



IASP Special Interest Group (SIG) on the Prevention of Intentional Pesticide Poisoning

Bibliography: Topic - Social Sciences

Abeyasinghe, R. and D. Gunnell (2008). "Psychological autopsy study of suicide in three rural and semi-rural districts of Sri Lanka." Soc Psychiatry Psychiatr Epidemiol **43**(4): 280-285.

BACKGROUND: Knowledge concerning the epidemiology of suicide in Sri Lanka is limited despite its suicide rates being amongst the highest in the world. **AIM:** To examine the characteristics of a large sample of Sri Lankan suicides to inform approaches to prevention. **METHOD:** Psychological autopsy study of suicides occurring in three rural districts of Sri Lanka during August-October 1997. **RESULTS:** Interviews were conducted with contacts of 372 (74%) of the 499 suicides that occurred over the study period. Males accounted for 79% of the deaths. Twenty-one percent of male and 57% of female suicides were aged <25 years of age. Pesticide self-poisoning accounted for 259 (70%) of the deaths. Almost two-thirds (62%) of the deaths occurred in hospital and 95 (26%) had made previous suicidal gestures. 138 (37%) were moderately or severely depressed and 144 (49%) of male suicides, but only 2 (2.5%) of the females, were alcohol dependent. Illegally brewed alcohol (kasippu) was the main product used by two thirds (62%) of problem drinkers. There was a family history of suicide in 20% of cases. **CONCLUSION:** Pesticide self-poisoning accounts for over two thirds of suicides in rural Sri Lanka. Suicide prevention efforts in Sri Lanka should focus on restricting access to pesticides, improving the medical management of pesticide poisoning, reducing alcohol misuse-particularly targeting the supply of illegal alcohol-and improving the identification and aftercare of people who self-harm.

Aghanwa, H. S. (2000). "The characteristics of suicide attempters admitted to the main general hospital in Fiji Islands." J Psychosom Res **49**(6): 439-445.

OBJECTIVE: To study the characteristics of suicide attempters attending the main general hospital in Fiji Islands. **METHOD:** Consecutive suicide attempters were clinically evaluated, and their sociodemographic and clinical characteristics were compared with those of other patients seen in the psychiatric service between January 15, 1999 and January 14, 2000. **RESULTS:** Thirty-nine suicide attempters were seen, representing 36.8% of all the cases referred to the psychiatric service. The prevalence of attempted suicide in the Greater Suva Area was 34.8 per 100,000. Majority (56.4%) were young (16-25 years), Indians (59%), female (61.5%), students (41%), never married (74.4%) and of Hindi faith (48.7%). The commonly used methods were ingestion of drugs and pesticides. The intention to die was present in 20 (51.3%) of the population. Social problems and/or psychiatric comorbidity were present in over 60% of cases. Suicide attempters were significantly younger, more of single persons ($P < .0001$), and fewer were in employment ($P < .001$) than nonsuicidal cases seen. The difference was not significant when the two groups were compared regarding gender, race or religion. **CONCLUSIONS:** Young people attempt suicide in disturbed psychosocial milieu, using available poisoning methods with strong desire to die. Apparently, high proportion of female Indians in this group reflects high rate of service utilization by them. Unemployment is an insignificant predisposing factor.

Aghanwa, H. S. (2001). "Attempted suicide by drug overdose and by poison-ingestion methods seen at the main general hospital in the Fiji islands: a comparative study." *Gen Hosp Psychiatry* **23**(5): 266-271.

OBJECTIVE: This study examined the prevalence and the characteristics of deliberate self-poisoning patients seen at the main general hospital in the Fiji Islands. METHOD: Thirty-one consecutive patients with deliberate drug-overdose and 27 others with nonoverdosed self-poisoning were compared on sociodemographic and clinical variables. RESULTS: Deliberate self-poisoning cases represented 0.3% of the hospital admissions, and had a rate of 25.9 per 100,000 population. The overdose group was significantly older ($P<.05$), whereas the poison-ingestion group had significantly greater proportion of males ($P<.03$). The rate of psychiatric morbidity was significantly higher in the overdose group ($P=.04$), whereas the history of alcohol abuse was significantly higher in the other group ($P=.04$). Paracetamol (35.5%) and paraquat (29.7%) were the most commonly used agents. CONCLUSIONS: Age, gender, rate of psychiatric morbidity, or history of alcohol abuse could be predictive of whether drug overdose or poison ingestion would be used for deliberate self-poisoning. This information could be relevant in the formulation of suicide preventive strategies.

Chowdhury, A. N., S. Banerjee, et al. (2013). "Sociocultural context of suicidal behaviour in the sundarban region of India." *Psychiatry J* **2013**: 486081.

The role of mental illness in nonfatal deliberate self-harm (DSH) is controversial, especially in Asian countries. This prospective study examined the role of psychiatric disorders, underlying social and situational problems, and triggers of DSH in a sample of 89 patients hospitalised in primary care hospitals of the Sundarban Delta, India. Data were collected by using a specially designed DSH register, Explanatory Model Interview Catalogue (EMIC), and clinical interview. Psychiatric diagnosis was made following the DSM-IV guidelines. The majority of subjects were young females (74.2%) and married (65.2%). Most of them (69.7%) were uncertain about their "intention to die," and pesticide poisoning was the commonest method (95.5%). Significant male-female differences were found with respect to education level, occupation, and venue of the DSH attempt. Typical stressors were conflict with spouse, guardians, or in-laws, extramarital affairs, chronic physical illness, and failed love affairs. The major depressive disorder (14.6%) was the commonest psychiatric diagnosis followed by adjustment disorder (6.7%); however 60.7% of the cases had no psychiatric illness. Stressful life situations coupled with easy access to lethal pesticides stood as the risk factor. The sociocultural dynamics behind suicidal behaviour and community-specific social stressors merit detailed assessment and timely psychosocial intervention. These findings will be helpful to design community-based mental health clinical services and community action in the region.

Chowdhury, A. N., A. Brahma, et al. (2009). "Pattern of domestic violence amongst non-fatal deliberate self-harm attempters: A study from primary care of West Bengal." *Indian J Psychiatry* **51**(2): 96-100.

OBJECTIVE: Evaluation of various clinico-demographic variables and pattern of domestic violence in non-fatal deliberate self-harm (DSH) attempters admitted in 3 Block Primary Health Centers (BPHC) of Sundarban region of West Bengal, India in the year 2002. **MATERIALS AND METHODS:** A prospective study of 89 DSH cases admitted at 3 Sundarban BPHCs by using a specially designed DSH register and a questionnaire on domestic violence in Bengali along with detail clinical interview. **RESULTS:** Among the total of 89 DSH cases (23 male and 66 female), young (less than 30 years), female sex, low education and married status constituted major part of the sample. Pesticide poisoning was the commonest mode of DSH attempt. Typical stressors found were marital conflict or conflict with in-laws or guardian. A majority of DSH attempters (69.6%) experienced more than one form of domestic violence. Poverty and unemployment in the family were strongly associated with domestic violence. Among female DSH attempters, the most common perpetrator was husband (48.48%) followed by in-laws (16.67%) and parent (34.78%) was the most common perpetrator among males. **CONCLUSION:** Both DSH and domestic violence are serious socio-clinical issue of a major public health concern in the Sundarban region. Stressful life situations and various types of victimizations in the family intermixed with easy availability of lethal pesticides in this agriculture dependent community may facilitate the impulse of self-harm behavior, especially among the young housewives. Timely psychosocial intervention through community psychiatry program may mitigate the impact of psycho-cultural stressors and thus may help to reduce the morbidity and mortality from DSH.

Liu, I. C., S. F. Liao, et al. (2011). "A cross-ethnic comparison on incidence of suicide." *Psychol Med* **41**(6): 1213-1221.

BACKGROUND: Suicide rates vary widely across nations and ethnic groups. This study aims to explore potential factors contributing to inter-ethnic differences in suicide rates. **METHOD:** Study subjects came from a case-control psychological autopsy study conducted in Taiwan, including 116 consecutive suicides from two aboriginal groups and Taiwanese Han; 113 of them each matched with two living controls. Gender-, age- and method-specific suicide rates, population attributable fraction (PAF) of suicide for five major risk factors, help-seeking before suicide and emergency medical aid after suicide were compared between the three ethnic groups. **RESULTS:** One aboriginal group (the Atayal) had significantly higher adjusted rate ratios (RR) of suicide than the other aboriginal group (the Ami) [RR 0.20, 95% confidence intervals (CI) 0.12-0.34] and the Han (RR 0.26, 95% CI 0.16-0.40). Such differences can be explained by higher PAFs of suicide for three major risk factors (substance dependence, PAF 47.6%, 95% CI 25.5-64.2; emotionally unstable personality disorder, PAF 52.7%, 95% CI 32.8-69.0; family history of suicidal behaviour, PAF 43.5%, 95% CI 23.2-60.2) in this group than in the other two groups. This higher suicide rate was substantially reduced from 68.2/100 000 per year to 9.1/100 000 per year, comparable with the other two groups, after stepwise removal of the effects of these three risk factors. Suicide rates by self-poisoning were also significantly higher in this group than in the other two groups. **CONCLUSIONS:** Higher rates of specific risk factors and use of highly lethal

pesticides for suicide contributed to the higher suicide rate in one ethnic group in Taiwan. These findings have implications for developing ethnicity-relevant suicide prevention strategies.

Manuel, C., D. J. Gunnell, et al. (2008). "Self-poisoning in rural Sri Lanka: small-area variations in incidence." *BMC Public Health* **8**: 26.

BACKGROUND: Self-poisoning is one of the most common methods of suicide worldwide. The intentional ingestion of pesticides is the main contributor to such deaths and in many parts of rural Asia pesticide self-poisoning is a major public health problem. To inform the development of preventive measures in these settings, this study investigates small-area variation in self-poisoning incidence and its association with area-based socioeconomic and agricultural factors. **METHODS:** Ecological analysis of intentional self-poisoning in a rural area (population 267,613) of Sri Lanka in 2002. The geographic distribution of cases was mapped to place of residence. Using administrative division (GN), median population size 1416, as unit of analysis, associations with socioeconomic and agricultural indicators were explored using negative binomial regression models. **RESULTS:** The overall incidence of intentional self-poisoning in the study area was 315 per 100,000 (range: 0 - 2168 per 100,000 across GNs). Socioeconomic disadvantage, as indexed by poor housing quality ($p = 0.003$) and low levels of education ($p < 0.001$) but not unemployment ($p = 0.147$), was associated with a low self-poisoning incidence. Areas where a high proportion of the population worked in agriculture had low overall levels of self-poisoning ($p = 0.002$), but a greater proportion of episodes in these areas involved pesticides ($p = 0.01$). An association with extent of cultivated land was found only for non-pesticide poisoning ($p = 0.01$). **CONCLUSION:** Considerable small-area variation in incidence rates of intentional self-poisoning was found. The noteworthy concentration of cases in certain areas and the inverse association with socioeconomic deprivation merit attention and should be investigated using individual-level exposure data.

Sariola, S. and B. Simpson (2013). "Precarious ethics: Toxicology research among self-poisoning hospital admissions in Sri Lanka." *Biosocieties* **8**(1): 41-57.

Self-harm using poison is a serious public health problem across Asia. As part of a broader effort to tackle this problem, medical research involving randomised clinical trials are used to identify effective antidotes among patients who have ingested poison. On the basis of ethnographic material collected in rural hospitals in Sri Lanka between 2008 and 2009, this article describes the conduct of trials in this unusual and difficult context. It outlines three subject positions crucial to understanding the complexity of such trials. At one level, self-poisoning admissions might be thought of as abjects, that is, stigmatised by actions that have placed them at the very limits of physical and social life. They have seriously harmed themselves in an act that often leads to death, marking the act as a suicide. Yet, this is the point when they are recruited into trials and become objects of research and experimentation. Participation in experimental research accords them particular rights mandated in international ethical guidelines for human subject research. Here the inexorable logic of trials and morality of care meet in circumstances

of dire emergency. *BioSocieties* (2013) 8, 41-57. doi:10.1057/biosoc.2012.34; published online 7 January 2013

Seok, S. J., H. W. Gil, et al. (2009). "Paraquat intoxication in subjects who attempt suicide: why they chose paraquat." *Korean J Intern Med* **24**(3): 247-251.

BACKGROUND/AIMS: Paraquat (PQ) has been used in suicide attempts; an estimated 2,000 toxic ingestions occur annually, with 60-70% mortality. We sought to determine why PQ is such a common agent for suicide attempts in Korea. **METHODS:** We analyzed 250 cases (143 males, 107 females) of attempted suicide by PQ ingestion from January to December 2007. The procurement of the PQ was divided into two categories: purchased and preexisting. **RESULTS:** Men were more likely to have purchased PQ than women (66% vs. 22%, $p=0.042$). Additionally, men were more likely to be unmarried ($n=34$, 23.9% vs. $n=10$, 9.3%) or divorced or separated ($n=16$, 11.3% vs. $n=5$, 4.6%) than the women ($p<0.001$). The group who intentionally selected PQ (38.4%) consisted of 96 cases (54 males, 42 females) and the group who did not intentionally select PQ (61.6%) included 154 cases (89 males, 65 females). The incidence of PQ purchase was higher in the intentional selection PQ group (46.9% vs. 18.2%, $p<0.01$).

CONCLUSIONS: Only 38% of patients who attempted suicide with PQ intentionally selected PQ. Thus, greater control of PQ availability is needed, especially in patients at risk.