Prevalence of Suicidal Ideation in Sri Lanka

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Abstract. *Background:* Suicidal ideation can often lead to suicide attempts and completed suicide. Studies have shown that Sri Lanka has one of the highest rates of suicide in the world but so far no studies have looked at prevalence of suicidal ideation in a general population in Sri Lanka. *Aims:* We wanted to determine the prevalence of suicidal ideation by randomly selecting six Divisional Secretariats (Dss) out of 17 in one district. This district is known to have higher than national average rates of suicide. *Methods:* 808 participants were interviewed using Sinhala versions of GHQ-30 and Beck's Scale for Suicidal Ideation. Of these, 387 (48%) were males, and 421 (52%) were female. *Results:* On Beck's Scale for Suicidal Ideation, 29 individuals (4%) had active suicidal ideation and 23 (3%) had passive suicidal ideation. The active suicidal ideators were young, physically ill and had higher levels of helplessness and hopelessness. *Conclusions:* The prevalence of suicidal ideation in Sri Lanka is lower than reported from the West and yet suicide rates are higher. Further work must explore cultural and religious factors.

Keywords: suicide, suicidal ideation, Sinhalese, epidemiology

Introduction

Suicidal ideation is defined as any self-reported thoughts of engaging in suicide-related behavior. Thoughts which are less explicit in wanting to take one's own life but wanting to be dead or not wanting to be awake are understood as passive suicidal ideation (Pearson, Stanley, King, & Fisher, 2001). These ideations can also be seen as varying from fleeting thoughts that life is not worth living, to well-thought-out plans for killing oneself, to an intensive almost delusional preoccupation with self-destruction (Goldney, Winefield, Tiggemann, Winefield, & Smith, 1989). The relationship between suicidal ideation, suicidal attempts, and suicidal acts is not always linear. However, it is important to make sense of this so that appropriate public health interventions can be put in place. It also means that it is helpful to gather an idea about the prevalence of suicidal ideation in the community.

Suicidal acts are very clearly heterogeneous, and the dividing line between serious thoughts of suicide and suicide attempts is often difficult to draw (Wasserman, 2001). The life time (9–13%) and past year (3–5%) prevalence of suicidal thoughts and past year prevalence of attempted suicide (0.2–0.6%) have been reported (Ramberg & Wasserman, 2000) in the West. Pokorny (1974) defined the concept of suicidal ideation behavior to cover suicidal ideation along with attempted and completed suicide. Paykel, Myers, Lindenthal, and Tanner (1974) introduced the notions of weariness and death wish, which could be seen as passive suicidal ideation.

Sri Lanka has one of the highest rates of suicide in the world (Weerackody, 1989; WHO, 1999). In order to understand the prevalence of suicidal ideation in the context of high rates of suicide, we set out to study the prevalence of suicidal ideation, attempted suicide, and suicide in a defined geographical area in Sri Lanka. In this paper findings of suicidal ideation are being presented.

Method

Setting

Ratnapura district adjoining the Eastern border of Colombo was selected. It has a land area of 3236 km^2 with 17 Divisional secretariats (Dss) and a total population of 1.08 million, with 65.8% over the age of 18, 50.4% males, and 86.6% of Sinhala ethnicity. Buddhism is the the most com-

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mon religion, practiced by 86.4% (Department of Census and Statistics, 2003). This district also has a higher rate of suicide compared with other districts in the country. Six Dss out of a total of 17 were selected randomly using random numbers generation.

Sample

Sinhala speakers between the ages of 15 and 64 with at least 6 months residency in the area were included for selection. Sample size calculation revealed that a minimum sample size of 845 participants would be required.

The multistage, stratified cluster sampling method of allocation of clusters on probability proportionate to the size of the population was used. The cluster size was limited to 25 respondents per cluster. If there were two or more eligible persons in the household, one was randomly selected for the study. Thus, a total of 34 clusters were required. Using urban-rural differences two clusters in the urban sector and 32 in the rural sector were required.

Depending upon the spread of houses in each cluster, two or three random points (index houses) were selected as starting points. All those eligible in each house were identified and numbered and, using random numbers, participants were invited to take part in the study.

Following the identification of each index house a random walk method for selecting subsequent houses was followed. The participants were then given the information sheet about the study and informed consent was obtained. If the identified participant was not available two further attempts were made to contact them before abandoning any contact.

Once the participants had consented the researcher either interviewed them on the spot or arranged a mutually convenient time for interview.

The questions were sequenced to obtain information about basic sociodemographic factors, economic characteristics, physical health, relationship with family, alcohol use, exposure to suicidal behavior of others, personal experiences, mental illness, and epilepsy. A mixture of qualitative and quantitative measures was used.

A small pilot study in a different geographical area did not lead to any changes in the questionnaires. Ethical approval for the study had been obtained from the Faculty of Medical Sciences, Sri Jayewardenepura University.

Assessments

In addition to basic sociodemographic details, the GHQ-30 (Goldberg, 1972) was used as a screening tool. A validated Sinhala version of GHQ-30 exists (De Silva & Samarasinghe, 1990). This is a well-respected and widely used screening instrument in primary care settings. A score of 6 was used as a cutoff point for diagnosing a possible case. Questions from GHQ-30 can also be used to identify suicidal ideation.

Beck's Scale for Suicidal Ideation (BSSI; Beck & Steer, 1991) measures the severity of suicidal thoughts and is an interview rated scale with 19 items; each item can be scored from 0 to 2. Thus, the score ranges from 0 to 38 with increasing scores indicating higher levels of suicidal ideation. Additional clarifying statements in Sinhala were incorporated into the questionnaire to ensure thorough conceptual understanding but no changes were made in scoring of the questionnaire. Following Sartorius and Kuyken's (1994) advice, criterion, conceptual, technical, and semantic equivalence was obtained by translating and backtranslating this instrument into Sinhala and by panel discussions with bilingual mental health professionals. Piloting was conducted to validate the Sinhala versions of the questionnaire in clinical and nonclinical settings.

The questionnaires were given for self-report. Researchers read out the questions and marked the responses for those who could not read or were visually impaired.

The six researchers who collected the data were trained in the use of the measures, although no formal tests of interrater reliability were conducted.

Analysis

SPSS-10 was used to analyze the data and data entry was cross-checked to ensure that no data were missing.

Results

Participants

Data were to be collected on 34 clusters with 25 participants each (n = 850), but 24 could not be contacted after repeated visits, one withdrew consent during the interview, and 17 did not answer fully, thus leaving 808 participants for inclusion in the final analysis. Of these, 387 (48%) were males and 421 (52%) were females, which broadly reflects the spread of the local population. Among males, 111 (29%) were under 24 years of age, 176 (45%) between 25 and 44 years, and 100 (26%) over 45 years of age. Among females, these figures were 119 (28%), 192 (46%), and 110 (26%), respectively. The age distribution of the sample was roughly similar to the age distribution of the local population. 799 (98.9%) were Buddhists and the remaining Christians, again reflecting the local population.

Of the 387 males, 139 (36%) were unmarried, 242 (62.5%) were married, and the remainder were either separated or widowed. Among females, 103 (24.5%) were single and 290 (68.9%) were married. The rest were either separated, divorced, or widowed. Among males 13 (3.4%) and among females 12 (2.9%) had had no formal education. 24 (6.2%) males and 20 (4.8%) females were educated up

Table 1. Distribution of common mental disorders and suicidal ideation

Type	GHQ Pos %	GHQ Neg %	Total	Odds Ratio (95% CI)
No suicidal ideation	42 (5.6)	714 (94.4)	756	
Passive suicidal ideation	10 (43.5)	13 (56.5)	23	13.08 (4.97–34.19)
Active suicidal ideation	20 (69)	9 (31)	29	37.78 (15.18–96.2)

GHQ Pos: Score ≥ 7.

Table 2. GHQ-30 categories and suicidal ideation

GHQ category	Active suicidal ideation		Total %
	Present (%)	Absent (%)	
Positive	20 (69)	52 (6.7)	72 (8.9)
Negative	9 (31)	727 (93.3)	736 (91.1)
Total	29 (100)	779 (100)	808

to primary school level, and a majority of males (243, 63%) and of females (281, 67%) had finished school up to the equivalent of O-levels. 91 (23.5%) males and 96 (22.8%) females were educated up to A-levels, and a small proportion of males (16, 4%) and of females (12, 2.9%) had completed higher education.

270 (69.8%) males and 65 (15%) females were in full-time employment. 58 (15%) males were unemployed and 301 (71.5%) females saw themselves as unemployed (272 or 65% were housewives).

On GHQ-30, not surprisingly a vast majority (756, 94%) showed no suicidal ideation. Only 72 (9%) had high a GHQ score of over 7. 29 (4%) individuals showed active suicidal ideation (mean GHQ score 12.4, *SD* 9.5, and CI 8.8–16.0). Not surprisingly, GHQ-positive participants were more likely to have suicidal ideation (see Table 1).

When GHQ categories were compared with active suicidal ideation, a high probability of common mental disorders (CMD) was noted (Table 2).

Of the 808 participants, 29 (4%) had active suicidal ideation (mean score 7.8, *SD* 9.1, CI 4.4–11.3), and 23 (3%) had passive suicidal ideation (mean score 1.8, *SD* 3.5, CI 0.3–3.3).

Table 4. Categories of suicidal ideation in the sample

Type	No. (%)
Active persistent	18 (2.2)
Active transient/recurrent	8 (1.0)
Active transient	3 (0.4)
Passive persistent	11 (1.4)
Passive transient/recurrent	1 (0.1)
Passive transient	11 (1.4)
No suicidal ideation	756 (93.6)
Total	808 (100)

Levels of life weariness as indicated by the BSSI suggest that helplessness and hopelessness were seen in similar numbers to the prevalence of passive suicidal ideation (see Table 3).

There were no gender differences in reporting life weariness and suicidal behaviors. Helplessness was noted in 48% of passive suicidal ideators (OR 19.1, CI 9.5–38.5), whereas 84% reported hopelessness (OR 204.2, CI 78.8 –55%). Among the active suicidal ideators, 62% acknowledged helplessness (OR 29.5, CI 12.2–71.9) and 83% reported hopelessness (OR 96.3, CI 32.4–306.1).

If suicidal ideation, either active or passive, was reported to have been present for several hours, it was defined as persistent suicidal ideation rather than transient ideation, which was not long lasting. Transient but recurrent suicidal ideations were identified as separate category (see Table 4).

Nearly half (14, 48%) of the active suicidal ideators had had these thoughts within the previous 2 weeks, whereas a quarter (7, 24.1%) had had them more than a year previously.

Characteristics of Active Ideators

Active suicidal ideators were largely in the age group 25–44 (17 participants 7M, 10F), whereas 5 (2M, 3F) were below 15 and the remainder over 45. 17 out of 29 (58.6%) were married, 8 (27.6%) single, and the rest separated or widowed. There were no statistically significant differences between active suicidal ideators and the rest on age or education, but they were more likely (62% vs. 44%) to be

Table 3. Life weariness and suicidal behavior

Symptom	No. male (%) *n* = 387	No. female (%) *n* = 421	No. total (%) *n* = 808	Prevalence rate (%)
Helplessness	24 (6.2)	35 (8.3)	59 (7.3)	7.3
Hopelessness	25 (6.5)	36 (8.6)	61 (7.6)	7.6
Passive suicidal ideation	21 (5.4)	29 (6.9)	50 (6.2)	6.2
Active suicidal ideation	13 (3.4)	16 (3.8)	29 (3.6)	3.6
Suicidal threats	5 (1.3)	6 (1.4)	11 (1.4)	1.4
Suicidal plans	5 (1.3)	5 (1.2)	10 (1.2)	1.2
Suicidal attempts	7 (1.8)	5 (1.2)	12 (1.5)	1.5

unemployed. They were 3 times more likely to have been unable to buy food during the previous month (41% vs. 12%) as well other consumables (45% vs. 12%). They were marginally less likely (66% vs. 87%) to go to religious assembly regularly.

Six (21%) acknowledged suffering from long-standing physical illness, compared with 12% in the rest of the group. Three participants (10.3%) reported mental illness, compared with 12 (1.5%) among the rest of the group. Those with active suicidal ideation were more likely to be living in a nuclear family. None of the females in this group consumed alcohol, whereas among males 8 (61.6%) consumed alcohol regularly compared with 37.4% among the nonideators.

More intriguingly, 18 suicidal ideators (62.1%) had been exposed to suicidal behaviors compared with 42.5% in the remaining group. They were more likely to have heard about a suicide but were also more likely to have witnessed the incident or have had to nurse the victim. 12 out of 29 (41%) suicidal ideators had previously attempted suicide, and six acknowledged having attempted suicide more than once. Poor physical health and family conflict were two important causative factors to contribute to attempted suicide. The most common explanations for attempting suicide were to obtain consolation, to be free from the problem, and to relieve physical pain. When asked about deterrence, concerns about the family and children were seen as important factors.

Multiple regression analysis was used to predict the best model for suicidal ideations. Using stepwise regression and BSSI scores, GHQ score, history of mental illness, family interactions, and financial difficulties indicated:

Suicidal ideations = 1.796 + (0.41) BSSI + (.007) GHQ + (.110) M. I. + (0.13) FI + (0.15) FD.

If all the variables were converted to *Z* scores:

Suicidal ideations = 0 = (0.50) BSSI + (0.17) GHQ + (0.08) M. I. + (0.065) FI + (0.065) FD.

Both of the equations test the null hypothesis in each case that β or β coefficient equals zero in the population. All five predictors are significant at the .05 level, and all except the last two (family interactions and financial difficulties) are significant at the .01 level. GHQ and BSSI scores taken individually or taken together also can significantly predict suicidal ideation.

Discussion

The sample studied represents the population of the district. The number of refusals, although small, may reflect more extreme psychopathology.

In this study the lifetime prevalence of life weariness indicated by hopelessness and helplessness is 7.3–7.6%, the lifetime prevalence of passive suicidal ideation is 6.2%, and that of active suicidal ideation at 3.6%. This is the first population-based study from Sri Lanka, and the findings are not different from those reported by Goldney, Harrison, Badri, Michael, and Fiske (1998) from Sudan, who found very high rates in women although their numbers were quite small. Using GHQ they had found an even higher prevalence of suicidal ideation in displaced persons. Hopelessness is said to be a good predictor of subsequent suicide (Beck, Steer, Koras, & Garrison, 1985; Beck, Brown, Berchick, Stewart, & Steer, 1990). In our sample, among those who acknowledged hopelessness, 39% also acknowledged active suicidal ideation, and 41% of these suicidal ideators had attempted suicide. When extrapolated to the general population of the district it would appear that 9,996 individuals (1.5% × 0.66 million), aged between 15–64 years, will attempt suicide during their lifetime, highlighting the enormity of the task for public health intervention. Four participants (out of 808 – 0.49%) had attempted suicide in the previous year. If extrapolated to the whole district, the estimated number of suicide attempts would be 495/100,000; in the year before the data were collected there were 307 suicides, or an incident rate of 30.5/100,000. This rate of conversion of attempts to complete suicide appears to be lower than reported in the West (O'Shea, Falvey, Mc Collam, & Synnott, 1986), even though the rates of completed suicide are one of the highest in the world.

Those with high levels of active suicidal ideation were less likely to have mental illness, raising the question whether levels of mental illness are genuinely low or are being underdiagnosed. Because we relied only on the screening instruments and history, but not on clinical assessment, the prevalence may be an underestimate. As 60% of suicidal ideators experienced familial conflicts, there is little doubt that the role of the family in suicide needs to be studied further. This is perhaps more relevant in cultures like Sinhala where kinship and a society-based collectivist identity are much stronger and thus any conflict may take on a major role. It should also be studied in the context of social support within the family. It is entirely possible that conflict within a supportive system may be resolved without damaging the individual. Poor physical health and financial difficulties, especially debt, may prove to be chronic stressors. Although the numbers are small, being separated or widowed is a risk factor in this group, confirming similar findings elsewhere (Mäkinen & Wasserman, 2001). The number of unemployed in this group indicates that being unemployed may further add to isolation, alienation, and poor self-esteem where a stressor may push the individual over the edge.

Suicidal ideators also indicated a higher level of lifetime exposure to suicidal behaviors. This may reflect "modeling" of the behaviors and also indicate a way out for the individual under stress.

The prevalence of suicidal ideation in our sample is at 6.2% lower than reported from the USA (Druss & Pincus, 2000), at 16.3%, New Zealand (Fergusson, Woodward, &

Horwood, 2000), at 28.8%, and Australia (Statham et al., 1998), at 22.2% among females and 23.8% for males. There are possible social and cultural factors at play.

From China, He and Lester (2001) reported higher rates of suicidal ideation in married women. However, Goldney, Wilson, Dal Grande, Fisher, and McFarlane(2000) reported a prevalence of suicidal ideation in 5.6% of men and 5.3% of women using GHQ-28 and a short-form health survey. The variation with other samples is striking and may reflect different methods of data collection.

It is likely that, in individualistic societies like the United States, Australia, and New Zealand, attempts to harm oneself are more frequent because the concept of the self is egocentric and the individual may feel in control of his/her body and attempt to harm him- or herself. In collectivist societies like Sri Lanka the concept of the self is sociocentric, and therefore the self is extended to include kinship. Hence, any attempt to harm the self harms the kinship, and family conflicts are more likely to play a role in this. It is essential that these notions of sociocentrism and collectivism are explored in detail in future work. With urbanization and globalization it is likely that these values will change with time.

The main reasons for attempting suicide among the active ideators were seeking solace and escape from problems. Any interventions in sociocentrism societies should therefore involve the family and kinship and educational materials must include information which is culturally relevant.

Conclusions

Despite the high rates of suicide in Sri Lanka, the rates of active suicidal ideation are lower than reported elsewhere in the world, indicating that patterns of suicidal behavior vary. These may be influenced by social, economic, and cultural factors. The role of deterrence needs to be explored further and intervention strategies must take this into account.

Clinical Implications

- The dissonance between rates of suicide and suicidal ideation must be taken into account.
- Gender, employment, and age are important correlates to suicidal ideation.
- Suicidal ideation is related to the prevalence of common mental disorders.

Limitations

- Only samples of Sinhala ethnicity were chosen. It would have been interesting to compare Sinhala with other groups.
- The refusers may have had higher levels of psychopathology.
- Qualitative data were not collected.

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