



Prevalence of Deliberate Self-Harm among Egyptian Patients with Substance Use Disorder

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Abstract: Background: Substance use disorder is one of the most prevalent and costly psychiatric disorders. It is a problematic pattern of drug use leading to clinically significant impairment or distress. **Aim of this study:** assess the prevalence of deliberate self-harm among patients with substance use disorder. **Method:** a descriptive research design was used to carry out the research on 305 patients with substance use disorder who attended at the Inpatient and Out-patient Addiction unit of Psychiatric Department of Mansoura University Hospital. **Results:** results of the current study revealed that more than half of the study sample (63.0%) were between 20 to 35 years and the majority of them were males (97.4%). Also, the most frequently abused substances among the studied sample were tramadol followed by hashish then heroin. The percentage of deliberate self-harm among the studied sample was 21.3% and the most frequently reported self-harming behavior among them was self-cutting (83.1%) followed by head banging against something (23.1%). **Conclusion:** A good percentage of patients with substance use disorder are having deliberate self-harm behavior and the most frequently reported self-harming behavior among those with a history of deliberate self-harm was self-cutting followed by head banging against something.

[Sally Abdallah Mohamed El-Sherbiny Tarabih, Mona Ahmed El-Bilsha, Hala Ahmed El-Boraie. **Prevalence of Deliberate Self-Harm among Egyptian Patients with Substance Use Disorder.** *Nat Sci* 2020;18(10):22-29]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). <http://www.sciencepub.net/nature>. 3. doi:[10.7537/marsnsj181020.03](https://doi.org/10.7537/marsnsj181020.03).

Key Words: Substance use disorder, deliberate self-harm.

1. Introduction:

Substance Use Disorder (SUD) is considered one of the serious health issues worldwide, as the percentage of substance abusers is constantly escalating (Aydin, Evrensel & Ceylan, 2018). SUD is avertible and curable chronic conditions that influence a great extent of patient functions, physical and psychological health, social relationships and their environment (Muller & Clausen, 2015).

The United Nations Office on Drugs and Crime (2019) states that 271 million people worldwide (5.5 % of the world population) aged 15–64 had used drugs at least once in 2017, among them 35 million suffer from drug use disorders. Also, higher than 11 million people all over the globe inject drugs, of whom approximately 1.4 million are living with human immunodeficiency virus and 5.6 million worldwide are living with hepatitis C.

All drugs of abuse stimulate the mesolimbic pathway, a dopaminergic track which usually called as the “reward pathway,” in the subcortex, this give pleasurable and reinforcing feelings, this rewarding experience boost intense memories that motivate ensuing attitude to get back that pleasurable experience (Compton & Chang, 2017).

Addiction is accompanied by various dangers which involve; mortality, contagious diseases, excessive dose intake and distorted mental condition and social relations (Martins et al., 2017). Also drug addicts may encounter different kind of harm associated with substance use, such as low level of education, unemployment, legal problems, suicidal ideation and attempts, and life loss (Whiteford et al., 2013).

Various studies find significant relationships between drug addiction and self-harm in clinical populations (Moller, Tait & Byrne, 2013). Deliberate self-harm (DSH) also referred to as (non-suicidal self-injury) is a behavior frequently coming to attention of the researchers and it is defined as the intentional, direct destruction or alteration of body tissue without conscious suicidal intent, but causing injury severe enough for tissue damage to happen (Gratz, 2001; Sarno, Madeddu, & Gratz, 2010).

DSH includes a variety of behaviors such as burning or scratching the skin and cutting the self. It can also involve; head banging, hitting the self, fracturing of bone, hinder wound healing, pulling of hair and nail biting that results in bleeding (McKenzie & Gross, 2014). Self-cutting is the most frequently

reported kind of deliberate self-harm in both clinical and non-clinical populations and found in 70%–97% of individuals who self-harm. Banging the head and limbs is also usually stated as the second most common form of self-injury after cutting of the self, and occur in 21%–44% of people with self-harming behavior (Moller et al., 2013).

Self-harm is also utilized to regulate negative emotions as doing these behaviors is often reinforcing and divert from the negative affect (Chester, Merwin & DeWall, 2015). The affect-regulation model of self-injury demonstrates that people perform deliberate self-harming behavior when they are emotionally distressed to relieve negative emotions in the absence of better control (Hack & Martin, 2018).

Recent work suggests that individuals who engage in DSH often experience strong urges to self-injure (Victor, Glenn & Klonsky, 2012). In many studies, individuals report different kinds of negative emotions before DSH including tension, anxiety, nervousness, anger, sadness, frustration and self-hatred (McKenzie & Gross, 2014) as DSH is primarily repeated by negative reinforcement, and particularly the mitigation of aversive negative emotional conditions (Victor et al., 2012).

Significance of the study:

Researchers find that deliberate self-harm is consistently growing in prevalence and is connected with a wide extent of other negative consequences, it interferes with therapy, social relationships, and can accidentally lead to death (Gratz, 2001). Self-harm can also exacerbate and reach to suicidal behaviors as the intention to death can alter from time to time. One study revealed that nearly half of patients who engage in self-harm informed at least one previous suicide attempt (Klonsky, Muehlenkamp, Lewis & Walsh, 2011). So, it is necessary to carry out this study to assess deliberate self-harm among patients with substance use disorders, as little studies in Egypt focused on self-harming behaviors in between substance use disorder patients.

Aim of the study:

This study aims to assess the prevalence of deliberate self-harm among Egyptian patients with substance use disorder.

2. Subjects and Method:

Study design:

This is a descriptive study.

Setting:

The study was conducted at the Inpatient and Out-patient Addiction Unit of Psychiatric Department of Mansoura University Hospital. The addiction department consists of detoxification unit which contains 10 beds and rehabilitation unit which contains 20 beds, gym room and recreational hall that include

play station, video games and billiards table. The inpatient unit utilizes many programs like; cognitive behavioral therapy, aspects of alcoholic anonymous and relapse prevention programs. The department provides continuous monitoring and education for the discharged patients, also the outpatient unit offers a weekly follow up for the patients (on Sunday and Wednesday) beside individual sessions by trained psychologists.

- Patient's turn over: 843 (inpatient and out-patient cases) / 6 months.

Study sample:

A convenient sample for six months of patients fulfilled the following inclusion criteria:

- a- All patients diagnosed with substance use disorder, according to the patients records.
 - b- Age: 15 to 60 years.
 - c- Patients ready to take part in the study.
- The study sample included 305 patients.

Exclusion criteria:

a- Patients diagnosed with substance induced psychosis and psychiatric comorbidity with substance use disorders.

Tools: 3 tools were utilized to collect data in this study:

Tool (1): Socio-demographic and clinical characteristics sheet:

- This sheet was developed by the researcher to cover the clients socio-demographic characteristics, namely; patients age, sex, marital status, educational level, occupation, residence, income, housing, number of family members and patients order.

- Clinical data, namely; age of onset of substance use, reason of starting substance abuse, types of abused substances, amount of cigarette smoking, previous admission to a psychiatric hospital, number of relapses and reason of relapse, etc.

Tool (2): Deliberate self-harm inventory (DSHI):

DSHI is a seventeen items self-report measure designed by Gratz (2001) that assesses the history of DSH, involving frequency, duration, and types of DSH behavior. This scale assigns self-harm behaviors as those that are "deliberate, direct destruction or alteration of body tissue without conscious suicidal attempt, but causing injury severe enough for tissue destruction (e.g., scarring) to happen.

Participants are asked whether and how many times they involved in various kinds of behaviors purposely and the last time they involved in these behaviors. A dichotomous DSH variable was designed by putting a score of "1" to the participants who reported having engaged in DSH, and a score of "0" to those who did not inform engaging in any of the behaviors of the DSHI (Martin, White, Flanagan, Yensel & Bloomberg, 2011).

The scale was translated into Arabic language by the researcher then revised by 5 experts in specialty of psychiatric nursing and psychiatry. The reliability of the Arabic version was tested by test-retest on the same patients with 10 days interval in the same setting. Correlation of test –retest between different items of the scale was calculated by Weighted Kappa (Kw) that showed perfect Kw (Kw= 1.000).

Ethical considerations:

An ethical consent was taken from the Research Ethical Committee of the Faculty of Nursing – Mansoura University. An official permission for carrying out the study was gained from the Head of Psychiatric Department of Mansoura University Hospital. Patients were notified about the aim, risks, benefits and procedure of the research. They were also informed that participation in the study is voluntary. An informed consent was taken from those who agreed to take part in the study. Participants were assured that their personal data will be kept confidential. They were also informed that they can leave the study whenever they want without penalty.

Statistical analysis:

Data was analyzed using SPSS (Statistical Package for Social Sciences) version 21. Qualitative variables were presented as number and percent.

3. Results:

Table (1) shows that the age of the study sample ranged from 15 to 60 years with a mean \pm SD of

30.94 \pm 8.20. More than half of them (63.0%) were between 20 to less than 35 years. The majority of the sample was males (97.4%). As regards the level of education (11.8%) of the studied sample were illiterate, (33.8%) read and write/primary/prep, (39.7%) had diplome and (14.8%) had university education. Regarding to the marital status nearly half of the study sample (49.8%) was married while single and divorced/separated were (43.9% and 6.2%) respectively. The majority of the study sample were manual workers (78.7%). According to the age of onset of abuse, about half of the study sample (50.8%) were between the age of 10 to 19 years old followed by 20- 35 age group (44.6%) with mean \pm SD of 20.75 \pm 6.99. As regards the reason of starting abuse, two thirds (66.6%) mentioned the peer pressure followed by curiosity (25.9%). According to the abused substances, tramadol (59.0%) was the most frequently abused substance among the studied sample followed by hashish (36.1%) then heroin (35.1%).

Table (2) and figure (1): show that the percentage of deliberate self -harm among the studied sample was 21.3% with 52.3% of them reported history of only one incident of self -harm, 10.8% reported 2 incidents of self -harm and 36.9% reported more than 2 to 5 incidents of self -harm.

Table (3) shows that the most frequently reported self-harming behavior among the self – harming participants was self-cutting (83.1%) followed by head banging against something (23.1%).

Table (1): Socio-demographic characteristics and clinical data of the studied patients (n=305):

Socio-demographic characteristics	Number	Percent
Age:		
15 - less than 20	17	5.6%
20 - less than 35	192	63.0%
35 - 60	96	31.5%
Mean \pm SD	30.94 \pm 8.20	
Sex:		
Male	297	97.4%
Female	8	2.6 %
Education:		
Illiterate	36	11.8 %
Read and write/ primary/prep	103	33.8 %
Diplome/ secondary school	121	39.7 %
University education	45	14.8 %
Marital status:		
Single	134	43.9 %
Married	152	49.8 %
Divorced/Separated	19	6.2 %
Occupation:		
Not working	30	9.8 %
Professional	33	10.8 %

Socio-demographic characteristics	Number	Percent
Manual worker	240	78.7 %
House wife	2	0.7 %
Age of onset of abuse:		
10 - less than 20	155	50.8 %
20 - less than 35	136	44.6 %
35 - 52	14	4.6 %
Mean± SD	20.75± 6.99	
Reason of starting abuse:		
Peer pressure	203	66.6 %
Curiosity	79	25.9 %
Primary used to treat a physical pain	17	5.6 %
Escape from problems	6	2.0 %
Abused substances:*		
- Tramadol:	180	59.0%
- Hashish:	110	36.1%
- Heroin:	107	35.1%
- Bango:	84	27.5 %

*Answers are not mutually exclusive

Table (2): Percentage of deliberate self-harm among the studied sample (n=305):

Deliberate self-harm	N	%
No	240	78.7 %
Yes	65	21.3 %

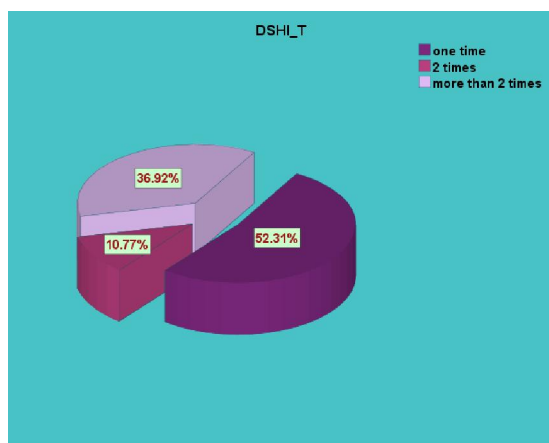


Figure 1. Frequency of deliberate self-harm acts among self-harming patients (n=65).

Table (3): Frequency distribution of deliberate self-harm behaviors among self-harming participants (n=65):

Deliberate self – harm inventory:	N	%
1. Intentionally cut your wrist or other areas?	54	83.1 %
2. Burned yourself with a cigarette?	0	0
3. Burned yourself with a lighter or a match?	1	1.5 %
4. Carved words into your skin?	0	0
5. Carved pictures, or other marks into your skin?	1	1.5 %
6. Severely scratched yourself?	2	3.1 %
7. Bit yourself, to the extent that you broke the skin?	0	0
8. Rubbed sandpaper on your body?	0	0
9. Dripped acid onto your skin?	0	0
10. Used bleach or oven cleaner to scrub your skin?	0	0
11. Stuck sharp objects into skin?	0	0
12. Rubbed glass into your skin?	0	0
13. Broken your bones?	0	0
14. Banged your head against something?	15	23.1 %
15. Punched yourself?	0	0
16. Prevented wounds from healing?	0	0
17. Done other behaviors to hurt yourself?	0	0

4. Discussion:

Substance abuse is one of the devastating issues that worry the Egyptian government, as it affects young people during the age of work and productivity. It may result in many problems such as bad social adaptation, decreasing productivity at work or dismissing from job (**Eldabah, Alfadaly, Amer, Fathy & Mohammed, 2018**). Substance use is a precipitating risk factor for self-harm and committing suicide (**Breet, Bantjes & Lewis, 2018**). Therefore, this study was conducted to assess deliberate self-harm among patients with substance use disorder.

The present study demonstrated that more than half of the study population were between the age group 20-35 years with a mean±SD of 30.94±8.20. This may be due to the increased stress, strain and demands during this period, which may lead them to use substances as a way of relief, also this period is characterized by starting work, getting immersed and influenced by their peers.

This result corroborates with **Hamdi, Sabry, Sedrak, Khowailed & Loza (2016)** cross-sectional community-based survey which revealed that drug addiction is more common between the age of (26-35). Moreover, the study done by **Shahin, Fouad, Saleh & Magdy (2018)** which conducted at Psychiatry and Addiction Medicine Hospital in Cairo University found that the mean age of patients with substance use disorder was 29.05.

The current study revealed that the study population were mostly males. This may be due to the high stigma associated with girls than boys using substance or even smoking cigarettes so it will be very shameful for girls to come to the outpatient addiction clinic seeking treatment. This is in agreement with **Cantão & Botti (2016)**; **El-Awady, Elsheshtawy, Elbahaey & Elboraie (2017)**; **Ahmed, Farid, Fathy & Ahmed (2018)**; **Rodríguez-Cintas et al. (2018)** who revealed that the percentage of substance abuse was higher in male sex than in female sex.

The present study showed that the highest percentage of drug abuse was among patients who only read and write and those with diploma. This result is supported by the high levels of manual workers in the sample who had low levels of education and use the substance like their peer to increase their work performance. This result comes with what was reported by **Eldabah et al. (2018)** cross sectional study which included 500 persons attended the outpatient clinics of Al-Azhar university hospitals and revealed that substance abuse was significantly lower among patients with high education level compared to those with medium education and no education.

On the contrary, the study conducted by **Ihongbe & Masho (2016)** which included 55940 US young adults to assess pattern of heroin use found that the

highest percentage was among those with college education or more. Additionally, **Abd-Elwahab & Amin (2012)** cross sectional study which conducted at Kasr El Aini psychiatric inpatient ward demonstrated that the highest percentage of drug abuse was among patients had university education.

Regarding to the marital status the present study revealed that the percentage of drug addiction in between married and non-married patients were nearly the same. This finding is inconsistent with the cross sectional study of **Sau, Mukherjee, Manna & Sanyal (2013)** which conducted in India and found that the highest percentage of their sample was married. Also, this result is different from **El-Sherbiny (2015)** cross-sectional study, which carried out on 218 patients attended at Tanta university outpatient clinic, which found that drug abuse was lower among married individuals compared with those who were single, widow, or divorced. Additionally, **Shafiei, Hoseini, Bibak & Azmal (2014)** cross sectional study done in Iran and demonstrated that 60.2% of their studied sample were single, 35.3% married and 4.5% separated, respectively.

The finding of this study revealed that more than two thirds of the studied sample were manual workers. This may be due to the nature of their work as most of manual workers use it initially, believing that it will only increase their working performance, give them energy and delay feeling of tiredness so they don't use it initially for the addictive purposes. This finding is in an agreement with **Eldabah et al. (2018)** study which showed that drug abuse was significantly higher among workers. Although, this result is inconsistent with **El-Sawy, Abdel Hay & Badawy (2010)** who reported that the lowest percentage of drug dependence in male was among manual workers.

In relation to the age of onset of substance abuse the present study showed that more than half of the studied patients were between 10-19 age group (mean± SD of 20.75± 6.99). This may be due to the nature of the adolescence period, which characterized by an increase in risk-taking and novelty seeking behaviors, also adolescents are highly influenced by their peers which is supported by the high percentage of peer pressure reported by the studied patients as a motive for starting abuse.

Similarly, **Hamdi et al. (2013)** national survey showed that the highest onset of substance use was between the age group (15 to 19) with the mean age of onset is 20.8 years (SD = 8.1 years) followed by the age between 20 and 25 years. Also **Bassiony et al. (2018)** found that the age of onset of substance use was 17.6 years among a sample of Egyptian University students diagnosed with substance use disorders.

The current study showed that two thirds of the studied subjects reported that the main reason for initiation of substance use was peer pressure followed by curiosity. This may be explained by their need to blend in with their peers because they see everyone else doing it and for them it is a method for spending time with peers and of being accepted, also they may fear that if they disagree they might lose possible friends.

These findings are to some range agrees with the study carried out by **Boulos, Abdel-Hamid & Nagy (2013)** at Ain Shams University addiction cessation clinic, which stated that the most frequently reported reason by studied patients for starting of substance abuse were trial, followed by sharing friends and workmates, then work issues. Also, **Bassiony (2013)** reported that peer pressure and psychosocial stresses were the major precipitating factors for initiation of substance abuse among Saudi Arabia patients in addiction treatment settings. Although, this result is inconsistent with the study carried out by **Varshney, Semwal, Srivastava, Vyas & Sati (2014)** in India, which revealed that the prime motive for starting drug use was for enjoyment.

The present study showed that the most frequently abused substances among the studied sample were tramadol followed by hashish then heroin. This may be explained by the availability of these substances and most of the patients use tramadol initially to increase their working hour, to keep them alert and to increase their sexual ability, also most of people firstly use hashish and bango believing that it's not an addictive substance and use it as a recreational plant then addicted it. This result is consistent with **Abd-Elwahab & Amin (2012)** study which demonstrated that tramadol followed by cannabis and heroin were the commonly used substances. Similarly **Shahin et al. (2018)** revealed that the tramadol was the most prevalent substance abused, followed by heroin and cannabis. Although, in Kuwait, **Omu et al. (2017)** found that hashish was the most prevalent used illicit material by the teenagers, followed by alcohol.

Results of the current study showed that the percentage of deliberate self-harm among the studied sample was 21.3% with 52.3% of them reported history of only one incident of self-harm, 10.8% reported 2 incidents of self-harm and 36.9% reported more than 2 to 5 incidents of self-harm. This result may be explained as follow, most of self-harming patients use deliberate self-harm as a method of ventilating their negative emotions, also some of them reported that they got relieved by the sight of blood and some reported that they directing their anger toward themselves instead of directing it toward their families or significant others.

This result agrees with **Martin et al. (2011)** study, which was conducted on 455 inpatients at 3 substance abuse centers in the Northeastern United States and released that 32% of participants informed a history of DSH, with all self-harming participants reporting >1 episode, 53% reporting >5 lifetime episodes, and 19% reporting >10 lifetime episodes.

This finding is in the same line with the study of **Gratz & Tull (2010)** which demonstrated that 30 percent of addicted patients informed a history of DSH, with all patients with self-harming history reported more than one episode, 50 percent reported more than 5 lifetime episodes, and 22 percent reported more than 10 lifetime episodes. Also, **Moran et al. (2015)** prospective study, which done in Australia found that 11% of adolescent substance users reported self-harm.

Additionally, these results are consistent with **Buckholdt et al. (2015)** study, which included 82 patients admitted at a residential substance abuse treatment facility in the Southern United States, which revealed that 35 % of the participants informed at least one incident of DSH, with 21 % reporting clinical levels of DSH (at least 5 incidents or two forms of DSH).

The present study demonstrated that the most frequently reported self-harming behavior among the studied sample with history of deliberate self-harm was self-cutting followed by head banging against something. This finding is consistent with **Martin et al. (2011)** study, which found that the most frequently reported type of DSH among self-harmers was self-cutting. Additionally, this result is in harmony with **Buckholdt et al. (2015)** who found that cutting was the commonest type of DSH reported by the patients followed by carving. Also, this finding agrees with the study of **Gratz & Tull (2010)** in Northeast Washington which released that the most repeatedly reported form of DSH among self-harming participants was self-cutting.

Conclusion

It can be concluded from the current study that a good percentage of patients with substance use disorder are having deliberate self-harm behavior and the most frequently reported self-harming behavior among those with a history of deliberate self-harm was self-cutting followed by head banging against something.

Recommendations:

The following recommendations are suggested based on the results of this study; further investigate different psychological and biological precipitating factors for deliberate self-harm among patients with SUD. Training programs for nurses are needed about

different kind of psychosocial therapies used with substance use disorder patients, also nurses need to be educated about deliberate self – harming behaviors and its ramifications which may reach to suicide.

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