Efficacy of Suicide Prevention Workshops – an Evaluation

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Suicide is defined as the act of taking one's own life. An increased rate of suicides in the society is known to produce an impact on the families of the society psychologically, financially and socially. Suicide is a self-directed act of fatal outcome. A related phenomenon is deliberate self-harm (DSH) or attempted suicide and it is a self-inflicted injury with varying degree of lethal intent. It has been estimated that 0.4 to 0.9 % of all deaths are due to suicide and 0.3 to 1%of all casualty admissions are due to attempted suicide. Suicide rate increases in most countries all over the world. It has been found that the common purpose of suicide attempts is to try to find a solution to a problem; the common goal is the cessation of consciousness. (World Reporting on Violence & Health, WHO, 2002). Mental disorders (particularly depression and substance abuse) are associated with more than 90% of all cases of suicide; however, suicide results from many complex sociocultural factors and is more likely to occur particularly during periods of socioeconomic, family and individual crisis situations (e.g. loss of a loved one, employment, honour).

As per the available reports of suicides, Kerala has the highest suicidal rate (28.2/Lakh.) among other states (SCRB, 2004). The national rate is only 10.6/Lakh 9 (NCRB, 2003) and the global rate is 14.5/Lakh. Kerala is first in the suicide rate consecutively for the 7th time. DSH is 8-20 times more than completed suicide and approximately nearly 14 persons attempt suicide per hour in our state. Suicide rate in young people is also increasing in Kerala. Family Suicide is also increasing in Kerala (SCRB, 2004) and is maximum in Kerala compared to other states. This has increased from 38 families to 53 families from 1998 to 2000. All over the years suicide rate is maximum among the unemployed. Though Kerala constitutes 3.1 % of the national population, 16 % of the unemployment is in our state. During the period from 1991-2002 population growth reported in Kerala is 2.2 % but the increase in suicide rate reported is 4.6%. All these data show that suicide is an important public health problem in Kerala (Kumar, 2005).

All these are occurring in spite of the fact that Kerala is having the highest rate of literacy and an accepted model for health care delivery system. In this context it is also important to note that Kerala is the largest market of psychiatric drugs in South India and our state is having the highest rate of unemployment and the highest per capita

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alcoholic consumption. Unfortunately, Kerala contributes to 10.1% of all the suicides occurring in India though our population constitutes only 3.4% of the nation's population (Kumar, 2006). This shows the importance of preventing suicides, which calls upon a combined effort from the medical fraternity, the Government and the society. In fact, suicide prevention is the urgent need in developing countries like India (Vijayakumar, 2004).

According to WHO, suicide is a preventable public health problem. Suicide prevention implies the identification of susceptible individuals with risk factors as early as possible, and supporting them. The first step in preventing suicide is to identify and understand the risk factors. A risk factor is anything that increases the likelihood that persons will harm themselves. History of mental disorders, particularly depression, previous suicide attempts, history of substance abuse, family history of suicide, impulsive-aggressive traits, lack of social support and feelings of hopelessness are a few of the risk factors for suicide. Detecting such individuals and encouraging them to participate in suicide prevention programmes is the first step for reducing the incidence of suicide in the society (Rao, 1991). Suicide prevention incorporates different methods. Government has implemented national programs to curtail the incidence of suicide (Manorantjtham et al, 2005). Effectiveness of these programs in reducing the suicide rates will be evident only after many years. In the mean time, many advocate the need for educating physicians and general practitioners in suicide prevention (Trivedi et al, 2005).

Suicide prevention strategies have been devised in many developed countries. A suicide prevention strategy plan was put forward by the Surgeon General in the United States in 1999, which incorporates three main components, viz awareness, intervention and methodology (acronymed AIM) (D'Orio et al, 2004). A multifaceted suicide prevention approach with community participation was found to be very effective in reducing the youth suicides in the United States in just 4 years after its launch in the year 2000 (Brown et al, 2005). Oyama et al (2005) reported that community-based suicide prevention through group activity is successful in reducing the high suicide rate in elderly females in Japan. Due to the cultural and socioeconomic variations, these suicide prevention programs may neither be feasible nor be effective in the Indian situations.

A thorough review of literature did not show any study that showed the effectiveness of suicide prevention programs in the Indian perspective. Suicide prevention is currently a primary concern for the psychiatrists, clinical psychologists and the health care system in Kerala. Suicide prevention programmes have been started by the Government of Kerala (KRISIS- Kerala Integrated Scheme for Intervention in Suicide) and other non-governmental organizations, but the effectiveness of these programmes has not been evaluated in the long run. In this respect, the assessment of the effectiveness of a suicide prevention programme would be of much helpful in evaluating the effectiveness and for further improvement of such activities.

Many challenges lie before the mental health professionals in implementing preventive strategies, like the myriad socio-cultural differences, lack of social awareness, difficulty in approaching the needful in the rural places etc. Taking into account these factors, a study evaluating the effectiveness of suicide prevention program may be helpful in decision-making regarding the prospects of the program and its implementation, which could have far-reaching effects on the objectives of these programs. Considering the paucity of studies from India and other factors, we planned this study.

Material and Methods

This study was conducted at the Department of Psychiatry, Institute of Mental Health & Neurosciences, Calicut as an offshoot of a series of suicide prevention workshops conducted in Wayanad District in the year 2004. Medical and paramedical staff of Wayanad Health Services was called for one full day training programme on various aspects of suicidal phenomenon including global, national and Kerala scenario of suicide, risk factors, theories of suicide, detection, management

of suicidal tendency and prevention. 40 medical and 50 paramedical staff attended the workshop. Classes were taken together for both groups. Classes were taken by experts in the field using audio visual aids and discussion of case vignettes were done. Before the commencement of the training all participants were asked to fill up a 20-item questionnaire to assess their pre-training knowledge in the subject. After the training same subjects were given the same set of questions to assess their change in knowledge in the subject. The questions were divided into five sections 1.Medical and Psychiatric diseases leading to suicide 2.Risk factors for suicide 3.Etiology of suicide 4.General information regarding suicide 5.Management of suicidal tendency The total score and individual on score on each item were compared between medical and paramedical staff using appropriate statistical methods.

RESULTS

Table-1 shows the comparison of pre and post training questionnaire total score, score on items such as medical and psychiatric disorders leading to suicide, risk factors for suicide, etiology of suicide, general information regarding suicide, and management of suicidal tendency in medical and paramedical staff.

Comparison of total score

The mean scores of pre-training and post-training questionnaires of the total sample were analyzed using paired samples t-test. There was a significant difference with a gain in the post-training questionnaire score. This shows that on the whole the programme was effective. Total scores pre-training and post- training questionnaires of medical and paramedical groups were separately analyzed using paired samples t-test. There was a significant gain in the medical staff while there was no significant difference in the paramedical group.

Comparison of score on medical and psychiatric diseases leading to suicide

The scores of the item medical and psychiatric disorders leading to suicide were analyzed separately for medical and paramedical staff. There was no significant difference in the scores between the pre- and post among both medical and paramedical staff.

Comparison of score on risk factors for suicide

The scores of the item risk factors leading to suicide were analyzed separately for medical and paramedical staff. There was a significant gain in the post-programme questionnaires scores among the medical staff.

Comparison of score on etiology of suicide

The scores of the item etiology of suicide were analyzed separately for medical and paramedical staff. There was a significant gain in the post-programme questionnaire scores among medical staff.

Comparison of score on general information regarding suicide

The scores of the item general information factor regarding suicide were analyzed separately for medical and paramedical staff using paired samples test. There was no significant difference in the scores between the pre- and post-training questionnaires among both medical and paramedical staff.

Comparison of score on management of suicidal tendency

The scores of the item management of suicidal tendency were analyzed separately for medical and paramedical staff using paired samples test. There was no significant difference in the scores between the pre- and post-training questionnaires among both medical and paramedical staff.

To assess the effectiveness of the program we checked whether there was any significant difference between the medical and paramedical staff in the pre training scores by doing an independent samples t test. The results showed that the scores were significantly higher in the medical staff in the total, etiology, general and management items (Table-2).

In order to eliminate the covariate effect of the pre-training scores from the analysis ANCOVA analysis was conducted by taking post- training scores as the dependent variable, profession

Table-1
Comparison of pre-test versus post-test score

Variable	Mean Difference	Std. Deviation	t	Significance
Total Score				
Medical staff	-1.4762	2.58107	-2.621	.016
Para medical staff	-.9615	3.34043	-1.468	0.155
Medical & Psychiatric diseases				
Medical Staff	-.0952	.76842	-.568	.576
Para medical staff	-.1538	1.15559	-.679	.503
Risk factors for suicide				
Medical Staff-	-.8095	1.47034	-2.523	.020
Para medical staff-	-.4231	1.50128	-1.437	.163
Etiology of suicide				
Medical staff	-.3333	.48305	-3.162	.005
Para medical staff-	-.3077	1.01071	-1.552	.133
Gen. information reg. suicide				
Medical Staff	-.0952	.83095	-.525	.605
Para medical staff-	-.3462	1.05612	-1.671	.107
Mgmt. of suicidal tendency				
Medical Staff	-.3333	1.23828	-1.234	.232
Para medical staff-	-.0769	1.62291	.242	.811

Table-2
Comparison of pre training score of medical versus paramedical staff

	Mean Difference	t	Significance
Total score	2.7125	3.125	.003
Medical & Psychiatric	.1795	.775	.442
Risk factors	-.1612	-.448	.656
Etiology	.6007	2.742	.009
General	1.1026	3.591	.001
Management	.7436	2.186	.034

Table-3
Comparison of post-training scores of medical versus paramedical staff by eliminating the covariate effect of pre-training score

Fixed factor	Covariate (Pre-training score)	Dependent Variable	Mean Square	Significance
Profession (medical & paramedical)	Total score	Post-training score	24.915	.083
	Medical& psychiatric		9.361	.692
	Risk factors		.931	.455
	General information		1.235	.156
	Etiology		2.067	.026
	Management		8.970	.020

Table-4
Comparison of pre and post training adjusted mean score of etiology & management in medical and paramedical staff

	Etiology			Management		
	Observed mean of pre-training scores	Observed mean of post-training scores	Adjusted mean	Observed mean of pre-training scores	Observed mean of post-training scores	Adjusted mean
Medical	1.5238	1.8571	2.037*	2.6667	3	3.477*
Paramedical	0.9231	1.2308	1.396	1.9231	1.8462	1.736

(medical and paramedical) as fixed factor and pre-training scores as covariate. There was no significant difference in the post- and pre- training scores between medical and paramedical staff with respect to the total score, medical and psychiatric diseases, risk factors and the general information. But a significant difference was noted in the post- and pre- training scores between medical and paramedical staff in the etiology and management items (Table-3).

By calculating the adjusted means of the scores obtained by the medical and paramedical staff, it is understood that medical staff have a higher adjusted mean score over the paramedical staff, in the etiology and management items. This shows that even when the different pre-existing level of awareness about suicide is taken into account, the medical staff has achieved more regarding the etiology and management, from this awareness training (Table-4).

DISCUSSION

Our workshop a community based suicide prevention and awareness programmes aimed at decreasing stigma, enhancing social networks, facilitating help seeking through system level policy changes, and enhancing the role of mental health in suicide prevention was found to produce a significant difference in the knowledge and attitude towards suicide both in medical and paramedical professionals. Moreover the medical staff has achieved greater knowledge in some of the

important areas like etiology and risk factors for suicidal tendency. This was found to be persisting even after eliminating the pre-training knowledge from the analysis.

The lack of gain in knowledge with regard to medical and psychiatric disorders leading to suicide even after attending the workshop especially among the medical staff necessities more focused workshops for medical officers in order to detect major psychiatric disorders in the community which can lead to suicide to a major extent. The same finding was true for management of suicidal tendency as well. Since medical officers are supposed to manage suicidal behavior at the primary care level they need more extensive training to manage this preventable health hazard. Probably they may need further classes than a single day workshop to acquire more expertise. Another aspect is that awareness about suicidal behavior, prevention and management should start from the grass root level probably at the undergraduate medical curriculum itself.

Though there was an over all gain of knowledge with regard to suicidal behavior among paramedical staff, lack of gain in specific areas such as medical and psychiatric disorders leading to suicide, risk factors, etiology, general information and management of suicidal tendency is worth investigating. Some of the reasons could be that our workshop was not specific to this population and media of communication was generally English. The duration of workshop also was not adequate to cover these extensive areas. Considering these pit falls it seems that future workshops for paramedical staff should be more focused, elaborate, concise and simple with medium of communication in vernacular language.

Specific actions for suicide prevention includes developing community action to offer support to suicidal individuals, continuing education for health care personnel to identify and treat depression related mental illnesses, life skill education for students - incorporating approaches to offer and seek crisis support, training for police, social workers, media-persons, teachers and officials holding public offices to deal with people in distress. Many developing countries are struggling with poverty and high population growth. Communicable diseases take precedence over others and mental health has very low priority. Without adequate data base, prevention programmes cannot be developed. One way forward is the establishment of regional centres for suicide monitoring and surveillance, given the commonalities in culture, social and economic conditions in different regions. Suicide prevention, in developing countries poses a unique and formidable challenge and better information would go a long way to improving the diagnosis of suicidal deaths and ultimately their prevention. Broad social issues can be influenced by firm advocacy for change in appropriate areas in different countries, such as by restricting access to specific means of suicide and by enhancing health and social services in general.

Generating the political will, obtaining the necessary resources and identifying and training the personnel to develop, implement and monitor effective suicide awareness programs in developing countries will require sustained effort over several years by a core of committed local advocates, as well as substantial intellectual, moral and financial support from colleagues and organizations in developed countries. This is a major challenge in developing countries that have no regular monitoring of attempted suicides and generally speaking, a poor monitoring of completed suicides. Monitoring both attempted and completed suicides is essential to the assessment of awareness programs. Each country must first conduct its own research on the risk factors and protective factors for suicidal behavior in its different communities (e.g., urban and rural communities, religious minorities, different age groups, etc.) and then develop and test the awareness strategies that are most feasible, affordable and likely to produce substantial decreases in the rates of suicidal behavior given the complex interactions of biological, psychological and social risk factors for suicide. Local research projects on suicide can be conducted in such an environment, but prevention efforts require the cooperation of many community and government agencies. Thus,

before implementing any awareness program, high-quality, on-going monitoring systems for risk factors must be developed and tested in the target locations.

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