and other possible source of information were also interviewed for eliciting further information. No other criteria were entertained to exclude patients in this study.

Age, sex and marital status matched normal subjects formed the comparison group. The age was matched by grouping the age at 5 years intervals. These subjects were initially screened by GHQ-12 version to exclude the presence of common mental disorders. Those who scored (out of score 2/3 mode) were excluded from the control group.

#### **Administration of the Tests**

The tests were administered individually. After explaining the purpose of the study, an informal consent was taken from each subject before participating in the study procedure. While testing maximum care was taken to avoid the presence of others and external distractions. Since a

significant proportion was not physically fit to read different questionnaires each one was verbally administered to all subjects to ensure uniformity. After giving the general information, the personal details were collected in socio-demographic proforma. The questionnaires were given one by one at random order to avoid hallowing effect with specific instructions needed for answering the items in each test. Administration procedures for various tests are given below.

### **Social Support Scale**

The subjects were instructed as follows-

This test is to see how you perceive the supports given by your family, other relatives, friends, the neighbours around and the government etc. Your ability to support yourself is also measured by this. There are 39 statements. Read them carefully, if you agree with the statement, put ‘✓’ mark against each item in the column. Kindly answer all the statements. Please do not take too much time for a single statement. Your answers will be kept secret and will be used only for research purposes.

### **Presumptive Stressful Life Event Scale**

The experimenter illustrated the method of responding to the statements with the help of example given at the top of this scale. On completion of the scale the subject was instructed to proceed with one of the remaining scale in random order.

The instructions given in the facing sheet of the inventory were read out to the subject. The instructions were given as follows. “Given below is a list of common life events which are experienced by almost everyone at some time or other in their life. Kindly put tick mark ‘✓’ against those events that you may have experienced during the past 6 months in column

1 and those you have experienced at any time prior to that in your life is column 2”.

The investigator illustrates the procedure with the help of example items. He also cleared of the doubts, if any, while answering.

### **AECOM – Coping Style Scale**

The instructions given in the facing sheet of this scale were read out to the subject. The instructions were given as follows. ‘here is a list of statements describing how people behave in different situations or how they feel about various things. Please indicate how often each statement describes your behaviour or feelings by putting a check in the appropriate space’. The investigator illustrated the procedure with the help of example items. He also cleared the doubts if any, while answering.

### **WHOQOL Bref**

The instruction given in the facing sheet of inventory was read out to the subjects. This was as follows “this assessment asks how you feel about your quality of life, health and other areas of your life. Please answer all the questions. If you are unsure about which responses to give to a question, please choose the one that appears most appropriate. This can often be your first response”.

Please keep in mind your standards, hopes, pleasure and concerns. We ask that you think about your life in the last 2 weeks. You should circle the number showing the response that best fits in the appropriate column against each statement.

The experimenter illustrates the method of responding to the statements with the help of example given in the facing sheet of inventory.

## **Scoring Procedure**

The scoring of each test was done with the help of the scoring keys.

### **Social Support Scale**

In the social support scale the statements marked as positive perception was given a score of 4 or 3 depending on the degree of agreement and a score of 2 or 1 was given for negative perception. Maximum possible score is 156 and minimum is 39. High score shows good social support and a low score indicates poor social support.

### **Presumptive Stressful Life Event Scale**

For each life event a mean stress score starting from 95 for highest to 20 for the least stressful event is assigned in this scale. Summing up of the individual score of events experienced for lifetime and within 6 months yielded the total score for life term and within 6 months. Similarly the total number of life events, number of desirable, undesirable, ambiguous, personal and impersonal life events and the weighted score for these categories were calculated separately.

### **AECOM Coping Scale**

For categoriz AECOM coping scale scores obtained on the 4-point scale was categoriz to different subheading.

<b>Scales</b>	<b>Items</b>
Minimisation	1,9,17,25,33,41,49,57,67,79,84
Suppression	2,10,18,26,34,42,50,58,66,73,80,85,87
Help seeking	3,11,19,27,35,43,51,59,67,74,81

Replacement 4,12,20,28,36,44,52,60,68,75,82,86

Blame 5,13,21,29,37,45,53,61,69,76

Satisfactory 6,14,22,30,38,46,54,62,70,77,83

Mapping 7,15,23,31,39,47,55,63

Reversal 8,16,24,32,40,48,56,64,71,78

The total raw score on each scale was converted to percentile based in the norms available with the scale.

### **WHOQOL Bref**

The responses given by the subject on the 5-point scale on different domains was summed up to obtain the raw score of concerned domains. It was calculated as follows:

**Domain 1:** Q3+Q4+Q10+Q15+Q16+Q17+Q18 (Physical health and well being)

**Domain 2:** Q5+Q6+Q7+Q11+Q19+Q26 (Psychological health and well being)

**Domain 3:** Q20+Q21+Q22 (Social relations)

**Domain 4:** Q8+Q9+Q12+Q13+Q14+Q23+Q24+Q25 (Environment)

The raw score in each domain was converted to transformed scores based on the norm available with the manual.

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**CHAPTER 5**  
**ANALYSIS OF RESULTS & DISCUSSION**

# ANALYSIS OF RESULTS AND DISCUSSION

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## CHAPTER 5

### ANALYSIS OF RESULTS AND DISCUSSION

The aim of the study is to see whether there is any significant difference between suicide attempters and psychologically healthy people with respect to life events, social support, coping strategies and quality of life. The entire sample of males and females were divided into two groups 1. Suicide attempters, 2. Age, sex, and marital status matched healthy normals. The scores of each group on Presumptive Stressful Life Event Scale, Social Support Scale, AECOM Coping Scale, and Quality of Life Assessment Scale are subjected to appropriate statistical tests.

#### Section-1

#### Sample Characteristics

The classification of the sample is shown in the following table 4 & 5

Table-4

#### Sample Characteristics

Variable	Attempters N=50	Normals N=50
Mean age (yrs)	30.82	31.54
SD	13.46	13.12
Mean education	9.40	14.6
SD	3.79	3.35
Mean monthly income (Rs.)	3317.00	9401.64
SD	2999.55	1129.95
Mean No.of persons in family	5.40	4.56
SD	2.76	2.16
<b>Sex</b>		
Male	22 (44%)	22 (44%)
Female	28(56%)	28(56%)
<b>Marital status</b>		
Married	30 (60%)	30 (60%)
Unmarried	20(40%)	20(40%)
<b>Religion</b>		
Hindu	39 (78%)	33 (66%)

Muslim	9(18%)	11(22%)
Christian	2 (4%)	6 (12%)
<b>Domicile</b>		
Rural	25 (70%)	25 (50%)
Urban	15(30%)	25(50%)
<b>Occupation</b>		
Employed	36 (72%)	28 (56%)
Unemployed	14(28%)	22(56%)
<b>Type of family</b>		
Nuclear	25 (50%)	33 (66%)
Joint/Extended	25(50%)	17(34%)
<b>Type of marriage</b>		
Arranged	23 (46%)	23 (46%)
Love	3(6%)	3(6%)
<b>Consanguinity</b>	5 (10%)	2 (4%)
<b>Family history of psychiatric illness in first degree relatives</b>	16 (32%)	8 (16%)
Suicide	1(2%)	2 (4%)
Depression	2 (4%)	2(4%)
Mania	0 (0%)	1(2%)
Schizophrenia	2 (4%)	0 (0%)
Alcohol Dependence/abuse	11 (22%)	7 (14%)
Mental Retardation	0 (0%)	2 (4%)
Others	1 (2%)	2 (4%)
<b>Family History of Psychiatric Illness in Second Degree Relatives</b>	15 (30%)	11 (22%)
Suicide	5(10%)	6 (12%)
Depression	0 (0%)	2(4%)
Mania	0 (0%)	1(2%)
Schizophrenia	2 (4%)	2 (4%)
Alcohol Dependence/abuse	8 (16%)	7 (14%)
Others	1 (2%)	0 (0%)
<b>Past History of Psychiatric Illness</b>	7 (14%)	0 (0%)
Depression	5(10%)	0 (0%)
Schizophrenia	1 (2%)	0(0%)
Alcohol Dependence	1 (2%)	1(2%)
<b>Past History of Psychiatric Treatment</b>	7 (14%)	2 (14%)
<b>Medical Illnesses</b>	12 (24%)	5 (10%)

Tuberculosis	1(2%)	2 (4%)
Diabetes Mellitus	2 (4%)	2(4%)
Hypertension	3 (6%)	2(4%)
Others	9 (18%)	1 (2%)
<b>History of Medical Contact</b>	27 (54%)	3 (6%)
Within 1 week	11(22%)	1 (2%)
Within 1 month	5 (10%)	1(2%)
Within 3 months	11 (22%)	1(2%)
<b>History of Suicide Threats</b>	24 (48%)	1 (2%)
Number of Past Attempts (Mean rank)	56.76	44.24

(Others include arthritis, post polio paralysis, low back ache, headache, skin allergy, vitligo, asthma and hemorrhoids)

**Table-5**  
**Details Regarding Suicide Attempt and Current Psychiatric Diagnosis of Attempters**

	<b>Number</b>	<b>(%)</b>
<b>Past Suicide Attempt</b>	17	34
Organophosphorous	3	6
Hanging	6	12
Self cutting	5	10
Drowning	4	8
Medicine Overdose	3	6
Burns	2	4
Others	1	2
<b>Special Cause for Attempt</b>	48	96
<b>Time Difference Between Stress and Attempt</b>		
Within 24 Hours	12	24
24 Hours – 1 Week	3	6
1 Week – 1 Month	9	18
More than 1 Month	26	52
<b>Time of Present Suicide Attempt</b>		
0.00 – 6.00 AM	2	4
6.01AM – 12 Noon	6	12

12.01 – 6.00 PM	15	30
6.00 PM – 12 Midnight	27	54
<b>Suicide Notes</b>	6	12
<b>Suicide Place</b>		
House	40	80
Outside	10	20
<b>History of alcohol consumption at the time of attempt</b>	9	18
<b>Mode of Attempt</b>		
Organophosphorous	14	28
Medicine Overdose	13	26
Hanging	9	18
Corrosives	8	16
Cutting	3	6
Native Poisons	2	4
Drowning	1	2
<b>Current Psychiatric Diagnosis</b>	41	82
Adjustment disorder	14	28
Depression	12	24
Alcohol Dependence/abuse	7	14
Emotionally unstable personality disorder	5	10
Schizophrenia	3	6
Mania	2	4
Acute Psychosis	2	4
Delusional Disorder	1	2
Drug abuse	1	2

**Section-2**  
**Life Events and Suicidal Behaviour**

**Table-6**  
**Prevalence of Individual Life Events in Attempters Versus Normals**

<b>Life event</b>	<b>Lifetime Attempters (%)</b>	<b>Lifetime Normals (%)</b>	<b>Within 1 year Attempters (%)</b>	<b>Within 1 year Normals (%)</b>
Begin or end schooling	82	84	18	6
Going on pleasure trip or pilgrimage	76	96	36	40
Appearing for examination or interview	74	82	20	28
<b>Failure in examination</b>	62	32	10	4
Getting married or engaged	56	56	14	8
<b>Financial loss or problems</b>	40	30	34	14
<b>Change in sleeping habits</b>	40	42	40	20
<b>Gain of new family member</b>	36	16	12	6
Change in residence	36	58	16	16
<b>Family conflict</b>	34	32	30	6
Birth of daughter	30	38	4	4
Prophecy of astrologer or palmist etc.	30	32	30	22

	<b>Lifetime</b>	<b>Lifetime</b>	<b>Within 1 year</b>	<b>Within 1 year</b>
	<b>Attempters (%)</b>	<b>Normals (%)</b>	<b>Attempters (%)</b>	<b>Normals (%)</b>
<b>Death of pet</b>	24	20	10	4
Major purchase or construction of house	20	42	10	14
<b>Marital conflict</b>	18	0	18	0
Change in eating habits	16	46	16	16
<b>Broken engagement or love affair</b>	16	2	12	2
Change in social activities	14	32	4	4
Large loan	14	10	4	8
Self or family member unemployed	14	12	10	8
Death of close family member	14	46	2	10
Illness of family member	14	34	8	8
<b>Minor violation of law</b>	10	8	2	0
<b>Marriage of daughter or dependent sister</b>	10	6	2	0
Son/daughter leaving home	10	20	0	6
<b>Conflict with in laws (other than dowry)</b>	10	0	10	0
Reduction in number of family functions	8	30	2	16

	<b>Lifetime</b>	<b>Lifetime</b>	<b>Within 1 year</b>	<b>Within 1 year</b>
	<b>Attempters (%)</b>	<b>Normals (%)</b>	<b>Attempters (%)</b>	<b>Normals (%)</b>
Retirement	8	8	2	0
<b>Unfulfilled commitments</b>	8	6	4	2
Break up with friend	8	22	6	4
<b>Major personal illness or injury</b>	8	2	10	2
Excessive alcohol or drug abuse by family member	8	8	8	6
<b>Property or crops damaged</b>	8	0	2	0
Death of friend	6	14	0	0
<b>Lack of child</b>	6	2	6	0
<b>Marital separation / divorce</b>	6	0	4	0
Change in working conditions or transfer	6	42	6	10
<b>Sexual difficulties</b>	6	0	6	0
Trouble with neighbour	6	6	6	0
Wife begins or stops work	4	10	0	4
Lack of son	4	14	2	2

	<b>Lifetime</b>	<b>Lifetime</b>	<b>Within 1 year</b>	<b>Within 1 year</b>
	<b>Attempters (%)</b>	<b>Normals (%)</b>	<b>Attempters (%)</b>	<b>Normals (%)</b>
Trouble at work with colleagues, superiors or subordinates	4	10	4	4
<b>Death of spouse</b>	4	2	4	0
Outstanding personal achievement	2	38	0	12
Change or expansion of business	2	0	0	0
Conflict over dowry (self or spouse)	0	0	2	0
Pregnancy of wife (wanted)	0	8	2	2
Robbery or theft	2	12	0	4
Detention in jail of self or close family member	2	0	0	0
Suspension or dismissal from job	2	2	2	2
Extramarital relation of spouse	2	0	2	0

Table-6 shows the prevalence of individual life events experienced within 1 year and lifetime in attempters and normals. The events more frequently reported by the attempters in the descending order especially within one year prior to attempt are failure in examination, financial loss or problems, change in sleeping habits, gain of new family member, family conflict, death of pet, marital conflict, broken engagement or love affair, minor violation of law, marriage of daughter or dependent sister, conflict with in laws (other than dowry), unfulfilled commitments, major personal illness or injury, property or crops damaged, lack of child, marital separation / divorce, sexual difficulties, and death of spouse. Findings of this study support the hypothesis that quality of life events differ in suicide attempters and healthy normals.

The present findings are in conformity with many of the previous reports. Life events and other psychosocial stressors are commonly associated with suicidal behaviour compared to general population and non-suicidal psychiatric patients (Vizan et al, 1993; Elliot & Frude, 2001; Osvath et al, 2004). Heikkinen et al (1992) reported life events during the last 3 months in 85% of suicides; they were job problems (33%), family discord (32%) and somatic illness (29%). Same author (1994) in another study in a nation wide suicide population in Finland. reported recent life events in 80% of the suicides; job problems (28%), family discord (23%), somatic illness (22%), financial problems (18%), unemployment (16%), separation (14%), death (13%), and illness in the family member. A strong association between traumatic events and suicidal behaviour has also been reported (Zhang & Jin, 1998; Goldney et al, 2000; Clark et al, 2004).

In the present study objective losses like death of spouse, financial loss, major personal illness or injury, marital separation / divorce, broken engagement or love affair, failure in examination, death of pet, damage to

crops was common in attempters especially within 1 year of attempt. Hagnell & Rorsman (1980) found more objective losses and humiliating experience among suicide victims than natural deaths in final week and more changes in living condition, work problems and objects losses in last year. Humphrey (1977) found that suicide victims had more losses over a lifetime than neurotics and intermediate than homicides. Fernando & storm (1984) reported more losses in previous year in suicide victims than controls. Bolin et al (1968) in a comparative study reported real, imagined or threatened loss in 67% of suicide victims against 16% in patient controls in the last 6 months.

The elevated suicide risk after bereavement has also been noted in many studies (Mac Mohan & Pugh, 1965; Bunch et al, 1971; Bunch, 1972; Rorsman, 1973; Helsing et al, 1982; Kapiro et al, 1987). Paykel et al (1975) reported that suicide attempters were preceded equally by entrances and exits in the social field. There was marked peak of events in the month before the attempt. Heilae et al (1999) noted that suicide was preceded by life events independent of the victim's own behaviours, such as death of a close person or illness in the family.

Family conflict, marital conflict, conflict with in laws (other than dowry), marital separation / divorce etc can be regarded as interpersonal problems experienced by attempters in the present study. Tiller et al (1998) reported relationship problems and family conflicts as the dominant reason for suicide attempt. Weyrauch et al (2001) have noted the relationship between number of disrupted interpersonal relationships in the preceding year and suicide attempt.

Beutrais et al (1998) concluded that exposure to recent life events relating to interpersonal losses and conflicts and legal problems are the

main life events leading to suicidal behaviour. In this study a small proportion of attempters had legal problems as well. In Vassilas et al's study (1990) parasuicide group was characterized as having recently experienced life stressors containing threat, uncertainty, impaired relationships and choice of action.

Suicide victims tended to have experienced recent interpersonal losses more frequently than controls (Humphrey, 1977; Fernando & Storm, 1984). Failed relationships, work problems, family difficulties (Mishara, 1999) and over strain, marital and/or financial problems (Meszaros et al, 2000) have been also reported in suicide attempters. Blaauw et al (2002) reported a high prevalence of traumatic events especially sex abuse, physical maltreatment, emotional maltreatment, abandonment and suicide attempts by significant others.

Maladjustment with significant family members and domestic strife has been cited as the most important cause by many Indian studies also (Nandi et al, 1979; Hegde, 1980; Shukla et al, 1990; Banerjee et al, 1990). Elsewhere, it has been pointed out that 12.5% of females have committed suicide due to maladjustment with alcohol and drug abusing husbands (Ponnudurai and Jayaker, 1980). Sharma (1998) showed psychiatric disorders (46.7%), quarrel with spouse/in-laws (13.4%), quarrel with parents/sibs (12%) and failure in love (10.6%) as the most common causes of attempted suicide.

Latha et al (1994) reported more stressful life events including marital discord, conflicts with in-laws or family, problems in love, illness, death in the family and unemployment in an Indian study from Karnataka. . Analysis of risk factors in a population based psychological autopsy study

at Chennai (Vijayakumar & Rajkumar, 1999), life events were reported to be a significant risk factor with an odds ratio of 15%.

**Table-7**  
**Comparison of Different Types of Life Events Score of Attempters**  
**Versus Normals**

	<b>Attempters Mean SD</b>	<b>Normals Mean SD</b>	<b>t-value</b>
<b>Total life events score</b>			
<b>Within 1 year</b>	201.70 153.05	130.54 125.61	2.508**
<b>Life time</b>	394.40 195.97	450.14 208.90	2.239**
<b>Desirable life event score</b>			
<b>Within 1 year</b>	70.26 80.37	75.92 65.81	0.447
<b>Life time</b>	192.42 108.49	264.96 119.59	5.540**
<b>Undesirable life event score</b>			
<b>Within 1 year</b>	164.46 120.32	88.14 96.47	3.219*
<b>Life time</b>	278.98 153.83	307.86 169.30	1.316
<b>Personal life event score</b>			
<b>Within 1 year</b>	104.92 93.33	55.92 72.43	2.982*
<b>Life time</b>	171.60 105.39	183.74 101.98	0.839
<b>Impersonal life event score</b>			
<b>Within 1 year</b>	96.78 86.73	74.62 71.74	1.335
<b>Life time</b>	222.80 114.92	266.40 134.86	0.519*

\*p<0.01; \*\*p<0.05

The comparison of mean score of different types life events in attempters versus normals is shown in table-7. The results show

significantly high total life events score in attempters within 1 year of attempt as well as lifetime. The score on undesirable and personal life events within one year of attempt were also significantly high in attempters. The normal group had significantly high score of desirable and impersonal life events in their lifetime. Findings of this study support the hypothesis that suicide attempters have experienced more severe stressors than the healthy normals.

Previous studies have also reported elevated life events and other psychosocial stressors associated with suicidal behaviour compared to non-suicidal individuals (Vizan et al, 1993; Elliot & Frude, 2001; Osvath et al, 2004). In the present study recent life events were high in attempters. Heikkinen et al (1994) reported recent life events in 80% of suicides. Most importantly, it is shown that these relationships do not hold for desirable and impersonal life events but primarily for undesirable and personal life events. The same finding has been reported by Vinokur & Selzer (1975) and Kaslow et al (2002). Paykel et al (1976) summarized a series of controlled studies and reported that life events particularly exit events and events regarded as undesirable, tended to cluster prior to the onset of depression. There was marked peaking of events in the month before the attempt suggesting a crisis in this group. Several studies have also reported a strong association between traumatic events and suicidal behaviour (Zhang & Jin, 1998; Goldney et al, 2000; Clarke et al, 2004).

**Table-8**  
**Correlation of Different Types Life Event Score with other Significant Variables**

		Attempters Person	Normals Person
<b>Total life event score</b>			
Within 1 year	AECOM Blame	<b>0.304**</b>	<b>0.194</b>
	Suppression	<b>0.148</b>	<b>0.340**</b>
	QOL Environment	<b>-0.325**</b>	<b>-0.054</b>
Life time	AECOM Minimization	<b>-0.325**</b>	<b>0.319**</b>
	Replacement	<b>0.113</b>	<b>0.280**</b>
	Reversal	<b>-0.354**</b>	<b>0.069</b>
	Mapping	<b>0.029</b>	<b>0.339**</b>
	Social support Other sources	<b>-0.279**</b>	<b>0.014</b>
<b>Undesirable life event score</b>			
Within 1 year	AECOM Suppression	<b>-0.189</b>	<b>0.391*</b>
	SOCIAL SUPPORT Support from reliable attachment	<b>-0.278**</b>	<b>-0.049</b>
	QOL Environment	<b>-0.329**</b>	<b>0.004</b>
Life time	AECOM Minimization	<b>-0.298**</b>	<b>0.283**</b>
	Reversal	<b>-0.334**</b>	<b>0.058</b>
	Mapping	<b>-0.028</b>	<b>0.306**</b>
<b>Personal life event score</b>			
Within 1 year	AECOM Blame	<b>0.292**</b>	<b>0.276**</b>
	Substitution	<b>0.300**</b>	<b>0.170</b>
	Suppression	<b>0.206</b>	<b>0.340**</b>
	SOCIAL SUPPORT Support from teachers/parents figures/elders	<b>-0.049</b>	<b>0.307**</b>
	QUL Environment	<b>-0.304**</b>	<b>0.029</b>
Life time	Social support Religion	<b>0.150</b>	<b>-0.282**</b>
	AECOM Minimization	<b>-0.238</b>	<b>0.314**</b>
	Replacement	<b>0.175</b>	<b>0.292**</b>

	Mapping	-0.138	0.311**
<b>Impersonal life event score</b>			
Life time	Minimisation	-0.336**	0.256
	Mapping	-0.364*	0.026

\*p<0.01; \*\*p<0.05

The score of total life events, desirable life events, undesirable life events, personal life events and impersonal life events experienced within one year and life time were subjected to correlation analysis with different items in the Social Support Scale, AECOM Coping Scale, and QOL Scale in suicide attempters and normals. Only significant factors in the correlation analysis are shown in this table-8.

In the suicide attempters, total life event score within 1 year had a positive correlation with blame, an unhealthy coping behaviour. Personal life events experienced within 1 year also showed positive correlation with blame and substitution another unhealthy coping mechanism. Lifetime experience of impersonal life events showed negative correlation with minimization and mapping two healthy coping styles. This suggests that suicide attempters have a tendency to adopt unhealthy coping styles in response to stressful situations.

Total life events experienced in lifetime had a negative correlation with minimization and reversal. This finding shows that suicide attempters used most of the healthy coping styles less frequently in situations of stress. Same time these variables had positive correlation in the normal group under the same circumstances.

The lifetime score of undesirable life events also had negative correlation with minimization and reversal in attempters, which also suggest that these healthy coping styles were used less frequently in the presence of adverse life events. At the same time minisation and maping had positive correlation in the normal group. Hence the finding confirms

that minimization, reversal and mapping are protective coping behaviours against suicide.

Present findings are in conformity with many of the studies reported earlier (Kotler et al, 1993; Botsis et al, 1994; Josepho & Plutchik, 1994). Suicidal behaviour can be modified by the quality of life events experienced. In the present study untoward life events such as undesirable and personal life events experienced by attempters show positive association with unhealthy coping such as blame and substitution and negative association with healthy coping pattern such as minimization, reversal and mapping. On the contrary many of these healthy coping behaviours showed positive correlation in the normal group.

Horesh et al (1996) found that four coping styles were correlated negatively with suicide risk (minimization, replacement, mapping and reversal) while another three (suppression, blame, and substitution) were correlated positively. Amir et al (1999) have found that suicide risk was significantly negatively correlated with coping mechanisms of mapping, minimization and replacement and positively correlated with the coping styles of suppression. The same is true in the present study also with negative correlation of various life events with minimization, replacement and mapping and positive correlation with blame and substitution in the attempters. In a follow up study of suicide attempters upto eight years after crisis intervention treatment (Brauns & Berzewski, 1988), suicidal behaviour was significantly determined by their number and quality of life events, coping behaviour, self concept and socio-demographic variables.

In the suicide attempters, total life events experienced in lifetime had negative correlation with support from other sources. Undesirable life events experienced within one year also showed negative relationship with

support from reliable attachment. However such correlations were not observed in the normal group. This shows that poor social support is a risk factor for suicide when the person experiences adverse life events.

The normal group had negative correlation of the personal life events with social support from religion. This suggests that poor support from religion is a risk factor for suicide in the presence of personal events, which are generally adverse in nature. Currently no data are available regarding these types of correlation of different life events with social support variables pertaining to suicide.

In the suicide attempters, total, undesirable and personal life events experienced within one year had negative correlation with health related quality of life domain such as environment in the QOL scale. This shows that individuals who are experiencing multiple life events especially adverse events can develop suicidal behaviour if the environmental in which the individual is residing is not protective to him. This finding partially supports the hypothesis that in the suicide attempters as well as normals there is interrelationship among life events, social support, coping strategies and quality of life

Table-9

Comparison of Different Types of Life Event Score in Different Age Groups

	19 yrs or less Mean SD	20-35 yrs Mean SD	36-44 yrs Mean SD	45-59yrs Mean SD	60 or above Mean SD	F
<b>Total life event score</b>						
<b>Within 1 year</b>						
Attempters	241.00 161.99	199.82 143.20	203.57 216.01	165.00 108.66	70.50 23.33	0.650
Normals	119.37 172.46	161.11 132.95	53.50 60.85	123.33 63.92	107.50 50.24	1.194
<b>Life time</b>						
Attempters	260.85 193.13	398.45 188.53	459.14 112.28	557.17 183.22	503.00 9.90	3.476*
Normals	333.25 193.94	396.12 186.00	516.75 185.90	695.50 153.51	725.50 111.02	4.756*
<b>Desirable life event score</b>						
<b>Within 1 year</b>						
Attempters	95.46 76.94	72.95 80.97	60.71 115.56	40.33 25.87	0.000 0.000	0.936

Normals	66.38 75.43	85.31 66.03	36.75 46.60	97.83 77.06	83.00 15.56	0.724
<b>Life time</b>						
Attempters	92.38 57.51	187.82 91.69	231.00 71.94	316.50 62.86	386.00 36.77	12.923**
Normals	178.75 70.02	220.92 83.61	307.13 105.40	449.50 24.83	460.00 79.20	17.421**
<b>Undesirable life event score</b>						
<b>Within 1 year</b>						
Attempters	178.54 140.20	166.50 111.44	170.57 141.92	150.67 117.97	70.50 23.33	0.355
Normals	69.63 130.02	112.42 101.85	31.63 43.22	86.33 63.34	78.00 36.80	1.078
<b>Life time</b>						
Attempters	205.77 168.93	284.55 144.05	314.00 98.95	370.50 196.06	296.50 24.75	1.418
Normals	231.88 164.52	269.38 157.63	350.13 148.32	450.67 153.14	514.50 125.16	3.995*
<b>Personal life event score</b>						
<b>Within 1 year</b>						
Attempters	138.08 120.24	91.05 77.00	125.14 120.02	77.33 47.54	54.00 0.00	0.885
Normals	57.13 106.01	66.12 77.32	26.13 39.76	50.50 33.39	54.00 48.08	1.095

<b>Life time</b> Attempters	110.77 99.66	167.00 99.95	240.00 87.38	231.00 114.07	200.00 16.97	2.66**
Normals	129.75 110.97	173.65 105.73	237.75 103.61	212.00 44.74	230.00 19.80	2.753**
<b>Impersonal life event score</b>						
<b>Within 1 year</b> Attempters	102.92 76.22	108.77 92.16	78.43 108.13	87.67 77.96	16.50 23.33	0.885
Normals	62.25 71.99	95.00 78.87	27.38 34.69	72.83 65.13	53.50 2.12	0.879
<b>Life time</b> Attempters	150.08 123.58	231.45 110.33	219.14 45.44	326.17 97.67	303.00 26.87	3.320**
Normals	203.50 102.65	222.46 102.89	279.00 106.64	447.50 119.33	495.50 130.81	9.601*

\*p<0.01; \*\*p<0.05

Table-9 shows the multiple comparisons of scores of different types of life events in attempters and normals within 1 year and lifetime in different age groups.

Compared to other age groups both attempters and normals had significantly higher total life events score in the 60 years and above age group in their lifetime. It is quite natural that as the age advances the individual will be exposed to more and more variety of life events and this may be the reason for the high score in above 60 years age group. Since this score was equally significant in both study and normal group no specific relevance can be attributed for this finding pertaining to suicidal behaviour.

Comparison of undesirable life events experienced in lifetime across different age groups showed significantly high score in above 60 years in the normal group only. In the attempters the maximum score was in the 45-59 years age group. This suggests that only the quality of events experienced will not lead the individual to suicidal behaviour. Lot of intervening variables such as social support, coping, underlying psychiatric conditions and more over personality profile are important decisive factors in suicidal behaviour.

Comparison of lifetime score of personal life events also showed significantly lowest score in both attempters and normals in the 19 years or less age group. Some of the examples for personal life events are marital separation/divorce, trouble at work with colleagues, superiors or subordinators, major purchase or construction of house etc. This suggests that at this age the individual has not grown enough to experience many of the personal events. However no meaningful conclusion can be given for this observation since it was equally common in attempters and normals.

Table-10 shows the individual comparison of scores of different types of life events in adolescent attempters versus corresponding normals within 1 year and lifetime. Only significant factors are mentioned in this table. Total, undesirable, and personal life event score within 1 year were significantly higher in attempters than the normal group. This shows that stressful life events were significantly high in adolescent attempters. Higher level of stressful events just one year prior to the attempt might have lead this group to attempt suicide.

Conversely, lifetime score of desirable life event score was significantly higher in normal group. Since desirable life events are positive in nature this may be having a protective effect against suicidal ideations. Some of the desirable life events applicable to this age group are going on pleasure trip or pilgrimage, outstanding personal achievements, appearing for examination or interview etc.

The difference between age related variation of life events in suicide has not been investigated systematically. There are reports that types of life events in suicide vary with age. In this study many of the age related variation of the events in attempters and normal group could be one coinciding with the life cycle. However a comparison of individual life events in different age groups could not be done in this study, as there were only very few life events in each group.

Plenty of studies have reported more adverse life events among adolescents suicide victims than non-suicidal controls (Rich & Bonner, 1987; Shafii et al, 1985 & 1988; Davidson et al, 1989; Slap et al, 1989; Mardomingo & Catalina, 1992; de Man et al, 1992; Cole et al, 1992; De Wilde et al, 1992 & 1998; King et al, 1990; Brent et al, 1993, Wilson et al, 1995, Shaffer, 1974; Rich et al, 1986; Poteet, 1987; Thompson, 1987;

Hoberman, 1988; Rich et al, 1988; Hurteau & Bergeron, 1991; Apter et al, 1993; Marttuunen et al, 1993; Adams et al, 1994; Windle & Windle, 1997, Beutrais, 2000 ; Tyson et al, 2001).

Interpersonal conflicts, economic problems, school related difficulties (De Wilde et al, 1992; Pillay & Wassenaar, 1997), legal or disciplinary problems, rejections (Hawton & Fagg 1992; de Man et al, 1992; Beutrais et al, 1997), family disruption (Gisbert et al, 1985; Hurteau & Bergeron, 1991; De Wilde et al, 1992; Brent et al, 1994; Adams & Adams, 1996; Garrison, 1998; Stoelb & Chiriboga, 1998), recent loss (Morano et al, 1993), childhood sexual abuse (De Wilde et al, 1992; Boudewyn & Liem, 1995; Esposito & Clum, 2002) are the predominant stressors associated with suicide during adolescence and early adulthood. Relationship difficulties and family conflicts have been reported as dominant reasons for suicides in youth as well (Tiller et al, 1998). At this age career choices are being made and implemented and might fail and parental support may no longer be available (Valliant, 1980). Situational risk factors such as family functioning, suicide exposure, social support, life stressors and homosexuality and their combined effect have also been found to be significant in determining adolescent's risk for suicide (Stoelb & Chiriboga, 1998).

**Table-10**

**Comparison of Different Types of Life Events Score of Attempters Versus Normals in Adolescents**

<b>Life events</b>	<b>Attempters Mean SD</b>	<b>Normals Mean SD</b>	<b>Paired Mean</b>	<b>t value</b>
Total score within 1 year	241.00 44.93	113.38 24.98	127.62	2.58**
Desirable life event score (lifetime)	92.38 15.95	170.46 51.32	-139.11	3.164**
Undesirable life event score (within 1 year)	178.54 38.88	71.38 18.31	107.15	2.559**
Personal life event score (within 1 year)	138.07 120.24	33.92 13.41	104.15	3.179**

**\*p<0.01; \*\*p<0.05**

**Table-11**

**Comparison of Different Types of Life Event Score in Attempters Versus Normals in Youths and Adults**

<b>Age group</b>	<b>Type of Life events</b>	<b>Attempters Mean SD</b>	<b>Control Mean SD</b>	<b>Paired Mean</b>	<b>t value</b>
20-35	Desirable life event score (lifetime)	187.81 19.55	238.55 18.41	-133.00	3.921**
45-59	Desirable life event score (lifetime)	316.50 25.67	449.50 56.00	-133.00	3.921**
36-44	Personal life event score (within1 year)	125.14 45.36	29.86 41.40	95.29	2.576**
60 & above	Personal life event score (lifetime)	200.00 16.97	230.00 19.80	-30.00	15.00**
45-59	Impersonal life event score (life time)	326.17 97.67	447.50 119.33	-121.33	2.983**

**\*p<0.01; \*\*p<0.05**

Table-11 shows the individual comparison of scores of different types of life events in youth and adult attempters versus corresponding normals within 1 year and lifetime. Only significant results are mentioned in this table. Lifetime score of desirable life events was significantly higher in the 20-35 and 45-59 years age group normals. Since desirable life is positive in nature, experience of this type of life events might have protected these individual from suicidal behaviour.

Same time personal life event score within one year was significantly higher in 36-44 years attempters. Some of the examples for personal events applicable to this age group are marital separation or divorce, suspension or dismissal in jail, marital conflict, financial loss or problems etc. A closer look at the quality of the events shows that majority of these events are stressful in nature and may lead the susceptible individual to suicidal behaviour. However, the high occurrence of personal events in 60 years and above in the normal group cannot be explained in these terms. This again underscores the fact that suicidal behaviour is multifactorial and lots of intermediary factors are also playing a crucial role in this behaviour. It seems that many of these life events are appropriate to the corresponding life cycle of the individual. Rich et al (1991) reported an age related variation of stressors coinciding with the life cycle decade of age. The combination conflict-separation-rejection was more common among the younger age groups, and medical illness among the older.

Lifetime experience of impersonal life events was significantly higher in the attempters of 45-59 years age group. Some of the examples for impersonal life events include death of spouse, extramarital relation of spouse, lack of child etc. These life events by the very nature itself are very stressful and might have guided the vulnerable group to attempt suicide. It

also seems that many of these events are not specific to middle age group. However, this cannot be confirmed since we could not do a comparison of individual life events in different age groups as there were only very few life events in each group.

**Table-12**  
**Comparison of Different Types of Life Event Scores of Attempters and Normals in Different Age Groups**

	<b>Type of life events</b>	<b>Age group</b>	<b>Mean SD</b>	<b>Other age group</b>	<b>Other Mean SD</b>	<b>Mean Mean Difference</b>
Attempters	Undesirable life event (life time)	19 or less	205.77 168.93	20-35	284.55 144.05	-95.43*
Attempters	Undesirable life event (life time)	19 or less	205.77 168.93	36-44	314.00 98.95	-138.62*
Attempters	Undesirable life event (life time)	19 or less	205.77 168.93	45-59	370.50 196.06	-224.12*
Attempters	Undesirable life event (life time)	19 or less	205.77 168.93	60 & above	296.50 24.75	-293.62*
Normals	Undesirable life event (life time)	19 or less	231.88 164.52	45-59	450.67 153.14	-244.44**
Attempters	Undesirable life event (life time)	20-35	284.55 144.05	45-59	370.50 196.06	-128.68**
Attempters	Undesirable life event (life time)	20-35	284.55 144.05	60 & above	296.50 24.75	198.18**

Attempters	Impersonal life event (life time)	19 or less	150.08 123.58	45-59	326.17 97.67	-176.09**
Normals	Desirable life event (life time)	20-35	220.92 83.61	45-59	449.50 24.83	-210.95*
Normals	Desirable life event (life time)	20-35	220.92 83.61	60 & above	460.00 79.20	-221.45*
Normals	Desirable life event (life time)	36-44	307.13 105.40	45-59	449.50 24.83	-139.93**
Normals	Impersonal life event (life time)	19 or less	203.50 102.65	45-59	447.50 119.33	-265.42*
Normals	Impersonal life event (life time)	19 or less	203.50 102.65	60 or above	495.50 130.81	-313.42*
Normals	Impersonal life event (life time)	20-35	222.46 102.89	45-59	447.50 119.33	-206.64*
Normals	Impersonal life event (life time)	20-35	222.46 102.89	60 or above	495.50 130.81	-313.42**

Table–12 shows the individual comparison of scores of different types of life events of attempters and normals in different age groups. Only significant results are shown in this table. Compared to 19 years or less age group the score of undesirable life events was significantly higher in 20-35, 36-44, 45-59 and 60 years above age group attempters. However the same comparison showed higher score in the 45-59 years age group compared to 19 years or less in the normal group. This shows a definite difference in the profile of life events experienced in 19 years or less age group of attempters compared other age group attempters. Some examples for undesirable events are death of spouse, extramarital relations of spouse, trouble at work with colleagues, superiors or subordinates, suspension or dismissal from job etc. It is quite obvious that most of these events are not applicable to 19 years or less. Probably experience of these untoward life events could be the guiding factors for attempting suicide in individuals above 20 years.

Previous studies have noted a definite qualitative difference in the profile of life events experienced in different age groups. Age related pattern of variation in life events have reported events like interpersonal problems, job, financial, academic problems, separation, serious family arguments, unemployment and residence changing to be more common among young victims, whereas somatic illness and retirement to be more common among older victims (Lo & Leung, 1985; Rich et al, 1986; Heikkinen et al, 1995; Brent et al, 1993; Conwell et al, 1990; Rich et al, 1991; Duberstein et al, 2004). Zhou et al (2004) reported three most common negative life events associated with elderly suicides such as chronic physical illness or injury, major changes in diet, sleeping or other daily routines and financial difficulties. In a comparative analysis of suicide attempters versus psychiatric patients (Luscomb et al, 1980) age

was found to mediate the relationship between stress and suicide attempt; among the older subjects, stress was greater in the attempt group than the control group, but no difference in stress levels was found for younger subjects.

Major risk factors for suicide noted in old age group (Erlemeier, 1988) are chronic and painful illnesses mainly depression, conflicts and stress in interpersonal relationships, social isolation and loneliness. Conwell and associates (1990) reported decreasing trends with aging for job problems, financial trouble, and family discord, where as the problem of victims with physical illness increasing with age. Economic problems peaked as a stressor among the suicide victims who were 40-49 years old (Rich et al, 1991).

In an ethnic Chinese population above 60 years, financial and relationship problems were significant risk factors for suicide (Yip et al, 2003). By midlife, person is responsible for raising and educating children, while ageing parents are becoming more dependent. As a result, financial pressures on the middle-aged adult can be enormous. The frequency of illness has also been found to rise precipitously in the 40-49 year old age group (Rich et al, 1991). Osgood (1991) in a review on psychological factors in late-life suicide reported dysfunctional family, numerous losses in middle and late life such as loss of power and control, loss of spouse, and loss of work role and increasing mental health problems such as depression and alcoholism in late life as the major leading precipitating factors in suicide.

It has also been reported that most of the life events in younger age were possibly dependent on the victim's own behaviour. Vassilas & Morgan (1997) reported a high rate of interpersonal stress in the last 72

hours in suicides among younger males. Kosky et al (2000) noted unemployment and experience of personal loss to be more common among young suicide victims.

**Table-13**

**Life Events Score of Male Versus Female in Attempters and Normals**

<b>Life vents</b>	<b>Male Mean SD</b>	<b>Female Mean SD</b>	<b>t-value</b>
<b>Attempters</b>			
<b>Within 1 year</b>			
Total score	187.82 158.83	212.61 150.36	0.565
Desirable	63.05 84.24	75.93 78.27	0.559
Undesirable	162.00 118.58	166.39 123.80	0.127
Personal	88.41 82.00	117.89 100.91	1.111
Impersonal	99.41 97.77	94.71 78.78	0.188
<b>Life time</b>			
Total score	404.86 185.72	386.18 206.65	0.332
Desirable	205.09 108.48	182.46 109.42	0.729
Undesirable	296.50 152.68	265.21 156.10	0.710
Personal	173.77 105.65	169.89 107.09	0.128
Impersonal	231.09 107.64	216.29 121.9	0.448
<b>Normals</b>			
<b>Within 1 year</b>			
Total score	124.00 113.52	135.68 136.19	0.323
Desirable	69.32 56.05	81.11 73.17	0.625
Undesirable	83.09 94.36	92.11 99.64	0.325
Personal	57.95	54.32	0.174

	66.33	78.07	
Impersonal	66.05	81.36	0.746
	68.90	74.44	
<b>Life time</b>			
Total score	499.86	411.07	1.511
	202.52	209.04	
Desirable	306.77	232.11	2.284**
	137.84	92.91	
Undesirable	336.18	285.61	1.050
	150.26	182.44	
Personal	201.86	169.50	1.117
	101.73	101.72	
Impersonal	298.00	241.57	1.487
	135.13	131.72	

\* $p < 0.01$ ; \*\* $p < 0.05$

Table–13 shows the individual comparison of scores of different types of life events in males versus females in attempters and normals within one year and lifetime. The lifetime score of desirable life events was significantly higher in normal males.

Many studies have demonstrated a qualitative difference in the profile life events experienced between males and females with regard to suicidal behaviour. Such differences could not be elicited in this study. The associations found between life events and gender suggests that suicides among males may be more often related to stress than in the case among females (Kirmayer et al, 1998). Heikkinen et al (1992) have reported more recent life events and higher mean number of events among men than among women. In Fujioka et al's study (2004) males had more occupational and financial problems and females had difficulties with human relationships and family problems.

Rich et al (1991) reported more common economic problems among males than among females. The author's explanation is that traditionally men have more self esteem tied up in financial success than women. It may

also be that women are more often supported by men in this society than the reverse.

It has been reported that unemployment, financial trouble, job problems, separation and life events in general were common among younger men than women. Females had encountered separation due to work more frequently than males (Heikkinen et al, 1994). An excess of serious somatic illness among elder male suicides compared with older females suicides have also been reported (Heikkinen et al, 1995; Dorpat et al, 1968; Whitlock, 1986). Quan & Arboleda- Florenz (1999) have demonstrated an excess of physical illness and financial difficulty as precipitant stressors more significantly among elderly males. Mental illness as precipitant stress was more common among females.

### Section-3

#### Social Support

Table-14

#### Social Support and Suicidal Behaviour

	Attempters N=50	Normals N=50	P
Faith in God			
Yes	49 (98%)	48 (96%)	p>0.05
No	1(2%)	2 (4%)	
Living Alone			
Yes	2 (4%)	7 (14%)	p>0.05
No	48(96%)	43 (86%)	
Presence of Companion			
Yes	44 (88%)	45 (90%)	p>0.05
No	6(12%)	5 (10%)	
Confiding Relationships			
Yes	35 (70%)	49 (98%)	P<0.01
No	15(30%)	1 (2%)	

Friends with Common Interest			
Yes	39 (78%)	47 (94%)	p>0.05
No	11(22%)	3 (6%)	
Loneliness			
Yes	14 (28%)	3 (6%)	P<0.01
No	36(72%)	47 (94%)	

Paired sample statistics- Binomial distribution used

Table-14 shows the comparison of some of the important social support variables between attempters and normals. Confiding relationship was significantly less and loneliness was significantly higher in attempters than the normals. This finding supports the hypothesis that quality of social support system is different between attempters and normals. Review of literature shows that these are some of the important variables with regard to social support in suicide attempters. There is evidence from comparative studies that social support systems have been disintegrated among suicide attempters compared with non-suicidal individuals (Hart et al, 1988; Veil et al, 1988; Magne-Ingvar et al, 1992, Kotler et al, 1993; Whatley & Clopton, 1992; Hovey, 1999; Rutter & Soucar, 2002; Botnick et al, 2002; Marion & Range, 2003).

Social support was reported as an important protective factor against suicide by Kaslow et al (2002). Social support is provided by networks comprised of family, relatives, friends, neighbors and co-workers, especially when the interaction is positive. The personal networks may provide social support that help to maintain emotional well-being and buffers the effect of adverse life events, or it can have a direct, independent effect on mental health irrespective of presence or absence of stressful life events (Paykel et al, 1980).

The variables used in the social support research related to suicide include marriage, living alone, interaction between family members, recent

moves, number of close friends and other variables relating to changes in social integration (Heikkinen et al, 1994).

Though the presence of friends with common interests and companion were comparable in attempters and controls, confiding relationship was significantly lower in attempters in the present study. Apart from friends with common interests and companions, another important source of confiding relationships is marriage partner. Interestingly majority in this study was married in both groups (60%). In this study reliable attachment was significantly lower in attempters (Table-15). This shows that it is not only the quantity of support available which is important but also the quality of support to protect the individual from suicide. The higher prevalence of loneliness in the attempters also substantiates this point.

Clarke et al (2004) has also reported a negative association between suicidal behaviour and availability of confidant. Bunch et al (1971) in a controlled study with living controls reported that marriage protects against suicide in recent maternal bereavement. Ponizovsky & Ritsner (1999) reported living without a spouse as risk factor for suicide in Russian-born Jewish immigrants. In an investigation (Tyssen et al, 2001) of suicidal ideation among medical students, one of the predictive factors was single marital status. Lacking a partner was reported as risk factor for suicide in drug over dose patients in a study by Stocks & Scott (1991).

The finding of excess loneliness in attempters has also been reported in many of the previous studies. Epidemiologists (Erlemeier, 1988) have predominantly investigated social isolation and loneliness as risk factors for suicide especially in old age. Subsequently, Bunch et al (1972) found that suicide victims visit their relatives less frequently than controls and

have poor social support after bereavement. More suicide victims were left living on their own house or in hotels after bereavement. Heikkinen et al (1995) also reported larger proportion of persons living alone and complained of loneliness in the suicide victims.

**Table-15**

**Comparison of Social Support Score of Attempters Versus Normals**

<b>Social Support</b>	<b>Attempters Mean SD</b>	<b>Normals Mean SD</b>	<b>t-value</b>
Total score	110.70 17.48	127.20 12.47	5.650*
Reliable attachment	33.38 6.88	38.52 6.28	4.726*
Social integration from friends	26.32 8.22	33.64 6.05	4.963*
Teachers/parental figures/elders	15.62 3.23	17.22 2.73	2.729*
Religion	13.82 2.93	14.66 2.06	1.694
Other sources	21.56 4.00	23.16 2.98	2.162**

\* $p < 0.01$ ; \*\* $p < 0.05$

Table-15 shows the comparison of scores of various items in social support scale between attempters and normals. All the social support variables were significantly lower in attempters. This finding supports the hypothesis that the amount of social support system is different between attempters and normals. Extensive empirical research indicates that social support plays an important role in an individual's suicidal ideation and behaviour. The present finding is in line with previous reports (Ripely & Dorpat, 1981; Hast et al 1988; Veiel et al, 1988; Long & Miller, 1991; Ojehagen et al, 1991; Magne-Ingvar, 1992; Heikkinen et al, 1993; Kaslow

et al, 2000; Hovey, 2000; Turvey et al, 2002; Perez-Smith et al, 2002; Brown & Vinokur, 2003 and Soykan et al, 2003; Clarke et al, 2004)).

In this study reliable attachment was significantly lower in attempters. Reliable attachment includes the support from family members, spouse and children. Moreover, support from teachers, parental figures and elders was also significantly lower in attempters. Many studies have reported a strong negative association between family support and suicidal behaviour (Rubenstein et al, 1989; Morano et al, 1993; de Man et al, 1993; Eskin, 1995; Hirsch and Ellis, 1995; McKeown et al, 1998; Hovey, 2000; Harris & Molock, 2001). Many of these studies also suggest that suicidal behaviours may occur due to complex interaction between social factors and other psychosocial variables.

Sainsbury (1973) reported that more suicide victims than controls were single, widowed, childless and living alone. Many studies have provided evidence of excess living alone among suicide completers (Rorsman, 1973; Barraclough et al, 1975; Robins et al, 1959; Chynoweth et al, 1980; Rich et al, 1986; Heikkinen et al, 1994)). Marriage has also been reported to protect against suicide (Bunch et al, 1971; Tyssen et al, 2001). The same investigator (1972) also found that suicide victims visited their relatives less frequently than controls. Living without a spouse has also been reported as risk factor for suicide (Ponizovsky & Ritsner, 1999; Stocks & Scott, 1991; Quan & Arboleda-Florenz, 1999).

The finding that social support through integration from friends was significantly lower in attempters is also agreeable with previous reports (Maris, 1981 & 1992; Thompson et al, 2002; Bearman & Moody, 2004). Veiel et al (1988) reported crucial difference between the attempters and controls in the number of friends with whom the subject had agreeable

everyday interactions that provided crisis support, both psychological and instrumental. Nisbet (1996) in a study conducted among black females found that seeking emotional and psychological support in friends and family members helps to safeguard against suicide. The most substantial finding of this study was that for all sex/race categories, seeking support from friendship and familial resources is negatively related to suicidal behaviour where as seeking support from professional resources is associated with an increase in the likelihood of suicide attempt.

Supporting previous reports present study also shows that support from religion was significantly less in suicide attempters. Among many protective factors that mitigate the risks of suicide, religiosity is also very important (Gibbs, 1997). Many studies have reported regular church attendance as negatively associated with attempted suicide (Kirmayer et al, 1998; Hovey, 2000; Nisbet et al, 2000; Greening & Stappelbein, 2002; Marion & Range, 2003). In one study this effect remained significant even after controlling the effect of age, sex, race, marital status and frequency of social contacts (Nisbet et al, 2000). In a study conducted by Vijayakumar & Rajkumar (1999) in Chennai lack of faith in God, changes in religious affiliation and lower frequency of attending places of worship were significant risk factors for completed suicide.

**Table-16**  
**Correlation of Different Types of Social Support Score with Other Variables**

Variables	Pearson Correlation	Pearson correlation
	Attempters	Normals
<b>Total score</b>		
<b>QOL</b>		
Physical health & well being	0.510*	0.375*
Psychological health & well being	0.386*	0.511*

Social relations	0.508*	0.416*
Environment	0.496*	0.424*
<b>AECOM</b>		
Minimization	0.519*	0.265
Help seeking	0.290**	0.037
Replacement	0.425*	0.481*
Mapping	0.305**	0.494*
Reversal	0.501*	0.313*
<b>Social support from reliable attachment</b>		
<b>AECOM</b>		
Minimization	0.369*	0.265
Reversal	0.340**	0.063
<b>PSLE</b>		
Undesirable life event score (within 1 year)	-0.278**	0.195
Desirable life event score (life time)	0.143	0.316**
<b>QOL</b>		
Physical health & well being	0.339**	0.208
Psychological health & well being	0.365*	0.187
Social relations	0.341**	0.250
Environment	0.299*	0.241
<b>Social support through integration from friends</b>		
<b>AECOM</b>		
Minimization	0.462*	0.232
Replacement	0.336**	0.542*
Substitution	0.333**	-0.014
Reversal	0.370*	0.419*
<b>QOL</b>		
Physical health & well being	0.314**	0.310**

Psychological health & well being	0.091	0.371*
Social relations	0.293**	0.321**
Environment	0.309**	0.156
<b>Social support from teachers, parental figures and elders</b>		
<b>AECOM</b>		
Minimization	0.410*	0.244
Help seeking	0.456*	0.308**
Replacement	0.417*	0.385*
Mapping	0.370*	0.557*
Reversal	0.499*	0.359*
<b>PSLE</b>		
Personal life event score (within 1 year)	-0.007	0.307**
<b>QOL</b>		
Physical health & well being	0.384*	0.244
Psychological health & well being	0.371*	0.504*
Social relations	0.463*	0.394*
Environment	0.416*	0.365*
<b>Social support from religion</b>		
<b>PSLE</b>		
Desirable life event score (within 1 year)	0.191	0.297**
Personal life event score (life time)	0.150	-0.282**
<b>Support from other sources</b>		
<b>AECOM</b>		
Minimization	0.413*	-0.039
Reversal	0.370*	0.045
<b>PSLE</b>		
Desirable life event score (lifetime)	-0.328**	0.115

Total life event score (life time)	-0.279**	-0.014
<b>QOL</b>		
Physical health & well being	0.573*	0.319**
Psychological health & well being	0.399*	0.454*
Social relations	0.471*	0.276
Environment	0.580*	0.576*

\*p<0.01; \*\*p<0.05

Table-16 shows the correlation of total social support and different types of social support with profile of life events, coping styles and quality of life in attempters and normals. Only significant results are mentioned in this table. The total social support score had significant positive correlation with physical health and well-being, psychological health and well being, social relations and environment in both attempters and normals. Since there is no difference in any of these parameters between attempters and normals it seems that there is significant but non-specific relationship between various domains of quality of life social support but not with suicidal behaviour.

The total social support score had significant positive correlation with minimization, help seeking, replacement, mapping and reversal in attempters. Interestingly all these coping styles are protective against suicide. Same time only three coping styles such as reversal, mapping and replacement had positive correlation in normals. In studies on suicide risk and coping styles (Botsis et al, 1994; Amir et al, 1999; Horesh et al, 1996), suicide risk was significantly negatively correlated with mapping (ability to collect information for planning and to seek out alternative solutions to problems), minimization (ability to de-emphasize the burden of stressful

events) and replacement (ability to overcome stressful events by engaging in alternative behaviours) and positively correlated with suppression (avoiding the problem or situation) and help seeking (asking others for help). In these studies suicide risk was predicted heavily by over use of substitution (engaging in tension-releasing activities such as alcohol or drug abuse), reflecting abnormal coping with stressful events through use of alcohol or drugs. Similar selective variation in correlation between attempters and normals was not seen in this study where correlation between many of these parameters was non-specific in attempters and normals. Reason could be that probably more factors other than coping styles and social support may have a role in an individuals' suicidal behaviour.

Social support score from reliable attachment had a positive correlation with minimization and reversal in attempters but not in normals. In the life event scale only undesirable life event score (within 1 year) had a negative correlation with reliable attachment score in attempters. This suggests that lack of reliable attachment may lead to more number of adverse life events or the reverse in attempters. At the same time the positive correlation between reliable attachment and desirable life event score (life time) in healthy normals suggests a protective effect against suicide.

Rudd et al (1990) in an integrative path model analysis of the relationship between several variables and suicidal ideations found a significant relationship between social support and both life stress and suicidal ideation. Vassilas et al (1990) reported excess of life stressors containing threat, uncertainty, impaired relationships and choice of action in female attempters. They would have played some part in bringing about these stressors and to have poor social supports.

Bonner et al (1990) in an investigation to cross validate a stress-psychosocial vulnerability model of suicidal ideation and behaviour indicated that 51% of the variation in suicide ideation could be accounted by the linear combination of low reasons for living, irrational beliefs, jail stress and loneliness. In addition, when the variables were entered into a hierarchical multiple-regression model, interactions between selective psychosocial vulnerability factors and jail stress were found to best explain suicide intent.

Abbar et al (1993) in an attempt to understand suicide as being multi determined reported that social and family factors, negative life events and medical illness may interact with psychiatric and personality disorders, genetic variables, biological factors and psychosocial stressors in three ways to produce suicidal acts: as predisposing factors increasing vulnerability and as precipitating or contributing factors. Morano et al (1993) have reported influence of recent loss on serious suicide attempts, especially when paired with a perceived lack of family support and hopelessness, which provides evidence for a “stress vulnerability” model of adolescent suicide behaviour. In a study to investigate the impact of recent life events and social adjustment on suicide attempters, Ketty et al (2000) reported that recent life events elevated the suicide risk in groups already at high risk of suicide completion, where as high levels of social adjustment protected against stress related suicidal behaviour.

Social support score from reliable attachment had a positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters but not in normals. This finding again suggests that suicidal behaviour is multifactorial and interplay of many factors other than the above-mentioned are important.

Social support from friends had positive correlation with minimization, substitution, reversal and replacement in attempters but only with replacement and reversal in normals. Among these the coping styles in attempters excessive use of substitution is harmful and it may predispose the individual to suicidal behaviour. Similar finding has been reported by Horesh et al (1996). The association of coping factors such as replacement and reversal in normals is understandable as they are healthy in nature and protective against suicide.

Social support score from friends had positive correlation with physical health and well-being, social relations and environment in attempters. But in normals significant correlation was established only for physical health and well-being and social relations. As mentioned earlier this finding also needs deeper exploration taking into consideration interaction with other variables mediating suicidal behaviour.

Social support score from teachers, parents and elders had positive correlation with minimization, help seeking, reversal, mapping and replacement in attempters but with help seeking, reversal, mapping and replacement in normals. Though attempters had used more positive coping styles than normals ultimately they resort to attempt suicide. This fact again underscores the importance of multifactorial complex interaction of various parameters in guiding the individual to attempt suicide. However, since all these coping styles were almost equally common in attempters and normals no meaningful conclusion can be drawn from this finding.

Social support from teachers, parents and elders had positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters. But in normals the relationship was significant with respect to only psychological health

and well being, social relations and environment. This finding also suggests multifactorial etiology of suicidal behaviour.

Social support from religion had positive correlation with desirable life event score within 1 year and a negative correlation with personal life events score lifetime in normals. Probably religiosity may promote more positive life events and may also reduce the stressful personal life events and this could be reason for low suicidality in normals. Study by Vijayakumar & Rajkumar (1999) supports the finding of low religiosity in suicide attempters.

Social support score from other sources had positive correlation with minimization and reversal in attempters but with none in normals. An interesting finding born out is that support from other sources had negative correlation with lifetime score of total and desirable life events in attempters. The negative interaction between lifetime score of total and desirable life events and poor support from other sources such as support from society, lack of respect and help, lack of encouragement from colleagues, superiors and elders, no hobbies etc could be the factors leading to suicidal behaviour in the study group.

Social support score from other sources had a positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters and above all except social relations in normals. This non-specific relationship also supports the suggestion that suicidal behaviour is multifactorial and interplay of many factors other than the social support and QOL are important.

These finding partially support the hypohtesis that in the suicide attempters as well as normals there is interrealtionship among life events, social support, coping strategies and quality of life

**Table-17****Comparison of Social Support Score of Male Versus Female**

<b>Social Support</b>	<b>Male Mean SD</b>	<b>Female Mean SD</b>	<b>t-value</b>
<b>Attempters</b>			
Total score	113.32 20.73	108.64 14.50	0.938
Reliable attachment	34.00 7.46	32.89 6.48	0.561
Social integration from friends	30.36 8.09	23.14 6.92	3.40*
Teachers/parental figures/elders	15.23 3.74	15.93 2.79	0.156
Religion	12.82 3.59	14.61 2.02	0.444**
Others	20.91 4.32	22.07 3.73	0.597
<b>Normals</b>			
Total score	128.18 12.83	126.43 12.36	0.490
Reliable attachment	39.45 6.60	37.79 6.03	0.931
Social integration from friends	34.86 5.17	32.68 6.59	1.277
Teachers/parental figures/elders	17.59 1.92	16.93 3.23	0.850
Religion	13.50 2.32	15.57 1.23	4.054*
Others	22.77 3.04	23.46 2.95	0.812

\* $p < 0.01$ ; \*\* $p < 0.05$

Table-17 shows the comparison of different variables in social support scale of attempters and normals between males and females. In both attempters and normals support from religion was significantly higher in females. In male attempters social support from friends was significantly higher in males than females. Rests of the factors were comparable between two genders in both attempters and normals.

Religiosity and social support are very important and both these found to counter many stressors in the population especially suicidal behaviour (Gibbs, 1997). Regular church attendance has been reported to be negatively associated with attempted suicide (Kirmayer et al, 1998; Hovey, 2000; Greening & Stappelbein, 2002; Marion & Range, 2003). Lack of faith in God, changes in religious affiliation and lower frequency of attending places of worship were significant risk factors for completed suicide in a study reported from Chennai (Vijayakumar & Rajkumar, 1999). In one study this effect remained significant even after controlling the effect of age, sex, race, marital status and frequency of social contacts (Nisbet et al, 2000). The specific finding of lower religiosity in male attempters has not been reported earlier. Moreover, in this study religiosity was equally lower in both male attempters and normals. Hence it could be considered that among males religiosity is generally poor than females.

Many studies have documented lack of friendship commonly associated with female suicides (King et al, 1990; Bearman & Moody, 2004). In Heikkinen et al's study (1994) though more females had close friends, more males had friends sharing common interests. Bearman & Moody (2004) reported that female adolescent' suicidal thoughts were significantly increased by social isolation and friendship patterns in which friends were not friends with each other. King et al (1990) identified adolescent female suicide attempters having fewer support persons, less likely to be living with their mothers, less likely to describe confiding relationships with parent/guardians, and less active and affectionate relationships with mother figures than matched controls. Contrary to these findings, Quan & Arboleda-Florenz (1999) have demonstrated that relative to elderly females, males were more likely to be single.

**Table-18**

**Comparison of Different Types of Social Support Score in Different Age Groups**

	<b>19 yrs or less</b> <b>Mean</b> <b>SD</b>	<b>20-35 yrs</b> <b>Mean</b> <b>SD</b>	<b>36-44 yrs</b> <b>Mean</b> <b>SD</b>	<b>45-59</b> <b>yrs</b> <b>Mean</b> <b>SD</b>	<b>60 or above</b> <b>Mean</b> <b>SD</b>	<b>F</b>
<b>Total score</b>						
Attempters	110.62 13.56	109.36 14.21	120.00 15.78	111.83 27.27	90.00 42.43	1.262
Normals	124.13 8.01	126.27 13.91	127.50 10.72	134.33 14.98	129.00 0.00	1.020
<b>Reliable attachment</b>						
Attempters	31.38 5.78	32.68 4.58	36.71 5.96	36.00 12.76	34.50 16.26	0.970
Normals	36.00 3.74	37.04 5.27	43.75 7.05	42.33 7.42	35.50 9.19	4.330*
<b>Social integration from friends</b>						
Attempters	24.70 7.84	26.68 8.53	31.43 6.45	24.17 8.42	21.50 12.02	1.098
Normals	31.13 8.17	34.04 5.78	32.25 6.20	36.00 3.95	37.00 4.24	0.551
<b>Teachers/parental figures/elders</b>						
Attempters	16.67 2.06	15.63 2.92	15.29 2.98	15.50 4.80	10.00 5.66	2.063

	<b>19 yrs or less</b> Mean SD	<b>20-35 yrs</b> Mean SD	<b>36-44 yrs</b> Mean SD	<b>45-59yrs</b> Mean SD	<b>60 or above</b> Mean SD	<b>F</b>
Normals	17.25 2.66	17.38 3.02	16.25 2.43	17.50 2.59	18.00 1.41	0.881
<b>Religion</b>						
Attempters	14.31 1.84	13.68 2.59	15.14 1.22	13.33 4.84	9.00 7.07	2.002
Normals	15.88 0.35	14.73 1.91	13.00 3.02	15.17 1.17	14.00 2.83	2.954**
<b>Others</b>						
Attempters	23.54 2.54	20.68 3.63	21.43 3.55	22.83 6.15	15.00 1.41	2.969**
Normals	23.88 2.59	23.08 3.25	22.25 2.31	23.33 3.78	24.50 0.71	0.377

\*p<0.01; \*\*p<0.05

Table-18 shows the comparison of social support score of different age groups in both attempters and normals. In attempters support from other sources was significantly less in elderly (60 years or above) than other age groups. Support from reliable attachment was significantly less in elderly normals. Support from religion was significantly less in 36-44 years normals.

Though most of the social support variables were comparable in all age groups in attempters, the finding of poor social support from other sources in elderly attempters give credence to the finding of previous reports. Epidemiologists (Erlemeier, 1988) have predominantly investigated social isolation and loneliness as risk factors for suicide in old age. Rich et al (1986) who compared the living alone status found that 34% of older suicides (above 30 years) as against 8% of young suicides (below 30 years) were living alone. Studies that have looked at the age differences in living alone and social interaction factors in suicide have shown that living alone has been more common among older suicides (Conwell et al, 1991). Alexopaulose et al (1999) have demonstrated that low social support is predictive of suicide in elderly patients with depression.

Opposing the popular belief, social isolation, however has not been reported to be more common among elderly suicides in some studies (Conwell et al, 1990; Younger et al, 1990; Clark & Clark, 1993). In the study by Osvath & Fekete (2001) high proportion of elderly attempters was living in the family, with other relatives or in nursing home. Heikinen et al (1995) reported similar proportion of availability of confidants and with friends with common interests across all age groups in suicide. According to him living alone and diminished opportunity for social interaction were not common factors in late life suicides.

**Table-19****Comparison of Different Types of Social Support Scores of Attempters Versus Normals in Different Age Groups**

	Type of social support	Age group	Mean SD	Comparing age group	Mean $\pm$ SD	Mean Difference
Attempters	Other sources	19 or less	23.54 2.54	60 or higher	15.00 1.41	8.54**
Normals	Reliable attachment	19 or less	36.00 3.741	36-44	43.75 7.05	-9.649*
Normals	Religion	19 or less	15.88 0.35	36-44	13.00 3.02	-2.714**

\*p<0.01; \*\*p<0.05

Table-19 shows the comparison of different social support scores of attempters versus healthy normals in different age groups. Only significant variables are shown in this table. In the attempters social support from other sources was significantly lower in the elderly (60 or higher) compared to 19 years or less age group. In the normal group social support from reliable attachment was higher in 36-44 years age group. In the normal group social support from religion was higher in 19 years or less age group than 36-44 years age group.

Most of the previous studies report poor social support in extreme age group like children and adolescents and elderly. However, no data are available regarding head to head comparison of social support of children and adolescents versus elderly.

As mentioned in the previous table social support from other sources was poor in elderly versus 19 or less age group. Similar finding has been reported previously (Alexopaulose et al, 1999). Some of the reasons mentioned for poor social support in elderly are social isolation and loneliness (Erlemeier, 1988) and living alone (Rich et al, 1986; Conwell et al, 1991). Blow et al (2004) has reported that drinking among elders elevates suicide risk through interactions with other factors that are more prevalent in this age group such as depressive symptoms, medical illness, negatively perceived health status, and low social support.

Though no head to head comparison of social support of children and adolescents versus elderly is available, many studies have noted a linear relationship between poor social support and suicidal behaviour in adolescents (Rich & Bonner, 1987; Hurteau & Bergeron, 1991; D'Attilio et al, 1992; de Man et al, 1992; Eskin, 1995; Yen et al, 1996; Windle & Winle, 1997; Mazza & Reynolds, 1998; Esposito & Clum, 2003; Rutter &

Behrendt, 2004) Most of the studies the greatest proportion of the variance in suicide risk was attributable to the quality of the perceived social support. Haring et al (1991) reported peaking of suicides at the age of 15 and 19 and pointed pronounced psychosocial changes, which occur especially in these age group and weakened social integration.

Some other reasons identified for higher suicide risk in this age group are major family problems, poor social support and stressful events having a negative impact on their lives (Slap et al, 1989; Hurteau & Bergeron, 1991; de Man et al, 1993; Rigby & Slee, 1999). Disruption in adolescent's interpersonal relationships, accumulation of stress and lacking support from the family are pointed out as reason for adolescent suicide (Marrtunen, 1994). Less support and understanding from siblings and relations outside the family, more changes in living situation, sexual abuse during adolescence and more siblings leaving home during the preceding year are the reported reasons by De Wilde et al (1994) for adolescent suicides. King et al (1990) identified adolescent female suicide attempters having fewer support persons, less likely to be living with their mothers, less likely to describe confiding relationships with parent/guardians, and less active and affectionate relationships with mother figures than matched controls. Cole et al (1992) found poor quality friendships and lower self esteem in adolescents with high suicide risk.

Stress, social support, anomie, self- esteem and loss of control are the other reported reasons (de Man & Leduc, 1995). Pronovst et al (1995) reported that communication and parental support was significantly less in families with suicidal teenagers compared to non-suicidal teenagers. Rigby & Slee (199) have reported significant association between bully-victim problems, and suicidal ideation especially for students with relatively little social support.

**Section-4**  
**Coping and Suicidal Behaviour**

**Table-20**

**Comparison of coping pattern between attempters and normals**

<b>Coping pattern</b>	<b>Attempters Mean SD</b>	<b>Normals Mean SD</b>	<b>t-value</b>
Minimization	30.32 7.08	34.76 4.99	3.491*
Suppression	32.90 5.57	32.52 6.09	0.315
Help seeking	34.36 4.96	34.46 4.71	0.107
Replacement	31.90 7.43	34.98 5.27	2.394**
Blame	27.54 4.53	26.54 4.42	1.040
Substitution	21.88 6.26	23.80 5.77	1.658
Mapping	24.52 4.53	26.88 4.01	2.598**
Reversal	25.88 5.69	27.56 5.12	1.442

\*p<0.01; \*\*p<0.05

Table-20 shows the comparison of different types of coping behaviour between attempters and normals. Coping behaviours such as minimization, replacement and mapping was significantly high in healthy normals. Coping skills were reported as important protective factor against suicide by Kotler et al (1993), Botsis et al (1994), Kaslow et al (2002), Yip et al (2003) and Clarke et al (2004).

Kotler et al (1993) compared a group of suicidal inpatients with a non-suicidal group, and reported that the suicidal patients were less likely to use the coping style of minimization to deal with the life problems. Botsis et al (1994) compared similar groups and reported that among

suicidal patients, the risk of suicide was negatively correlated with the coping styles of minimization, replacement and blame. Horesh et al (1996) also found that suicidal patients were significantly less likely to use coping styles of minimization and mapping. They were unable to de-emphasize the importance of a perceived problem or source of stress. They also lacked the ability to obtain new information required to resolve stressful life events. Four coping styles were correlated negatively with suicide risk (minimization, replacement, mapping and reversal) while another three (suppression, blame, and substitution) were correlated positively.

Amir et al (1999) also reported negative correlation of coping mechanisms mapping (ability to collect information for planning and to seek out alternative solutions to problems), minimization (ability to de-emphasize the burden of stressful events) and replacement (ability to overcome stressful events by engaging in alternative behaviours) and positively correlation of coping styles of suppression (avoiding the problem or situation) with suicide risk.

This finding supports the hypothesis that coping behaviour differ significantly between suicide attempters and normals.

**Table-21**

**Comparison of Coping Style of Male Versus Female**

<b>Coping pattern</b>	<b>Male Mean SD</b>	<b>Female Mean SD</b>	<b>t-value</b>
<b>Attempters</b>			
Minimization	31.59 7.41	29.32 6.78	1.128
Suppression	32.73 5.50	33.04 5.73	0.192
Help seeking	43.45 4.68	34.29 5.26	0.118
Replacement	32.68	31.29	0.656

	7.31	7.60	
Blame	27.41 4.29	27.64 5.32	0.168
Substitution	22.95 6.61	21.04 5.96	1.077
Mapping	24.36 4.77	24.64 4.42	0.214
Reversal	27.05 5.93	24.96 5.43	1.292
<b>Normals</b>			
Minimization	35.77 5.33	33.96 4.65	1.281
Suppression	33.00 6.61	32.14 5.75	0.490
Help seeking	33.59 5.09	35.14 4.37	1.160
Replacement	36.23 5.21	34.00 5.19	1.503
Blame	27.59 5.47	25.71 3.25	1.509
Substitution	22.91 5.77	24.50 5.77	0.968
Mapping	26.95 4.31	26.82 3.83	0.115
Reversal	28.50 5.15	26.82 5.06	1.155

\*p<0.01; \*\*p<0.05

Table-21 shows the comparison of various coping styles of males versus females in attempters and normals. From the results it is clear that there is no significant difference in the coping styles of males versus females either in attempters or in normals. Previous studies have also not reported such gender bias in coping styles with reference to suicidal behaviour.

An investigation among older adults for their reasons for living and coping abilities (Range & Stringer, 1996) found that women scored higher than men in total reasons for living, but not significantly different in coping

abilities. Older women may underrate their ability to cope. Peters & Range (1995) examined childhood sexual abuse and current suicidality in college men and women. Women reported similar degrees of suicidality as men, but greater survival and coping beliefs and more fear of suicide. Vassilas & Morgan (1997) in a study of suicidal behaviour reported that younger males were less likely than others to seek help. With these limited studies available no meaningful conclusion can be drawn on gender bias.

Table 22 shows the comparison of scores of different coping styles in different age groups in attempters and healthy normals. No significant difference was seen with respect to different age groups in the coping behaviour in attempters or normals. Contrary to the present finding, few studies have reported selective coping behaviour with respect to age in suicide attempters (Patsiokas et al, 1979; Schotte & Clum, 1982; Cohen-Sandier & Berman, 1982; Opbach et al, 1987; Curry et al, 1992; Vassilas & Morgan, 1997; Carris et al, 1998; Amir et al, 1999; Yip et al, 2003). The findings of these studies will be discussed in the next table.

Table-22

Comparison of Different Coping Style Scores in Different Age Groups

	19 yrs or less Mean SD	20-35 yrs Mean SD	36-44 yrs Mean SD	45-59yrs Mean SD	60 or above Mean $\pm$ SD	F
<b>Minimization</b>						
Attempters	32.78 7.86	29.27 5.13	33.57 8.22	29.67 9.22	21.00 4.24	1.652
Normals	32.00 5.70	34.31 4.19	36.75 6.48	36.67 4.13	38.00 5.66	1.777
<b>Suppression</b>						
Attempters	34.53 6.10	32.45 5.93	33.00 6.40	31.67 2.50	30.50 0.71	0.461
Normals	33.00 6.63	32.27 6.33	30.00 4.23	34.17 6.68	39.00 1.41	0.841
<b>Help seeking</b>						
Attempters	33.85 4.88	32.45 5.93	34.57 6.13	35.83 3.77	28.50 4.95	0.889
Normals	33.88 3.91	35.12 5.54	34.00 3.38	32.50 2.88	36.00 7.07	0.637
<b>Replacement</b>						
Attempters	34.85 8.41	31.73 5.91	31.00 9.09	29.67 8.52	24.50 2.12	1.189

Normals	30.75 3.88	35.31 5.75	35.25 3.11	37.67 4.89	38.50 4.95	1.409
<b>Blame</b>						
Attempters	28.62 5.92	27.22 4.40	27.43 5.86	27.50 3.94	24.00 2.12	0.423
Normals	24.00 4.47	26.65 3.61	28.25 3.37	26.67 5.85	28.00 12.73	1.726
<b>Substitution</b>						
Attempters	22.46 5.84	23.00 6.26	23.14 7.97	16.67 2.16	17.00 5.66	1.713
Normals	20.13 5.14	25.46 6.05	23.38 4.41	20.50 3.99	28.50 4.95	0.843
<b>Mapping</b>						
Attempters	24.77 5.36	25.55 3.87	21.29 2.81	25.33 5.54	20.50 3.53	1.724
Normals	26.50 6.19	26.54 3.81	27.00 3.67	28.17 2.48	28.50 3.54	0.487
<b>Reversal</b>						
Attempters	27.69 5.92	25.55 4.48	26.86 7.76	24.00 6.70	20.00 4.24	1.107
Normals	25.88 <u>+ 4.09</u>	27.27 5.86	28.50 3.47	28.83 5.00	30.50 6.36	0.547

\*p<0.01; \*\*p<0.05

Table-23 shows the comparison of different types of coping behaviours in attempters versus normals in different age groups. Only significant results are shown in this table. As reported previously most of the positive coping styles like minimization, replacement, and mapping were significantly higher in healthy normals (Kotler et al, 1993; Botsis et al, 1994; Horesh et al, 1996). Similar to previous reports, blame an unhealthy coping style was significantly higher in attempters (Botsis et al (1994) especially in adolescents. Contrary to the previous reports suppression an unhealthy coping behaviour was significantly higher in elderly normals. The question of why some coping behaviours were significantly higher in specific age group has to be explored further. Positive coping styles minimization and replacement were significantly lower in 20-35 years age group suicide attempters. Mapping another positive coping style was significantly lower in 36-44 age group attempters. Selective variation in coping behaviour is an interesting phenomenon, which need further exploration.

One of the unhealthy coping behaviour blame was significantly higher among adolescent attempters. Many studies have reported that suicidal children and adolescents have lower ability to think flexibly and to consider alternatives (Patsiokas et al, 1979; Schotte & Clum, 1982; Cohen-Sandier & Berman, 1982; Opbach et al, 1987; Curry et al, 1992; Carris et al, 1998). Poor problem solving skills was commonly identified with suicidal behaviour in school children (Garrison, 1998; Esposito & Clum, 2002). Wilson et al (1995) had reported inaccurate appraisal of the extent to which stressful events could be controlled in children. Although suicidal adolescents were able to generate as many adaptive strategies as control subjects for coping with their own most severe recent life stressor, they actually used fewer. They were also more likely to identify maladaptive

behaviours as ways of coping. Inaccuracies in the appraisal aspects of problem solving (but not in the solution-generation aspects) in the face of high life stress lead to a reduction in the use of adaptive efforts to cope.

Unlike western reports (Amir et al, 1999) in the present study negative coping style of suppression (avoiding the problem or situation) was significantly high in elderly normals. Since suicidal behaviour is a multifactorial problem complex interaction of many other related psychosocial variables have to be considered before equating only one factor with suicidal behaviour. Yip et al (2003) found that older adults above 60 years who engaged in active coping, that is who actively seek to manage or control the negative events in their lives, fare better with lower levels of suicidal ideation than those who use passive coping styles. Among older adults, overall coping was significantly positively correlated with two reasons for living subscales such as survival and coping beliefs and child related concerns (Range & Stringer, 1996).

Help seeking was also significantly higher in attempters in 45-59 years age group. Excessive use of help seeking as coping mechanism suggests dependence on others for solving ones own problems. Amir et al (1999) reported a positive association of suicide with help seeking, reflecting the destructive nature inherent in excessive dependence on the environment.

**Table-23**

**Comparison of Different Types of Coping Behaviour in Attempters Versus Normals**

<b>Age group</b>	<b>Type of coping behaviour</b>	<b>Attempters Mean SD</b>	<b>Normals Mean SD</b>	<b>Paired Mean</b>	<b>t value</b>
20-35	Minimization	29.27 5.13	34.59 4.46	-5.318	3.172*
60 years or higher	Suppression	30.50 6.40	39.00 1.41	-8.500	17.00**
45-59	Help seeking	35.83 3.76	32.50 2.88	3.33	2.99**
20-35	Replacement	31.72 5.92	35.09 6.03	-3.36	2.079**
19 years or less	Blame	28.62 5.92	24.00 3.24	4.615	2.969**
36-44	Mapping	21.29 2.81	27.57 3.56	-6.285	4.571*

\*p<0.01;\*\*p<0.05

**Table-24**  
**Correlation of Different Coping Pattern with other Significant Variables**

	<b>Pearson</b>	<b>Pearson</b>
	<b>Attempters</b>	<b>Normals</b>
<b>Minimization</b>		
<b>Social Support</b>		
Total score	0.519*	0.265
Support from reliable attachment	0.369*	0.265
Support through integration from friends	0.462*	0.232
Support from teachers, parental figures and elders	0.410*	0.244
Support from other sources	0.413*	-0.039
<b>PSLE</b>		
Impersonal life event score (lifetime)	-0.336**	0.256
Undesirable life event score (life time)	-0.298**	0.283**
Desirable life event score (within 1 year)	0.294**	-0.021
Desirable life event score (lifetime)	-0.298**	0.297**
Total life event score (life time)	-0.325**	0.319**
<b>QOL</b>		
Physical health & well being	0.548*	0.086
Psychological health & well being	0.341**	0.225
Social relations	0.366*	0.309**
Environment	0.303**	0.204
<b>Suppression</b>		
<b>PSLE</b>		
Undesirable life event score (within 1 year)	0.189	0.391*
Total life event score (within 1 year)	0.148	0.340**

<b>QOL</b>		
Physical health & well being	0.040	-0.276**
Environment	-0.038	-0.293**
<b>Help seeking</b>		
<b>Social Support</b>		
Total score	0.290**	0.037
Support from teachers, parental figures and elders	0.456*	0.308**
<b>QOL</b>		
Physical health & well being	0.381*	-0.135
Psychological health & well being	0.371*	-0.125
Social relations	0.344**	-0.171
<b>Replacement</b>		
<b>Social Support</b>		
Total score	0.425*	0.481*
Support through integration from friends	0.336**	0.542*
<b>QOL</b>		
Physical health & well being	0.554*	0.118
Psychological health & well being	0.466*	0.051
Social relations	0.462*	0.233
Environment	0.357**	0.044
<b>PSLE</b>		
Total life event score life time	0.113	0.280**
<b>Blame</b>		
<b>PSLE</b>		
Personal life event score within 1 year	0.292**	0.276

Total life event score within 1 year	0.304**	0.194
<b>Substitution</b>		
<b>Social Support</b> Support through integration from friends	0.333**	-0.014
<b>PSLE</b> Personal life event score (within 1 year)	0.300**	0.170
Desirable life events (life time)	-0.363*	-0.253
<b>QOL</b> Physical health & well being	0.322**	-0.032
Psychological health & well being	0.309**	-0.034
<b>Mapping</b>		
<b>Social Support</b> Total score	0.305**	0.494*
Support from teachers, parental figures and elders	0.370*	0.557*
<b>PSLE</b> Undesirable life event score (within 1 year)	-0.028	0.306**
Undesirable life score (life time)	-0.298**	0.283**
<b>QOL</b> Physical health & well being	0.369*	-0.014
Psychological health & well being	0.415*	0.366*
Social relations	0.323**	0.332**
<b>Reversal</b>		
<b>Social Support</b> Total score	0.501*	0.313**
Support from reliable attachment	0.340**	0.063
Support from teachers, parental figures and elders	0.499*	0.359*
Support from other sources	0.370*	0.045
<b>PSLE</b> Impersonal life event score (lifetime)	-0.364*	0.107

Undesirable life event score (life time)	-0.334**	0.058
Desirable life score (lifetime)	-0.285**	-0.009
Total life event score (life time)	-0.354**	0.069
<b>QOL</b>		
Physical health & well being	0.384*	0.163
Psychological health & well being	0.415*	0.366*
Social relations	0.481*	0.180
Environment	0.277	0.026

\*p<0.01; \*\*p<0.05

Table-24 shows the individual correlation of all coping styles with different items in PSLE, social support scale and QOL scale in both attempters and normals. Most of the coping styles were significantly correlated with most of the items in other scales in suicide attempters.

Coping style minimization was positively correlated with total social support score, support from reliable attachment, support through integration from friends, support from teachers, parental figures and elders and support from other sources in suicide attempters. Minimization (the ability to de-emphasize the burden of stressful events) is a positive coping style and hence availability of good social support may act as a shock absorber and it will help the individual to adopt healthy coping in response to stressful situations. Though there was a positive correlation between minimization and social support variables, the occurrence of suicide attempt indicates that these two factors are not enough in preventing the individual from attempting suicide. This again indicates the complex interaction of other psychosocial factors. However none of these factors were significantly correlated in healthy normals.

Minimization had significant negative correlation with lifetime scores of total life events, impersonal life events, undesirable life events, and desirable life events within one year and lifetime in suicide attempters. This suggests that cumulative experience of life events may reduce the adoption of good coping techniques like minimization in suicide attempters. Negative correlation of minimization with desirable life events within 1 year and lifetime indicates that this relation is true even if the individual has experienced positive life events. Hence life events in general whatever be the quality have a non-specific effect of reducing minimization as coping mechanism in suicide attempters. Such a relationship was not established in healthy normal. The lifetime score of total and desirable life events had positive correlation in normals.

Minimization also had positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters but only with social relation in healthy normals. This finding also reiterates the fact that good quality of life will help the individual to adopt healthy coping styles like minimization. However, as mentioned before this positive interaction was not sufficient to prevent the individual from suicide attempt again underscoring the importance of other psychosocial variables.

The negative coping style suppression did not show any correlation with any parameters in the suicide attempters. However, suppression showed positive correlation with scores of total and undesirable life events within one year and negative correlation with physical health and well-being and environment in normals. Suppression (avoiding the problem or situation) being a negative coping mechanism may be increased in the presence of adverse life experiences and poor quality of life. Josepho & Plutchik (1994) in an investigation to assess the relationship between

interpersonal problems, coping styles and suicide in adult psychiatric inpatients demonstrated that interpersonal problems and suppression were significantly and positively correlated with suicide risk. Despite a negative interaction between these factors in healthy normals they have not adopted suicide as a way to solve crisis. This suggests that healthy normals may have other protective mechanism even if they have experienced untoward events in life and poor quality of life.

Help seeking showed positive correlation with total social support score and support from teachers, parental figures and elders in attempters but only with support from teachers, parental figures and elders in normals. Help seeking also showed positive correlation with physical health and well-being, psychological health and well being and social relations in attempters. Help seeking (asking others for help) being a healthy coping strategy, availability of adequate social support will help the individual to seek help in stressful situations. Having good physical and psychological health and well-being will also help the individual to ask for help. However, another aspect is that excessive use of this coping style reflects undue dependence of the individual on others at time of crisis. Previous table shows that help seeking was also significantly higher in attempters in 45-59 years age group. Amir et al (1999) reported a positive association of suicide with help seeking, reflecting the destructive nature inherent in excessive dependence on the environment.

Replacement had positive correlation with total social support score, support through social integration from friends, physical health and well-being, psychological health and well being, social relations and environment in attempters. Replacement had positive correlation with total social support score and support through social integration from friends and lifetime score of total life events in normals. This finding suggests that

occurrence of replacement (dealing with problems by identifying alternate solution) another healthy coping strategy will be increased in the presence of good social support and good quality of life. As mentioned before the occurrence of suicide attempt even in the presence of good social support and good quality of life underscore the need for exploration of other factors leading to suicide at the time of crisis.

Blame had positive correlation with score of total and personal life events within one year in attempters only. Blaming others or the 'system' for one's own problems being a maladaptive coping style the occurrence may be increased in the presence cumulative life stressors especially personal ones. Previous studies (Botsis et al, 1994; Horesh et al, 1996) have also reported negative correlation of suicide with blame. In the present study also blame was significantly higher in attempters especially in adolescents.

Coping style substitution had positive correlation with score of social support from friends and score of personal life events within 1 year, physical health and well-being and psychological health and well-being in attempters. Substitution had negative correlation with lifetime score of desirable life events in attempters. This suggests that substitution (engaging in tension reducing activities such as alcohol or drug use) another maladaptive coping pattern tends to occur in the presence of friends and personal stressors and in the absence of favorable life experiences. An important aspect of this finding is that it is not only the availability of friends but also the quality of friends which is important in adopting good coping strategies.

Mapping showed positive correlation with total social support score, support from teachers, parental figures and elders, physical health and well-

being, psychological health and well being and social relations and negative correlation with lifetime score of undesirable life events in attempters. This finding suggests that mapping, a healthy coping technique is increasingly used if there was availability of good social support especially from teachers, parental figures and elders, low occurrence of adverse life events and good quality of life. Horesh et al (1996) have reported that suicidal patients were unable to de-emphasize the importance of a perceived problem or source of stress. They also lacked the ability to obtain new information required to resolve stressful life events. However, despite this positive interaction occurrence of suicide attempt necessitates the mobilization of other factors also to counter the impact of stress.

Mapping showed positive correlation with total social support score, support from teachers, parental figures and elders, lifetime and within 1-year score of undesirable life events, psychological health and well being and social relations in normals. Probably the positive effect of good social support and good quality of life might have protected the individual from taking extreme steps even if they had to face undesirable life events in lifetime.

Coping style reversal had positive correlation with total score of social support, support from reliable attachment, support from teachers, parental figures and elders, support from other sources, physical health and well-being, psychological health and well being, and social relations in attempters. Reversal had negative correlation with lifetime score of total, impersonal, desirable and undesirable life events in attempters. Reversal had positive correlation with total score of social support, support from teachers, parental figures and elders and psychological health and well being in healthy normals.

This finding suggests that adoption of reversal, a healthy coping technique, is encouraged by the presence of good social support, good quality of life and cumulative life events. Horesh et al (1996) in a study to assess the relationship between reversal and suicide reported a negative relationship. Negative correlation of replacement with impersonal life events, desirable life events and undesirable life events in attempters suggests that life events in general may reduce the occurrence of good coping whatever be the quality of event experienced.

This finding partially supports the hypothesis that in the suicide attempters as well as normals there is interrelationship among life events, social support, coping strategies and quality of life

## Section-5

### Quality of Life and Suicidal Behaviour

**Table-25**

**Comparison of Quality of Life between Attempters and Normals**

Quality of life domains	Attempters Mean SD	Normals Mean SD	t-value
Physical health & well being	21.52 5.50	25.4 3.18	3.967*
Psychological health & well being	18.08 4.43	21.02 2.71	4.108*
Social relations	9.42 2.63	11.66 2.03	4.758*
Environment	25.04 6.34	29.72 4.10	4.272*

\*p<0.01; \*\*p<0.05

Table-25 shows the comparison of scores of quality of life of suicide attempters versus normals. Mean score of all the four domains physical health & well-being, psychological health & well-being, social relations and environment were significantly lower in suicide attempters. This

finding supports the hypothesis that quality of life differs significantly between attempters and normals.

QOL is an important variable in assessing the suicide risk. Since this is relatively a new area, only few studies have looked into this aspect in suicide attempters (Lester, 2001; Yang & Lester, 2001; Berlin et al, 2003; Sarfati et al, 2003; Jarbin & Von Knorring, 2004). Dissatisfaction with life at base line is reported as a risk factor for suicide in a 20-year follow up study (Koivumaa Honkanen et al, 2001). The association was somewhat stronger in the first decade than in the second decade. Men with highest degree of dissatisfaction were 24.85 times more prone to commit suicide than the satisfied during the first year of follow up period. Throughout the entire follow up, life dissatisfaction still predicted suicide after adjusting for age, sex, baseline health status, alcohol consumption, smoking status, and physical activity. Subjects who reported dissatisfaction at base line and again six years later showed a high risk of suicide compared to those who repeatedly reported dissatisfaction.

Subjects with suicidal ideation reported greater consultation with general practitioners, psychiatrists, psychologists, social workers and out patient clinics, community health services and other councilors in a study by Goldney et al (2001). These subjects scored poorly on health-related quality of life to the extent that they were below the 4<sup>th</sup> percentile on the emotional and mental health dimensions and social relationships, psychological well being and over all scores. Poor self-perception of mental health is reported as risk factor in adolescent suicide as well (Thatcher et al, 2002). Suicide was significantly associated with low quality of life in China (Philips et al, 2002). In a rural population in Shandong Province, suicide attempts were negatively associated with higher scores for the quality of life (Cui et al, 2003).

In an analysis of the relationship between subjective quality of life and suicide attempts in patients with schizophrenia, the attempters were less satisfied with regard to a large number of life domains than the non-attempters (Ponizovsky et al, 2003). In a study (Haller & Miles, 2003) of suicidal ideation among psychiatric patients with HIV and psychiatric morbidity, six of the seven quality-of life variables were associated with suicidal ideation, with the strongest correlation found for leisure/social and family/friends. Kalichman et al (2000) have also found poor health related quality of life in middle aged and older persons living with HIV-AIDS who thought of suicide.

Table-26 shows the comparison of four domains of quality of life across different age groups in suicide attempters and healthy normals. The result shows that there was no significant difference in the domains of QOL across different age groups either in attempters or in normals. This finding suggests that age does not have much influence in the quality of life. In the investigation by Koivumaa Honkanen et al (2001) self-reported life satisfaction predicted suicide after adjusting for age, sex, baseline health status, alcohol consumption, smoking status, and physical activity.

**Table-26**

**Comparison of Different Domains of QOL in Different Age Groups**

	<b>19 yrs or less</b> Mean SD	<b>20-35 yrs</b> Mean SD	<b>36-44 yrs</b> Mean SD	<b>45-59yrs</b> Mean SD	<b>60 or above</b> Mean SD	<b>F</b>
<b>Physical Health and Well being</b>						
Attempters	22.46 6.31	21.18 5.51	22.43 5.06	22.17 3.87	14.00 1.41	1.133
Normals	22.88 3.32	26.42 2.91	24.50 2.73	25.00 3.52	27.00 0.00	0.274
<b>Psychological Health Well being</b>						
Attempters	18.62 5.58	18.18 3.66	19.00 5.00	16.00 4.82	16.50 0.71	0.499
Normals	21.25 1.83	21.42 3.10	20.00 1.85	20.33 3.14	21.00 2.83	0.423
<b>Social Relationships</b>						
Attempters	9.46 2.88	9.50 2.72	10.29 1.60	8.83 2.93	7.00 2.83	0.672
Normals	10.75 1.75	11.96 2.14	11.25 2.43	11.67 1.21	13.00 1.41	2.298

Environment						
Attempters	27.23	24.68	26.43	22.67	17.00	1.574
	6.39	6.03	6.27	6.80	2.83	
Normals	28.38	30.12	28.50	29.83	34.50	0.907
	4.31	3.66	3.96	5.64	3.54	

\*p<0.01; \*\*p<0.05

**Table-27**

**Comparison of Different Domains of QOL of Attempters Versus Normals in Different Age Groups**

Age group	Domains of Quality of Life	Attempters Mean SD	Normals Mean SD	Paired Mean	t value
20-35	Physical Health & Well-being	21.18 5.51	25.50 3.68	-4.409	2.838*
60 or higher	Physical Health & Well-being	14.00 1.414	27.00 0.00	-13.00	13.00**
20-35	Psychological Health & Well-being	18.18 3.66	21.55 3.25	-3.363	3.367*
20-35	Social Relationships	9.50 2.72	12.36 2.08	-2.863	4.390*
20-35	Environment	24.68 6.03	30.00 3.96	-5.318	3.449*

\*p<0.01; \*\*p<0.05

Table-27 shows the individual comparison of domains of QOL in different age group of attempters versus normals. Only significant results are shown in this table. In the 20-35 years age group all the four domains such as physical health and well-being, psychological health and well being, social relations and environment were significantly lower in suicide attempters. Only few studies have looked at age related variation of QOL with regard to suicide attempts. In this study positive coping style like minimization, replacement and desirable life events in PSLE were significantly lower in this age group of attempters than the normals.

In 60 years or higher, physical health and well-being was significantly lower in attempters. Only few studies have reported lower health related quality of life in elderly. Kalichman et al (2000) have found poor health related quality of life in middle aged and older persons living with HIV-AIDS who thought of suicide. Blow et al (2004) have reported that drinking among elders elevates suicide risk through interactions with other factors that are more prevalent in this age group such as depressive symptoms, medical illness, negatively perceived health status, and low social support. In the present study religious support and support from other sources was also significantly less in this age group of attempters compared to healthy normals.

**Table-28**

**Comparison of Quality of Life Score of Male Versus Female in Attempters and Normals**

Quality of life domains	Male Mean SD	Female Mean SD	t-value
<b>Attempters</b>			
Physical Health & Well-being	21.55 5.13	21.50 5.86	0.029

Psychological Health & Well-being	17.91 4.40	18.21 4.53	0.239
Social Relationships	9.68 2.36	9.21 2.86	0.619
Environment	25.18 6.66	24.93 6.20	0.139
<b>Controls</b>			
Physical Health & Well-being	25.32 3.12	25.46 3.27	0.160
Psychological Health & Well-being	20.77 3.100	21.21 2.41	0.567
Social Relationships	11.64 2.08	11.68 2.02	0.072
Environment	28.95 4.95	30.32 3.24	1.176

\*p<0.01; \*\*p<0.05

Table-28 shows the individual comparison of four domains of QOL in males versus females in attempters and normals. All the four domains were comparable in males versus females in both attempters and normals. Studies in this direction are very few. Koivumaa Honkanen et al (2001) have reported gender difference in the health related quality of life with regard to suicidal behaviour. In a 20-year follow up study of self-reported life satisfaction and suicide, men with highest degree of dissatisfaction were 24.85 times more prone to commit suicide than the satisfied during the first year of follow up period. However, throughout the entire follow up, life dissatisfaction still predicted suicide after adjusting for age, sex, baseline health status, alcohol consumption, smoking status, and physical activity.

**Table-29**  
**Correlation of Different Domains of QOL with other Significant Variables**

	<b>Attempters</b>	<b>Normals</b>
	<b>Pearson</b>	<b>Pearson</b>
<b>Physical health &amp; well-being</b>		
<b>AECOM</b>		
Minimization	0.548*	0.086
Help seeking	0.381*	-0.135
Replacement	0.554*	0.118
Substitution	0.322**	-0.032
Mapping	0.369*	-0.014
Suppression	0.040	-0.276
<b>Social Support</b>		
Total score	0.510*	0.375*
Social support from reliable attachment	0.339**	0.208
Social support through social integration from friends	0.314**	0.310**
Social support from teachers, parental figures and elders	0.384*	0.244
Social support from other sources	0.573*	0.319**
<b>Psychological health &amp; well-being</b>		
<b>AECOM</b>		
Minimization	0.341**	0.225
Help seeking	0.371*	-0.128
Replacement	0.466*	0.051
Mapping	0.415*	0.366*
Reversal	0.348*	0.366*

Substitution	0.309**	-0.034
<b>Social support</b>		
Total score	0.386*	0.375*
Social support from reliable attachment	0.365*	0.208
Social support through social integration from friends	0.914	0.371*
Social support from teachers, parental figures and elders	0.371*	0.504*
Social support from other sources	0.399*	0.454*
<b>Social relations</b>		
<b>AECOM</b>		
Minimization	0.366*	0.309**
Help seeking	0.344**	-0.171
Replacement	0.462*	0.233
Mapping	0.323**	0.332**
Reversal	0.481*	0.180
<b>Social Support</b>		
Total score	0.508*	0.416*
Social support from reliable attachment	0.341**	0.250
Social support through social integration from friends	0.293*	0.321**
Social support from teachers, parental figures and elders	0.463*	0.394*
Social support from other sources	0.471*	0.276**
<b>Environment</b>		
<b>AECOM</b>		
Minimization	0.303**	0.204
Replacement	0.357**	0.044

Suppression	-0.038	-0.293**
<b>Social Support</b>		
Total score	0.496*	0.424*
Social support from reliable attachment	0.299**	0.241
Social support through social integration from friends	0.309**	0.156
Social support from teachers, parental figures and elders	0.416*	0.365*
Social support from other sources	0.580*	0.576*
<b>PSLE</b>		
Personal life events (within 1 year)	-0.304**	0.029
Undesirable life events (within 1 year)	-0.329**	-0.085
Total life events score (within 1 year)	-0.325**	-0.054

\*p<0.01; \*\*p<0.05

Table-29 shows the correlation analyses of all the four domains of QOL with individual items in PSLE, social support scale and AECOM coping scale. Till date no study has reported such a correlation between suicidal behaviour, life events, social support, coping behaviour and quality of life.

Physical health and well-being had positive correlation with coping styles such as minimization, help seeking, replacement, substitution and mapping in attempters but not in normals. Except substitution all other coping style are positive coping behaviour and hence having good physical health and well-being may help to adopt healthy styles in susceptible individuals. Despite having a positive interaction with healthy coping and good quality of life the occurrence of suicide attempt indicates that some other factors may be operating in these individuals as a leading factor to attempt suicide.

Physical health and well-being had positive correlation with total social support score, support from reliable attachment, support through social integration from friends, support from teachers, parental figures and elders and support from other sources. In the normal group only total social support score, support through social integration from friends and support from other sources showed significant positive relationship. This finding also suggests that having good physical health and well-being may help the individual to seek support from various sources. As mentioned before the occurrence of suicide attempt in this group despite having good social support and good physical health and well-being necessitates further exploration of other unidentified factors.

Psychological health and well-being had positive correlation with minimization, help seeking, replacement, mapping, reversal and substitution in attempters. The normal group had positive correlation with only mapping and reversal. As reported earlier with respect to physical health and well being, good psychological health and well being is also important and it will encourage the individual to adopt healthy coping strategies in response to stressful situations.

Psychological health and well-being had positive correlation with total social support score, support from reliable attachment, support through social integration from friends, support from teachers, parental figures and elders and support from other sources in attempters. All these factors except support from reliable attachment showed positive relationship in the normal group. As mentioned earlier with respect to physical health and well-being, this finding also suggests that good psychological health will also help the individual to seek support from variety of sources to reduce stress. Despite having a positive interaction with healthy coping and good psychological health and well being the

occurrence of suicide attempt indicates that some other factors may be operating in these individuals as a leading factor to attempt suicide.

Social relations had positive correlation with minimization, help seeking, replacement, mapping and reversal in attempters. However only minimization and mapping showed positive correlation in the normal group. This finding suggests that good social relations in vulnerable individuals will help to adopt positive coping responses in stressful situations. Despite that, occurrence of suicide attempts suggest that some other unidentified factors might have led these individuals to attempt suicide, which needs detailed exploration.

Social relations had positive correlation with total social support score, support from reliable attachment, support through social integration from friends, support from teachers, parental figures and elders and support from other sources in attempters. All these factors except support from reliable attachment showed positive relationship in the normal group. Good social relations will encourage the person to mobilize support from friends, relatives and other sources. As mentioned earlier with respect to psychological and physical health and well-being, good social relations will also help the individuals to seek support from different sources to reduce the stress in day to day life. However, occurrence of suicide attempt despite this positive interaction underscores the importance of complex interaction with other unidentified variables.

Environment had positive correlation with minimization and replacement in the attempters but with suppression in healthy normals. Positive environment is a crucial factor for any individual to respond adequately to stressful situations. Hence the present finding suggests that congenial environment will enable the individual under stress to select the

positive coping strategies like minimization and replacement to alleviate stress. However, occurrence of suicide attempt despite this positive interaction underscores the importance of complex interaction with other unidentified variables.

Environment also had positive correlation with total social support score, support from reliable attachment, support through social integration from friends, support from teachers, parental figures and elders and support from other sources in attempters but only with total social support score and support from other sources in normals. Congenial environment will also help the individual under stress to seek support from all available sources to respond adequately. However, occurrence of suicide attempt despite this positive interaction underscores the importance of complex interaction with other unidentified variables.

Environment had negative correlation with the score of total, personal and undesirable life events experienced within one year in suicide attempters but not in normals. These findings suggest that the QOL domain environment was poor in suicide attempters who had experienced life events especially personal and undesirable life events within one year of attempting suicide.

This finding partially supports the hypothesis that in the suicide attempters as well as in normals there is interrelationship among life events, social support, coping strategies and quality of life

**Section-6**  
**Risk Factors for Suicidal Behaviour**

**Table-30**

**Stepwise Conditional Logistic Regression Analysis of Risk Factors in  
Suicide Attempters**

Significant Factors	Odds Ratio	Z Value	P Value
Desirable Life Event Score (life time)	0.97	-2.333	0.0196
Mean Education (years)	0.55	-2.894	0.0038
Total Social Support Score	0.89	-2.457	0.014

Table-30 shows the results of stepwise conditional regression analysis of all risk factors in suicide attempters. All factors which were significant in one to one comparison of attempters versus healthy normals, were taken for regression analysis. The final result shows that lifetime score of desirable life events, good education and good social support are protective factors against suicide.

Desirable life events are positive events and experience of these events by virtue of its positive nature may prevent the individual from attempting suicide. In the present study lifetime score of desirable life events was significantly higher in healthy normals. Some of desirable life events that were higher in normal groups were major purchase or construction of house, appearing for examination or interview, change in residence, outstanding personal achievement, and going on pleasure trip or pilgrimage. Lifetime score of desirable life events was also significantly higher in healthy normals of 19 years or less, 20-35, and 45-59 age group in comparison to the corresponding age group attempters. Lifetime score of desirable life events also showed positive correlation with reliable attachment score for social support in healthy normal in the present study.

Same time lifetime score of desirable life events showed negative correlation with social support from other sources in attempters. Lifetime score of desirable life events also showed negative correlation with minimization a healthy coping style in attempters and positive correlation in healthy normal. Lifetime score of desirable life events also showed negative correlation with substitution in attempters an unhealthy coping style.

Good educational achievement may help the individual to appraise the situation and to seek alternate solutions. Adequate education and thinking capacity is a prerequisite for problem solving skills and to deal adequately with stressful situations. Though lower education has not been directly cited as a risk factor, lower socio-economic status has been repeatedly shown as risk factor for suicide (Roy, 1995). Moreover lower education may also invite more adverse life events because of related unemployment, poor occupation and lower social status. Lower education and subsequent poor social status can also indirectly reduce the social support system available for the individual in crisis.

Good social support has always been cited as protective factor against suicide and in many studies social support was poor in suicide attempters/victims (Veil et al, 1988; Hart et al, 1988; Long & Miller, 1991; Whatley & Clopton, 1992; Magne-Ingvar et al, 1992; Kotler et al, 1993; Schutt et al, 1994; Yang & Clum, 1994; Heikkinen et al, 1994; Rosegard & Folkman, 1997; Flint et al, 1998; Hovey, 1999; Kaslow et al, 2000; Hovey, 2000; Rutter & Soucar, 2002; Botnick et al, 2002; Turvey et al, 2002; Brown & Vinokur, 2003; Soykan et al, 2003; Marion & Range, 2003). Social support is provided by networks comprised of family, relatives, friends, neighbors and co-workers, especially when the interaction is positive. The personal networks may provide social support that help to

maintain emotional well-being and buffers the effect of adverse life events, or it can have a direct, independent effect on mental health irrespective of presence or absence of stressful life events (Paykel et al, 1980). Life events can alter the structure and function of the social support system in terms of size, frequency of interaction and stability and such changes may be associated with suicidal behaviour. With life stress and depression as independent risk factors, family cohesion was found to offset the effects of stress in suicidal schoolchildren, and friendships to have a more indirect effect (Rubenstein et al, 1989). Rudd et al (1990) in an integrative path model analysis of the relationship between several variables and suicidal ideations found a significant relationship between social support and both life stress and suicidal ideation. Vassilas et al (1990) reported excess of life stressors containing threat, uncertainty, impaired relationships and choice of action in female attempters. They would have played some part in bringing about these stressors and to have poor social supports. In conclusion it is difficult to pinpoint a single factor as the major risk factor for suicide. It is the complex interplay of various interrelated factors and the resultant buffering effect, which is protecting the individual against suicide.

**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



*Thesis Submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy of the University of Calicut*

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**CHAPTER 6**  
**SUMMARY AND CONCLUSIONS**

## CHAPTER 6

### SUMMARY AND CONCLUSIONS

Suicide and deliberate self harm are major issues in the health care all over the world, accounting for 0.5-0.9% of all deaths (Roy, 1995). It is a significant problem in India with a reported rate of 10.6 per 100,000 population (National Crime Record Bureau, 2001). In Kerala it is 28.2, i.e. almost three times the national average (State Crime Record Bureau, 1995). Lot of variables including biological and socio cultural ones modify this complex behaviour. It encompasses a wide variety of medical and social disciplines including philosophy, theology, history, psychology, sociology, psychiatry, anthropology and criminology. However, some of the important psychosocial variables such as life events or stressors, social support, coping strategies and quality of life and their mutual interaction have not yet been assessed in the area of suicide.

Life change could act as a stressor causing physiological arousal and enhanced susceptibility to illness (Selye, 1956). Suicide victims have experienced more changes in living conditions, work problems, object losses, interpersonal losses and conflicts, financial trouble, job problems and somatic illness than normal controls (Hagnel et al, 1980; Heikkinen et al, 1992). Recent studies have reported age and gender related changes in the type and severity of life events in suicide victims (Heikkinen, et al, 1994). A review of Indian studies shows maladjustment with significant family members and domestic strife as the most important causes followed by physical factors and mental illness (Ponnudurai, 1996). However, none of the Indian studies have used a proper scale to assess life events and many of them were descriptive and retrospective studies.



A body of research in recent years has focused on social support in maintaining emotional well being and moderating the effects of life events. Life events can alter the nature and function of the social support system in terms of size, frequency of interaction and stability and such changes may be associated with suicidal behaviours. Social support is provided by networks composed of family, relatives, friends, neighbours and co-workers, especially when the interaction is positive. There is evidence that social network among suicide attempters are weaker than non-suicidal individuals (Hart et al, 1988). So far little attention has been paid to role of social support in suicide attempters in India.

Coping behaviour or the things people do to reduce the stress has been a variable that has recently become the focus of research. It has been reported that normal individuals make greater use of their social networks for coping. Horesh et al (1986) reported a negative correlation with minimisation, replacement, mapping and reversal and a positive correlation with suppression, blame and substitution in suicide attempters. There have been no such studies reported from India.

QOL is another important component in assessing the suicide risk. It is relatively a new area and only few studies have reported poor quality of life in suicide attempters and victims (Lester, 2001; Yang & Lester, 2001; Berlin et al, 2003; Sarfati et al, 2003; Jarbin & Von Knorring, 2004). Till date, no data is available regarding the quality of life and suicidal behaviour in Indian set up.

Thus the interface among life events, coping strategies, social support and quality of life seems to be very complex. However, only limited studies have concurrently explored the relationship among them.

Moreover, literature about the relationship among these factors from India is conspicuous by its absence. Hence the present study was planned.

The present study was carried out to analyze and compare the type and severity of life events, coping strategies, social support and quality of life of suicide attempters versus age, sex and marital status matched healthy normals, to find the relationship of above factors with other psycho-socio-demographic variables and to identify the risk factors leading to suicide.

### **Hypotheses**

In order to attain the objectives the following hypotheses were formulated for the investigation.

- The quality and severity of life events differ in suicide attempters and normal individuals
- The quality and the amount of social support differ in suicide attempters and normal individuals
- The coping strategies differ in suicide attempters and normal individuals
- The quality of life differ in suicide attempters and normal individuals
- Suicide attempters can be differentiated from normal individuals based on the unique psycho-socio-demographic profile, life events, social support, coping strategies and quality of life.

- In the suicide attempters as well as normals there is interrelationship among life events, social support, coping strategies and quality of life

## **Method**

### **Study Sample**

The sample for the study was suicide attempters admitted to different departments of Medical College Hospital, Kozhikode. This hospital is a tertiary referral centre, which caters the needs of six districts viz. Kozhikode, Wayanad, Malappuram, Kannur, Kasaragod and Palakkad. 50 consecutive suicide attempters admitted in Medical College Hospital, Kozhikode formed the study group. These patients were interviewed within the first week of their admission to the hospital. Patients below the age of 18 years were excluded from this study. Patients whose physical condition did not allow detailed evaluation were excluded from study. Whenever possible relatives, friends and other possible source of information were also interviewed for eliciting further information. No other criteria were entertained to exclude patients in this study.

Age, sex, and marital status matched normal subjects who were not blood related to study group formed the normal group. The age was matched by grouping the age at 5 years intervals. These subjects were initially screened by GHQ-12 version (Goldberg & Hillier, 1979) to exclude the presence of common mental disorders. Those who scored (cut off score 2/3 mode) were excluded from the normal group.

## **Tools**

### **The Following Tools were used in the Present Study:**

#### **1. Personal Data Sheet**

This specially designed proforma was used for documenting socio-demographic variables, illness variables and details of the current suicide attempt.

#### **2. PRESUMPTIVE STRESSFUL LIFE EVENTS SCALE (PSLE)**

This scale consists of fifty-one life events commonly experienced by normal Indian adult population. Hundred was kept as highest stress score and zero as no perceived stress. Scale items were further classified into (a) desirable, undesirable or ambiguous and (b) personal or impersonal (not dependent on the individual action). This scale was constructed and validated for Indian population by Singh et al (1984).

#### **3. SOCIAL SUPPORT QUESTIONNAIRE**

The scale for assessing social support was specially developed for this study by pooling items from Social Support Scale by Asha (1996) and Social Support Scale by Mehra et al (1996) by item analysis. After excluding unnecessary items and modifying some items the final scale was prepared with 47 Items. Of these 22 were positively worded and 25 were negatively worded. The positive statements were intermingled with negative statements to reduce the likelihood of response set occurring. An attempt was made to retain approximately the same number of items from each area.

#### **4. AECOM Coping Style Scale**

This is a 95-item scale with a four-possibility spectrum ranging from 'never' to 'very often'. This scale measures eight basic coping styles that are used for reducing stress and coping with life problems. These coping styles are (1) Suppression (2) Help seeking (3) Replacement (4) Blame (5) Substitution (6) Mapping (7) Reversal (8) Minimization. AECOM Coping Style Scale was administered in an open interview method. Each item listed in the scale was read out to the subject and the response was entered in a 4-point scale.

#### **4. Quality of Life (WHOQOL – Bref)**

Assessment of QOL provides a measurement of functioning and well-being rather than disease and disorders. Although WHO QOL-100 provides a comprehensive assessment of QOL, its length can limit its use. As a result an abbreviation version (WHOQOL Bref) of 26 items (Saxena et al, 2001) was developed using data from the field trial version of WHO QOL-100. The WHO QOL Bref contains two items from the overall QOL and general health, one item from each of the remaining 24 facets included in the WHO QOL-100.

#### **5. General Health Questionnaire**

The General Health Questionnaire (GHQ) (Goldberg & Williams, 1998) is a standard self-report questionnaire used to screen for common mental disorders in primary health care. Its main focus is psychological components of ill health. The 12-item version (GHQ-12) has been widely used in primary care research. It takes 2-3 minutes to complete the questionnaire. The ease of administration and scoring and the high sensitivity and specificity have made it a useful tool for screening

common mental disorders. The threshold score (mode) was 2/3 and had a medium sensitivity of 83.7% and a specificity of 79%. Gender, age and educational level did not have a significant effect on the validity of GHQ (Goldberg et al, 1997).

### **Administration of the Tests**

The tests were administered individually. After explaining the purpose of the study, an informal consent was taken from each subject before participating in the study procedure. While testing maximum care was taken to avoid the presence of others and external distractions. Since a significant proportion was not physically fit to read different questionnaires each one was verbally administered to all subjects to ensure uniformity. After giving the general information, the personal details were collected in socio-demographic proforma. The questionnaires were given one by one at random order to avoid hallowing effect with specific instructions needed for answering the items in each test. The answer sheets are scored with the help of the scoring keys prepared for each test.

### **Analysis**

Since this study was a matched study the comparison of most of the variables were based on paired analysis method. After scoring the responses on all the tests the hypotheses framed were tested by computing ANOVA, mean, Chi- Square, logistic regression and correlations between tabulated scores.

In the first section frequency of socio-demographic characteristics, family history of psychiatric illnesses, physical illnesses, past psychiatric illnesses, current psychiatric diagnoses and details regarding past and present suicide attempt were tabulated.

In the second section frequency of individual life events between attempters and normals within one year and lifetime were tabulated. The score of total, desirable, undesirable, personal, and impersonal life events were compared between attempters and normals among different age groups and between different sex in attempters and normals at different time points (within 1 year and lifetime). The individual score of total, desirable, undesirable, personal and impersonal life events at different time points (within 1 year and lifetime) were correlated with total social support score, sub scores such as support from reliable attachment, support through integration from friends, support from teachers, parental figures and elders, support from religion and support from other sources and different coping styles such as minimization, suppression, help seeking, replacement, blame, substitution, mapping, and reversal and quality of life domains such as physical health & well being, psychological health & well being, social relations, and environment. The correlations were calculated separately for attempters and normals.

In the third section individual score of total social support, support from reliable attachment, support through integration from friends, support from teachers, parental figures and elders, support from religion and support from other sources were compared between attempters and normals, different age groups and different sex in attempters and normals. The individual score of the social support items were correlated with score of total, desirable, undesirable, personal, and impersonal life events at different time points (within 1 year and lifetime), coping styles such as minimization, suppression, help seeking, replacement, blame, substitution, mapping, and reversal and quality of life domains such as physical health & well being, psychological health & well being, social relations, and environment. The correlations were calculated separately for attempters and normals.

In the fourth section the score of different coping styles such as minimization, suppression, help seeking, replacement, blame, substitution, mapping, and reversal were compared between attempters and normals, different age groups and different sex in attempters and normals. The individual score of these coping styles were correlated with score of total, desirable, undesirable, personal and impersonal life events at different time points (within 1 year and lifetime), total social support score, sub scores such as support from reliable attachment, support through integration from friends, support from teachers, parental figures and elders, support from religion and support from other sources and quality of life domains such as physical health & well being, psychological health & well being, social relations, and environment. The correlations were calculated separately for attempters and normals.

In the fifth section the score of quality of life domains such as physical health & well-being, psychological health & well being, social relations, and environment were compared between attempters and normals, different age groups and different sex in attempters and normals. The individual score of these items were correlated with different score of life events, social support scores, and individual score of coping styles. The correlations were calculated separately for attempters and normals.

In the sixth section all the significant variables came out in the comparison between attempters and normals were entered into a stepwise conditional logistic regression analysis to find out risk factors for suicide attempt.

## **Results**

The following are the results obtained in the present study:

1. The frequency of life events more frequently reported by the attempters in the descending order within 1 year of attempt were

failure in examination, financial loss or problems, change in sleeping habits, gain of new family member, family conflict, death of pet, marital conflict, broken engagement or love affair, minor violation of law, marriage of daughter or dependent sister, conflict with in laws (other than dowry), unfulfilled commitments, major personal illness or injury, property or crops damaged, lack of child, marital separation/divorce, sexual difficulties, and death of spouse.

2. Objective losses like death of spouse, financial loss, major personal illness or injury, marital separation/divorce, broken engagement or love affair, failure in examination, death of pet, damage to crops were higher in attempters especially within 1 year of attempt.
3. Family conflict, marital conflict, conflict with in laws (other than dowry), marital separation/divorce etc that can be regarded as interpersonal problems were also high in attempters.
4. The comparison of mean score of different types life events in attempters versus normal showed significantly higher total, undesirable and personal life events in attempters within one year of attempt as well as lifetime. The normal group had significantly higher score of desirable and impersonal life events in their lifetime.
5. In the suicide attempters total life events score within 1 year of attempt had positive correlation with blame, an unhealthy coping behaviour. Lifetime score of total life events of suicide attempters had negative correlation with minimization and reversal, two healthy coping mechanisms and the same had positive correlation in the normal group.
6. Untoward life events such as undesirable and personal life events experienced by attempters showed positive association with unhealthy coping such as blame and substitution and negative association with healthy coping such as minimization, reversal and

- mapping. On the contrary many of these healthy coping behaviours showed positive correlation in the normal group.
7. In the suicide attempters, total experienced in lifetime had negative correlation with social support from other sources and undesirable life events experienced within 1 year showed negative relationship with support from reliable attachment. However such correlations were not observed in the normal group. This shows that poor social support is a risk factor for suicide when the person experiences adverse life events.
  8. In the suicide attempters, total life events, undesirable and personal life events experienced within 1 year had negative correlation with health related quality of life domain environment in the QOL scale. This shows that individuals who are experiencing adverse events can develop suicidal behaviour if the environmental in which the individual is residing is not protective to him.
  9. Compared to other age groups both attempters and normals had significantly higher total life events score in the 60 years and above in their lifetime. It is quite natural that as the age advances the individual will be exposed to more and more variety of life events and this may be the reason for the high score in above 60 years age group. Since this score was equally significant in both study and normal group no specific relevance can be attributed for this finding pertaining to suicidal behaviour. .
  10. Comparison of undesirable life events experienced in lifetime across different age groups in both attempters and normal group showed significantly higher score in above 60 years in the normal group only. In the attempters the maximum score was in the 45-59 years age group. This suggests that other than the quality of events experienced many other factors may lead the individual to suicidal

behaviour. Lot of intervening variables such as social support system, coping, underlying psychiatric conditions and more over personality profile are important decisive factors in suicidal behaviour.

11. Comparison of lifetime score of personal life events also showed significantly lower score in both attempters and normals in the 19 years or less age group. Some of the examples for personal life events are marital separation / divorce, trouble at work with colleagues, superiors or subordinators, major purchase or construction of house etc. By virtue of quality of these events it is evident that at this age group the individual has not grown enough to experience many of these personal events. Moreover no meaningful significance can be given for this observation since it was equally common in attempters and normal.
12. The lifetime total life event score of adolescents were significantly lower than that of 45-59 years age group in both attempters and normals. Since this score was comparable in both attempters and normals no significance can be attributed to suicidal behaviour. The higher lifetime life event score in 45-59 years age group in both attempters as well as normal group reflects the effect of cumulative of life events as the age progresses.
13. In adolescent attempters the score of total, undesirable and personal life events within one year was significantly higher showing higher stress probably leading to suicide attempt in this group.
14. Lifetime score of desirable life event score was significantly higher in adolescents, 20-35 and 45-59 years age normal group. Since desirable life events are positive in nature this might have played a protective role against suicidal attempt.

15. Personal life event score within one year was significantly higher in 36-44 attempters. Some of the examples for personal events applicable to this age group are marital separation or divorce, suspension or dismissal from job, detention in jail, marital conflict, financial loss or problems etc. A closer look at the quality of these events also shows that majority of these events are stressful in nature and hence may lead the susceptible individual to suicidal behaviour.
16. Lifetime experience of impersonal life events was significantly higher in the attempters of 45-59 years age group. Some of the examples for impersonal life events include death of spouse, extramarital relation of spouse, lack of child etc. These life events by the very nature itself are very stressful and might have guided the vulnerable to group to attempt suicide
17. Compared to 19 years or less age group the score of undesirable life events was significantly higher in 20-35, 36-44, 45-59 and 60 years above age group attempters. However the same comparison showed higher score only in the 45-59 years age group compared to 19 years or less in the normal group. This shows a definite difference in the profile of life events experienced in 19 years or less age group of attempters compared other age group attempters. Some of the examples for undesirable events are death of spouse, extramarital relations of spouse, trouble at work with colleagues, superiors or subordinates, suspension or dismissal from job etc. It is quite obvious that most of these events are not applicable to 19 years or less. Probably experience of these untoward life events could be the guiding factors for attempting suicide in individuals above 19 years.

18. The lifetime score of desirable life events was significantly higher in males than females in the normal group.
19. Among the social support variables confiding relationship and reliable attachment was significantly lesser and loneliness was significantly higher in attempters. Review of literature shows that these are some of the important variables with regard to social support in suicide attempters.
20. All the social support variables such as support from reliable attachment, teachers/parental figures/elders, friends, religion and other sources were significantly lower in suicide attempters. Extensive empirical research indicates that social support plays an important role in an individual's suicidal ideation and behaviour.
21. The total social support score had significant positive correlation with physical health and well-being, psychological health and well being, social relations and environment in both attempters and normals. Since there is no difference in any of these parameters between attempters and normals it seems that there is significant but non-specific relationship between various domains of quality of life and social support but not with suicidal behaviour.
22. The total social support score had significant positive correlation with minimization, help seeking, replacement, mapping and reversal in attempters and with reversal, mapping and replacement in normals. Interestingly all these coping styles are protective against suicide. This suggests that more factors other than coping styles and social support may mediate a role in an individuals' suicidal behaviour.
23. Social support score from reliable attachment had a positive correlation with minimization and reversal in attempters but not in normals. In the life event scale only undesirable life event score

(within 1 year) had a negative correlation with reliable attachment in attempters. This suggests that lack of reliable attachment may lead to more adverse life events in attempters. At the same time the positive correlation between reliable attachment and desirable life event score (life time) in healthy normals suggests a protective effect against suicide.

24. Social support score from reliable attachment had a positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters but not in normals. This finding again suggests that suicidal behaviour is multifactorial and interplay of many factors other than the above-mentioned are important.
25. Social support from friends had positive correlation with minimization, substitution, reversal and replacement in attempters but only with replacement and reversal in normals.
26. Social support score from friends had positive correlation with physical health and well-being, social relations and environment in attempters. But in normals significant correlation was established only for physical health and well-being and social relations. As mentioned earlier this finding also needs further exploration taking into consideration interaction with other variables mediating suicidal behaviour.
27. Social support score from teachers, parents and elders had positive correlation with minimization, help seeking, reversal, mapping and replacement in attempters but with help seeking, reversal, mapping and replacement in normals. Despite the fact that attempters had used more positive coping styles than normals ultimately they resort to attempt suicide. This fact again underscore the importance of

multifactorial complex interaction various parameters in guiding the individual to suicidal behaviour.

28. Social support from teachers, parents and elders had positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters and all the above except physical health and well-being in normals. This type of non-specific correlation also suggests multifactorial etiology of suicidal behaviour.
29. Social support from religion had positive correlation with desirable life event score within 1 year and negative correlation with personal life events score lifetime in normals. This suggests that religiosity may promote more positive life events and may also reduce the stressful personal life events and this could be reason for low suicidality in normals.
30. Social support score from other sources had positive correlation with minimization and reversal and negative correlation with lifetime score of total and desirable life events in attempters but with none in normals. The negative interaction between lifetime total and desirable life events and poor support from other sources such as support from society, lack of respect and help, lack of encouragement from colleagues, superiors and elders, no hobbies etc could be the factors leading to suicidal behaviour in the study group.
31. Social support score from other sources had a positive correlation with physical health and well-being, psychological health and well being, social relations and environment in attempters and all of the above except social relations in normals. This non-specific relationship also supports the suggestion that suicidal behaviour is

multifactorial and interplay of many factors other than the social support and QOL are important.

32. In both attempters and normals support from religion was significantly higher in females. Support from religion was significantly less in 36-44 years normals compared to other age groups.
33. In attempters social support from friends was significantly higher in males than females.
34. Support from reliable attachment was significantly lesser in elderly normals.
35. In the attempters social support from other sources was significantly lower in the elderly (60 or higher) compared to 19 years or less and other age groups. In the normal group social support from reliable attachment was higher in 36-44 years age group. In the normal group social support from religion was higher in younger age group (19 years or less) than 36-44 years age group.
36. Positive coping behaviours such as minimization, replacement and mapping were significantly lower in suicide attempters.
37. Comparison of coping styles of males versus females in attempters and normals showed no significant difference. Previous studies have also not reported such gender bias in coping styles with reference to suicidal behaviour.
38. Comparison of scores of different coping styles in different age groups in attempters and normals also showed no significant difference.
39. Comparison of different types of coping behaviours in attempters versus normals in different age groups showed blame an unhealthy coping style significantly higher in adolescent attempters. Positive coping styles minimization and replacement were significantly

lesser in 20-35 years age group attempters. Mapping another positive coping style was significantly lesser in 36-44 age group attempters. Help seeking was significantly higher in attempters in 45-59 years age group. This shows that many of these coping behaviours were inappropriate in different age group attempters. Contrary to the previous reports unhealthy coping behaviour suppression was significantly higher in elderly normals.

40. Coping style minimization was positively correlated with total social support score, support from reliable attachment, integration from friends, teachers, parental figures and elders and other sources in suicide attempters. Though there was a positive correlation between minimization and most of the social support variables the occurrence of suicide attempt indicates that only these two factors are not enough to prevent the individual from attempting suicide. This again indicates the complex interaction of other psychosocial factors. However none these factors were significantly correlated in normals.

41. Minimization had significant negative correlation with lifetime scores of total, impersonal, undesirable, and desirable life events within 1 year and lifetime in suicide attempters. This suggests that cumulative experience of life events may reduce the adoption of good coping techniques like minimization in suicide attempters. This suggests that life events in general whatever be its quality has a non-specific effect of reducing minimization as a coping mechanism in suicide attempters. Such a relationship was not established in normals. The lifetime score of total and desirable life events had positive correlation with minimization in normals.

42. Minimization also had positive correlation with physical health and well-being, psychological health and well being, social relations and

environment in attempters but only with social relation in normals. This finding also reiterate the fact that good quality of life will help the individual to adopt healthy coping styles like minimization. Despite this positive interaction the very occurrence of suicide attempt suggest that this was not only sufficient to prevent the individual from attempting suicide which again underscore the importance other psychosocial variables.

43. The negative coping style suppression did not show any correlation with any parameters in the suicide attempters. However, suppression showed positive correlation with scores of total and undesirable life events within one year and negative correlation with physical health and well-being and environment in normals. Suppression being a negative coping mechanism may be increased in the presence of adverse life experiences and poor quality of life. Despite this interaction in normals they have not adopted suicide as a way to solve crisis. This suggests that normals may have other protective mechanism even if they have experienced untoward events and poor quality of life.
44. Help seeking showed positive correlation with total social support score and support from teachers, parental figures and elders in attempters but only with social support from teachers, parental figures and elders in normals. Help seeking also showed positive correlation with physical health and well-being, psychological health and well being and social relations in attempters. Help seeking being a healthy coping strategy, availability of adequate social support will help the individual to seek help in stressful situations. Having good physical and psychological health and well-being will also help the individual to seek for help. However,

another aspect is that excessive use of this coping style reflects undue dependence of the individual on others at time of crisis.

45. Replacement had positive correlation with total social support score, support from friends, physical health and well-being, psychological health and well being, social relations and environment in attempters. Replacement had positive correlation with only total social support score and support from friends, lifetime score of total life events in normals. This finding suggests that occurrence of replacement as a healthy coping strategy will be increased in the presence of good social support and good quality of life. As mentioned before the occurrence of suicide attempt even in the presence of good social support and good quality of life underscore the need for exploring other protective mechanisms at the time of crisis.
46. Blame had positive correlation with lifetime score of total and personal life events in attempters only. Blame being a maladaptive coping style the occurrence may be increased in the presence cumulative life stressors especially personal in nature. In the present study blame was also significantly higher in adolescent attempters.
47. Coping style substitution had positive correlation with score of social support from friends and score of personal life events within 1 year, physical health and well-being and psychological health and well-being in attempters. Substitution had negative correlation with lifetime score of desirable life events in attempters. This suggests that substitution another maladaptive coping pattern tends to occur in the presence of friends and personal stressors and in the absence of favorable life experiences. An important aspect of this finding is that it is not only the availability of friends but also the quality of friendships which is important in adopting good coping strategies.

48. Mapping showed positive correlation with total social support score, support from teachers, parental figures and elders, physical health and well-being, psychological health and well being and social relations and negative correlation with lifetime score of undesirable life events in attempters. This finding suggests that mapping a healthy coping technique is increasingly used if there was availability of good social support especially from teachers, parental figures and elders, low occurrence of adverse life events and good quality of life.
49. Mapping showed positive correlation with total social support score, support from teachers, parental figures and elders, lifetime and within 1-year score of undesirable life events, psychological health and well being and social relations in normals. Probably the positive effect of good social support and good quality of life might have protected the individual from taking extreme steps even they had to face undesirable life events in lifetime and within 1 year.
50. Coping style reversal had positive correlation with total score of social support, support from reliable attachment, teachers, parental figures and elders, and other sources, physical health and well-being, psychological health and well being, and social relations and negative correlation with lifetime score of total, impersonal, desirable, and undesirable life events in attempters. Same time reversal had positive correlation with only total score of social support, support from teachers, parental figures and elders and psychological health and well being in normals. This finding suggest that adoption of reversal a healthy coping technique is encouraged by the presence of good social support and good quality of life. Negative correlation of reversal with impersonal, desirable and undesirable life events in attempters suggests that presence of

life events in general whatever be the quality may reduce the occurrence of this healthy coping style.

51. Mean score of all the four domains QOL physical health & well-being, psychological health & well-being, social relations and environment were significantly lower in suicide attempters.
52. Comparison of four domains of quality of life across different age groups in suicide attempters and normals showed no significant difference across different age groups either in attempters or in normals. This finding suggests that age does not have much influence in the quality of life.
53. Individual comparison of QOL in different age group of attempters versus normals showed that all the four domains were significantly lower in the 20-35 years age group attempters than normals. In this study positive coping style like minimization, replacement and desirable life events were also significantly lower in this age group of attempters.
54. In 60 years or higher, physical health and well-being was significantly lower in attempters. Religious support and support from other sources was also significantly less in this age group of attempters. Only few studies have reported lower health related quality of life in elderly.
55. Individual comparison of four domains of QOL in males versus females in attempters and normals were insignificant. Studies in this direction are very few.
56. Physical health and well-being had positive correlation with healthy coping styles minimization, help seeking, replacement, and mapping and one unhealthy coping style substitution in attempters but not in normals. This suggests that having good physical health and well-being may help to adopt healthy styles in susceptible individuals.

However, despite having a positive interaction with healthy coping and good quality of life the occurrence of suicide attempt indicates that some other factors may be operating in these individuals as a motivating factor to attempt suicide.

57. Physical health and well-being had positive correlation with total social support score, support from reliable attachment, friends, support from teachers, parental figures and elders and other sources in attempters. In the normal group only total social support score, support from friends and other sources showed significant positive relationship. This finding also suggests that having good physical health and well-being may help the individual to seek support from various sources. As mentioned before the occurrence of suicide attempt in this group despite having good social support and good physical health and well-being necessitates further exploration of other unidentified factors.
58. Psychological health and well-being had positive correlation with minimization, help seeking, replacement, mapping, reversal and substitution in attempters but with only mapping and reversal in normals. As reported earlier good psychological health and well being will encourage the individual to adopt health coping strategies in response to stressful situations.
59. Psychological health and well-being had positive correlation with total social support score, support from reliable attachment, friends, support from teachers, parental figures and elders and other sources in attempters. All these factors except support from reliable attachment showed positive relationship in the normal group. This finding suggests that good psychological health will help the individual to seek support from variety of sources to reduce stress. Despite having a positive interaction with healthy coping and good

psychological health and well being the occurrence of suicide attempt indicates that some other factors may be operating in these individuals as a motivating factor to attempt suicide.

60. Social relations had positive correlation with minimization; help seeking, replacement, mapping and reversal in attempters but with only minimization and mapping in the normal group. This finding suggests that good social relations in vulnerable individuals will help to adopt positive coping responses in stressful situations. However the very occurrence of suicide attempt indicates that some other unidentified factors might have led these individuals to attempt suicide, which needs detailed exploration.
61. Social relations had positive correlation with total social support score, support from reliable attachment, friends, teachers, parental figures and elders and other sources in attempters and all the above except support from reliable attachment in the normals group. As mentioned earlier good social relations will help the individuals to seek support from different sources to reduce the stress in day-to-day life. However, occurrence of suicide attempt despite this positive interaction again underscores the importance of complex interaction with other unidentified variables.
62. Environment had positive correlation with minimization and replacement in the attempters but with suppression in normals. Positive environment is a crucial factor for any individual to respond adequately to stressful situations. Hence the present finding suggests that congenial environment will enable the individual under stress to select the positive coping strategies like minimization and replacement to respond adequately. However, occurrence of suicide attempt despite this positive interaction underscores the importance of complex interaction with other unidentified variables.

63. Environment also had positive correlation with total social support score, support from reliable attachment, friends, support from teachers, parental figures and elders and other sources in attempters but only with total social support score and support from other sources in normals. Congenial environment will also help the individual under stress to seek support from all available sources to respond adequately. However, occurrence of suicide attempt despite this positive interaction underscores the importance of complex interaction with other unidentified variables.
64. Environment had negative correlation with the score of total, personal and undesirable life events experienced within 1 year in suicide attempters but not in normals. This finding suggests that the QOL domain environment was poor in suicide attempters whom had experienced more life events especially personal and undesirable life events within one year of attempting suicide.
65. Stepwise conditional regression analysis of all risk factors in suicide attempters showed that lifetime score of desirable life events, good education and good social support are protective factors against suicide.

## **CONCLUSIONS**

The most important conclusions that emerge from the present study are:

1. Suicide attempters experienced significantly more life events especially untoward events both at lifetime and within 1 year of attempting suicide. On the other hand normal group experienced more desirable and impersonal life events in their lifetime.
2. Social support system such as support from reliable attachment, teachers/parental figures/elders, friends, religion and other sources was significantly lower in suicide attempters.

3. Positive coping behaviours such as minimization, replacement and mapping were significantly lower in suicide attempters.
4. All the four domains of QOL such as physical health & well-being, psychological health & well-being, social relations and environment were significantly lower in suicide attempters.
5. In suicide attempters many factors in the profile of life events, social support system, coping and quality of life showed positive mutual correlation. Despite that occurrence of suicide attempt indicates more complex interaction between these factors and involvement of other unidentified factors.
6. Among all risk factors desirable life events, good education and good social support were found to be protective factors against suicide.

## **IMPLICATIONS**

Suicide is a complex behaviour and it is due to complex interaction of many facets including medical, social, psychological, philosophical, religious and other unidentified factors. Despite plethora of studies in this area it is still a clinical dilemma to predict which individual will become suicidal at which point of time. So far most of the identified risk factors cannot accurately predict suicidality in a given individual with good specificity and sensitivity. Probably many factors may be protecting the individual from suicidal tendency even though many risk factors are operating in the same individual. At this context it is important to estimate the relative availability of protective factors versus leading factors to suicide in an individual. Among these occurrences of life experiences, availability of good social support system, healthy coping behaviour and good quality of life are important protective factors. The type of interaction

of these variables may at times offset or enhance effect of other systems in a given individual.

The present approach to the study was to differentiate suicide attempters from healthy normals based on their profile of life events, social support system, coping strategies, and quality of life. The present study shows accumulation of excessive life events especially unpleasant events, lower social support system, poor coping styles and poor quality of life in suicide attempters. Surprisingly many of these variables had positive mutual interaction in suicide attempters. Despite that occurrence of suicide attempt indicates more complex interaction not between only two but many other unidentified factors in suicidal individuals. The present findings suggest that enhancing social support system, improving the coping behaviour, providing better quality of life and exposing the individual to favorable life events can protect them from suicidal behaviour.

### **SCOPE FOR FURTHER RESEARCH**

The present investigation has examined the relative importance of quality of life events, social support systems, coping factors and quality of life of suicide attempters in relation to their age, sex, and other psychosocio-demographic variables. In the context of the present study, the following few suggestions seems to be relevant in planning for future research.

It seems that the type of individual life events experienced by attempters and healthy group is unique. However one to comparison of these events requires higher frequency of events, which can be fulfilled with only larger sample size.

Other aspects of individuals attempting suicide such as the personality profile, proneness to violent behaviour and impulsivity should also be considered to differentiate suicidal individuals from healthy normals. Despite the positive correlation occurrence of suicide attempt in our sample again reiterates this aspect. This particular aspect was not the focus of this study.

Probably studies with long term follow up would throw more light on suicidal tendency in individuals with lower social support, poor coping, lower quality of life and excessive life events.

An interventional study design may provide more information on the efficacy of enhancing social support system, improving coping styles and quality of life, and better life experiences in reducing the suicidal tendency.

Moreover only qualitative individual case studies can provide in depth exploration of multitude of factors operating in this complex behavioural problem

**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



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of the requirements for the Degree of  
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**LIFE EVENTS, SOCIAL SUPPORT AND  
COPING STRATEGIES IN ATTEMPTED  
SUICIDE**



*Thesis Submitted in partial fulfilment  
of the requirements for the Degree of  
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## Appendix 1

### SOCIAL SUPPORT SCALE-PRELIMINARY FORM

കുടുംബാംഗങ്ങൾ, സഹപ്രവർത്തകർ സുഹൃത്തുക്കൾ, സമൂഹം ഇവ ആളുകൾക്ക് എത്രമാത്രം സഹായകരമായിത്തീരുന്നു എന്നതിനെ സംബന്ധിച്ച ചില പ്രസ്താവനകളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. ഓരോ പ്രസ്താവനയും വായിച്ച് യോജിച്ച കോളത്തിൽ (✓) എന്നടയാളപ്പെടുത്തുക. ദയവായി എല്ലാ പ്രസ്താവനകളും ഉത്തരം നൽകുക. താങ്കളുടെ ഉത്തരങ്ങൾ രഹസ്യമായി സൂക്ഷിക്കുന്നതാണ്. കൂടുതൽ ആലോചിക്കാതെ ആദ്യം തോന്നുന്നതനുസരിച്ച് ഉത്തരങ്ങൾ അടയാളപ്പെടുത്താവുന്നതാണ്.

ഉദാഹരണം: താഴെ കാണുന്ന പ്രസ്താവനയുമായി താങ്കൾ എത്രത്തോളം യോജിക്കുന്നു.

അടുത്തിടപഴകാൻ പറ്റിയ ധാരാളം സുഹൃത്തുക്കൾ എനിക്കുണ്ട്.

പൂർണ്ണമായി യോജിക്കുന്നു 4	മിക്കവാറും യോജിക്കുന്നു 3	കുറച്ചൊക്കെ യോജിക്കുന്നു 2	ഒട്ടും യോജിപ്പില്ല 1
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പ്രസ്താവനയോട് പൂർണ്ണമായും യോജിപ്പുണ്ടെങ്കിൽ 4 എന്ന കോളത്തിൽ (✓) എന്നടയാളപ്പെടുത്തുക. മിക്കവാറും യോജിപ്പുണ്ടെങ്കിൽ 3 എന്ന കോളത്തിൽ, കുറച്ചൊക്കെ യോജിപ്പുണ്ടെങ്കിൽ 2 എന്ന കോളത്തിൽ, തീരെ യോജിപ്പില്ലെങ്കിൽ 1 എന്ന കോളത്തിൽ.

		പൂർണ്ണമായി യോജിക്കുന്നു 4	മിക്കവാറും യോജിക്കുന്നു 3	കുറച്ചൊക്കെ യോജിക്കുന്നു 2	ഒട്ടും യോജിപ്പില്ല 1
1	എന്ത് പ്രശ്നമുണ്ടായാലും എന്നെ സഹായിക്കാൻ വീട്ടിലെല്ലാവരും തയ്യാറാണ്.				
2	ഒരു കാരണവശാലും വീട്ടിലുള്ളവർ എന്നെ ഒറ്റപ്പെടുത്തുകയില്ല				
3	വീട്ടിൽ ഞാൻ അധികപ്പെടാണെന്ന് തോന്നാറുണ്ട്				
4	എന്റെ കാര്യത്തിൽ മകൾ ശ്രദ്ധിക്കാറുണ്ട്				
5	മകൾക്ക് ഞാൻ സ്വീകാര്യനല്ല/സ്വീകാര്യയല്ല				
6	മകളുടെ കൂടെയിരിക്കുമ്പോൾ പ്രധാനപ്പെട്ട ഒരാളാണ് ഞാൻ എന്ന് തോന്നാറുണ്ട്				

7	മക്കൾ എന്റെ ആവശ്യങ്ങളെപ്പറ്റി അന്വേഷിക്കാറുണ്ട്				
8	പ്രശ്നം ഏകനായി നേരിടേണ്ടിവരുന്നത് എന്നെ ബുദ്ധിമുട്ടിക്കാറുണ്ട്				
9	എനിക്ക് ആരോടും മമത തോന്നാറില്ല				
10	സുരക്ഷിതത്വബോധവും സന്തോഷവും നൽകുന്ന തരത്തിൽ ദൃഢമായ സ്നേഹബന്ധങ്ങൾ എനിക്കുണ്ട്				
11	എല്ലാ വിഷമതകളിലും സഹായിക്കാൻ തയ്യാറുള്ള ബന്ധുക്കൾ എനിക്കുണ്ട്				
12	ബന്ധുക്കളിൽനിന്നും വളരെ ഒറ്റപ്പെട്ട ജീവിതമാണ് എനിക്കുള്ളത്				
13	എനിക്ക് എന്ത് സംഭവിക്കുന്നു എന്ന് ആരും കാര്യമായി ശ്രദ്ധിക്കാറില്ല				
14	എന്നോട് അടുപ്പമുള്ളവർ എന്നെ കൂടുതൽ മനസ്സിലാക്കിയിരുന്നെങ്കിൽ എന്ന് ഞാൻ ആഗ്രഹിക്കുന്നു				
15	ആശ്രയിക്കാൻ പറ്റിയ വ്യക്തിബന്ധങ്ങൾ എന്റെ ജീവിതത്തിൽ വിരളമാണ്				
16	അടുത്തിടപഴകാൻ പറ്റിയ ധാരാളം സുഹൃത്തുക്കൾ എനിക്കുണ്ട്				
17	എനിക്കും സുഹൃത്തുക്കൾക്കും പൊതുവായ പലതാല്പര്യങ്ങളും ഉണ്ട്				
18	കൂട്ടുകാരുമൊത്ത് സമയം ചിലവഴിക്കുന്നത് എനിക്ക് ആപ്തദൈവമായ കാര്യമാണ്				

19	വീടിന് പുറത്തുള്ള ആരുമായും എനിക്ക് അടുപ്പമില്ല				
20	യഥാർത്ഥ സുഹൃത്തുക്കളെ കണ്ടെത്താൻ വിഷമമാണ്				
21	മറ്റാരെങ്കിലുമായി എന്റെ പ്രശ്നങ്ങൾ ചർച്ച ചെയ്താൽ എനിക്കാശ്വാസം തോന്നും				
22	സുഹൃത്തുക്കളുടെ ഇടയിൽപോലും ഏകനാണെന്ന് എനിക്ക് പലപ്പോഴും തോന്നാറുണ്ട്				
23	സഹപ്രവർത്തകർ എന്റെ കഴിവുകൾ അംഗീകരിക്കുന്നു എന്നത് സന്തോഷം തരുന്ന കാര്യമാണ്				
24	എന്നെക്കുറിച്ച് സഹപ്രവർത്തകർക്ക് വളരെ മതിപ്പുണ്ട്				
25	കൂടെ ജോലി ചെയ്യുന്നവരെക്കുറിച്ച് എനിക്ക് ഒന്നും തന്നെ അറിയില്ല				
26	സഹപ്രവർത്തകരിൽ പലരോടും എനിക്ക് മോശമായ ബന്ധമാണ് ഉള്ളത്				
27	എന്ത് കാര്യത്തിലും എനിക്ക് വേണ്ട ഉപദേശങ്ങൾ നൽകാൻ ആളുകളുണ്ട്				
28	എനിക്ക് മാർഗ്ഗ നിർദ്ദേശം നൽകാൻ വേണ്ടവർ ഇല്ല				
29	മറ്റുള്ളവർ എന്റെ പ്രവർത്തനങ്ങൾ മനസ്സിലാക്കുകയും എന്നെ പ്രോത്സാഹിപ്പിക്കുകയും ചെയ്യാറുണ്ട്				
30	നിർദ്ദേശങ്ങളെ അനുസരിക്കുന്നത് എനിക്ക് ഇഷ്ടമല്ല				
31	സാധാരണയായി നിങ്ങളുടെ				

	ജൂടെ മേലധികാരിയോട് അവർ കേൾക്കാൻ ആഗ്രഹിക്കുന്നത് പറയുന്നതാണ് നല്ലത്				
32	എന്റെ കാര്യങ്ങളൊന്നും ഞാൻ ഉത്തരവാദിത്വത്തോടെ കൈകാര്യം ചെയ്തില്ലെങ്കിൽ അതെന്റെ ശ്രദ്ധയിൽപ്പെടുത്താൻ ആരെങ്കിലുമൊക്കെ എപ്പോഴും എന്റെ ജീവിതത്തിലുണ്ട്				
33	ജീവിതം സന്തോഷകരമാക്കുന്നതിന് ഈശ്വരവിശ്വാസം എന്നെ സഹായിക്കുന്നു				
34	ബുദ്ധിമുട്ടുകൾ തരണം ചെയ്യാൻ ഈശ്വരൻ ശക്തി തരുന്നു				
35	ഈശ്വരവിശ്വാസം കൊണ്ട് പ്രത്യേകിച്ച് ഗുണമൊന്നുമില്ല				
36	മതപരമായ ചടങ്ങുകൾ സമയംപോകാനുള്ള ഒരു വഴി മാത്രമാണ്				
37	എന്നോട് എല്ലാവരും ബഹുമാനത്തോടെ പെരുമാറുന്നു				
38	ഞാൻ പറയുന്നത് ആളുകൾ യഥാർത്ഥത്തിൽ ശ്രദ്ധിക്കുന്നില്ല എന്നു തോന്നുന്നു				
39	ആളുകൾ പലപ്പോഴും പരിധിവിട്ട് എന്നെ സഹായിക്കുന്നു				
40	എന്റെ കൂടെ ജോലി ചെയ്യുന്നവരും വീട്ടിലുള്ളവരും അന്യോന്യം സഹായിക്കാറുണ്ട്				

41	ഞാൻ ജീവിതത്തിൽ പാലി കുന്ന അഭേദ മൂല്യങ്ങളോ വിശ്വാസങ്ങളോ ഉള്ള മറ്റാ രെയും എനിക്കറിയില്ല				
42	ജോലിസ്ഥലത്ത് എന്റെ സഹപ്രവർത്തകരും, മേല ധികാരികളും വീട്ടിൽ മുതിർന്നവരും എന്റെ എല്ലാ പ്രവർത്തകളെയും പ്രശംസിക്കാറുണ്ട്				
43	സാധാരണയായി ആൾക്കാർ എന്ന കൈവി ടാറില്ല				
44	ജോലി സ്ഥലത്ത് /വീട്ടിൽ ഞാൻ അകാരണമായി പീഡിപ്പിക്കപ്പെടുന്നു				
45	ജീവിതത്തിൽ വിനോദ ത്തിന് ആവശ്യമായ സമയം ഇല്ലെന്ന് പറയാം				
46	ഞാൻ കുടുംബാംഗങ്ങൾ ക്കുവേണ്ടി എന്തെങ്കിലും ചെയ്താൽ അതിനെ പ്രശംസിക്കാറുണ്ട്/അംഗീക രിക്കാറുണ്ട്				

## Appendix 2

Item	Validity index	Difficulty index
	Less than 20 not valid	40-50 – 60% preferable
1	38	82.5
2	45	76
3	24	87
4	21	75
5	64	66
6	66	87
7	26	61
8	26	54
9	47	70
10	74	66
11	66	54
12	49	75
13	53	73
14	50	37
15	40	64
16	68	46

17	49	48
18	41	73
19	51	75
20	47	38
21	30	69
22	38	76
23	36	82
24	57	56
25	49	76
26	32	89
27	72	51
28	52	72
29	75	55
30	46	65
31	02	56
32	62	50
33	39	85
34	32	81
35	45	82

36	32	81
37	62	38
38	15	78
39	12	19
40	48	61
41	50	64
42	47	45
43	48	56
44	24	95
45	25	72
46	46	56

### Appendix 3

No. ....

Date.....

Name.....Age.....Sex.....

### SOCIAL SUPPORT SCALE-FINAL FORM

കുടുംബാംഗങ്ങൾ, സഹപ്രവർത്തകർ സുഹൃത്തുക്കൾ, സമൂഹം ഇവ ആളുകൾക്ക് എത്രമാത്രം സഹായകരമായിത്തീരുന്നു എന്നതിനെ സംബന്ധിച്ച ചില പ്രസ്താവനകളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. ഓരോ പ്രസ്താവനയും വായിച്ച് യോജിച്ച കോളത്തിൽ (✓) എന്നടയാളപ്പെടുത്തുക. ദയവായി എല്ലാ പ്രസ്താവനകളും ഉത്തരം നൽകുക. താങ്കളുടെ ഉത്തരങ്ങൾ രഹസ്യമായി സൂക്ഷിക്കുന്നതാണ്. കൂടുതൽ ആലോചിക്കാതെ ആദ്യം തോന്നുന്നതനുസരിച്ച് ഉത്തരങ്ങൾ അടയാളപ്പെടുത്താവുന്നതാണ്.

ഉദാഹരണം: താഴെ കാണുന്ന പ്രസ്താവനയുമായി താങ്കൾ എത്രത്തോളം യോജിക്കുന്നു.

അടുത്തിടപഴകാൻ പറ്റിയ ധാരാളം സുഹൃത്തുക്കൾ എന്നിതുണ്ട്.

പൂർണ്ണമായി യോജിക്കുന്നു 4	മികവാറും യോജിക്കുന്നു 3	കുറച്ചൊക്കെ യോജിക്കുന്നു 2	ഒട്ടും യോജിപ്പില്ല 1
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പ്രസ്താവനയോട് പൂർണ്ണമായും യോജിപ്പുണ്ടെങ്കിൽ 4 എന്ന കോളത്തിൽ (✓) എന്നടയാളപ്പെടുത്തുക. മികവാറും യോജിപ്പുണ്ടെങ്കിൽ 3 എന്ന കോളത്തിൽ, കുറച്ചൊക്കെ യോജിപ്പുണ്ടെങ്കിൽ 2 എന്ന കോളത്തിൽ, തീരെ യോജിപ്പില്ലെങ്കിൽ 1 എന്ന കോളത്തിൽ.

		പൂർണ്ണമായി യോജിക്കുന്നു 4	മികവാറും യോജിക്കുന്നു 3	കുറച്ചൊക്കെ യോജിക്കുന്നു 2	ഒട്ടും യോജിപ്പില്ല 1
1	എന്ത് പ്രശ്നമുണ്ടായാലും എന്നെ സഹായിക്കാൻ വീട്ടിലെല്ലാവരും തയ്യാറാണ്.				
2	ഒരു കാരണവശാലും വീട്ടിലുള്ളവർ എന്നെ ഒറ്റപ്പെടുത്തുകയില്ല				

3	വീട്ടിൽ ഞാൻ അധികപ്പറ്റാണെന്ന് തോന്നാറുണ്ട്				
4	എന്റെ കാര്യത്തിൽ മകൾ ശ്രദ്ധിക്കാറുണ്ട്				
5	മകൾക്ക് ഞാൻ സ്വീകാര്യനല്ല/സ്വീകാര്യയല്ല				
6	മകൾ എന്റെ ആവശ്യങ്ങളെപ്പറ്റി അന്വേഷിക്കാറുണ്ട്				
7	പ്രശ്നങ്ങൾ ഏകനായി നേരിടേണ്ടിവരുന്നത് എന്നെ ബുദ്ധിമുട്ടിക്കാറുണ്ട്				
8	എനിക്ക് ആരോടും മമത തോന്നാറില്ല				
9	സുരക്ഷിതത്വബോധവും സന്തോഷവും നൽകുന്ന തരത്തിൽ ദൃഢമായ സ്നേഹബന്ധങ്ങൾ എനിക്കുണ്ട്				
10	എല്ലാ വിഷമതകളിലും സഹായിക്കാൻ തയ്യാറുള്ള ബന്ധുക്കൾ എനിക്കുണ്ട്				
11	ബന്ധുക്കളിൽനിന്നും വളരെ ഒറ്റപ്പെട്ട ജീവിതമാണ് എനിക്കുള്ളത്				
12	എനിക്ക് എന്ത് സംഭവിക്കുന്നു എന്ന് ആരും കാര്യമായി ശ്രദ്ധിക്കാറില്ല				
13	ആശ്രയിക്കാൻ പറ്റിയ വ്യക്തിബന്ധങ്ങൾ എന്റെ ജീവിതത്തിൽ വിരളമാണ്				
14	അടുത്തിടപറ്റുകാൻ പറ്റിയ ധാരാളം സുഹൃത്തുക്കൾ എനിക്കുണ്ട്				
15	എനിക്കും സുഹൃത്തുക്കൾക്കും പൊതുവായ പല താല്പര്യങ്ങളും ഉണ്ട്				

16	കൂട്ടുകാരെമൊത്ത് സമയം ചിലവഴിക്കുന്നത് എനിക്ക് ആപ്തമാകുമായ കാര്യമാണ്				
17	വീടിന് പുറത്തുള്ള ആരുമായും എനിക്ക് അടുപ്പമില്ല				
18	മറ്റാരെങ്കിലുമായി എന്റെ പ്രശ്നങ്ങൾ ചർച്ച ചെയ്താൽ എനിക്കാശ്വാസം തോന്നും				
19	സുഹൃത്തുക്കളുടെ ഇടയിൽപോലും ഏകനാണെന്ന് എനിക്ക് പലപ്പോഴും തോന്നാറുണ്ട്				
20	സഹപ്രവർത്തകർ എന്റെ കഴിവുകൾ അംഗീകരിക്കുന്നു എന്നത് സന്തോഷം തരുന്ന കാര്യമാണ്				
21	എന്നെക്കുറിച്ച് സഹപ്രവർത്തകർക്ക് വളരെ മതിപ്പുണ്ട്				
22	കൂടെ ജോലി ചെയ്യുന്നവരെക്കുറിച്ച് എനിക്ക് ഒന്നും തന്നെ അറിയില്ല				
23	സഹപ്രവർത്തകരിൽ പലരോടും എനിക്ക് മോശമായ ബന്ധമാണ് ഉള്ളത്				
24	എന്ത് കാര്യത്തിലും എനിക്ക് വേണ്ട ഉപദേശങ്ങൾ നൽകാൻ ആളുകളുണ്ട്				
25	എനിക്ക് മാർഗ്ഗ നിർദ്ദേശം നൽകാൻ വേണ്ടവർ ഇല്ല				
26	മറ്റുള്ളവർ എന്റെ പ്രവർത്തനങ്ങൾ മനസ്സിലാക്കുകയും എന്നെ പ്രോത്സാഹിപ്പിക്കുകയും ചെയ്യാറുണ്ട്				
27	നിർദ്ദേശങ്ങളെ അനുസരിക്കുന്നത് എനിക്ക് ഇഷ്ടമല്ല				

28	എന്റെ കാര്യങ്ങൾ ഞാൻ ഉത്തരവാദിത്വത്തോടെ കൈകാര്യം ചെയ്തില്ലെങ്കിൽ അതെന്റെ ശ്രദ്ധയിൽപ്പെടുത്താൻ ആരെങ്കിലുമൊക്കെ എപ്പോഴും എന്റെ ജീവിതത്തിലുണ്ട്				
29	ജീവിതം സന്തോഷകരമാകുന്നതിന് ഈശ്വരവിശ്വാസം എന്ന സഹായിക്കുന്നു				
30	ബുദ്ധിമുട്ടുകൾ തരണം ചെയ്യാൻ ഈശ്വരൻ ശക്തി തരുന്നു				
31	ഈശ്വരവിശ്വാസം കൊണ്ട് പ്രത്യേകിച്ച് ഗുണമൊന്നുമില്ല				
32	മതപരമായ ചടങ്ങുകൾ സമയംപോകാനുള്ള ഒരു വഴി മാത്രമാണ്				
33	പ്രശ്നങ്ങൾ ഉണ്ടാകുമ്പോൾ എന്റെ കൂടെ ജോലി ചെയ്യുന്നവരും എന്റെ വീട്ടിലുള്ളവരും എന്നെ സഹായിക്കാറുണ്ട്				
34	ഞാൻ ജീവിതത്തിൽ പാലിക്കുന്ന അതേ മൂല്യങ്ങളോ വിശ്വാസങ്ങളോ ഉള്ള മറ്റാരെയും എനിക്കറിയില്ല				
35	ജോലിസ്ഥലത്ത് എന്റെ സഹപ്രവർത്തകരും, മേലധികാരികളും വീട്ടിൽ മുതിർന്നവരും എന്റെ എല്ലാ പ്രവർത്തികളെയും പ്രശംസിക്കാറുണ്ട്				
36	സാധാരണയായി ആൾക്കാർ എന്നെ കൈവിടാറില്ല				
37	ജോലി സ്ഥലത്ത് /വീട്ടിൽ ഞാൻ അകാരണമായി പീഡിപ്പിക്കപ്പെടുന്നു				

38	ജീവിതത്തിൽ വിനോദത്തിന് ആവശ്യമായ സമയം ഇല്ലെന്ന് പറയാം				
39	ഞാൻ മറ്റുള്ളവർക്കുവേണ്ടി എന്തെങ്കിലും ചെയ്താൽ അവർ അതിനെ പ്രശംസിക്കാറുണ്ട്/അംഗീകരിക്കാറുണ്ട്				

## Appendix 4

### PSLE Scale

No.

Date:.....

Name.....Age.....Sex.....

#### നീർദ്ദേശങ്ങൾ

മിക്കവാറും നമുക്ക് ജീവിതത്തിൽ എപ്പോഴെങ്കിലും നേരിടേണ്ടിവരുന്ന സന്ദർഭങ്ങളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. കഴിഞ്ഞ 1 വർഷത്തിനുള്ളിൽ ഉണ്ടായ അനുഭവമാണെങ്കിൽ അതാതു കോളത്തിൽ ( ✓ ) ചെയ്യുക

നമ്പർ	ജീവിതാനുഭവം	കഴിഞ്ഞ 1 വർഷത്തിനുള്ളിൽ
1.	വിനോദയാത്രയ്ക്കോ, തീർത്ഥാടനത്തിനോ പോവുക	
2.	ഭാര്യ ജോലിക്ക് പോകാൻ തുടങ്ങുക, അല്ലെങ്കിൽ ജോലിക്ക് പോകുന്നത് നിർത്തുക	
3.	ഭക്ഷണശീലങ്ങളിലെ മാറ്റം	
4.	സാമൂഹ്യപ്രവർത്തനങ്ങൾ തുടങ്ങുകയോ, നിർത്തുകയോ, വ്യത്യാസം വരുത്തുകയോ ചെയ്യുക.	
5.	വീട്ടിലെ കൂട്ടായ്മയുടേയോ, ചടങ്ങുകളുടേയോ എണ്ണം കുറയുക	
6.	കുടുംബത്തിൽ പുതിയൊരു അംഗം ഉണ്ടാവുക	
7.	പെൺകുഞ്ഞ് ജനിക്കുക	
8.	ഉറങ്ങുന്ന ശീലത്തിലുള്ള മാറ്റം	
9.	ജോലിയിലുള്ള സ്ഥലമാറ്റം അല്ലെങ്കിൽ ജോലിയുടെ സ്വഭാവത്തിന് വരുന്ന മാറ്റം	
10.	ജോലിയിൽനിന്നും വിരമിക്കുക	
11.	സ്കൂളിൽ പോകാൻ തുടങ്ങുക അല്ലെങ്കിൽ സ്കൂൾ പഠനം അവസാനിപ്പിക്കുക	
12.	എടുത്ത പറയത്തക്ക വ്യക്തിപരമായ നേട്ടം ഉണ്ടാക്കിയ സംഭവം ഉണ്ടാവുക	
13.	ബിസിനസ്സിൽ മാറ്റം വരിക അല്ലെങ്കിൽ വിപുലീകരിക്കുക	
14.	താമസസ്ഥലം മാറുക	
15.	ചെയ്തു തീർക്കാൻ കഴിയാത്ത ബാധ്യതകൾ	
16.	അയൽക്കാരുമായുള്ള പ്രശ്നങ്ങൾ	
17.	വിവാഹം കഴിക്കുക അല്ലെങ്കിൽ വിവാഹം നിശ്ചയിക്കുക	
18.	പരീക്ഷയ്ക്കിരിക്കുക അല്ലെങ്കിൽ ഇന്റർവ്യൂവിന് ഹാജരാകുക	

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നമ്പർ	ജീവിതാനുഭവം	കഴിഞ്ഞ 1 വർഷത്തിനുള്ളിൽ
19.	പരീക്ഷയ്ക്ക് തോൽക്കുക	
20.	വളർത്തു മൃഗം ചാവുക	
21.	വിലപിടിപ്പുള്ള സാധനം വാങ്ങുക അല്ലെങ്കിൽ വീടു പണിയുക	
22.	സുഹൃത്തുവുമായി തെറ്റി പിരിയുക	
23.	കുടുംബത്തിൽ പ്രശ്നങ്ങൾ ഉണ്ടാവുക	
24.	നിയമലംഘനം മൂലം നിസ്സാരമായ കേസുകളിൽ പെടുക	
25.	മകളുടെ വിവാഹം, അല്ലെങ്കിൽ ആശ്രിതയായ സഹോദരിയുടെ വിവാഹം	
26.	വലിയ കടബാധ്യത	
27.	ആൺകുട്ടി ഇല്ലാതിരിക്കൽ	
28.	തനിക്കോ അല്ലെങ്കിൽ കുടുംബത്തിൽ മറ്റുള്ളവർക്കോ തൊഴിൽ ഇല്ലാതിരിക്കുക	
29.	ലൈംഗിക പ്രശ്നങ്ങൾ	
30.	തനിക്കോ തന്റെ ജീവിത പങ്കാളിക്കോ സ്ത്രീധനവുമായി ബന്ധപ്പെട്ട തർക്കമുണ്ടാകുക	
31.	ഭാര്യ ഗർഭിണിയാവുക	
32.	ജോന്യന്റെയോ, കൈനോട്ടകാരന്റെയോ പ്രവചനം	
33.	ജോലിസ്ഥലത്ത് സഹപ്രവർത്തകരുമായോ, മേലധികാരികളുമായോ, കീഴ്ജീവനക്കാരുമായോ പ്രശ്നങ്ങൾ ഉണ്ടാവുക	
34.	രോഗിയായ ആരെങ്കിലും വീട്ടിലുണ്ടാവുക	
35.	സാമ്പത്തിക പ്രശ്നങ്ങൾ, അല്ലെങ്കിൽ സാമ്പത്തിക നഷ്ടം ഉണ്ടാവുക	
36.	മകനോ മകളോ വീട്ടിൽനിന്ന് മാറി താമസിക്കുക	
37.	തനിക്ക് ഗുരുതരമായ രോഗമോ പരുക്കോ ഉണ്ടാവുക	
38.	പ്രേമനൈരാശ്യം അല്ലെങ്കിൽ നിശ്ചയിച്ചവിവാഹം മൂടങ്ങുക	
39.	ജീവിതപങ്കാളിയുടെ കുടുംബക്കാരുമായി സ്ത്രീധനം സംബന്ധിച്ചല്ലാതെയുള്ള കാര്യങ്ങളിൽ വഴക്ക് ഉണ്ടാവുക	
40.	കുടുംബത്തിൽ ആരെങ്കിലും മദ്യമോ, മയക്കുമരുന്നോ അമിതമായി ഉപയോഗിക്കുക	
41.	സാധനങ്ങൾ കൊള്ളയടിക്കപ്പെടുകയോ കളവുപോകുകയോ ചെയ്യുക	

നമ്പർ	ജീവിതാനുഭവം	കഴിഞ്ഞ 1 വർഷത്തിനുള്ളിൽ
42.	സുഹൃത്തിന്റെ മരണം	
43.	സ്വത്ത് നശിക്കുക, അല്ലെങ്കിൽ വിജനാരം സംഭവിക്കുക	
44.	ജീവിത പങ്കാളിയുമായുള്ള നിരന്തരമായ വഴക്ക്	
45.	അടുത്ത ബന്ധുവിന്റെ മരണം	
46.	കുട്ടികളില്ലാതിരിക്കൽ	
47.	താനോ തന്റെ അടുത്ത ബന്ധുവോ ജയിലിൽ കിടക്കേണ്ടി വരിക	
48.	ജോലിയിൽനിന്നും താൽക്കാലികമായി പിരിച്ചുവിടുക (സ്പെഷൽ) അല്ലെങ്കിൽ പുറത്താക്കുക	
49.	വിവാഹമോചനം അല്ലെങ്കിൽ ജീവിതപങ്കാളിയുമായി വേർപിരിയുക	
50.	ജീവിതപങ്കാളിയുടെ പരസ്ട്രീ/പുരുഷ ബന്ധം	
51.	ജീവിത പങ്കാളിയുടെ മരണം	

## Appendix 5

### Personal and Impersonal Items on PSLE Scale

Personal items	Impersonal items
1. Marital separation / divorce	1. Death of spouse
2. Suspension or dismissal from job	2. Extramarital relation of spouse
3. Detention in jail of self or close family member	3. Lack of child
4. Marital conflict	4. Death of close family member
5. Conflict with in laws (other than dowry)	5. Property/crops damage
6. Broken engagement or love affair	6. Death of friend
7. Financial loss or problems	7. Robbery or theft
8. Trouble at work with colleagues, superiors or subordinators	8. Excessive alcohol or drug abuse by family member
9. Conflict over dowry (self or spouse)	9. Major personal illness or injury
10. Sexual difficulties	10. Son/daughter leaving home
11. Large loan	11. Illness of family member
12. Minor violation of law	12. Prophecy of astrologer or palmist etc.
13. Family conflict	13. Pregnancy of wife (wanted or unwanted)
14. Break up with friend	14. Self or family member unemployed

15. Major purchase or construction of house	15. Lack of son
16. Getting married or engaged	16. Marriage of daughter or dependent sister
17. Trouble with neighbour	17. Death of pet
18. Change in residence	18. Failure in examination
19. Change or expansion of business	19. Appearing for interview or examination
20. Outstanding personal achievement	20. Unfulfilled commitment
21. Change in social activity	21. Begin or end schooling
22. Change in eating habits	22. Retirement
23. Wife begins or stops work	23. Change in sleeping habits
24. Going on a pleasure trip or pilgrimage	24. Reduction in number of family functions

## Appendix 6

### Desirable, Undesirable and Ambiguous Items in PSLE Scale

	Desirable events		Undesirable events
1	Pregnancy of wife (wanted)	1	Death of spouse
2	Marriage of daughter or dependent sister	2	Extramarital relations of spouse
3	Major purchase or construction of house	3	Marital separation or divorce
4	Appearing for examination or interview	4	Suspension or dismissal from job
5	Getting married or engaged	5	Detention in jail of self or close family member
6	Change in residence	6	Lack of child
7	Change or expansion of business	7	Death of close family member
8	Outstanding personal achievement	8	Marital conflict
9	Gain of new family member	9	Property or crops damage
10	Going on pleasure trip or pilgrimage	10	Death of friend
		11	Robbery or theft
		12	Excessive alcohol or drug use by family member

		13	Conflict with in-laws (other than dowry)
		14	Broken engagement or love affair
		15	Major personal illness or injury
		16	Financial loss or problem
		17	Illness of family member
		18	Trouble at work with colleagues, superiors or subordinates
		19	Pregnancy of wife (unwanted)
		20	Conflict over dowry (self or spouse)
		21	Sexual difficulties / problem
		22	Self or family member unemployed
		23	Lack of son
		24	Large loan
		25	Minor violation of law
		26	Family conflict
		27	Break up with friend
		28	Death of pet
		29	Failure in examination

		30	Trouble with neighbour
		31	Unfulfilled commitments
		32	Change in sleeping habits

Ambiguous events

1	Son or daughter leaving home
2	Prophecy of astrologer or palmist etc.
3	Begin or end schooling
4	Retirement
5	Change in working conditions
6	Reduction in number of family functions
7	Change in social activities
8	Change in eating habits
9	Wife begins or stops work
10	Birth of daughter

## Appendix 7

### AECOM Coping Style Questionnaire

Name.....Age.....Sex.....

#### നീർദ്ദേശങ്ങൾ

വ്യത്യസ്ത സന്ദർഭത്തിൽ ആളുകൾ എങ്ങനെയാണ് പെരുമാറുക എന്നും വ്യത്യസ്ത കാര്യങ്ങൾ ഓരോരുത്തർക്കും എങ്ങനെയാണ് അനുഭവപ്പെടുക എന്നും വിവരിക്കുന്ന പ്രസ്താവനകളാണ് താഴെ കൊടുത്തിട്ടുള്ളത്. ഓരോ പ്രസ്താവനയും താങ്കളുമായി എങ്ങനെ ബന്ധപ്പെട്ടിരിക്കുന്നു എന്നു സൂചിപ്പിക്കുവാൻ അനുയോജ്യമായ കോളത്തിൽ ( ✓ ) എന്നു രേഖപ്പെടുത്തുക.

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
1.	ഞാൻ ഒരു ശുഭാപ്തിവിശ്വാസിയാണ്				
2.	അനിഷ്ടകരമായ കാര്യങ്ങൾ ചിന്തിക്കുന്നത് ഞാൻ ഒഴിവാക്കാറുണ്ട്				
3.	എനിക്ക് ഒരു പ്രശ്നമുണ്ടാകുമ്പോൾ മറ്റുള്ളവരുടെ സഹായം തേടാറുണ്ട്				
4.	രോഗമോ അപകടമോ എന്റെ സാധാരണ ജോലികൾക്ക് തടസ്സമാവുകയാണെങ്കിൽ ഉപയോഗപ്രദമായ മറ്റെന്തെങ്കിലും പ്രവർത്തികൾ ഞാൻ കണ്ടെത്തും				
5.	മറ്റുള്ളവർ എനിക്കുവേണ്ടി തീരുമാനങ്ങൾ എടുക്കുന്നതു നിർത്തിയാലും സ്വന്തമായി തീരുമാനങ്ങൾ എടുക്കാൻ എനിക്ക് കഴിയും				
6.	ഞാൻ അസ്വസ്ഥനാകുന്ന സമയത്ത് എന്തെങ്കിലും ഭക്ഷണം കഴിക്കുവാനായി ശ്രമിക്കാറുണ്ട്				
7.	ഏതുകാര്യത്തിലും തീരുമാനങ്ങൾ എടുക്കുന്നതിനുമുമ്പ് അതിനെ കുറിച്ച് കിട്ടാവുന്നത്ര വിവരങ്ങൾ ഞാൻ ശേഖരിക്കും				
8.	അസ്വാസ്ഥ്യമുണ്ടാകുന്ന സന്ദർഭങ്ങളുടെ രസകരമായ വശം കണ്ടെത്താൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				

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		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
9.	ഭാവിയിൽ ഉണ്ടാകാനിടയുള്ള ബുദ്ധിമുട്ടുകളെക്കുറിച്ച് ഞാൻ മുൻകൂട്ടി വേവലാതിപ്പെടാറില്ല				
10.	ഞാൻ എന്റെ വിഷമങ്ങളെക്കുറിച്ച് ചിന്തിക്കാതിരിക്കാൻ ശ്രമിക്കുകയാണ് പതിവ്				
11.	എന്നേക്കാൾ നന്നായി കാര്യങ്ങൾ ചെയ്യാൻ കഴിവുള്ളവരുമായി ഇടപെടാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				
12.	എന്റെ ശരീര വടിവു നന്നാക്കാൻ ഞാൻ പതിവായി വ്യായാമം ചെയ്യാറുണ്ട്				
13.	എന്റെ കാര്യങ്ങൾ ശരിയാവാതിരിക്കുമ്പോൾ അതു മറ്റുള്ളവരുടെ കുറ്റം കൊണ്ടാണെന്ന് ഞാൻ വിചാരിക്കാറുണ്ട്				
14.	പ്രശ്നങ്ങളിൽനിന്ന് മനസ്സുതിരിക്കാനായി ഞാൻ കഥാപുസ്തകങ്ങൾ വായിക്കാറുണ്ട്				
15.	എനിക്കൊരു പ്രശ്നമുണ്ടാകുമ്പോൾ അതു പരിഹരിക്കാനായി വ്യത്യസ്ത മാർഗ്ഗങ്ങളെക്കുറിച്ച് ഞാൻ ആലോചിക്കാറുണ്ട്				
16.	എനിക്കിഷ്ടമില്ലാത്തവരോട് നല്ല രീതിയിൽ പെരുമാറാൻ ഞാൻ പരിശ്രമിക്കാറുണ്ട്				
17.	കാര്യങ്ങൾ മറ്റുള്ളവർ കരുതുന്നതുപോലെ അത്ര മോശമാണെന്ന് ഞാൻ കരുതുന്നില്ല				
18.	ശവസംസ്കാരച്ചടങ്ങുകൾ ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				
19.	ഞാൻ അസ്വസ്ഥനാകുമ്പോൾ മറ്റുള്ളവരുടെ ശ്രദ്ധയും പരിഗണനയും കിട്ടണമെന്ന് ആഗ്രഹിക്കാറുണ്ട്				

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
20.	എനിക്ക് ഒരു സുഹൃത്ത് നഷ്ടപ്പെടുമ്പോൾ മറ്റൊരാളെ നേടിയെടുക്കാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				
21.	മറ്റുള്ളവർ എന്നെ ശ്രദ്ധിക്കുന്നില്ലെങ്കിൽ എനിക്ക് കൂടുതൽ നന്നായി കാര്യങ്ങൾ ചെയ്യാൻ കഴിയും				
22.	ദേഷ്യം വരുന്ന സമയത്ത് ശാരീരിക പ്രവർത്തികളിൽ ഏർപ്പെട്ട് ഞാനത് തീർക്കാൻ ശ്രമിക്കും				
23.	എല്ലാ പ്രശ്നങ്ങളും സൂഷ്മമായി വിശകലനം ചെയ്യാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				
24.	ദേഷ്യം വരുമ്പോൾ ഞാൻ അതു മറച്ചുവെക്കാൻ ശ്രമിക്കാറുണ്ട്				
25.	ഞാൻ എന്റെ എല്ലാ വേദനകളും പ്രയാസങ്ങളും അവഗണിക്കാറുണ്ട്				
26.	സിനിമയിലെ അലോസരപ്പെടുത്തുന്ന രംഗങ്ങൾ ഞാൻ കാണാറില്ല				
27.	അസുഖം വരുന്ന സമയത്ത് വിശ്രമിക്കാനും പരിചരിക്കപ്പെടാനും ഞാൻ ആഗ്രഹിക്കുന്നു				
28.	ഞാൻ എന്തെങ്കിലും കാര്യങ്ങൾ മോശമായി ചെയ്യുകയാണെങ്കിൽ അതു കുറെക്കൂടി ചെയ്യപ്പെടുത്താൻ ശ്രമിക്കാറുണ്ട്				
29.	മറ്റുള്ളവർ ഇടപെടുന്നതുകൊണ്ട് എനിക്കെന്റെ ജോലി ചെയ്യാൻ കഴിയാറില്ല				
30.	എനിക്ക് പരിശ്രമം തോന്നുമ്പോൾ ഞാനൊന്നു നടക്കാൻ പോകാറുണ്ട്				
31.	എന്തെങ്കിലും തീരുമാനമെടുക്കുന്നതിനുമുമ്പ് നല്ലതും ചീത്തയുമായ സാധ്യതകളെക്കുറിച്ച് ഞാൻ ആഴത്തിൽ ചിന്തിക്കാറുണ്ട്				
32.	ആൾക്കൂട്ടത്തിൽ നിൽക്കുമ്പോൾ ലജ്ജ തോന്നാറുണ്ടെങ്കിലും കൂട്ടത്തിൽ കൂടാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
33.	പ്രശ്നങ്ങൾക്ക് സ്വയം പരിഹാരമുണ്ടാ വുമെന്ന് ഞാൻ വിചാരിക്കുന്നു				
34.	ആശുപത്രിയിൽ കിടക്കുന്ന രോഗി കളെ സന്ദർശിക്കുന്നത് ഞാൻ ഒഴിവാ ക്കുകയാണ് പതിവ്.				
35.	പ്രധാനപ്പെട്ട എന്തെങ്കിലും ഒന്നു വാങ്ങുന്നതിനുമുമ്പ് മറ്റുള്ളവരുടെ അഭിപ്രായം ഞാൻ തേടാറുണ്ട്				
36.	ദുഃഖമുണ്ടാകുമ്പോൾ എനിക്ക് താല്പ ര്യമുള്ള സംഗതികളിൽ മുഴുകാനായി ഞാൻ ശ്രമിക്കാറുണ്ട്				
37.	മറ്റുള്ളവർ എന്റെ ജീവിതത്തിൽ ഇട പെടുന്നത് നിർത്തിയാൽ ഞാൻ കൂടു തൽ നന്നാവുമായിരിക്കും				
38.	മനഃസംഘർഷമനുഭവപ്പെടുമ്പോൾ കൈകൾകൊണ്ടുള്ള ജോലികൾ ചെയ്യാൻ ഞാൻ ഇഷ്ടപ്പെടുന്നു				
39.	പ്രശ്നങ്ങൾ പരിഹരിക്കുന്നതിനെക്കു റിച്ച് ആലോചിച്ച് ധാരാളം സമയം ഞാൻ ചെലവഴിക്കാറുണ്ട്				
40.	വീർഷുമുട്ടലോ അസ്വാസ്ഥ്യമോ അനു ഭവപ്പെടുന്ന സന്ദർഭങ്ങളിൽ എന്തെ ങ്കിലും തമാശ പറയാൻ ഞാൻ ആലോ ചിക്കാറുണ്ട്				
41.	ഞാൻ ഒരു ഡോക്ടറെ കാണണമെ ങ്കിൽ എനിക്ക് അസുഖം വളരെ കൂടി യിരിക്കണം				
42.	സന്തോഷപ്രദമല്ലാത്ത സിനിമകൾ ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				
43.	ഞാൻ അസ്വസ്ഥനാകുമ്പോൾ എന്തെ അലട്ടുന്ന കാര്യങ്ങൾ സംസാരിക്കാൻ ഒരാളെ കണ്ടെത്താൻ ശ്രമിക്കാറുണ്ട്				
44.	അടുപ്പമുള്ള ആരെങ്കിലും മരിച്ചാൽ ആ നഷ്ടബോധത്തിൽനിന്ന് രക്ഷപ്പെ ടാൻ ഞാൻ ജോലിത്തിരക്കിൽ വ്യാപൃ തനാവും				

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
45.	മറ്റുള്ളവരാണ് എന്റെ പ്രശ്നങ്ങൾക്ക് കാരണം				
46.	സിനിമ കാണുന്നത് പ്രശ്നങ്ങളിൽനിന്ന് എന്റെ മനസ്സിനെ മാറ്റും				
47.	എനിക്ക് ഒരു പ്രശ്നമുണ്ടാകുമ്പോൾ അതു പരിഹരിക്കാനാവശ്യമായ എല്ലാ മാർഗ്ഗങ്ങളെ കുറിച്ചും ഞാൻ ചിന്തിക്കും				
48.	ഞാൻ പരാതികൾ പറയുന്ന തരക്കാരനല്ല				
49.	എല്ലാം ശരിയാകുമെന്നുറപ്പുള്ളതുകൊണ്ട് ഞാൻ ഒന്നിനെക്കുറിച്ചും നേരത്തേ ഉൽക്കണ്ഠപ്പെടാറില്ല				
50.	മരണത്തെപ്പറ്റിയുള്ള സംസാരം ഞാൻ ഒഴിവാക്കാറാണു പതിവ്				
51.	അസ്വസ്ഥനാകുമ്പോൾ തനിച്ചിരിക്കുന്നത് ഞാൻ ഒഴിവാക്കും				
52.	എന്റെ കഴിവുകളെക്കുറിച്ചുള്ള അതിജീവികാൻ ഞാൻ കഠിനപ്രയത്നം ചെയ്യും				
53.	എന്നോട് വാദിക്കാൻ വരാത്തവരോട് ഞാൻ നന്നായി ഒത്തുപോകും				
54.	പല കാര്യങ്ങളും എന്നെ വല്ലാതെ അലട്ടുമ്പോൾ ഞാൻ ദിവ്യസ്വപ്നത്തിൽ മുഴുകാൻ തുടങ്ങും				
55.	എനിക്ക് ഗുരുതരമായ അസുഖമാണെന്ന് ഡോക്ടർ പറഞ്ഞാൽ അതിനെക്കുറിച്ച് കിട്ടാവുന്നത്ര അറിവുകൾ നേടാൻ ഞാൻ ശ്രമിക്കും				
56.	കൂട്ടത്തിൽവെച്ച് മനസ്സിലുള്ളത് പറയാൻ പരിശ്രമം തോന്നിയാലും ഞാനതു പറയും				
57.	എന്നെ എന്തെങ്കിലും അലട്ടുന്നുണ്ടെങ്കിലും എനിക്കത് അവഗണിക്കാനാവും				

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
58.	മരണത്തിൽ ദുഃഖിക്കുന്നവരെ ചെന്നു കാണുന്നത് ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				
59.	എനിക്ക് നന്നായിട്ടറിയാത്ത കാര്യങ്ങളെക്കുറിച്ച് ഞാൻ മറ്റുള്ളവരുടെ ഉപദേശം തേടാറുണ്ട്				
60.	അസന്തുഷ്ടനായിരിക്കുമ്പോൾ ഉന്മേഷമുണ്ടാക്കുന്ന കാര്യങ്ങൾ ചെയ്യാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				
61.	മറ്റുള്ളവർ എന്നോട് കുറച്ചുകൂടി അലിവു കാണിക്കുകയാണെങ്കിൽ എനിയ്ക്ക് കാര്യങ്ങൾ നന്നായി ചെയ്യാൻ പറ്റും				
62.	അസ്വസ്ഥനായിരിക്കുമ്പോൾ വായന എന്നെ ശാന്തനാക്കുന്നു				
63.	കുറെയധികം തീരുമാനങ്ങൾ എടുക്കേണ്ടിവരുന്ന സന്ദർഭങ്ങളിൽ അവയിൽ ഏതിന് പ്രാധാന്യം കൊടുക്കണമെന്ന് ഞാനാദ്യം തീരുമാനിക്കും				
64.	ചമ്മലുണ്ടാക്കുന്ന സന്ദർഭങ്ങളിൽ ഒന്നും സംഭവിച്ചില്ലെന്ന് നടിക്കാൻ ഞാൻ ശ്രമിക്കാറുണ്ട്				
65.	വേവലാതിപ്പെടാൻ തക്ക പ്രശ്നങ്ങൾ ഒന്നുമില്ല എന്നെനിക്കു തോന്നാറുണ്ട്				
66.	അസ്വസ്ഥത ഉണ്ടാക്കുന്ന സന്ദർഭങ്ങൾ ഞാൻ ഒഴിവാക്കാറുണ്ട്				
67.	കാര്യങ്ങൾ വിചാരിച്ചപ്പോലെ നടക്കാതിരിക്കുമ്പോൾ എനിക്കെന്നോടു തന്നെ സഹതാപം തോന്നാറുണ്ട്				
68.	എനിക്ക് അടുപ്പമുള്ള ആരെങ്കിലും മരിച്ചാൽ ആ ദുഃഖം കുറയ്ക്കാൻവേണ്ടി ഞാൻ സമാനദുഃഖിതരെ ആശ്വസിപ്പിക്കും				

		ഒരിക്കലുമില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
69.	എന്റെ ഡോക്ടർക്ക് എന്നെ കുറിച്ച് നന്നായി അറിയാമെങ്കിൽ അദ്ദേഹത്തിന്റെ ഉപദേശം സ്വീകരിക്കാൻ എനിക്ക് കൂടുതൽ താൽപ്പര്യം ഉണ്ടായിരിക്കും				
70.	ഉൽക്കണ്ഠ തോന്നുമ്പോൾ ഞാൻ മറ്റു ജീവരെ ഫോണിൽ വിളിക്കും				
71.	സങ്കടമുണ്ടാവുമ്പോൾ ഞാനതൊരു പുഞ്ചിരിയിൽ ഒളിക്കാൻ ശ്രമിക്കുന്നു				
72.	ക്രമമായ ആരോഗ്യപരിശോധനകൾ സമയ നഷ്ടമാണെന്നാണ് എന്റെ വിശ്വാസം				
73.	അലോസരപ്പെടുത്തുന്ന വാർത്തകൾ വായിക്കുന്നത് ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				
74.	ഞാൻ അസ്വസ്ഥനാവുമ്പോൾ എനിക്കുണ്ടാകുന്ന വിഷമം മറ്റുജീവരെ അറിയിക്കാൻ ശ്രമിക്കാറുണ്ട്				
75.	ഒരു കാര്യം ആദ്യത്തെ തവണതന്നെ ചെയ്യാൻ കഴിഞ്ഞില്ലെങ്കിൽ അതു ചെയ്യാനായി എത്ര സമയം ചെലവഴിക്കാനും എനിക്ക് മടിയില്ല				
76.	മറ്റുജീവർ എന്നെ മുതലെടുക്കാനോ രുവെടുന്നില്ലെങ്കിൽ അവരുമായി ഒത്തുപോകാൻ എനിക്ക് പ്രയാസമില്ല				
77.	അസ്വസ്ഥനാവുമ്പോൾ ആശ്വാസത്തിനായി ഞാൻ അല്പം മദ്യം കുടിക്കാറുണ്ട്				
78.	അപകടകരമാണെന്ന് തോന്നുന്ന ഒരു കായികവിനോദത്തിൽ പങ്കെടുക്കാൻ എനിക്കാഗ്രഹം തോന്നുകയാണെങ്കിൽ ഞാനതിനുവേണ്ടിയുള്ള പരിശീലനം തുടങ്ങും				

		ഒരികലുചില്ല	അപൂർവ്വമായി	ചിലപ്പോൾ	മിക്കവാറും
79.	കാര്യങ്ങൾ എത്രതന്നെ മോശമായാലും അതെന്നെ അസ്വസ്ഥനാക്കാൻ ഞാനനുവദിക്കാറില്ല				
80.	മനസ്സ് അസ്വസ്ഥമാകുന്ന സന്ദർഭങ്ങളിൽ ആശ്വാസം നൽകുന്ന മരുന്നുകൾ ഞാൻ കഴിക്കാറുണ്ട്				
81.	എന്തെങ്കിലും വിഷമം നേരിടുമ്പോൾ ഞാൻ ആകെ തകർന്നുപോകും				
82.	എന്റെ ശരീരത്തിലെ അഭംഗിയുള്ള ഭാഗങ്ങൾ മറയ്ക്കുന്ന വസ്ത്രങ്ങളാണ് ഞാൻ വാങ്ങുക				
83.	സകടം ഉണ്ടാ വുമ്പോൾ ഞാൻ ഭക്ഷണം കഴിക്കും				
84.	സമയമാകുമ്പോൾ ഓരോന്നും നടക്കുമെന്നുള്ള വിശ്വാസമുള്ളതുകൊണ്ട് അപകടസാധ്യതയുള്ള കാര്യങ്ങൾ ഏറ്റെടുക്കാൻ എനിക്കു ഭയമില്ല				
85.	ഒരു വിൽപ്പനം തയ്യാറാകാനുള്ള ആലോചന ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				
86.	ആഹാരക്കാര്യത്തിൽ ശ്രദ്ധിക്കുന്നതുകൊണ്ട് എന്റെ ശരീരഭാരം കൂടുന്നില്ല				
87.	ശ്മശാനങ്ങളിൽ പോകുന്നത് ഞാൻ ഒഴിവാക്കുകയാണ് പതിവ്				

## Appendix 8

# Quality of Life

No. \_\_\_\_\_

Date .....

Name.....Age.....Sex.....

ചോദ്യാവലി പൂരിപ്പിക്കാനുള്ള നിർദ്ദേശങ്ങൾ

നിങ്ങളുടെ ജീവിതത്തിന്റെ ഗുണനിലവാരം, ആരോഗ്യം, ജീവിതത്തിന്റെ മറ്റുവശങ്ങൾ, എന്നിവയെക്കുറിച്ചുള്ള ചോദ്യങ്ങളാണ് ഈ ചോദ്യാവലിയിൽ ഉള്ളത്. ഏതെങ്കിലും ചോദ്യത്തിന് ഉത്തരം ഉറപ്പിച്ചു പറയാനാവുന്നില്ലെങ്കിൽ ഏറ്റവും കൂടുതൽ യോജിക്കുന്നത് തിരഞ്ഞെടുക്കുക. നിങ്ങളുടെ ആദ്യത്തെ പ്രതികരണമായിരിക്കും കൂടുതൽ ശരി.

നിങ്ങളുടെ ജീവിതനിലവാരം, ആശ്രഹങ്ങൾ, സന്തോഷങ്ങൾ, താൽപ്പര്യങ്ങൾ എന്നിവ മനസ്സിൽ വെക്കുക. കഴിഞ്ഞ രണ്ടാഴ്ചത്തെ ജീവിതത്തെപ്പറ്റിയുള്ള നിങ്ങളുടെ തോന്നലുകളാണ് ഞങ്ങൾക്കറിയേണ്ടത്. ഉദാഹരണമായി കഴിഞ്ഞ രണ്ടാഴ്ചത്തെ ജീവിതത്തെപ്പറ്റി ഇങ്ങനെ ഒരു ചോദ്യം ചോദിക്കുകയാണെന്നിരിക്കട്ടെ.

നിങ്ങൾക്കാവശ്യമുള്ള തരത്തിലുള്ള

സഹായം മറ്റുള്ളവരിൽ നിന്നു കിട്ടുന്നുണ്ടോ?

തീരെയില്ല	വേണ്ടത്ര ഇല്ല	മിതമായി	ധാരാളം	മുഴുവനായും
1	2	3	4	5

നിങ്ങൾക്കു കിട്ടിയ, സഹായത്തിന്റെ അളവിനെ കാണിക്കുന്ന ഒരു നമ്പരിനു മാത്രം വട്ടമിടുക ഉദാഹരണത്തിന് സഹായം മറ്റുള്ളവരിൽനിന്ന് ധാരാളം കിട്ടിയിട്ടുണ്ടെങ്കിൽ നമ്പർ 4 ൽ വട്ടമിടുക.

ഈ ചോദ്യാവലിയിലെ ഓരോ ചോദ്യവും ശ്രദ്ധാപൂർവ്വം വായിച്ച് നിങ്ങളുടെ തോന്നലുകൾ സ്വയം പരിശോധിച്ചശേഷം ഏറ്റവും യോജിക്കുന്ന ഉത്തരത്തിന്റെ നമ്പരിൽ വട്ടമിടുക.

1. നിങ്ങളുടെ ജീവിതത്തിന്റെ ഗുണനിലവാരം എങ്ങിനെയാണ്?	<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;">വളരെ മോശം</td> <td style="width: 15%;">മോശം</td> <td style="width: 15%;">മോശമോ നല്ലതോ അല്ല</td> <td style="width: 15%;">നല്ലത്</td> <td style="width: 15%;">വളരെ നല്ലത്</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	വളരെ മോശം	മോശം	മോശമോ നല്ലതോ അല്ല	നല്ലത്	വളരെ നല്ലത്					
വളരെ മോശം	മോശം	മോശമോ നല്ലതോ അല്ല	നല്ലത്	വളരെ നല്ലത്							

2. സ്വന്തം ആരോഗ്യത്തെപ്പറ്റി നിങ്ങൾ തൃപ്തനാണോ?	<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;">തീരെ തൃപ്തിയില്ല</td> <td style="width: 15%;">തൃപ്തിയില്ല</td> <td style="width: 15%;">തൃപ്തിയോ അത്യപ്തിയോ ഇല്ല</td> <td style="width: 15%;">തൃപ്തികരം</td> <td style="width: 15%;">വളരെ തൃപ്തികരം</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> </table>	തീരെ തൃപ്തിയില്ല	തൃപ്തിയില്ല	തൃപ്തിയോ അത്യപ്തിയോ ഇല്ല	തൃപ്തികരം	വളരെ തൃപ്തികരം	1	2	3	4	5
തീരെ തൃപ്തിയില്ല	തൃപ്തിയില്ല	തൃപ്തിയോ അത്യപ്തിയോ ഇല്ല	തൃപ്തികരം	വളരെ തൃപ്തികരം							
1	2	3	4	5							

താഴെ പറയുന്ന ചോദ്യങ്ങൾ കഴിഞ്ഞ രണ്ടാഴ്ചയായി നിങ്ങൾക്കനുഭവപ്പെട്ട ചില കാര്യങ്ങളെക്കുറിച്ചാണ്

3. നിങ്ങൾക്കാവശ്യമുള്ള കാര്യങ്ങൾ ചെയ്യുന്നതിൽനിന്ന് ശാരീരിക വേദനകൾ നിങ്ങളെ എത്രത്തോളം തടയുന്നുണ്ട്?

തിരൈ തടയുന്നില്ല	അല്പം തടയുന്നു	കുറച്ചൊക്കെ തടയുന്നു	നല്ലപോലെ തടയുന്നു	വളരെയേറെ തടയുന്നു
1	2	3	4	5

4. നിങ്ങളുടെ ദൈനംദിന ജീവിതത്തിന് മരുണോ ചികിത്സയോ എത്രത്തോളം ആവശ്യമുണ്ട്?

തിരൈ ആവശ്യമില്ല	അല്പം ആവശ്യമുണ്ട്	മിതമായി തോതിൽ	ധാരാളം	വളരെയേറെ
1	2	3	4	5

5. നിങ്ങൾ ജീവിതം എത്രത്തോളം ആസ്വദിക്കുന്നുണ്ട്?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

6. ജീവിതം അർത്ഥപൂർണ്ണമാണെന്നു നിങ്ങൾക്കെത്രത്തോളം തോന്നുന്നുണ്ട്?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

7. കാര്യങ്ങളിൽ നിങ്ങൾക്കെത്രത്തോളം നന്നായി ശ്രദ്ധ കേന്ദ്രീകരിക്കാൻ കഴിയുന്നുണ്ട്?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

8. നിത്യജീവിതത്തിൽ നിങ്ങൾക്ക് എത്രത്തോളം സുരക്ഷിതത്വം അനുഭവപ്പെടുന്നുണ്ട്?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

9. നിങ്ങളുടെ പുറമെയുള്ള ചുറ്റുപാടുകൾ എത്രത്തോളം ആരോഗ്യപരമാണ്?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

താഴെ കൊടുത്ത ചോദ്യങ്ങൾ കഴിഞ്ഞ രണ്ടാഴ്ചയായി നിങ്ങൾക്കനുഭവപ്പെട്ടതോ നിങ്ങൾക്കു ചെയ്യാൻ കഴിയുന്നതോ ആയ സംഗതികളെപ്പറ്റിയാണ്.

10. നിത്യജീവിതത്തിനാവശ്യമായ ശക്തി നിങ്ങൾക്കുണ്ടോ?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

11. നിങ്ങളുടെ ശരീരത്തിന്റെ ബാഹ്യരൂപത്തെ അംഗീകരിക്കാൻ നിങ്ങൾക്കു കഴിയുന്നുണ്ടോ?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

12. നിങ്ങളുടെ ചിലവിന് വേണ്ട പണം നിങ്ങൾക്ക് കിട്ടുന്നുണ്ടോ?

തിരൈയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

13. നിങ്ങളുടെ ദൈനംദിന ജീവിതത്തിന് ആവശ്യമുള്ള വിവരങ്ങൾ എത്രകണ്ട് കിട്ടുന്നുണ്ട്?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

14. ഒഴിവ് കാര്യങ്ങൾക്കായി നിങ്ങൾക്ക് എത്രമാത്രം സമയം ലഭിക്കുന്നുണ്ട്?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

15. സമൂഹവുമായി ഒത്തുപോകാൻ നിങ്ങൾക്ക് കഴിയുന്നുണ്ടോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

താഴെ പറയുന്ന ചോദ്യങ്ങൾ കഴിഞ്ഞ രണ്ടാഴ്ചയായി നിങ്ങളുടെ ജീവിതത്തിന്റെ വിവിധ വസ്ഥകൾ എത്രത്തോളം തൃപ്തികരമായിട്ടും നന്നായിട്ടും നിങ്ങൾക്ക് അനുഭവപ്പെട്ടു എന്ന റിയാനാണ്.

16. ഉറക്കത്തിന്റെ കാര്യത്തിൽ നിങ്ങൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

17. ദൈനംദിന പ്രവൃത്തികൾ ചെയ്യാനുള്ള നിങ്ങളുടെ കഴിവിൽ താകൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

18. അധ്വാനിക്കാനുള്ള നിങ്ങളുടെ കഴിവിൽ നിങ്ങൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

19. നിങ്ങൾ നിങ്ങളെ കുറിച്ചുതന്നെ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

20. നിങ്ങളുടെ വ്യക്തിബന്ധങ്ങളെക്കുറിച്ച് തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

21. നിങ്ങളുടെ ലൈംഗിക ജീവിതത്തിൽ നിങ്ങൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

22. നിങ്ങളുടെ സുഹൃത്തുക്കളിൽനിന്നു കിട്ടുന്ന സഹായസഹകരണങ്ങളിൽ നിങ്ങൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

23. നിങ്ങളുടെ താമസസ്ഥലത്തെ സാഹചര്യങ്ങളിൽ നിങ്ങൾ തൃപ്തനാണോ?	തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
	1	2	3	4	5

24. നിങ്ങൾക്ക് ലഭിക്കുന്ന ആരോഗ്യരംഗത്തെ സേവനങ്ങളിൽ നിങ്ങൾ തൃപ്തനാണോ?

തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

25. നിങ്ങളുടെ യാത്രാസൗകര്യങ്ങളിൽ തൃപ്തനാണോ?

തീരെയില്ല	അല്പം	മിതമായി	നല്ലപോലെ	വളരെയേറെ
1	2	3	4	5

താഴെ പറയുന്ന ചോദ്യം കഴിഞ്ഞ രണ്ടാഴ്ചയായി നിങ്ങൾക്ക് പലപ്പോഴും തോന്നിയതോ അനുഭവപ്പെട്ടതോ ആയ കാര്യത്തെപ്പറ്റിയാണ്.

26. പ്ലാനത, നിരാശ, ഉൽകണ്ഠ, വിഷാദം തുടങ്ങിയ അസുഖകരമായ വികാരങ്ങൾ എത്രത്തോളം നിങ്ങൾക്ക് അനുഭവപ്പെട്ടുണ്ട്?

ഒരിക്കലും ഇല്ല	അപൂർവ്വം ചിലപ്പോൾ	ഏതാണ്ട് എല്ലായ്പ്പോഴും	പലപ്പോഴും	എല്ലായ്പ്പോഴും
1	2	3	4	5

## Appendix 9

### General Health Questionnaire (GHQ-12)

We should like to know if you have had any medical complaints and how your health has been in general over the past few weeks. Please answer ALL the questions on the following pages simply by underlining the answer you think most nearly applies to you. Remember that we want to know about present and recent complaints, not these that you had in the past. It is important that you answer ALL the question.

Have you recently:

Been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
Lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
Felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less than usual
Felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
Felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
Felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
Been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual

Been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able
Been feeling unhappy and depressed?	More so than usual	Same as usual	Less able than usual	Much less able
Been losing confidence in yourself?	More so than usual	Same as usual	Less able than usual	Much less able
Been thinking of yourself as a worthless person?	More so than usual	Same as usual	Less able than usual	Much less able
Been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

## Appendix 10

### PROFORMA FOR EVALUATION ATTEMPTED SUICIDE

- Serial No. .... Date of assessment.....
- Name & address .....
- .....
- .....
1. Age (Yrs): .....
2. Sex:                    1. Male                    2. Female
3. Marital status:        1. Unmarried 2. Married    3. Widow 4. Widower  
5. Separated
4. Religion: 1. Hindu    2. Christian    3. Muslim    4. Tribal    5. Others
5. Domicile: 1. Rural    2. Urban    3. Tribal
6. Education (Yrs.): .....
7. Occupation:    1. Unemployed    2. Farmer    3. Housewife  
4. Student 5. Labour    6. Business    7. Clerical    8. Professional  
9. Teacher    10. Others (Specify).
8. Monthly income in rupees: .....
9. Family:            1. Joint            2. Nuclear    3. Extended
10. No. of persons in house: .....
11. Type of marriage:    1. Arranged            2. Love  
3. Not applicable
12. Faith in God:    .....    .....    .....    .....    .....    .....    1. Yes    2. No
13. Social support assessment - Whether living alone:    1. Yes    2. No
14. Presence of companion:    .....    .....    .....    .....    1. Yes    2. No
15. Confidant: .....    .....    .....    .....    .....    .....    1. Yes    2. No
16. Friends with common interest: .....    .....    .....    .....    1. Yes    2. No
17. Complained of loneliness: .....    .....    .....    .....    1. Yes    2. No
18. Consanguinity: .....    .....    .....    .....    .....    .....    1. Yes    2. No
19. Family history in first-degree relative: .....    .....    .....    .....    1. Yes    2. No.
20. If 19(1) Suicide: .....    .....    .....    .....    .....    .....    1. Yes    2. No

21. If 19(1) Depression: ..... 1. Yes 2. No
22. If 19(1) Mania/BPAD: ..... 1. Yes 2. No
23. If 19(1) Schizophrenia: ..... 1. Yes 2. No
24. If 19(1) Neuroses: ..... 1. Yes 2. No
25. If 19(1) Alcoholism/Drug abuse: ..... 1. Yes 2. No
26. If 19(1) Mental retardation: ..... 1. Yes 2. No
27. If 19(1) others (specify) ..... 1. Yes 2. No
28. Family History in second degree relative: ..... 1. Yes 2. No
29. If 28(1) Suicide: ..... 1. Yes 2. No
30. If 28(1) Depression: ..... 1. Yes 2. No
31. If 28(1) Mania/BPAD: ..... 1. Yes 2. No
32. If 28(1) Schizophrenia: ..... 1. Yes 2. No
33. If 28(1) Neuroses: ..... 1. Yes 2. No
34. If 28(1) Alcoholism/Drug abuse: ..... 1. Yes 2. No
35. If 28(1) Mental retardation: ..... 1. Yes 2. No
36. If 28(1) others (specify) : ..... 1. Yes 2. No
37. Medical illness: ..... 1. Yes 2. No
38. If 37(1) TB: ..... 1. Yes 2. No
39. If 37(1) Diabetes: ..... 1. Yes 2. No
40. If 37(1) Hypertension: ..... 1. Yes 2. No
41. If 37(1) Epilepsy: ..... 1. Yes 2. No
42. If 37(1) Malignancy: ..... 1. Yes 2. No
43. If 37(1) Acid peptic disease: ..... 1. Yes 2. No
44. If 37(1) Others: ..... 1. Yes 2. No
45. H/O Medical contacts: 1. Nil  
2. Within 1 week  
3. Within 1 month  
4. Within 3 months
46. Past history of mental illness : ..... 1. Yes 2. No
47. If 46(1) Depression: ..... 1. Yes 2. No

48. If 46(1) Mania/BPAD: ..... 1.Yes 2.No
49. If 46(1) Schizophrenia: ..... 1.Yes 2.No
50. If 46(1) Neuroses: ..... 1. Yes 2. No
51. If 46(1) Alcoholism: ..... 1.Yes 2.No
52. If 46(1) Drug abuse: ..... 1Yes 2.No
53. If 46(1) Mental retardation: ..... 1.Yes 2.No
54. If 46(1) Others (specify): ..... 1.Yes 2.No
55. Past history of psychiatric treatment: 1. Nil 2. Drugs  
3. E.C.T 4. Hospitalization
56. Past suicide attempt: ..... 1.Yes 2.No
57. If 56(1) Total No.:.....
58. If 56(1) Past mode of attempt O.P. poison: ..... 1.Yes 2.No
59. If 56(1) Corrosives: ..... 1.Yes 2.No
60. If 56(1) Native Poisons: ..... 1. Yes 2.No
61. If 56(1) Medicine overdose: ..... 1.Yes 2.No
62. If 56(1) Drowning: ..... 1.Yes 2.No
63. If 56(1) Hanging: ..... 1.Yes 2.No
64. If 56(1) Cutting: ..... 1.Yes 2.No
65. If 56(1) Jumping: ..... 1.Yes 2.No
66. If 56(1) Burning: ..... 1.Yes 2.No
67. If 56(1) Others: ..... 1.Yes 2.No
68. History of suicidal threats: ..... 1.Yes 2.No
69. Special causes for the attempt: ..... 1.Yes 2.No
70. If 69(1) time difference between stress & attempt: 1. 24 Hours  
2. 24 hrs - 1 week  
3. 1 week - 1 month  
4. More than 1 month
71. Suicide notes: ..... 1.Yes 2.No
72. Time of present suicide attempt: 1. 0 - 6 a.m  
2. 6.01 a.m - 12 noon

- 3. 12.01 p.m – 6.00 p.m
- 4. 6.01 p.m – 12.00 midnight
- 5. Not known

73. Place of attempt:      1.House      2. Outside (specify)
74. History of consumption of alcohol:      .....      .....      .....      1.Yes      2.No
75. Type of attempt: 1. O.P. Poison      2. Corrosives
- 3. Native poisons      4. Medicine overdose
  - 5. Drowning      6. Hanging
  - 7. Cutting      8. Jumping
  - 9. Burning      10. Others

11. More than one mode (specify)

76. Current psychiatric diagnosis: .....      .....      .....      .....      1.Yes      2.No
77. If 76(1): Dementia: .....      .....      .....      .....      1.Yes      2.No
78. If 76(1) Delirium: .....      .....      .....      .....      1.Yes      2.No
79. If 76(1) Depression: .....      .....      .....      .....      1.Yes      2.No
80. If 76(1) BPAD- Mania: .....      .....      .....      .....      1.Yes      2.No
81. If 76(1) Schizophrenia: .....      .....      .....      .....      1.Yes      2.No
82. If 76(1) Delusional disorder: .....      .....      .....      .....      1.Yes      2.No
83. If 76(1) Postpartum psychosis .....      .....      .....      1. Yes      2. No
84. If 76(1) Acute psychosis: .....      .....      .....      .....      1.Yes      2.No
85. If 76(1) Panic disorder: .....      .....      .....      .....      1.Yes      2.No
86. If 76(1) Generalized anxiety disorder: .....      .....      .....      .....      1.Yes      2.No
87. If 76(1) Obsessive compulsive disorder: .....      .....      .....      .....      1.Yes      2.No
88. If 76(1) Dissociative disorder: .....      .....      .....      .....      1.Yes      2.No
89. If 76(1) Agoraphobia: .....      .....      .....      .....      1.Yes      2.No
90. If 76(1) Social phobia: .....      .....      .....      .....      1.Yes      2.No
91. If 76(1) Specific phobia: .....      .....      .....      .....      1.Yes      2.No
92. If 76(1) Somatisation disorder: .....      .....      .....      .....      1.Yes      2.No
93. If 76(1) Paranoid personality disorder: .....      .....      .....      .....      1.Yes      2.No
94. If 76(1) Schizoid personality disorder: .....      .....      .....      .....      1.Yes      2.No

- 95. If 76(1) Dissocial personality disorder: ..... 1.Yes 2.No
- 96. If 76(1) Emotionally unstable personality disorder: 1.Yes 2.No
- 97. If 76(1) Histrionic personality disorder: ..... 1.Yes 2.No
- 98. If 76(1) Anankastic personality disorder: ..... 1.Yes 2.No
- 99. If 76(1) Avoidant personality disorder: ..... 1.Yes 2.No
- 100.If 76(1) Dependant personality disorder: ..... 1.Yes 2.No
- 101.If 76(1) Alcoholism: ..... 1.Yes 2.No
- 102.If 76(1) Drug abuse:(specify)..... 1.Yes 2.No
- 103.If 76(1) Adjustment disorder: ..... 1.Yes 2.No
- 104.If 76(1) Mental retardation: ..... 1.Yes 2.No
- 105.If 76(1) Others (specify): ..... 1.Yes 2.No

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