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Prevalence of Suicide Ideation in Two Districts of Uganda

Emilio Ovuga, Jed Boardman, and Danuta Wassermann

Suicide ideation is common in all communities but research on suicidal behavior in Sub-Saharan Africa is scarce. The aim of this study was to determine the prevalence of self-reported suicidal ideation in two contrasting districts of Uganda. The method employed was a systematic sample of 939 respondents residing in Adjumani and Bugiri districts, using the Beck Scale for Suicide Ideation (BSS). Results indicated a higher rate of suicidal ideation in females, the unemployed and in Adjumani district. Consistent with other international studies, high rates of suicidal ideation were found in the Ugandan population. The higher prevalence of suicide ideation in the Adjumani District appears to be a symptom of psychosocial distress related to many years of social and political turmoil and the poor socio-economic conditions. In-depth observational studies are needed to fully understand the process of suicide ideation in Uganda.

Keywords suicide ideation, Uganda, Adjumani, Bugiri, psychosocial

The literature on suicidal ideation indicates that 14%–33% of the general population reported a lifetime prevalence of suicide thoughts (Claussen, 1998; Gex, Narring, Ferron et al., 1998; Gliato & Rai, 1999; Goldney, Harris, Badri et al., 1998; Mehlum, 1998; Pirkis, Burgess, & Dunt, 2000; Weissman, Bland, Canino et al., 1999). Suicide ideation is not only prevalent in the general population (Mehlum, 1998; Pirkis, Burges, & Dunt, 2000) but is also an important public health problem (Barnett, 1986) and a precursor for attempted suicide and suicide (Goldney, Harris, & Badri et al., 1998; Pirkis, Burgess, & Dunt, 2000; Weissman, Bland, Canino et al., 1999). Among young people in Western countries the lifetime prevalence of suicide ideation ranges from 9%–65% with the rates reported depending on the definition of

suicide ideation. Esposito and associates have reported that mood disorder along with symptom severity were the strongest predictors of suicide ideation (Esposito & Clum, 2002; Pirkis, Burgess, & Dunt, 2000; Weissman, Bland, Canino et al., 1999). Other identified risk factors include: being unmarried or divorced/separated (Barnett, 1986; Beck, Kovacs, Weissman, 1979), being unemployed (Claussen, 1998; Hintika, Kontula, Saarinen et al., 1998; Pirkis, Burgess, & Dunt, 2000), inability to meet one's financial obligations (Hintika, Kontula, Saarinen et al., 1998) and being disabled (Pirkis, Burgess, & Dunt, 2000). Adverse life events appear to be characteristic precursors of suicide attempts and suicide ideation (Mehlum, 1998).

Research on the broader concept of suicidal behavior from Africa is sparse as

suicide in many countries of Africa is a criminal offence, highly stigmatized and considered a taboo subject, which is not readily discussed in public. Orley reported in 1970 that suicide was rare in Uganda at an estimated rate of 1–2 per 100,000 inhabitants per annum (Orley, 1970). In his review of psychiatric aspects of sub-Saharan Africa, German estimated that the incidence of suicide attempts in Busoga in eastern Uganda where part of the current study was conducted was 8.5 per 100,000 inhabitants (German, 1982), while Okasha and Lotaif estimated the incidence of suicide attempts in Egypt at 38.5 per 100,000 of the population (Okasha & Lotaif, 1979).

Uganda has been involved in bloody political and civil strife for more than 30 years and one of the world's most brutal armed insurgencies is still going on in northern Uganda where one of the study sites (Adjumani district) is situated. A large segment of the population from northern Uganda was forced into exile following the fall of Uganda's first military government in 1979 until 1986 when relative political stability was restored in the country. However, armed conflict still affects the country, particularly in northern Uganda. In the pre-exile era, life was characterized by shared responsibility for solving personal and communal problems. The combined experience of economic hardships, experience in exile, and continuing armed conflict in parts of the country appear to have had a powerful suicidogenic effect on the population.

Since suicide ideation is relatively common and attempted suicide and completed suicide are relatively rare (Pirkis, Burgess, & Dunt, 2000) we focused our investigation on suicide ideation. The study was conducted to determine 1) the lifetime and past week prevalence of suicide thoughts along with death wishes in the general population and 2) the lifetime and past week prevalence of suicide thoughts in the general population. We report data

on the prevalence and intensity of suicide ideation in the general population from two socio-economically different districts of Uganda.

For purposes of the present study suicide ideation is defined as a spectrum of self-destructive thoughts or ideas comprising transient wishes to die, suicide wish or urge, contemplating a suicide act, making a suicide plan and communication of the suicide wish, urge or plan to someone (Goldney, Harris, Badri et al., 1998; Hintikka, Kontula, Saarinen et al., 1998; Hjelmeland, Stiles, Bille-Brahe et al., 1998).

METHOD

Description of Study Area

The two study districts, Adjumani and Bugiri, were created in 1997 for the purpose of bringing political and social services closer to the rural population.

Adjumani District lies in the northern part of Uganda, and has a semi-arid climate. The main source of economic livelihood of the district is agriculture. Living conditions in the district are poor with annual household income of most residents being less than the equivalent of US\$10.00. The standards of health are low with infant mortality rate of 108 per 1000 live births, and maternal mortality being 504 per 100,000 live births. Socially, individuals seem to be alienated from their social support systems. Adjumani District suffers from the impact of recurrent armed conflict since 1979 following the ouster of President Idi Amin; the population spent at least 7 years in exile in Southern Sudan between 1979 and 1986.

Bugiri District, situated on the shores of Lake Victoria, has weather conditions more conducive to agricultural practice than Adjumani District. The general standard of living in Bugiri District is high and household members receive a

tremendous amount of support and guidance from family elders. Bugiri District has suffered relatively little from the impact of armed insurgency and the ensuing traumatic social and political consequences.

Sample Size Determination

In the present study the proportion (P) was determined using estimated prevalence rate of depressed individuals as the prevalence rate of suicidal individuals in the general population of Uganda is yet unknown. According to Barnett (Barnett, 1986), the sample size (n) can be obtained from the formula: N will be greater or equal to $((1.96/0.02)^2 P(1 - P))$.

Using the estimated value of $P = 0.10$ or 10%, (which is the accepted estimate of the proportion of depressed individuals) (Depression Guidelines Panel, 1993; Weissman, Bland, Canino et al., 1999), the value of N is 864. Since representative samples were drawn from the two districts, the actual sample size from each district was determined to be proportionate to the size of the parent population size. One adult participant was interviewed per household, and equal opportunity was provided to both men and women, and married as well as single individuals in the community to participate in the study. Individuals were excluded from the study if they were 1) obviously mentally ill 2) were intoxicated with alcoholic drink 3) below the legal age of 18 years or 4) refused to participate in the study.

Selection of the Households and Participants for the Study

The modified stratified cluster sampling method with probability proportional to size, which has been widely used in rural settings of developing countries (Bennet, Woods, Liyanage et al., 1991; Macfarlane, 1996) was used to select

eligible residents aged 18 years and older in two districts of Uganda. To achieve these five sub-counties from each district were randomly selected to participate in the study; two parishes were selected from each sub-county and two villages were selected from each parish; the number of households from each parish was proportional to the size of each parish, and at least ten households were selected from each parish and one adult was selected from each household. To select households, a central location in a randomly selected village was chosen. This was a market place, a church, community resource center, or school. A pencil was spun on the ground to indicate the direction in which the first household would be selected. There was little variation in the socio-economic status of rural communities around these central locations in each of the two districts. In terms of socio-economic development in rural areas the two districts were somewhat similar. A list of household heads from the central location in the direction chosen to the edge of the village was made with the assistance of the village leader. Pieces of paper of equal size and similar color were cut from foolscap paper. The name of one household leader was written on one of the pieces of paper. This exercise was repeated for all the household heads. The pieces of paper were then folded in similar manner, placed in a container and shuffled as in a lottery. A research assistant then picked one piece of paper at random. One adult aged 18 years or older was then selected from this household from among those found at home at the time of the visit to the village. To do this, the process involved in the lottery method as described above was repeated at each household, and the exercise was carried out until the sample size calculated was attained. The household with its door next to the first was chosen and one adult was selected from it in similar manner.

Data Collection and Management

After the completion of the sampling exercise in the village, all selected adults gathered at the central location where interviews were conducted in small groups by each of five interviewers, and supervised by EO and two research assistants. Of the five interviewers in each district, four were psychiatric nurses and the other a health educator who served as quality controller for instrument accuracy and clarity. Health educators in Uganda are responsible for the production of health educational materials. The respective District Director of Health Services selected all the interviewers on the basis of participants' experience and proficiency in community health work in the district.

Each interview began with detailed explanation on the procedure for completing the questionnaires. Questions from the respondents were answered for clarification. On average this initial phase lasted 15–30 minutes to ensure full comprehension by all participants. Most rural inhabitants did not complete or proceed beyond 7 years of formal education. Every participant was instructed and supervised to provide their responses on the questionnaires individually; each participant was instructed to provide their own responses based on their own personal experience in life and how they felt at the time of questionnaire administration. Participants were assured that the exercise was not an examination, and that each person's answers were correct in relation to their personal experiences. To ensure this, EO and the research assistants, throughout each interview session, supervised the interviewers and respondents. The subjects were asked to complete in writing the 21-item Beck Scale for Suicide ideation (BSS) (Beck, Kovacs, & Weissman, 1979). Data concerning prevalence of suicide ideation were obtained from the Response Inventory for Stressful Life Events (RISLE) which has been used

in other studies (Ovuga & Mugisha, 1990; Ovuga, Buga, & Guwatudde, 1995, 1996). When a subject was illiterate, a resident of the household or village who could write and read helped complete the questionnaires on the instruction of the respondent. To ensure that trusted residents entered the exact information provided by illiterate respondents, EO assisted by two research assistants and the relevant interviewer supervised the questionnaire completion whenever such a situation arose. Every evening, the questionnaires were checked for completeness. Data were entered using EPI INFO version 6.04 and analyzed with the Statistical Package for Social Scientists (SPSS version 10.1).

Instruments

The Beck Scale for Suicide Ideation. The 21-item BSS is a self-report questionnaire that assesses on a 3-point scale (0–2) the degree of severity with which an individual presently thinks about suicide. The scale assesses the intensity of suicide-related attitudes, plans, motivations and behaviors such as the frequency and duration of suicidal feelings, sense of control, the strength to die or live, availability of deterrents and the availability of means for implementing a suicide plan (Beck, Kovacs, & Weissman, 1979). The BSS has not been previously validated in Uganda. For this reason, an arbitrary cutoff point of 10 or higher was set to signify moderate to high suicide risk among the respondents; the figure 10 having been chosen to minimize potential high prevalence rate. It is possible that an appropriate cut-off point on the BSS will emerge after a validation study is conducted in the future.

Measurement of Prevalence of Suicide Ideation. Two questions concerning prevalence of suicidal thoughts, past week and lifetime, were used from the Response Inventory for Stressful

Life Events (RISLE), which has been previously used to estimate the prevalence of probable depressed mood among student populations (Ovuga & Mugisha, 1990; Ovuga, Buga, & Guwatudde, 1995, 1996) and suicidal behavior in the Uganda armed forces (Tusiime, 1998). The RISLE is a self-administered questionnaire, which was designed on the basis of statements made by depressed suicidal patients during cognitive psychotherapy in Kenya and South Africa 1981–1985 (Ovuga & Mugisha, 1990).

The prevalence of suicide ideation was measured with a frequency count of “yes” response to each of the following questions which are included in the RISLE: 1) Have you ever experienced suicide thoughts along with the wish to end your life by suicide? 2) Did you experience suicide thoughts along with the wish to end your life by suicide last week?

RESULTS

Study Sample

Five hundred seventy one questionnaires were collected from Adjumani district and 428 from Bugiri district during March–April 2002. Forty-seven questionnaires from Adjumani and 13 from Bugiri were discarded for being incomplete, leaving available for analysis 524 (91.7%) questionnaires from Adjumani and 415 (97.0%) questionnaires from Bugiri. There were no significant differences in the demographic characteristics of respondents from the two districts. Respondents with incomplete data were more likely to be employed, have a family history of mental illness and less likely to have a personal history of mental illness. There were no significant differences between the two groups in marital status, age, and gender distribution.

Adjumani District Sample

There were 323 (61.8%) males and 200 (38.2%) females; one respondent did not provide information on gender. The distribution of respondents by gender was not representative of the population of each district as females were engaged in a variety of activities including going to the market, working in their gardens; the respective gender distribution of Adjumani district according to the 2002 census were 48.42% male and 51.58% female (UBOS, 2002). The mean age of males ($N = 34.3$, $SD = 12.2$, $median = 31.6$) was similar to the mean age of females ($N = 31.9$, $SD = 8.9$, $median = 30.6$). Over eighty percent (82.8%) of the respondents were married, 9.7% were single, 2.3% were divorced or separated, 3.3% were widowed and 1.9% lived with sexual relationship outside formal marriage. Most (95.6%) were Uganda nationals and 4.4% were Sudanese refugees. Ninety three percent (93.7%) of the respondents were peasant farmers and only 6.3% worked in any profession. Each family had a mean of 5.0 ($SD = 4.0$, $range = 31$) members.

Bugiri District Sample

As in Adjumani district, and for the same reasons, fewer females took part in the survey. There were 304 (73.4%) males and 110 (26.6%) females; 48.75% of the population in the district was male, and 58.25% female according to the 2002 population census (UBOS, 2002). Again there was no information on gender for one respondent. The mean age of males ($N = 33.7$, $SD = 13.3$, $median = 30.2$) in completed years was similar to the mean age of females ($N = 32.8$, $SD = 13.8$, $median = 29.2$). Eighty three percent (83.1%) of the respondents were married, 10.9% were single, 2.7% were divorced or separated, 2.2% were widowed and 1.1% lived with sexual relationship outside

formal marriage. Almost all respondents (98.1%) were Uganda nationals, the remainder being Sudanese (1.4%), Somali (0.2%), and Congolese (0.2%). As in Adjumani district ninety percent (90.8%) of the respondents were peasant farmers and only 9.2% worked in any profession. Each family had a mean of 7 (*SD* = 5.0, *range* = 40) members.

Prevalence of Suicide Ideation

In the entire sample, across two districts, 36.1% of the sample had a lifetime experience of suicide ideation (Table 1). The women in the sample had a greater lifetime experience of suicide thoughts than men ($\chi^2 = 5.12, P = 0.02$). (See Figure 1). Peasant farmers were more likely than the employed to report lifetime experience of suicide thoughts ($\chi^2 = 4.80, P = 0.03$). There were no statistically

significant differences in the rates of suicide ideation according to age or marital status. Approximately thirteen percent (13.1%) of people had experienced suicidal ideation in the past week. There were no differences between the demographic groups on this variable.

There were differences in the reporting of suicide ideation between the two districts. Significantly more respondents from Adjumani district than Bugiri district reported a lifetime experience of suicide thoughts ($\chi^2 = 66.34, P = 0.000$) (Figure 1). There was no significant difference in the experience of suicidal ideation in the past week between the two districts.

Intensity of Suicide Ideation (BSS Score ≥ 10)

One hundred ninety two (20.5%) of the entire sample scored 10 or higher on

TABLE 1. Distribution of Suicide Ideation by Gender, Employment Status, and District (Adjumani and Bugiri) of Uganda

Personal history of suicide ideation by gender	Male		Female		OR	CI (95%)
	N	%	N	%		
Lifetime experience of suicide ideation	209	30.0	130	38.2	1.40	1.04–1.87
Past week experience of suicide ideation	82	13.1	41	12.9	0.98	0.64–1.50
BSS score >10	118	18.8	74	23.9	1.35	0.96–1.90
Personal history of suicide ideation by employment status	Peasant farmer		Employed		OR	CI (95%)
	N	%	N	%		
Lifetime experience of suicide ideation	314	36.2	16	22.5	1.95	1.08–3.71
Past week experience of suicide ideation	115	13.2	7	9.8	1.40	0.62–3.70
BSS score >10	178	20.5	14	19.7	1.05	0.56–2.09
Personal history of suicide ideation by district of residence	Adjumani District		Bugiri District		OR	CI (95%)
	N	%	N	%		
Lifetime experience of suicide ideation	244	46.6	86	20.8	3.32	2.46–4.51
Past week experience of suicide ideation	74	14.2	48	11.6	1.26	0.84–1.90
BSS score >10	154	29.4	38	9.2	4.13	2.79–6.22

Prevalence of suicide ideation by socio-demographic characteristics

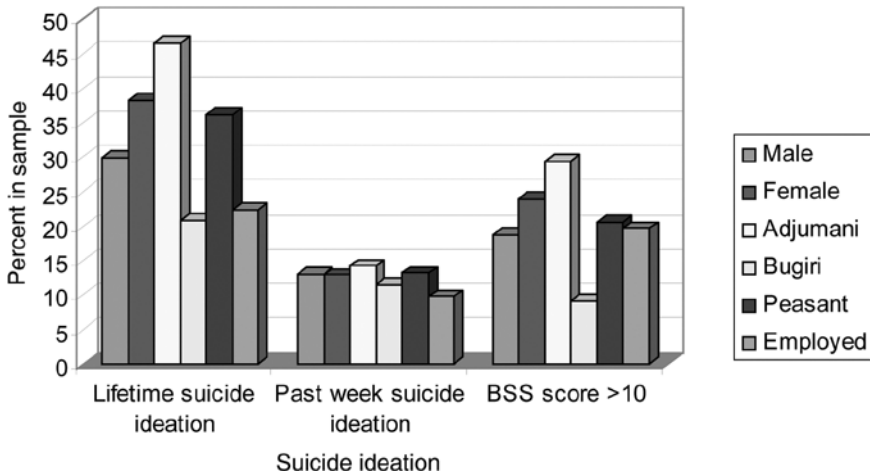


FIGURE 1. Prevalence of suicide ideation by socio-demographic characteristics.

the Beck Scale for Suicide ideation (BSS), indicating a moderate to high level of suicide ideation intensity across the sample. Respondents from Adjumani district were over four times as likely to have this level of suicidal intensity than those from Bugiri district ($X^2 = 57.04$, $df = 1$, $P = 0.000$)

(see Table 1 and Figure 2). There was no statistically significant difference between males and females on mean BSS scores from the entire sample ($t = 2.009$, $df = 933$, $p = 0.045$, $95\% CI = 0.023-1.930$). Similarly there was no statistically significant difference on mean BSS scores

Mean BSS scores by gender & study site

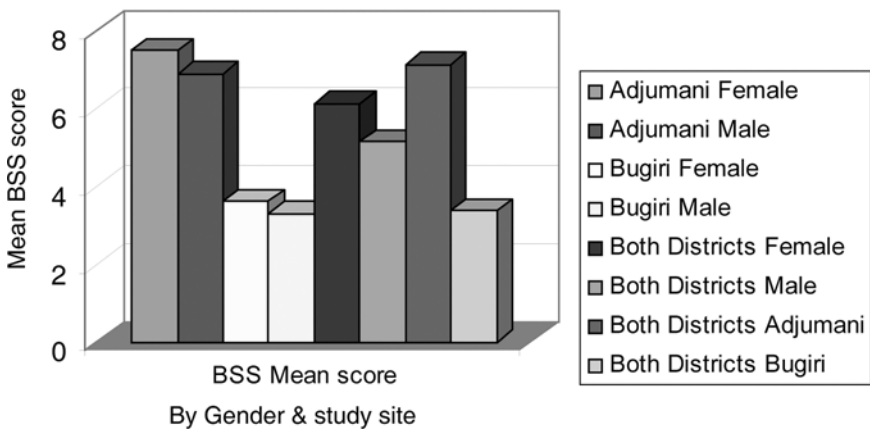


FIGURE 2. Mean BSS scores by gender and study site.

for gender from Adjumani ($t = 0.847$, $df = 521$, $p = 0.397$, 95% $CI = -0.713-2.005$) and Bugiri ($t = 0.584$, $df = 410$, $p = 0.56$, 95% $CI = -0.752-1.387$). However there was significant difference between mean BSS scores by study site ($t = 8.474$, $df = 935$, $p = 0.000$, 95% $CI = 2.890-4.632$). Respondents from Adjumani had significantly higher mean BSS scores ($N = 7.13$, $SD = 7.9$) than for Bugiri district ($N = 3.37$, $SD = 4.9$). There were no differences between the demographic groups on this variable.

DISCUSSION

This is the first study to report on suicidal ideation and experience in a systematic sample of the Ugandan population. There are high rates of suicidal ideation, varying from 11.6% for past experience of suicide thoughts along with death wishes in Bugiri district to 46.6% for lifetime experience of suicide thoughts in Adjumani district.

Methodological Considerations

Sampling in rural communities in Uganda is problematic. Villages and homesteads are generally scattered over long distances. Thus sampling and household selection methods were adapted to the situation on the ground (Bennet, Woods, Liyanage et al., 1991; Macfarlane, 1996), and depended on the effectiveness of prior appointment and mobilization of communities. Despite extensive mobilization by village leaders the availability of residents was affected by several competing activities including household chores, gardening, going to the market, or visiting sick relatives in other villages. The main shortcoming of the present study is that the sample appeared to be self-selected and comprised of those who were perhaps redundant and sicker than those who were engaged in other activities. Fewer females

took part in the survey because of their heavy domestic responsibilities, and most were away in their gardens or engaged in other domestic chores at the time of research activities in their village despite prior community mobilization for the exercise. This problem might have been minimized if interviews were conducted on Sundays as well or late in the evenings if the study had been designed for the research team to live in the communities for the period of fieldwork. Even with these problems, respondent participation in the study was very high and there was no evidence that those who stayed away were less sick than those who participated; those who were able to do so felt it was their obligation and right to contribute to the development of health services in their communities. It is possible that the results reflect genuine levels of suicide ideation among the more distressed individuals who tended to remain at home.

The study employed self-report questionnaires, and subjects filled out instruments based on their own personal life history and experiences. However, owing to literacy problems the interviewers had to read some of the questions to the respondents, so that it is possible that there was some response bias, but this would have acted to lower the tendency to give positive responses; the additional role of the tendency for respondents to please interviewers is difficult to rule out. This problem would have been addressed if the test-retest design were used.

The definition of suicide ideation adopted in the present study included suicidal thoughts along with death wish, and this might have contributed to the high prevalence (approximately 20%) of moderate to high suicide intention, as estimated with the BSS.

The BSS has not been validated in Uganda, and a cut point of 10 or higher for moderate to high suicidal intention was arbitrarily set. It is possible that the

proportion of individuals who scored 10 or higher on the BSS was an overestimate of individuals who were currently suicidal in the general population and that the BSS score of 10 or higher reflected the overall extent of psychosocial distress experienced by respondents and not the current level of suicidal intention.

On the other hand, the rates reported here might be an underestimate of the probable magnitude of suicide ideation due to denial among respondents. There are known problems when questionnaires are used to detect psychiatrically ill and suicidal in the general population. Respondents choose what they believe the researcher or clinician should know and provide information selectively for psychological reasons or due to several other reasons including memory bias, and social desirability (Goldberg, 1972). Questionnaires can be designed to blind respondents to what information is being sought. However the tendency is for risk assessment and screening instruments to be short so as to minimize redundancy and maximize efficiency in terms of sensitivity and specificity (Bech, Olsen, & Nimeus, 2001). In earlier times, socio-political life was stable in Uganda. There were no significant differences in the socio-economic characteristics of respondents in the present study and the only significant difference was the experience of an ongoing armed conflict and war in northern Uganda where Adjumani district is situated. It is possible that suicidal thoughts reported in the present study were due to the psychological consequences of psychosocial disruption due to ongoing war and armed rebellion, which has greatly influenced Ugandans intermittently since the early 1960s. There were no significant differences in the prevalence of suicide ideation in relation to age and marital status. It would be expected that older and single respondents would have more prevalence of suicidal thoughts. The results in the present study

may be explained by the ready availability of social support systems in Uganda where most members of the community have someone to look after them and thus buffer them against the destructive effects of social isolation.

Suicide Ideation Rates in Comparison to Other Studies

In published results of questionnaire surveys of adult populations from Europe, North America, Australia and Southern Sudan lifetime prevalence of suicidal thoughts has been reported at 14–33% (Goldney, Harris, & Badri et al., 1998; Pirkis, Burgess, & Dunt, 2000; Weissman, Bland, Canino et al., 1999) and past year prevalence at 9–13% in randomized or representative studies in nine countries from five continents (Kessler, Orge, & Walters, 1999; Renberg, 2000; Vihjamsson, Kristjansdottir, & Sveinbjarnsdottir, 1998). The prevalence figures the present study were comparable to those previously reported in the literature (Goldney, Harris, Badri et al., 1998; Mehlum, 1998; Pirkis, Burgess, & Dunt, 2000; Weissman, Bland, & Canino et al., 1999) though significant differences exist between the figures for past experience of suicide ideation in this study compared to the figures from the United Kingdom (Thomas, Crawford, Meltzer et al., 2002). Thomas and associates reported in 2002 that 0.8% of their nationwide sample in the United Kingdom reported a past week experience of suicide wish, and 3.1% had past week experience that life was not worth living. Corresponding figures for past weeks experience of suicide wish in the present study were 14.2% for Adjumani district and 11.6% for Bugiri. Ramberg and Wasserman reported in 2000 that the life-time prevalence of suicide ideation in Stockholm County general population as being 20% (Ramberg & Wasserman, 2000) which tallies well with figures from Bugiri, but not

with the Adjumani District. The similarity in lifetime prevalence for suicide ideation in Bugiri (20.8%) and Stockholm (20.3%) deserves comment. The prevalence figures reported reflect similar response patterns of individuals to stressful psychosocial circumstances in their respective social settings. Irrespective of where people live, they experience their share of stressful life events and respond to these in the same way—self-destructive tendency—despite differences in the nature and profile of psychosocial stressors. Previous studies have reported significant associations between suicide behavior and unemployment (Hjelmeland, 1995; Claussen, 1998; Kelleher, 1998), divorced or separated marital status (Barnett, 1986). In this study no significant relationships emerged between suicide ideation and marital status. This may be due to the fact that the majority of respondents reported themselves as being married, and the numbers of participants in other categories were small.

Suicide Ideation is Much Higher in the Socially Disadvantaged District of Adjumani

There was a considerably higher prevalence of suicidal ideation in the Adjumani District than in the Bugiri district. The lifetime rate for Bugiri is similar to that found in other studies (Ramberg & Wasserman, 2000), but that in Adjumani is over three times as high. In addition, those in Adjumani district were over four times as likely to score highly on the BSS. Besides respondents in Adjumani reported significantly more intense suicidal feelings ($BSS\ N = 7.13, SD = 7.9$) compared to Bugiri ($BSS\ score = 3.37, SD = 4.9$) ($t = 8.474, df = 935, p = 000, 95\% CI = 2.890-4.632$).

The differences between the two districts may be due to the contrasting social conditions of these two areas. The study was conducted in the two study sites during the same season of the year, March and

April 2002, when weather conditions were generally dry. However, Adjumani District has suffered from the direct effects of ongoing armed conflict in northern Uganda since 1988. From 1979, the population of the district was forced into exile in Southern Sudan and they returned to their homes in the district in 1986. The high rates of suicidal ideation in Adjumani district may be the result of the disruptive effects of war and armed conflict in Northern Uganda. Many years of bloody armed conflict in parts of the country, resulted in high psychosocial distress (Barton & Mutiti, 1998; Musisi, Kinyanda, Liebling et al., 2000) and post-traumatic stress disorder (Weishaar, 1996). It is possible that the rates of suicide ideation reported in this study represent the minimum evidence available of the existence of suicide ideation in the general population. Further studies are required to examine these possibilities.

Healthcare Implications

The economic situation of most rural dwellers in Uganda is very bad and health services are inadequate with 67% of the cost of health care being paid by individuals. The results point to the psychosocial and mental health implications of war and armed conflict in Uganda. Self-reported intentions to commit suicide have been reported to be of predictive value in the repetition of suicide attempt (Hjelmeland, Stiles, & Bille-Brahe, 1998). The present results indicate a high level of population self-disclosure among respondents in Uganda concerning their personal psychosocial difficulties, and findings suggest that it will be possible to detect highly distressed and suicidal individuals in the population. However, in-depth observational studies are needed to fully understand the process of suicide ideation to be able to inform service development and care provision in Uganda in order to prevent unnecessary death from suicide (Wasserman, 2001). In

addition the creation of the monitoring system and of an annual data bank on suicide behavior will provide epidemiological information necessary for establishing the medium- and longer-term trends and for planning of different preventive measures.

AUTHOR NOTE

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