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A study of deliberate self-harm patients attending tertiary care teaching hospitals in south India

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Dear Editor,

Deliberate Self-Harm (DSH) is a complex and perplexing behaviour carrying a high risk for completed suicide. There is a paucity of systematic studies on DSH in India. Recent years have seen a trend towards increasing DSH among young people. In Indian studies various socio-cultural and environmental factors like a spouse’s alcohol problem, quarrels with family members, financial losses and the dowry system are reported as causes of DSH.¹

We studied a socio-demographic profile of DSH patients referred to a tertiary care teaching hospital. This cross-sectional study was conducted over a period of two years from June 2008. The study was cleared by the institutional ethics committee. All participants gave their consent for the study. Study subjects were all those who presented to the emergency and regular outpatient departments with DSH. Patients were interviewed by a senior psychiatrist after they were stabilised medically. A pre-tested semi-structured format was used. Information was collected both from the patient and their family member separately. The results were analysed using statistical software (SPSS version 13), proportions; tests of significance like chi-square, Z test were used to analyse the data.

Table 1: Age and sex distribution of DSH patients

Age	Male (152)	Female (123)	Total (275)
Up to 19	15(9.86)	23(18.70)	38(13.82)
20–35	107(70.40)	83(67.48)	190(69.09)
>35	30(19.74)	17(13.82)	47(17.09)

A total of 275 patients were brought to the hospital with DSH during the study period of two years. Among these 152 (55.3%) were male and 123 (44.7%) were female. The mean age was 26.55 years. The youngest patient was 12-years-old and the oldest 65 years (Table 1). With regards family status, 150 (55%) belonged to nuclear families and we found married people outnumbered unmarried people (Table 2). With regards to education, 63% of subjects had studied up to the 10th grade and there was no significant difference in literacy levels of male and female subjects. Two-thirds of DSH patients came from a poor economic background. The number of subjects in each class increased as the level of economic class decreased in both female and male patients. This was statistically significant. ($X^2=16.676$, $P=0.002$) (Table 2). Furthermore, 9% of patients had a previous history of DSH. Self-poisoning with pesticides/insecticides was the most preferred method among DSH patients, with 262 (95.3%) patients adopting this method followed by attempted hanging in 8 cases (2.9%); 185 (67%) patients chose the home as the venue for the DSH. A statistical association was observed between place of DSH and gender ($X^2=7.025$, $p=0.008$); 75% of women compared to 60% of men preferred the home as the place for the DSH and this observed gender difference was significant ($Z=2.7$, $p<0.006$). Outside the home, 27% chose their fields and 6% their relatives’ home. Family stresses like domestic violence, adjustment problems with in-laws, alcoholic spouses and extramarital issues were common causes for DSH in 142 cases (52%) followed by financial crises and debt in 45 (20%) (Table 3). A significant finding



of this study was that approximately one-third (51/152) of male patients were under the influence of alcohol at the time of the DSH.

Table 2: Socio-demographic profile of DSH patients

Characteristic	Male	Female	Total
Religion			
Hindu	141(92.76)	118(95.9)	259(94.2)
Muslim	11 (7.3)	05 (4.1)	16(5.8)
Residence			
Urban	65 (42.76)	48(39.02)	113(41.1)
Rural	87 (57.23)	75(60.97)	162(58.9)
Type of family			
Nuclear	80 (52.63)	70 (57.0)	150(54.5)
Joint/Extended	72 (47.40)	53 (43.0)	125(45.5)
Marital status			
Married	97(63.81)	76(61.80)	173(62.90)
Unmarried	55(36.20)	47(38.20)	102(37.10)
Education			
Illiterate	32 (21.00)	36(29.26)	68 (24.7)
Primary & secondary	102(67.10)	72 (58.5)	174 (63.3)
College & above	18 (11.84)	15 (12.2)	33 (12)
Occupation			
Farmer/labourer	73 (48.02)	24(19.51)	97(35.3)
Self-employed	30 (19.73)	03(2.44)	33(12)
Government service	37 (24.34)	–	37(13.5)
Unemployed	05(3.28)	03(2.44)	08(2.90)
Student	07(4.60)	28(22.76)	35(12.72)
Housewife	–	65(52.8)	65(25.63)
Socio-economic status			
Class I	15 (9.8)	8(6.5)	23(8.4)
Class II	13(8.5)	10(8.13)	23(8.4)
Class III	20(13.15)	20(16.3)	40(14.54)
Class IV	92(60.52)	55(44.71)	147(53.45)
Class V	12(7.9)	30(24.40)	42(15.3)
$\chi^2=16.676, p=0.002$			

Young adults (<35 year) are victims of DSH for various reasons. In our study we found 82% patients in the less than 35 year age group and males exceeded females in number. The socio-cultural dominant roles of men in Indian society putting them at extra stress, socio-cultural beliefs and stigma attached with DSH may explain the higher number of males in the study. Risk of DSH was highest among people belonging to low socio-economic groups and those who were less educated. Factors like agricultural occupation, easy availability of pesticides in rural areas and carelessness in storing them in safe places may be attributed as possible reasons for choosing pesticides for

DSH in rural areas. It also brings attention to the urgent need to regulate the sale of these products and to increase public awareness about the danger of pesticides.

Table 3: Methods, place and reasons for DSH

Characteristic	Male	Female	Total
Method			
Poisoning/chemicals	142 (93.42)	120 (97.56)	262 (95.27)
Hanging	05 (3.2)	03 (2.43)	08 (2.9)
Injuries	05 (3.2)	–	05 (1.8)
Place of attempt			
Home	92 (60.52)	93 (75.62)	185 (67.27)
Outside field	47 (30.93)	13 (10.56)	60 (21.82)
Relatives' house	13 (8.55)	17 (13.82)	30 (10.91)
$\chi^2=7.025, p=0.008, Z=2.7, p<0.006$			
Reasons for DSH			
Family stress (domestic violence, quarrel with family members)	75 (49.34)	67 (54.47)	142 (51.63)
Marital disharmony	20 (13.15)	25 (20.32)	45 (16.36)
Financial debt/crisis	30 (19.73)	05 (4.06)	35 (13)
Exam stress/failure	07 (4.6)	08 (6.5)	15 (5.45)
Failed love affair	07 (4.6)	06 (4.87)	13 (4.72)
Illness	08 (5.26)	12 (9.75)	20 (7.27)
Job stress	05 (3.28)	–	05 (1.81)

When reasons for DSH were analysed family conflicts leading to stress emerged as the most common trigger for DSH in both sexes, followed by financial stress. These observations highlight the role of psychosocial issues leading to DSH; most of our findings were similar to another Indian study.² The differences we noted with our findings and some Western studies were, most of our subjects were male, married and living with their families. This is in contrast to the female, single and divorced subjects in the West.³ All cases are recorded as medico-legal and not as DSH. They are reported to the police. This diverts the focus of management and probably discourages people from reporting DSH. Our study also noticed a relative lack of accessibility to professional and



systematic psychological and psychiatric help. This being a hospital-based cross-sectional study, the results lack the scope of causal inference and generalisability.

Sincerely

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Scholarship students in private medical schools: An important source of support to Nepal's primary health system

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Dear Editor,

Nepal is a developing country in South Asia situated between China and India. The population of Nepal in 2006 was 25.6 million.¹ The country's expenditure on health constituted 5.3% of gross domestic product and there were 0.08 health centres per 100,000 population and two doctors of modern medicine

per 10,000 population.¹ Health personnel are unevenly distributed with the majority concentrated in urban areas. At the beginning of 2011 there were 17 medical colleges in Nepal² and 13 of these are in the private sector. Nepalese-owned private colleges provide 10%, while foreign-owned colleges provide 20%, of their seats on full tuition fee scholarship to Nepalese students selected through an entrance exam conducted by the Ministry of Education.³ There are around 1,500 seats available in private schools and more than 200 students are being educated on full tuition scholarship. Over the last three years the government has made two years' rural service compulsory for scholarship students.

The first level of contact of most people with the healthcare system is the sub-health post and the next is the health post. Both are manned by paramedics. Sub-health posts are manned by certified medical assistants (CMAs) who undergo a one-year course after schooling followed by a three-month internship. Health assistants usually man the health posts and undergo a two-year course after completing 10 years of school education followed by six months of internship attached to a health post. Doctors are posted only at the next level of care, the primary health centre (PHC). From the PHC patients are referred to the district hospital, then the zonal or regional hospital and finally to central institutions in Kathmandu. There are 75 districts in the country, 14 zones and five development regions. Newly graduated doctors could be posted at all levels above the PHC. At present scholarship students have and are being posted in many PHCs, district and zonal hospitals. The first set of students posted in 2008 have completed their two years of compulsory rural service.

Many students taught by the author are now working in rural areas and some have also opted for permanent rural service after finishing their compulsory service. The government provides preference for post-graduation to doctors who have worked in rural areas. The author



frequently interacts with these former students. They have problems working in rural areas. In addition to the problem of living conditions they have difficulties fulfilling their administrative responsibilities. Community medicine also plays an important role in the curriculum of Nepalese universities. Students spend time in rural areas during their undergraduate training but this may not be adequate to prepare them for providing care in challenging circumstances. Also the doctor is often the youngest member of the healthcare team and has to motivate and manage older well-settled local health workers.

The majority of students in private schools are self-financing who will be working in urban areas or migrate to developed nations after graduation. These schools also have students from other countries. The curriculum in Nepalese medical schools is integrated with the six basic science subjects of anatomy, physiology, biochemistry, pathology, pharmacology and microbiology taught along with community medicine during the first two years of the course. The curriculum of Tribhuvan University to which many schools are affiliated also emphasises early clinical contact and community-based learning. Students spend a month in the community in rural or semi-rural areas carrying out a community diagnosis project. However, the students are not taught staff management and planning skills and do not spend enough time in government health facilities where they will be working after graduation. Also most of their time is spent in teaching hospitals with sophisticated diagnostic equipment and so they may not be trained to work in rural settings with minimal laboratory and investigative support. Also Nepal has a number of ethnic and other groups with differing traditions and approaches towards illness and health. Doctors may have to deal with a variety of patients and consider cultural issues during the process. Again, this is not taught to medical students though they may learn some of these aspects during community diagnosis postings. However, these are not pursued with the same vigour in different medical schools.

The author does not mean to say that self-financing students are not contributing to the health system. Published and publicly accessible data about the method of financing the medical education of doctors in government service is not available. However, self-financing students are not required to complete a two-year rural service and concentrate on working in urban areas and preparing for post-graduation after finishing their internship. This is the author's view after interacting with many students and analysing the educational background of house officers at KIST Medical College teaching hospital and other teaching hospitals in the Kathmandu Valley. After finishing their two years of rural service scholarship students also prepare for the postgraduate entrance exams. However, the two years they contribute to rural primary healthcare can be important if they are properly trained and motivated.

Most countries in South Asia and other regions are seeing an increasing number of private medical schools. Many countries keep a certain percentage of seats for scholarship students. These students can be an important source of support to the national health systems. The challenge to private schools is to meet the diversity of academic and professional requirements of these different categories of students.

Sincerely

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Interaction between clopidogrel and proton pump inhibitors: Literature to clinical practice

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Dear Editor,

Inhibition of platelet activation and aggregation during and after percutaneous coronary intervention (PCI) is important to prevent acute coronary syndrome and improve cardiovascular outcomes. Dual antiplatelet therapy with clopidogrel and aspirin has resulted in significant reduction in the composite of cardiovascular death, myocardial infarction (MI) or urgent target vessel revascularisation compared with aspirin monotherapy.^{1,2} However, recently there have been concerns over the variable response to clopidogrel attributed to cytochrome P450 polymorphism, leading to decreased enzymatic expression, and competitive inhibition of cytochrome P450 2C19 isoenzyme by proton pump inhibitors.^{3,4} Proton pump inhibitors, share the same metabolic pathway with clopidogrel, are frequently prescribed to prevent heartburns, peptic ulcer and gastrointestinal haemorrhage in patients receiving aspirin-clopidogrel dual therapy.⁵ A randomised, double blind study reported that omeprazole significantly decreased clopidogrel inhibitory effect on platelet P2Y12 as assessed by VASP phosphorylation test ($p < 0.0001$).³ Nonetheless, the correlation between VASP index and the actual clinical outcomes is not known. A study by Pazella et al.⁴ revealed that there was a significant difference in one year acute MI rates in high PPI exposure group (5.03%) compared to the control group (1.38%) with $p < 0.05$. The difference between the groups remained significant even after adjustment for differences in co-morbidities between the groups.⁴

Since it was a retrospective study,⁴ there tend to be confounders between the groups which are unaccounted for such as years with risk factor(s), compliance, smoking history and family history of coronary disease. Another retrospective population-based study concluded that concomitant therapy of clopidogrel with a PPI other than pantoprazole was associated with attenuation in clopidogrel effects and an increased risk of reinfarction.⁶

Although there is substantial evidence of interaction between clopidogrel and PPIs especially omeprazole, certain limitations to the current evidence cannot be overlooked. Inhibition of platelet aggregation by clopidogrel was not affected by PPIs in few in-vitro studies.^{7,8} Furthermore, post hoc analyses failed to associate negative cardiovascular outcomes with clopidogrel-PPIs combination.^{9,10} The question of whether this interaction is a class effect is also not ascertained as pharmacokinetically, different PPIs undergo different metabolic pathways. Nevertheless, the empiric or systematic addition of PPIs should be restrained and other alternatives such as H-2 receptor antagonist should be first considered. If clinical situation necessitates the use of PPIs, pantoprazole should be used as first choice as it is least likely to inhibit CYP2C19 and clinical evidence has not yet documented any negative cardiovascular outcomes when used together with clopidogrel. Further research is needed to answer controversies surrounding this issue.

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