Deliberate self-poisoning: Experience at a Medical Unit

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Abstract

To share our experience of managing acute DSP patients, a cross sectional, observational study was conducted for one year. Patients with acute DSP, defined as "ingestion of a poison or excessive dose of a medicine for self-harm" were included. Patient demographics (gender, age, educational, and marital status etc), intention, substance used, and outcome were noted. Eighty patients (47 female, and 33 male) were managed. Mean patient age was 24.35±7.69 years. Most of the patients were educated up to 10^{th} grade, were unmarried, resident of urban area, occupation wise household related, and belonged to middle class. Majority (55%) of patients wanted to commit suicide. Benzodiazepines (31.3%) and organophosphate (OP) compounds (21.3%) were commonly used for DSP. 2.5% (n=2) patients expired. DSP with OP compounds was significantly associated with suicidal intention.

Introduction

Self-harming behavior has been noticed since ancient times.[1] Its nature and causes vary with various religious, socioeconomic, ethnic, and cultural factors. Deliberate self-harm syndrome (DSH) is the term used to categorize this kind of behaviour. In it, persons with apparent consciousness and willful intent perform painful, destructive, and injurious acts upon their own bodies.[2] In terms of intent, persons who commit deliberate self-harm can be divided into those who die, and those who harm themselves.[3] Deliberate self-poisoning (DSP) and self-injury are main types of DSH.

DSP is an important health problem throughout the world especially in developing countries.[4] It is a major cause of more than 500000 deaths per year attributed to DSH in Asia Pacific region.[3] DSP is commonest mode of DSH in Pakistan.[5,6] It is an important health issue in context to adolescents and younger Pakistani population.[5,6]

Reported incidence of DSP in Pakistan is about 8 per 100,000 in men and women.[5] This estimate has limitations because of the fact that DSP evaluation in Pakistani settings is difficult. It is a criminal offence as Islam prohibits suicide in any form. Management of DSP patients at public hospitals includes involvement of Police, from whom every body in this country want to stay away. Patients and attendants may thus ascribe DSP to accidental poisoning.[1] DSP is thus underreported.

Young, married females constitute majority of persons attempting DSP.[5,6] Commonest compound used for DSP vary at different places. In developing countries like Pakistan, benzodiazepines and OP pesticides are used commonly in urban and rural areas respectively.[4-6]

Persons attempting DSP may have various intentions of which manipulative/threatening, and suicidal are most important.[1] Majority of the persons attempting DSP don't want to commit suicide.[7] They do so as they are depressed, have anger, jealousy, or desire for attention.[1] OP compounds are generally used for DSP with suicidal intention because of their well known fatality index.[4]

In Western countries DSP related mortality is low, about 0.3%.[3] Overall fatality in India, China, and Srilanka is >10%,[4] whereas mortality noted in Pakistani studies

6.9-19.2%.[8,9] Mental disorders and previous attempts of DSH are associated with poor outcome.[1]

Although deliberate self-harm comes under the domain of Psychiatry, patients with DSP are managed initially at medical units. At a tertiary care medical unit, we frequently manage poisoning patients. DSP patients constitute an important fraction of these. From the medical point of view, it is important to know the substances used for DSP and its outcome. This context has not been much explored in related Pakistani studies conducted by Psychiatrists. This study shares our experience of managing acute DSP patients with focus on patient demographics, intention, substance used, and outcome.

Methods and Results

This cross-sectional, observational study was conducted at the Medical Unit of Rawalpindi Medical College, Rawalpindi from January to December 2006. Adult (≥13 year old) patients presenting to Emergency Department with definite history of acute DSP were included. DSP was defined as ingestion of a poison or excessive dose of a medicine for self-harm. Informed consent was obtained from each patient or first of kin if patient was unconscious. Patients with accidental or homicidal poisoning were not included.

Patient details regarding age, gender, occupation, educational level, urban or rural address, socioeconomic class, marital status, history of previous attempts, poison used, intention, and outcome (death or discharge) were collected. Municipal Corporation, town committee, or cantonment board areas were defined as urban and the rest as rural. Upper, middle, and lower socioeconomic classes were defined on basis of occupation, place of residence and monthly income.[10] Farmers, street vendors, drivers and whitewashers were categorized in lower class; school teachers, small business men, accountants and welfare workers in middle class; army officers, doctors, pilots and civil servants in upper class.[10] Educational status was categorized into; uneducated, educated up to 10th grade, and college/university.

Statistical analysis was performed with Statistical Package for Social Sciences (SPSS) version 10· Chi^2, Fisher exact, and t tests were used to note statistically significant associations wherever appropriate. P-value <0.05 was considered significant.

Eighty patients with DSP were managed during the study period. Majority (58.8%) of these were female. Mean patient age was 24.35±7.69 years. Mean age of females was 23.77±7.64, and of males was 25.18±7.79 years. Most of the patients were educated up to 10th grade, were unmarried, and had urban residence. Details of other patient demographics are given in Table 1.

Table I. Patient demographics.

Demographic		N and %
Educational status	Uneducated	24 (30)
	Up to 10th grade	36 (45)
	College/university level	20 (25)
Marital status	Unmarried	50 (62.5)
	Married	30 (37.5)
Residence	Urban	66 (82.5)
	Rural	14 (17.5)
Occupation	Student	14 (17.5)
	Housewife/house hold	36 (45)
	Unemployed males	9 (11.3)
	Labourers	14 (17.5)
	Businessman	4 (5)
	Paramedic	1 (1.3)
	Farmer	2 (2.5)
Socioeconomic status	Middle*	57 (71.2)
	Lower**	22 (27.5)
	Upper***	1 (1.3)

Legend: * Income 5-15000 rupees/month, ** Income <5000 rupees/month, *** Income >15000/month

Table II. Substances/compounds used for DSP.

Substance/compound		N and (%)
Medicines		
	Benzodiazepines	25 (31.3)
	NSAIDS and analgesics	5 (6.3)
	Sedative/hypnotics	5 (6.3)
	Anti cholinergic	3 (3.8)
	Tricyclic antidepressants	2 (2.5)
	Anti emetics	1 (1.3)
	Anti allergic	1 (1.3)
Organophosphorous compounds		17 (21.3)
Corrosives		8 (10)
Unknown		8 (10)
Alcohol		2 (2.5)
Mixed		2 (2.5)
Copper sulfate		1 (1.3)

Benzodiazepines (31.3%) and organophosphate (OP) compounds (21.3%) were commonly used for DSP. Details regarding various substances/compounds used for DSP are given in Table 2. Of all, 55% (n=44) patients had suicidal intentions, while 45% (n=36) wanted to gain attention, express distress, or get revenge.

Outcome wise, 2.5% (n=2) patients expired while the rest (97.5%, n=78) were discharged healthy. Two

patients who expired were suffering from schizophrenia. One was a medical student who used benzodiazepine for DSP. The other was a 35 years old female who used OP. It was her second attempt; previously she unsuccessfully tried to cut her throat with a knife.

Of the 17 patients who used OP for DSP, 88.23% (n=15) had suicidal intention, (p-0.004). No other statistically significant association was noted between various patient characteristics and intention for DSP.

Conclusion

In our experience DSP was common in young females. Majority of DSP patients were educated up to 10th grade, were unmarried, resident of urban area, occupation wise household related, belonged to middle class, and had suicidal intention. Benzodiazepines and OP were commonly used for DSP. DSP with OP compounds was significantly associated with suicidal intention. Patients with poor outcome suffered from mental disorders.

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