Shaji. S.
ent:
ni George
V

omas
ran Nair

irat

ı Kallivayalil
ıose

shnan
e

Chandran
ar

have tried to
nsitivity into
that we, our
atients, their
Keralite reap
life, both in
ease" and de-
ıtal health in

e very purpose
ek happiness
lieves in reli-
re all seeking
ı life."
ıe Dalai Lama
d God bless

CURRENT RESEARCH IN SUICIDE IN INDIA

Dr. P.N.Suresh Kumar MD, DPM, DNB, MNAMS
Director, Institute of Mental Health & Neurosciences, Kozhikode-673016

Abstract

Suicidal behaviour with consequent fatal outcome has become an important public health problem in Kerala. Every year more than 9000 people commit suicide in Kerala. Despite the enormity of the problem there are only few methodologically sound studies on suicides in Kerala. Currently available data show that suicidal phenomena, which occur in Kerala, are different from western society in a number of ways. Second and third decade seems to be the most susceptible for Kerala suicides. The predominance of males in suicide reported from western countries was not so significant in our state. In Kerala more than 65% of suicide victims were married. Though emotional disorders play an important role in suicides social factors also have an important role in Kerala suicides. Hanging and insecticide poisoning appear to be the favourite methods in our state. These observations have great relevance in planning suitable and meaningful suicide prevention strategies in Kerala. Mental Health professionals in Kerala have an important responsibility to develop and implement effective suicide prevention programmes. **Key words**- suicide, attempted suicide, Kerala

Introduction

Suicides, attempted suicides and other forms of suicidal behaviours are on the increase is most part of the world. According to a recent report of WHO on Violence and Health (World Reporting Violence and Health, WHO, 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 1 lakh population or suicidal death about every 40 seconds.

According to NCRB reports there were 1,10,587 deaths due to suicides in 1999 in India, the suicide rate being 11.2 per 100000. This accounts for one suicide every five minutes.

Increasing suicide and attempted suicide has become an important public health problem

in Kerala in recent years. According to the latest reports of SCRB (2002), Kerala ranks first in its rate of suicide (30.6 per/one lakh), which is three times higher than the national average. Kerala stands first in the rate of suicide among the other states for the 7th time.

Kerala state contributes 10.1 percent of all the suicides occurring in India, while its population form only 3.4% of nation's populace. During the decade 1991-2001, the incidence of suicide in Kerala rose at a compound rate of 4.61% as against the population growth of 2.2%. In Kerala, on an average there are 8900 plus suicides each year. Every one-hour on one suicide is reported.

Epidemiology of suicides in Kerala

Till date there are no well systematic community based studies on the prevalence of suicide in Kerala. Most of the studies reported are on attempted suicide. A study on suicide attempters versus completers in Kerala (Kumar, in press) has shown that there is not much difference in the psycho-socio-demographic characteristics of this 2 population. Hence it would be possible to generalise the findings reported from study on attempters to the completers.

Suicide statistics are compiled by the crime record bureau of the state and national level in India. In our country prevailing socio-cultural and religious attitudes, fear of punishment etc. contribute to hiding, non-reporting and under reporting of fatal as well as non-fatal suicidal behaviour. It is assumed that the official suicide rates under-estimate the true rates by 20% to 100% (Isaac, 2003).

Likewise, there is no way no knowing the number of people who attempt suicide but do not succumb to it. Research in suicidology shows that attempted suicide tends to occur 8 to 20 times more frequently than completed suicides. By applying this ratio there would be 244-610 per/lakh population attempted suicide in Kerala. In absolute terms it is approximately 78,480-1,76,200 individuals in 2002. That means every day 215-538 individuals are attempting suicide in Kerala (Kumar,2000 & 2001).

Age distribution

One of the classic observations in the epidemiology of suicide is the predominance of suicides among the elderly and the general tendency of suicide rate to increase with age. There a shift in the predominance in the number of suicides from the elderly to younger people all over the world

including India. This trend is most notable in Kerala. A comparative study of suicide attempters versus completers (Kumar, in press) showed that the mean age of attempters as well as completers was less than forty years.

A 5-year (1998-2002) analysis of suicide in Kerala based on SCRB data show that 55-60% of all suicides are committed by person between 15-45 years of age (Kumar, 2003). Only 19% of suicides are committed by people aged 50 and above.

In terms of the vulnerable age groups, uniformly all the studies from Kerala in attempted suicide (Sivasankaran, 1989; Subramanyan et al, 2001; Kumar, 2003, 2002 & 1995) have pointed towards second and third decades of life as this most vulnerable phase for this behaviour. Difficulties in securing suitable jobs, problems arising out of marriage which take place increasingly during the early phase of life and the financial burdens are some of the factors which enhance the suicide risk among young individuals. The respect the aged enjoys and the integration they have with the families and society in our culture might be protective mechanism in our elders against suicide.

Gender

All over the world suicide rates are consistently higher in males than rates in females. In fact, data from across the world show that the ratio of male female in suicide ranges from 3:1 to 10:5:1. Globally the only exception for this observation is rural China. The ratio is vastly different in Kerala also. Comparison of attempters versus completers in Kerala (Kumar, in press) shows male female ratio of 1:6:1 in suicide and 0:8:1 in attempted suicide. This diminishing gender difference is quite interesting. SCRB five-year analysis of data on suicide also shows male female ratio of 2:3:1. For the last few years many studies from India and other developing countries have reported an increasing female proportion in suicide (Kumar, 1998, Shukla et al, 19990, Philips et al, 2003).

It is generally believed that women in India are more 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 stresses the marital ones appear to be the most common in women. The hostile environment in families compounded by problem of a difficult husband and dowry-demanding

in-laws are important issues in female suicides. They may feel helpless as they fear losing their husbands sympathies and often they do not have any one 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.

Marital status

Most studies reported from the West indicate that being in a stable marital relationship is generally a protective factor against suicide. Being divorced, separated, widowed or being in single status are considered to be risk factors for suicide.

In India more than 65% of persons who committed suicide were married. Studies on attempted suicide (Sivasnkaran, 1989; Kumar, 2000 & 2002) and SCRB data on suicide also show similar findings.

In our country's socio cultural set up, factors such as dowry problems, adjustment problems between two previously unknown families, financial constraints, and stigma attached to separation and divorce could be some of the notable contributions for the self harming behaviour in the married individuals (Ponnudurai, 1996).

Shukla et al (1990) have put forward several reasons for suicide being more common in the married in India. Here marriage is social obligation and is performed by the elders irrespective of the individuals preparedness for it. Further in our culture marriage is believed to be part of the treatment for mental illness and the mentally ill are therefore more likely to get married earlier than the mentally healthy. Marital partners in our culture are virtually strangers to each other (due to arranged marriage) and so are the families. Hence several adjustment problems could come across among the married mentally. Divorce being socially frowned upon and difficult suicide provides the only escape. 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 (Slater & Roth, 1986). Conversely single state could be a consequence of the pre-existing personality problem, rendering the patient unable to find a marital partner. It is quite understandable that in suicide societies, mental illness as well as suicide would be more common in the unmarried.

Mode of suicide

Hanging and insecticide poisoning appear to be the favourite methods in Indian suicides. The

same holds true in Kerala also where hanging is the commonest method employed in both genders, followed by insecticide poisoning in males and self-immolation in females. In the case of attempt, insecticide poisoning was the commonest method in males and drug overdose in females (Kumar, in press).

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 method becomes more important when the suicidal act is impulsive in nature. Incidentally most of the studies on attempted suicide show that the predominant psychiatric problem is adjustment disorder following an adverse life experience. In our country, majority of males are being farmers, have an easy accessibility to insecticides. Similarly, for females because of limited mobility outside home as majority are housewives, have more accessibility to medicines, corrosives, kerosene etc. However in both genders stronger suicidal intention might have led them to choose more lethal like hanging or self-immolation as a sure means to commit suicide.

Subramanyan et al (2001) has attempted to correlate the intention to commit suicide with lethality of attempt in a sample of 149 suicide attempters admitted in Medical college hospital, Kozhikode in 2000. High positive correlation was observed between intent and lethality. Patients with psychiatric disorder especially depression had high suicide intent. Patients with adjustment disorder had low intent. Male genders, those with a positive family and a current psychiatric diagnosis had a positive correlation with lethality.

Causes for suicide

Maladjustment with spouse and other family members have been cited as the most important causes for suicide attempt in Kerala (Kumar, 2000). SCRB data on suicide (2002) also shows family problem as the commonest cause (23.4%) followed by physical illness (15.3), financial problems (11.6), mental illness (12.2), unemployment (1%) etc.

Western literature reports that about 90% of all those who commit suicide suffer from a psychiatric disorder. A recent systematic review conducted by Jose Bertolote of WHO (Bretolete & Fleischmann, 2002) found that "98% of those who committed suicide had a diagnosable mental disorder".

Though there is no data available on psychiatric diagnosis of suicide victims, studies in attempted suicide showed that majority had a diagnosable current psychiatric disorder. Out of this predominant being adjustment disorder with emotional disturbance closely followed by major depression and alcohol and drug abuse/dependance (Subramanyan et el, 2001; Kumar, 2000 & 2002).

Referral of suicide attempters for psychiatry consultation.

Subramanyan et al (2000) studied the pattern of referral, including the socio-demographic variables, methods, and psychiatric diagnosis of suicide attempters referred to psychiatry OPD from other departments Medical College Hospital, Kozhikode. Maximum numbers of referrals were from department of Medicine. Maximum number of attempters was from the age group 21-30 years. Findings like male female ratio 2:3, predominance of married people, over representation of insecticide poisoning was comparable with many other studies from Kerala. Majority of attempters had depression closely followed by adjustment disorder. The low rate of referral from other departments necessitates the need for training in mental health and close liaison with other departments for effective suicide prevention.

Studies on psychological impact on the family members of after suicide attempt.

Satheesh et al (2004) evaluated 83 patients and their relatives visiting a rural hospital to assess the psychological impact on the family members after a member has attempted suicide. Surprise (57%), distress (96%), fear (90%), and Shame (86%) wee the main reactions of the relatives reported.

Relationship between suicidal risk, psychiatric symptoms and quality of life in substance abusers.

Data on single and multiple substance addiction risk behaviours and suicidal behaviours were evaluated on a sample of 65 patients from a population 376 substance abusers residing at the outskirts of Thiruvananthapuram city of Kerala (Mani et al, 2001). Even though prevalence of hard drugs was highest of all addictions risk behaviours, suicidal behaviour and addiction were also common among them. Results suggest that suicidal behaviour and addiction behaviours both should be regarded as part of a complex interaction of multiple behavioural problems and subsequent low

quality of life.

Protective factors against suicide

Vadekekara et al (2001) evaluated the specific factors as well as protective factors among suicide attempters attending a tertiary psychiatric clinic at Thiruvananthapuram. 62 subjects were randomly selected from a population of 472 suicide related patients attended the clinic for a period of 2 years. It was found that suicide attempters frequently had dysfunctional family backgrounds and relationship problems. Thoughts of definite suicidal plans and above moderate levels of depression were common.

Community based suicide prevention programmes

In view of the increasing number of family suicides in Kerala Praveenlal et al (2001) launched a suicide prevention programme at Thrissur named NANMA under the aegis of Department of Psychiatry, Medial, College, Thrissur. This centre has developed an action plan to increase the awareness among the general public, case identification and referral and the preparedness of health care services and voluntary agencies in dealing individuals with suicide risk.

Similar centres with same motive are already functioning at Kozhikode (Thanal), Mythri (Cochin and Thrissur), Prathyasa (Irinjalakuda) and Pratheeksha (North Parur) under the broad umbrella of Samaritans India.

Thrani Centre for Crisis Control at Thiruvananthapuram a wing of FIRM (Foundation for Integrated research in Mental Health), a non-profit, voluntary, non government organisation is involved in suicide prevention by establishing strong network of mental health professionals, legal and policy departments, government organisations and non-governmental organisations, hospitals and health care centres. Thrani has developed specific models of intervention that suits the socio-cultural context of Kerala-suicide prevention intervention model, referring system model and net working model (Arunkumar et al, 2001).

Family suicides

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. In the year 1999, about 60 families committed suicide. Kerala research programme on local development sponsored a study of family suicides in Kerala

(Praveenlal, 2001). Within a period of 12 months, 31 incidents of family suicide happened in 3 districts of Kerala. 97 persons involved in the act in which 82 died. 73.2% were below the age of 39 years. 69.1% involved in the act were victims of poisoning. Out of 31 family suicides, in 5 cases one of the involved persons had psychiatric illness. In 16 incidents, warning signals were given prior to the attempt. Decision-making was mother (10), father (4), and both (17). Only in 2 instances there was a decline in socio-economic status, but 13 families were leading a life style higher than could be afforded. Financial crisis (35.5 %), family problems (25.8%) and psychiatric illnesses (16.1%) were the major identified causes.

Biological studies in suicide

An inverse relationship between the serum lipid level depression and suicidal behaviour is demonstrated by many investigators (Maes et al, 1994). The comparison of serum cholesterol, HDL, LDL, TGL and VLDL between suicide attempters versus normal age, sex and BMI matched controls showed no difference in a study conducted by Kumar et al (2003). Correlation analysis of Risk Rescue Rating Scale, Hamilton Depression Rating Scale and serum lipid profile did not show any significant relationship.

Currently available data show that suicidal phenomena, which occur in Kerala, are different from the west in a variety of ways. These observations are of great relevance in planning suitable and meaningful suicide prevention strategies in the state. It is generally agreed that preventive action should be collective, coordinated inter-disciplinary multisectorial and based on scientific evidence.

Suicide prevention strategies

The steadily increasing rate of suicides and attempted suicides all over the world has contributed to the development of different strategies for suicide prevention. Few countries in the world are currently implementing some of these suicide prevention strategies (Taylor et al, 1997). It is important for our country to develop locally and culturally relevant and feasible strategies for suicide prevention that can be implemented along with other national health, education, and welfare programmes.

Some of the principles on which suicide prevention strategies are developed are as follows:

1. Detection of treatment of depression and other mental disorders including alcohol and

drug abuse.

2. Enhanced access to mental health services
3. Intervention aimed at psychological reaction to physical illness.
4. Assessment and intervention for those who attempt suicide with close laison with other specialities
5. Intervention after a suicide – postvention
6. Interventions for high risk and special groups
7. Training – health / education / welfare personal
8. Restrict availability of means such as insecticides and medications
9. Training for acute care management of poisoning and establishment of such facility in every community health centre

School based interventions

a) Life skills education (improve self esteem and problem solving skills)
b) School based counselling
c) Training for teachers
d) Close liaison with mental health services
e) Include mental health in curriculum

Crisis intervention

a) Telephone help line
b) Samaritans, Befrienders
c) Suicide prevention centres

10. Public education
11. Collaboration with media for responsible reporting
12. Sensitisation of policy makers regarding sustainable development, employment.

Conclusion

Suicidal behaviour with consequent fatal outcome has become a major public health problem in Kerala. While suicide is a complex phenomenon, it is well known that emotional disorders and social factor play an important role in its causative. Mental health professionals in our state have an important responsibility to develop and implement effective suicide prevention strategies.

References

Arunkumar, T.S., Vadekekara, E. & Mani, V.S. (2001) Role of non Government organisations in suicide prevention: A Kerala experience. Presented at the XXI Congress of the International association for Suicide Prevention held at Chennai from 22nd to 26th September 2001.

Issac, M (2003). Public Health aspect of Suicide in India. Indian Journal of Psychological Medicine, 26 (1), 6-9.

Kumar.P.N.S., Kuruvilla,.K., Dutta,.S., John, G. & Jayaseelan. (1995) Psychosocial aspects of at-

tempted suicide. Indian Journal of Psychological Medicine, Vol.18, No.2, 32-42.

Kumar, P.N.S., Kuruvilla, K., Dutta, S., John, G. & Nair, M. (1997) Hundred cases of suicide attempters admitted in a medical intensive care unit: study of psychosocial factors in relation to age & sex. Annals of National academy of Medical Sciences (India), 33(4), 223-230.

Kumar, P.N.S. (1998). Age and gender related analysis of psychosocial factors in attempted suicide – study from medical intensive care unit. Indian Journal of Psychiatry, 40(4), 338-345.

Kumar, P.N.S (2000). A descriptive analysis of methods adopted, suicide intent and causes of attempting suicide. Indian Journal of Psychological Medicine, 23(1), 47-55.

Kumar, P.N.S. (2000) Suicide in Kerala – from a Mental Health Perspective. Indian Medical Association News Bulletin (Kozhikode Branch), Vol 6, 3-4.

Kumar, P.N.S. (2001) Suicide in Perspective-With Special Reference to Kerala. News Letter of Indian Medical Association (Kozhikode Branch), Vol.5, No.6, 3-5.

Kumar, P.N.S., Abraham, A. & Kunhikoyamu, A.M. (2002). Age and sex related analysis of psychosocio-demographic characteristics of suicide attempters. Indian Journal of Psychological Medicine, 25(1), 20-24.

Kumar, P.N.S. (2003). Suicide in Kerala – a critical analysis. Kerala Journal of Psychiatry, Vol.18, No.2, 14-21.

Kumar, P.N.S. (2003) Safeguarding medical students against suicide. News Letter of Indian Medical Association (Kozhikode Branch), Vol.7, No.2, 2-3.

Kumar, P.N.S., Abraham, A., Thomas, B. & Kunhikoyamu, A. (2003). A comparative study of serum lipid profile of suicide attempters versus normal age, sex and BMI matched controls. Indian Journal of Psychological Medicine 26(1), 33-37.

Kumar, P.N.S. (2004) Suicide among doctors. News Letter of Indian Medical Association (Kozhikode Branch), Vol.7, No.3, 3-4.

Kumar, P.N.S. (In press). Suicide attempters versus completers – study from Kerala. Indian Journal of Psychiatry.

Maes, M., Delanghe, J. & Metzer, H.G. (1994) Lower degree of esterification of serum cholesterol in depression. Relevance of depression and suicide research. Acta Psychiatrica Scandinavica, 90:252-258.

Mani, V.S., Vadekara, E., & Anilkumar, T.S. ((2001) Relationship between suicidal risk, psychiatric symptoms and quality of life in substance abusers. Presented at the XXI Congress of the International association for Suicide Prevention held at Chennai from 22nd to 26th September 2001.

National Crime Record Bureau (1999). Accidental deaths and suicides in India. New Delhi, Ministry of Home Affairs, Govt. of India.

Phillips, M.R., Xianyleen, L.I., and Zhang, Y. (2003). Suicide rate in China, 1995-1999. In Vijayamar, H. Suicide prevention meeting the challenge together. Orient Longman.

Ponnudurai, R. (1996). Suicide in India. Indian Journal of Psychological Medicine, 19(1), 19-25.

Praveenlal, K., Vinod, M. & Ramavarman Sarma, A.K. (2001) District based suicide prevention programme for Thrissur. Presented at the XXI Congress of the International association for Suicide Prevention held at Chennai from 22nd to 26th September 2001.

Praveenlal,K ,Kumar, M., Vinod, M. & Nayar, N. (2001) A study of family suicides in Kerala- a preliminary report. Presented at the XXI Congress of the International association for Suicide Prevention held at Chennai from 22nd to 26th September 2001.

Satheesh, V., Beevi, K.S., Kallivayalil, R.A., Punnoose, V.P., Saji, P.C., Daya, P.C. & Antony, S. (2004) Study of suicide attempt cases and its psychological impact on their family members coming to rural hospital. Presented at the Annual Conference of Indian Psychiatric Society held at Mysore from 8th to 11th January 2004.

Shukla, G.D., Verma, B.G., Mishra, D.N. (1990). Suicide in Jhansi city. Indian Journal of Psychiatry, 32, 44-51.

Sivasankaran, P. (1989) Attempted suicide- a study of sociological, psychological and psychiatric aspects. Thesis submitted University of Calicut in partial fulfilment of the rules and regu-

lations for the MD Degree examinations in Psychiatry 1989.

Slate, E. & Roth, M. (1986). Clinical Psychiatry, Third Edition (Indian Edition), New Delhi, Jaypee Brothers.

State Crime Record Bureau (2002). Accidental deaths and suicides in Kerala, Thiruvananthapuram, Govt. of Kerala.

Subramanyan, N., Kumar, P.N.S. & Kunhikoyamu, A.M.. (2000) Study of the patterns of referral of suicide attempters to psychiatric department in a general hospital set up. Presented at the Annual Conference of Indian Psychiatric Society held at Cochi from 20th to 23rd January 2000.

Subramanyan, N., Kumar, P.N.S. & Kunhikoyamu, A.M. (2001) Psycho-socio- demographic correlates of intent and lethality in attempted suicide. Thesis submitted University of Calicut in partial fulfilment of the rules and regulations for the MD Degree examinations in Psychiatry 2001.

Taylor, S., Kingdom, D. & Jenkins, R. (1997). How are nations trying to implement suicide prevention strategies? Acta Psychiatrica Scandinavica, 95, 457-463.

Vadekekara, E., Mani, V.S. & Arunkumar, T.S. (2001') Suicide attempters in a psychiatric clinic: exploring risk and protective factors. Presented at the XXI Congress of the International association for Suicide Prevention held at Chennai from 22nd to 26th September 2001.

World Health Organisation (2002). World Report on Violence and Health, Geneva, WHO.