

## Reasons and Patterns of Self-Poisoning Among Adult Females in A Tertiary Care Hospital-Bangladesh

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| Received: 27.10.2023 | Accepted: 02.12.2023 | Published: 20.12.2023

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## Abstract

## Original Research Article

**Background:** Suicide is a prevalent cause of unnatural death in Bangladesh and a long-standing social concern. Self-poisoning is a frequently observed method of suicide in this area. Domestic abuse, stalking, eve-teasing, physical and sexual assault, demands for dowry, failure in exams, and romantic disappointments were prominent reasons for suicide among Bangladeshi females. **Aim of the Study:** The purpose of the study was to assess the reasons and patterns of self-poisoning among adult females in Bangladesh. **Method:** This descriptive cross-sectional study was carried out from January 2016 to June 2016 at the Department of Medicine, Dhaka Medical College Hospital, Dhaka, Bangladesh. This study relied on 100 adult female self-poisoning patients as study participants. MS Excel and the SPSS version 23.0 application were used to handle the research. **Result:** The participants' average age was 28.19±9.84 years. Most were from rural areas (62%), 75% were Muslims, 55% were from joint families, and the role of 'housewife' (30%) was the most common job. Family disharmony was the reported reason for self-poisoning in more than one-third (35%) of our participants, while romantic disappointment accounted for 27% of the cases, both notable ratios. Additionally, 8% cited education-related issues, 12% mentioned misunderstandings with parents, 9% attributed self-poisoning to poverty, 5% to chronic illness, and 4% to various other reasons. **Conclusion:** Among adult females in Bangladesh, family disharmony and romantic disappointment are the most common reasons for self-poisoning. Additionally, education-related issues, misunderstandings with parents, poverty, and chronic illness are also cited as contributing factors for incidents of self-poisoning.

**Keywords:** Socio-economic status, Self-Poisoning, Suicide, Assault, Dowry, Pesticides.

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## INTRODUCTION

A self-poisoning episode may be defined as the ingestion or inhalation of a quantity of a substance with a significant potential to cause injury to an individual [1]. Self-harm has frequently been viewed as a problem in the industrialized world, in particular. However, recent research has highlighted its significance in developing nations as well. According to the Global Burden of Disease study, 593,000 individuals committed suicide in the developing world in 1990, representing 15% of all fatalities for any reason in the developing world [2]. Male and female adult suicides are becoming a public health concern in many nations. Females are more likely than males to have suicidal tendencies [3]. Suicide and suicidal ideation are significant problems in numerous nations [4]. The eleventh leading cause of death among adults in the United States is suicide. 19% of adults in the

United States reported suicidal ideation, 15% made a specific plan to attempt suicide, 8.8% reported a suicide attempt, and 2.5% required substantial medical attention, according to a large-scale epidemiologic study. Self-poisoning is the most common method of suicide among adult males and females, according to reports [5, 6]. Suicidal behavior is on the rise, particularly among adult females, and is a significant public health concern in Bangladesh. However, very few studies evaluating and emphasizing the attitudes and suicidal behaviors of our adult female population have been conducted. Numerous studies have evaluated suicide risk factors in adult females [7]. Depression and other mental disorders, substance abuse, a prior suicide attempt, a family history of mental disorder or suicide, family violence, including physical or sexual abuse, and exposure to the suicidal behavior of others, such as family members, peers, or media figures, have been identified as risk factors [9]. In

**Citation:** Faisal Bin Yousuf, Prof. Shyamal Sarker, Tanzila Ferdous, Sayeda Moni Chowdhury, Sayat Quayum. Reasons and Patterns of Self-Poisoning Among Adult Females in A Tertiary Care Hospital-Bangladesh. Sch J App Med Sci, 2023 Dec 11(12): 2072-2076.

a Turkish study, familial conflicts, marital disputes, and psychiatric disorders were identified as common causes of suicide among adult women [10]. Although the risk factors for self-harm in adult females are similar across the globe, the poisoning agents implicated in self-harm in adult females vary. As a result of the fact that the choice of poisonous substances is primarily influenced by social structure, economic standing, level of education, level of public awareness, and availability of poisonous substances [11]. Pesticides used in agriculture pose a significant threat to public health throughout the developing world [12]. Bangladesh is a developing nation that relies primarily on agricultural resources. Organophosphorus compounds are extensively utilized as insecticides in the agricultural sector by farmers. Due to its accessibility, organophosphorus compound (OPC) self-poisoning is prevalent in rural areas among adult females. A study revealed that 7 percent of female fatalities between the ages of 10 and 50 in Bangladesh were attributable to poisoning, with the majority resulting from intentional ingestion of pesticides [13]. A study revealed that 44% of all fatalities among women aged 10 to 50 in Bangladesh were due to poisoning, with the majority resulting from the suicide ingestion of pesticides [14]. In urban areas of Bangladesh, intentional self-poisoning of adult females by insecticide is uncommon, whereas self-poisoning by sedatives such as benzodiazepines is prevalent [15]. In 1994, a study conducted at the Dhaka Medical College Hospital revealed that 36.3% of cases of self-poisoning were due to benzodiazepines, but there were no fatalities. 72.0% of cases in Sub-Saharan Africa, 69.0% of cases in Middle Eastern countries, 15.0% of cases in India, 87.0% of cases in China, 11.0% of cases in other Asian countries, and 36.0% of cases in Latin America and the Caribbean involve the use of medication for self-harm [4]. Self-harming uses pesticides in 13.0% of cases in sub-Saharan Africa, 11.0% of cases in Middle Eastern nations, 59.0% of cases in India, 9.0% of cases in China, 55.0% of cases in other Asian nations, and 27.0% of cases in Latin America and the Caribbean [4].

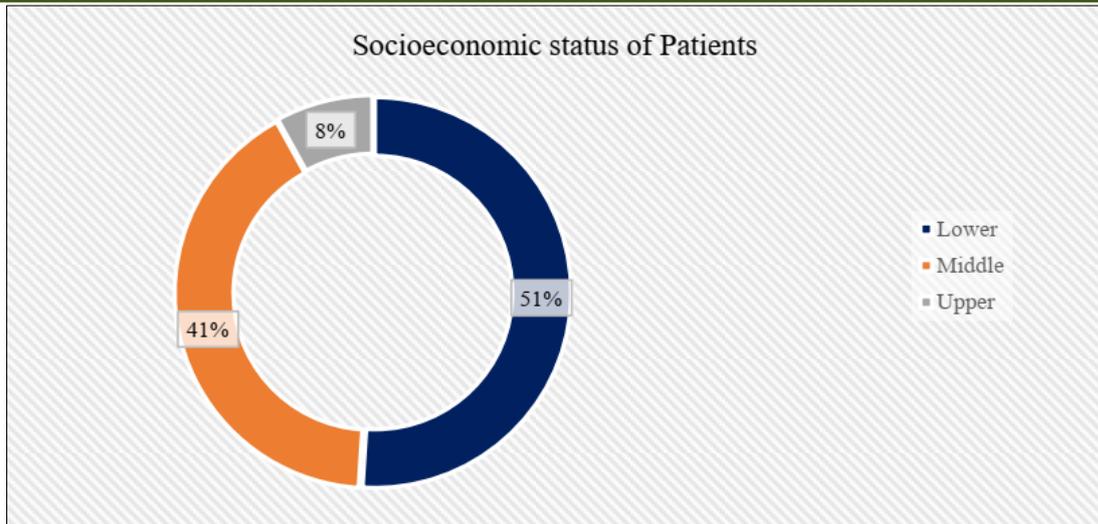
## METHODOLOGY

A descriptive cross-sectional study was carried out in the Department of Medicine at Dhaka Medical College Hospital in Dhaka, Bangladesh, from January 2016 to June 2016. This study included 100 adult female patients with a history of self-poisoning as study participants. Prior to data collection, all participants provided written consent. The ethics committee of the

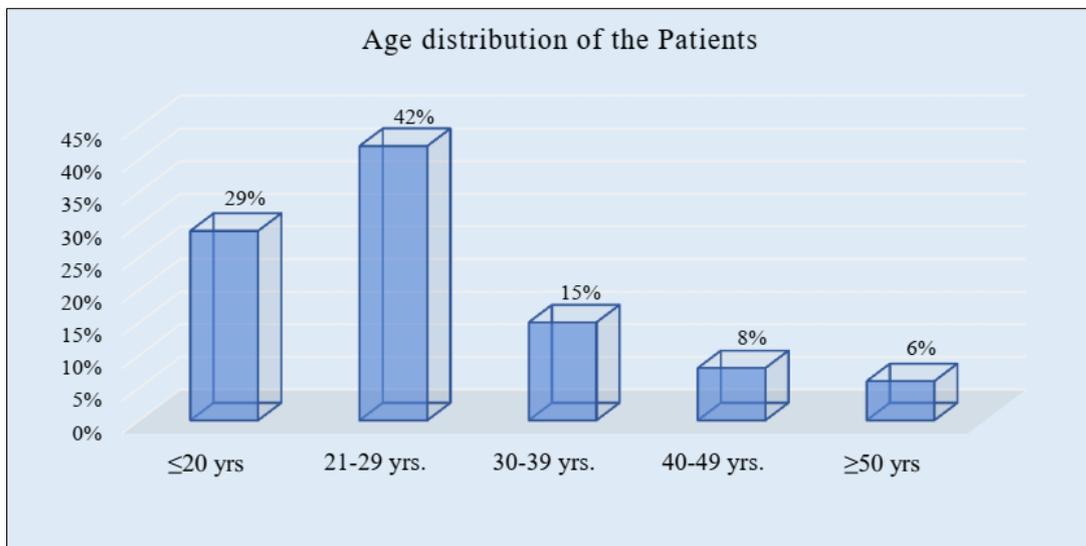
hospital approved the study. The whole intervention was carried out in accordance with the Helsinki Declaration [11], and current rules, as well as the provisions of the General Data Protection Regulation (GDPR) [11]. According to the research's inclusion criteria, all adult female patients hospitalized at Dhaka Medical College Hospital's medicine units with a history of intentional self-poisoning by various substances who were eligible or whose attendant granted approval for this study were included. Self-poisoned patients who were not adults had a history of accidental, homicidal, or travel-related poisoning, and were not ready to give written consent by patients or patients' legal guardians were excluded from this study. All of the subjects' socioeconomic and medical information was collected. As a way to collect data, a pre-designed questionnaire was employed. As needed, all data were processed, analyzed, and distributed using MS Excel and the SPSS version 23.0 application.

## RESULTS

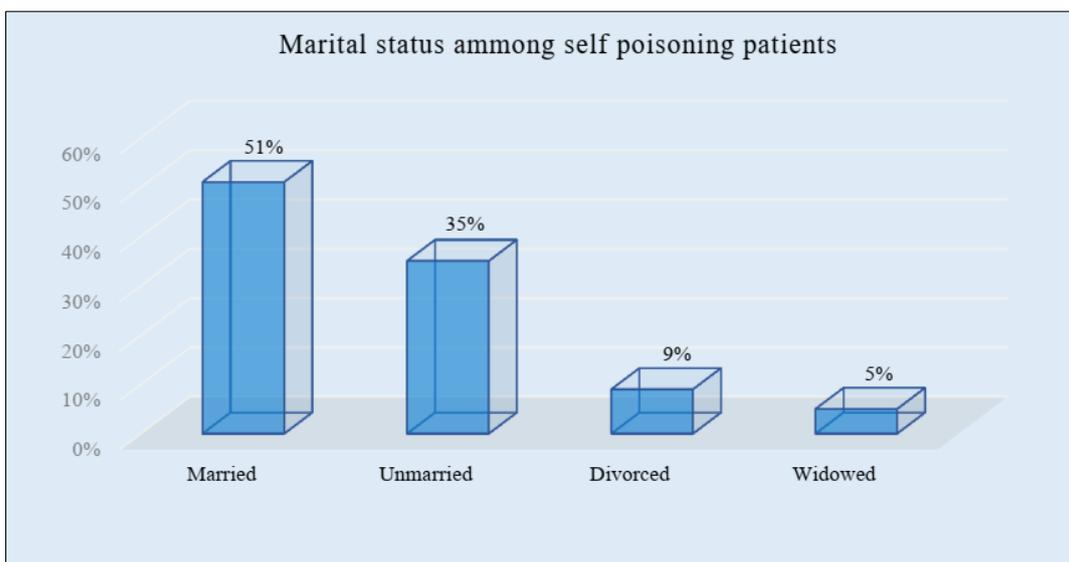
The mean age of the participants was found to be  $28.19 \pm 9.84$  years. The majority of self-poisoning patients (51%) were from the lower economic class, followed by the middle class (41%), and the upper class (8%). It was evident that 71% of the participants were under the age of 30. The majority of self-poisoning participants (62%) were from rural areas, whereas 38% were from urban areas. 75% of self-poisoning female participants were Muslim and 25% were Hindu; 55% of the self-poisoning cases reported were living in a joint family and 45% were from a nuclear family; and 17% reported a previous suicide attempt. Self-poisoning patients, 48% had a primary level of education, 24% had a secondary level of education, 22% had no education, and 6% had a graduate or above educational level. In this study, the majority of self-poisoning patients were married (51%), followed by unmarried (35%), divorced (9%), and widowed (5%). In this study, we discovered that the most typical job in self-poisoning adult female cases was housewife (30%), followed by student (25%), jobless (13%), housemaid (12%), textile worker (8%), day labor (7%) and service holder (5%). In more than one-third (35%) of our participants, the reason for self-poisoning was family disharmony and in 27% of the cases, it was a romantic disappointment. Besides in 8%, 12%, 9%, 5%, and 4% the reasons were education-related, misunderstanding with parents, poverty, chronic illness, and some other reasons respectively.



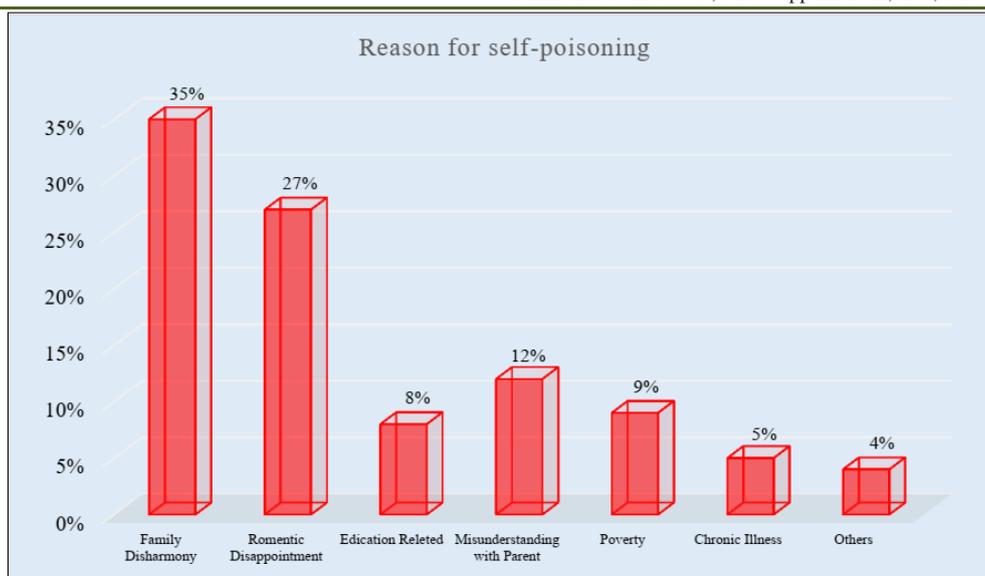
**Figure 1: Ring chart showed distribution of socioeconomic status of the patients (N=100)**



**Figure 2: Column chart showed age wise patients. (N=100)**



**Figure 3: Column chart showed marital status of the patients. (N=100)**



**Figure 4: Column chart showed reason for self-poisoning of the patients (N=100)**

## DISCUSSION

The study aimed to find out the reasons and patterns of self-poisoning among adult females in Bangladesh. It was found from the study that a majority of casualties belonged to the age group 21-29 years (42%) followed by 20-29 years (29%), 30-39 years (15%), 40-49 years (8%) and 50 years above (6%). The maximum number of patients involved in self-poisoning belonged to a family from low socioeconomic conditions. Urban living people were slightly less prone to poisonings by pesticides; however, misuse of medicines and drugs was found to be relatively much higher in those people than in people from rural areas. Due to its easy accessibility, self-poisoning in adult female cases in rural areas is mostly by organophosphorus compound (OPC). It was found that medicines were used in 72.0% of cases in Sub-Saharan Africa, 69.0% of cases in Middle Eastern countries, 15.0% cases in India, 87.0% cases in China, 11.0% cases in other Asian countries and 36.0% cases in Latin America and the Caribbean for self-harming [4]. Pesticides were used as self-poisoning agents in 13.0% of cases in Sub-Saharan Africa, 11.0% in Middle Eastern countries, 59.0% of cases in India, 9.0% of cases in China, 55.0% of cases in Other Asian countries and 27.0% cases in Latin America and the Caribbean for self-harming [4]. A study done by the National Institute of Mental Health and Research (NIMHR) (2014) [16], reveals that 28 people commit suicide each day in Bangladesh and most of them are young females between 15 and 29 years. The number of incidents has grown over the last four years. According to Konradsen's report, [17] suicidal tendencies among women in Bangladesh are higher, because of their inferior status in society. Another factor is a higher rate of illiteracy and their economic dependence on men. In our study in over one-third (35%) of the participants, family disharmony was identified as the reason for self-poisoning, while in 27% of the cases,

it was attributed to romantic disappointment. Additionally, 8%, 12%, 9%, 5%, and 4% reported education-related issues, misunderstandings with parents, poverty, chronic illness, and other reasons, respectively. Suicidal poisoning in Bangladesh is attributed to several significant reasons, including a lack of education, frustration, familial disharmony, failure in love affairs, failure in examinations, and the ready availability of poison [18, 19]. The socio-economic conditions prevalent in developing countries contribute to higher suicide rates compared to the Western world. The patterns of poisoning can change over time and exhibit variations not only between countries but also within different regions of a single country [20, 21].

## CONCLUSION & RECOMMENDATION

The findings of this study underscore the predominant role of family disharmony and romantic disappointment as primary motives for self-poisoning among adult females in Bangladesh. Moreover, education-related challenges, misunderstandings with parents, financial constraints, and the burden of chronic illness emerge as additional factors contributing to incidents of self-poisoning. Understanding these multifaceted triggers is crucial for the development of targeted intervention and support strategies to mitigate self-harm risks in this population.

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