Does the Assertiveness Skills Training Program Affect the Development of Sobering Behavior Among Drug Abusers? A Quasi-Experimental Study

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ABSTRACT

Background: Losing control over drug use and using excessive amounts of drugs without thinking about the repercussions is known as substance misuse. The ability to articulate thoughts and feelings in a certain way can be enhanced *via* the use of developed and created assertiveness skills training programs, which will significantly improve drug users' capacity to say no and make the right choices.

Aim: Investigating the effectiveness of assertiveness skills training programs in developing sober behavior among drug abusers.

Methods: One group underwent a pre-and post-test under a quasi-experimental design. A purposeful sample of 90 male patients with substance use problems participated in the study at the psychiatric and addiction treatment hospital in Meet-Khalaf, which is associated with the Ministry of Health in the Menoufia Governorate, Egypt. Three valid and reliable instruments were used to achieve the objectives of the current study, including demographic and personal data, assertion behavior, Zagers's addiction potential scale and relationship inventory.

Results: There was a highly statistically significant improvement in the level of assertiveness skills in drug use post-intervention than before at $p \leq 0.001$, and there was a highly statistically significant improvement in all dimensions of assertion in drug use. Also, there was a highly statistically significant reduction in the potential for addiction among the participants post-intervention compared to pre-intervention at $P \leq 0.01$.

Conclusion and recommendations: The assertiveness training in this study positively affected the reduction of drug use propensity, leading to meaningful improvement in the level of assertiveness skills of the studied participants post-intervention. Therefore, it is recommended that assertiveness

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skills training programs must be disseminated to all psychiatric hospitals and addiction treatment centers. Assertiveness training for nurses should be continuous, on a regular basis in order to empower them with the skills necessary to detect, prevent, and treat drug abuse as early as possible. The communities that make an effort to come together in the fight against drugs are sure to make an impact on the prevention of drug abuse. There are many places to establish these prevention programs, including schools, churches and community based clubs.

Keywords: Drugs; Abuse; Assertiveness; Sobering; Program

INTRODUCTION

Substance abuse can be described as losing control over substance consumption, involving an extreme amount of drug use without considering the negative consequences. The drugs mainly affect the reward system in the brain by sending 2 to 10 times more dopamine than what is usually produced in the receptors and synapses. Consequently, a substance abuser will not experience pleasure with the normal amount of dopamine and the abuser's body will be dependent on the illegal substances, which is a severe form of substance use disorder characterized by chronic drug seeking and drug use resulting in dysregulation of the reward system [1].

Ten percent of Egyptians use drugs, 27.5% are females, and 24% are drivers who rely on drugs to stay awake. Children or young people between the ages of 12 and 19 are disproportionately affected by drug use. Around 38% do so for experimentation and 25% do so for creativity. Peer pressure is another factor, with 36.6% abusing drugs for social acceptance and 29% because they are dared by others [2]. To our knowledge, there were a few pieces of research that were done in the field of psychosocial interventions, including assertiveness training as a part of rehabilitation for drug abusers to develop sobriety behaviors. Research identifies several risk factors that contribute to substance abuse and dependence, which are mostly curiosity, peer pressure, loneliness and a dysfunctional family system. According to the psychosocial developmental stage, the adolescent age of the substance abuser is among the factors that interfere with the initiation of drug abuse as adolescents in this stage go through experiencing new and different roles, activities and behaviors with a full sense of curiosity seeking the formation of their identities. In the same line, found that the adolescent age of first use ranges from 13.2 years for alcohol to 15.2 years for cocaine, which confirms that psychosocial development of identity as a virtue occurs between the ages of 12 to 18 years old. Furthermore, many substance abusers begin abusing in their early adulthood, making it difficult for them to maintain positive relationships with others and to feel lonely. Furthermore, peer pressure plays an important role in this stage where an adolescent gets affected by their peers and tries the same things to keep up their relationships [3].

Significant of the Study

Over the last few decades, substance abuse has become one of the world's most serious and rapidly growing problems. It is essential to regularly update the prevalence studies on mental illnesses, including substance use disorders, so that prevention and management plans can be adjusted accordingly. The escalating substance abuse and addiction issues emulating from Egypt are fast-becoming well-known issues, which can no longer be swept under the rug by Egyptian officials and decision-makers. Although Egyptian drug addicts are on the rise, recent reports confirm there is a rise in those seeking treatment [4]. The percentage of patients who had been treated previously and readmitted again was 82%, which indicates an increased number of relapses among drug users, which is more than new detected situations. In addition, despite the increasing efforts of the Egyptian government, which are aligned with preventing and treating drug abuse, there is growing evidence indicating that drug users are increasing [5]. Additionally, there are, however, many rehab centers in Egypt that are illegal, unqualified and unsupervised by the government. To the best of our knowledge, the drug users treated in governmental addiction hospitals didn't wait to complete the rehabilitation program during their hospitalization. Besides, a few research studies were conducted in Egypt to assess the social and assertive skills of drug users. Additionally, the results of previous studies confirmed that training social skills contributed effectively to reducing the number of patients admitted and preventing relapse. Therefore, we looked into investigating the effectiveness of the assertiveness training program in developing assertive behavior among drug users at the psychiatric and addiction treatment hospital in Meet-Khalaf affiliated with the Egyptian general secretariat of mental health, Menoufia Governorate, Egypt [6].

Aim of the Study

An evaluation of the effectiveness of assertiveness skills training programs in developing sobering behavior among drug abusers. More specifically:

- Assess participants' assertiveness behaviors pre/post interventions.
- Assess participants' quality of their relationships and the support received from the key relationships in life to check their eligibility to participate in the study. (Pre only).
- Find the association between the participants' demographic background and their social skills in pre/post assessment.

Research questions

- What is the participant's level of knowledge concerning assertive behavior?
- What is their relationship quality and the support they receive from their key relationships?
- Is there any association between the participants' demographic background and their social skills?

Hypothesis

The study tried to test the following two hypotheses:

- Teaching assertive programming skills is effective in developing sobering behavior among study participants.
- Teaching assertive programming skills is not effective in developing sobering behavior among study participants.

MATERIALS AND METHODS

Study Design

The research design for this study is a quasi-experimental one-group with a pre and post-test [7].

Study Area/Setting

The study was conducted in the psychiatric and addiction treatment hospital in Meet-Khalaf affiliated with the ministry of health at Menoufia Governorate, Egypt. The hospital is located in the Meet Khalaf village, Menoufia Governorate and has 300 beds dealing for both genders [8]. The hospital has 25 beds reserved for emergency cases that are severe and advanced in addition to the outpatient department. Due to the increasing number of patients, the priority of admission is usually given to severe urgent cases. All admitted patients go through many stages starting with detoxification, which is mandatory, while other stages of rehabilitation are optional. The hospital received patients either through the secure ward or they have referred by the anti-drugs directorate or police. On the other hand, some patients admit themselves or are admitted by their families [9].

Study Subjects and Sample Size Calculation

The study population was a non-probability sample (convenient technique) of male drug addicts who were referred to the psychiatric and addiction treatment hospital in Meet-Khalaf affiliated to the ministry of health in Menoufia Governorate, Egypt during a period of data collection. The following inclusion criteria were used to choose the participants: Being at least 18 years old, having a history of drug addiction as determined by a nurse or doctor based on a drug test and being past the point of recovery from withdrawal symptoms having no psychotic symptoms, giving informed consent, being willing to engage, scoring low or below average on Pierce's social relationship inventory and expressing informed permission. The individuals were questioned after the required coordination was completed and approval was secured from the hospital management

[10]. Once the necessary coordination was made and permission was obtained from the Manager of the hospital, the study's participants were asked to sign up voluntarily. About 5 addicts refused to participate in the data collection, 4 patients left the study after finishing the study instruments, and 9 addicts had their data missing, thus they were not included in the analysis. A non-probability convenient sampling technique was employed to select a group of drug abusers who were admitted to the hospital setting and agreed to participate in the study out of all patients who met the inclusion criteria and consented to do so [11]. 90 male patients with substance use disorders made up the final sample, which was chosen on purpose. All patients who met the inclusion criteria and agreed to take part in the study were contacted. A purposeful sample of 90 male patients with substance use problems made up the final sample (Figure 1).
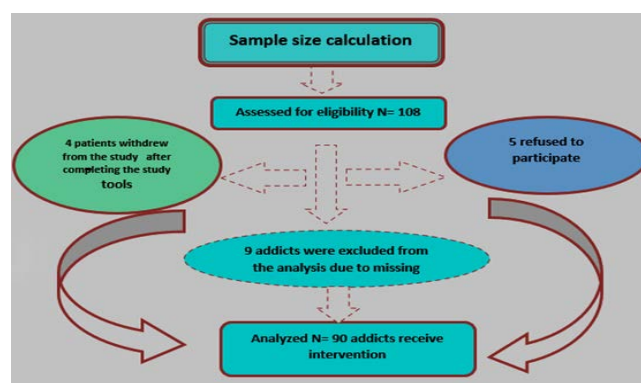

Figure 1: Sample size calculations (Consort study flow diagram).

Data Collection Instruments and Measurements

Personal information: Sheet which enquires the subjects about their level of education, job, age, and duration of drug dependency, did they attend any workshops before, type of drug dependency, etc. [12].

The Zager's addiction: Potential scale is a self-reported tool for assessing an individual's sensitivity or vulnerability to Substance Abuse (SA), whether they are actively abusing or not. The scale was created by Wade and Boucher and efforts have been made to ascertain its reliability in Iran. Based on the social and psychological background of Iranian society, Zarger developed the Iranian Addiction Potential Scale (IAPS). The scale consists of 36 items, each of which is scored on a four-point scale (being absolutely disagreed to 3 being completely agreed), as well as five lie detector statements questions 12, 13, 15, 21, and 33 that are reverse-scored. The IAPS evaluates two factors: the first is active potential which measures antisocial conduct, drug usage propensity, positive attitudes about substances, and excitement (28 items). The second factor is the negative potential (9 items) is related to lack of self-assertion and depression. The total points of each question on the questionnaire, ranging from 1 to 118 (excluding the lie detector scale), must be added together. The likelihood of the respondent becoming addicted increases

with higher scores and vice versa. Prior studies found that the scale has a good level of internal consistency (Cronbach >0.90, for active potential >0.91 and for passive potential >0.75). Good psychometric qualities for the entire scale were also observed by Zarger and Ghaffari (Cronbach >0.90; 0.91 and 0.75 for active and passive potential, respectively). According to a study, the active and passive potentials for the entire scale have Cronbach alpha values of 0.87, 0.85 and 0.70, respectively [13].

Assertion Questionnaire in Drug use (AQ-D): It was utilized to evaluate assertiveness in refusing drugs. The questionnaire has 40 items and six subscales, including: General assertiveness (items 5,11,17,23,30,35); good feedback (items 1,7,13,19,26,32); negative feedback (items 2,8,14,20,27,33); drugs (items 3,9,15,21,28,37); authority (items 4,10,16,22,29,38) and heterosexual (items 4,10,16,22,29, (items 6,12,18,24,25,31,34,36,39,40). When working with substance abusers, where assertiveness or social skills training is a key intervention, this metric is seen to be especially helpful. It was scored on a scale of 1 to 4 with 1 being the least complimentary to me (always descriptive of me). The sum of the 40 item scores represented the final score. The lowest and highest scores were 40 and 160 respectively. The remaining content sections (each with six items) varied from 10 to 40 on the general subscale [14].

Quality of Relationship Inventory (QRI): It is a self-assessment questionnaire developed by Pierce and Sarason to measure the support received from key relationships in life. This inventory consists of 25 questions with three subscales of social support, depth of relationships, and conflicting relationships: support (7 items), depth (6 items) and conflict (12 items). The support subscale assesses the perceived availability of social support from specific relationships. While the depth subscale measures the extent to which the relationship is perceived as positive and important. In addition to the conflict subscale, which was used to determine whether the relationships were conflictual or ambivalent, the following variables were considered. Each item is assessed on a 4-point likert scale ranging from 1 (not at all) to 4 (very much) [15]. Scores are obtained through their subscales, by calculating the means of the items that constitute each subscale. Higher scores in the support and depth dimensions mean better quality of the relationship, whereas higher scores in the conflict dimension are interpreted in terms of lower quality of the relationship. Pierce and Sarason reported the reliability of the tool as Cronbach's alpha of the subscales of social support, depth of relationship, and conflicting relationships as 0.83, 0.88 and 0.86, respectively. The questionnaire was translated into Arabic and a back translation will be used to verify the validity of the Arabic version, and then reliability will be reported after piloting [16].

Validity and reliability of the scale: To ensure the content validity of the scales, a back translation was done from Persian to English The back translation was used to verify the used tool as it will be translated into the Arabic language to ensure its easy understanding by the participants whose mother tongue is already the Arabic language. After that, a peer review for the Arabic version was done by distributing it to a panel of experts in psychiatric nursing, psychology and social sciences. The reliability of the tool is ensured through conducting a pilot study, which might reflect the clarity of the statements, the needed time to fulfill the tools and any ambiguities in understanding and comprehension [17].

Data Collection Procedure

Permission to conduct the study was attained from the directors of the psychiatric and addiction treatment hospital in Meet-Khalaf, Menoufia, Egypt. Informed consent was obtained from each participant after receiving detailed information about the purpose of the study. The study was carried out from the beginning of December 2021 to the end of June 2022 [18].

Assertiveness Training Program Description

The assertiveness training program is a type of behavior therapy that teaches patients how to assert their rights and empower themselves to manage various social relationships. The primary goals were to teach patients the necessary skills for defending their rights to say "No" to drug abuser peers, communicating their needs and opinions while remaining respectful of others and assisting patients in initiating and maintaining communication with others [19].

General Objectives of the Program

By the end of the training program the patients will be expected to:

- Learn communication skills that are necessary for initiating and maintaining communication with others.
- Utilize self-assertive behaviors to solve their social problems.
- Apply stress management techniques and anger control strategies when handling stressful life situations.

Data collection proceeded in 3 main phases as the followings:

1st Phase: Introduction and Informed Consent

Following study approval, all participants who met the inclusion criteria and were hospitalized at the psychiatric and addiction treatment hospital in Meet-Khalaf affiliated with the ministry of health in Menoufia Governorate, Egypt, were contacted and asked to complete a demographics questionnaire sheet. The participants were given an overview of the study and asked to sign an informed consent form. The participants were then asked to complete the pre-assessment inventory and the assertiveness scale. Before completing the quality of relationship inventory, participants were asked to consider some of their friends (including those with positive and negative influences on their lives).

2nd phase: Implementations of the Program

Preparation of the content: The program's content was created using other related literature. The program strategy

(timetable, teaching methods, and participant assignments based on each skill given) were all part of the planning phase. The program covered topics such as assertiveness, problem-solving, stress management, and giving and receiving praise [20].

Preparing the patients: The researchers established a protocol for preparing patients to participate in the study during an introductory phase. Establishing rapport with patients is accomplished by assuring them of their confidentiality and anonymity and researchers facilitate a sense of warmth and security.

Conducting Pre-Test Assessment and Data Collection

Before the program began, all participants were required to complete all pre-study tools, which included the relationship inventory, the assertion questionnaire on drug use, and the Zargar scale. The researchers collected the pre-test during the morning each Tuesday and Thursday from 10 AM to 2 AM for three months (from December 2021 to February 2022). Before the sessions began, the participants were divided into smaller groups (eight groups) of 11-12 people each for more effective training and practice. A schedule is created based on the schedule of the hospital patients. During the course (seven sessions of two hours each, divided into two groups per day), the participants were instructed to attend a social skills training course conducted in the hospital based on the schedule provided by the author. Each meeting takes place twice weekly at the same time and in the same location over a period of four months (two days in one week) from March to June 2022.

Implementation Phase

- The researchers presented all of the training materials to all groups using various instructional methods such as lectures in the form of PowerPoint presentations, brainstorming, demonstrations and giving examples. Also, media, videos, and brochures were used. Furthermore, the materials were distributed to all participants in the form of brochures.
- Each group received instruction in life and social skills such as assertiveness, anger management and how to communicate and develop positive relationships with others during these sessions. Problem-solving, stress management and giving and receiving praise are also important skills. The final 10 minutes of each session were set aside for a summary, which focused on the skills learned during that session.
- The researchers used a variety of training methods, including group discussions, modelling, role-playing, feedback and presenting social situations from patients' memories.
- Participants were asked to practice their skills by playing the role during the training sessions. Meanwhile, members of each group were instructed to practice the skills in their daily living activities within the hospital setting or elsewhere to strengthen them during training sessions.
- The sessions' content and purpose were determined using WHO and UNICEF guidelines (**Table 1**).

Table 1: Contents and objectives of the training session.

Session	Topic	Objectives
Session 1	Self-awareness skill	Defining self-awareness, personal zones, and psychological aspects of human beings in a simple way.
		Expressing stresses and pressures deep inside explaining the concept of emotional intelligence and its effect on an individual in a simple way.
		Explaining the concept of self-dignity and its use in the way of realizing goals.
		Naming different ways of self-awareness.
Session 2	Anger and emotional control skills	Knowing the negative emotions,
		Learning about one's specifications in the situations that cause anger,
		Knowing the causes of anger,
		Naming the situations that cause anger,
		Naming the specifications of those who can control their anger,

		Naming different ways to control one's anger in different situations,
		Explaining the concept of determinism and its effect on controlling anger.
Session3	Stress control skills	Defining stress, perceiving personal differences in dealing with stressors,
		Expressing effects of stress on.
		Human and the relationship between stress and psychophysical diseases,
		Explaining the relationship Between stress and emotion, combined anger control and stress coping skills,
		Naming short/long-term methods to control stress.
Session 4	Problem-solving and decision making	Defining the concepts of problem and problem-solving.
		Making familiarity with the relationship between problem-solving and emotional self-awareness,
		Explaining the concept of brainstorming and the way of examining solutions.
		Developing one's skills in choosing, implementing, revising, and finding the best solutions.
		Making familiarity with the specifications of the people unable to make a decision (Styles of communications).
		Listing specifications of a good decision,
		Explaining the stages of making, implementing, and revising a proper decision;
		Learning about the specifications of the people who cannot solve problems
Session 5	Improvement of interpersonal relationships	Defining relationships,
		Explaining proper relationship skills,
		Explaining the importance of proper relationships,
		Naming the effect of interpersonal relationships,
		Teaching how to create an effective relationship.
		Naming the methods to improve the quality of relationships with others
Session 6	Practicing empathy and courage	Defining empathy and how to have an empathetic relationship with example.
		Explaining the importance of sympathetic relationships with others.

		What are the differences between empathy and Sympathy?
		Defining skills of self-expression, determinism, and courage to deal with life problems and hardships.
Session 7	Summarizing and reviewing the course	All the topics of the past six sessions were summarized. The training was evaluated, and the participants' feedback and questions were answered.

3rd Phase: Closing and post-assessment measurement

The researchers thanked all participants for attending and completing the intervention during this phase. The participants were then asked to complete the (post-test) after completing the intervention, using research instruments two, three and four to evaluate the intervention's effectiveness.

Data Management and Analysis Plan

The latest version of the SPSS software was used to analyze the data. Descriptive statistics, including mean and standard deviation, were used to describe the variables of the inventory and scale. A paired t-test was used to compare the changes in the mean score of the inventory and the scale of the participants' pre/post interventions. The test was used to find the association between demographic characteristics of the participants and their mean scores pre and post interventions, and the significance level was calculated at $P \geq 0.05$.

RESULTS

Table 2 revealed that the studied patients were under the age of 40 years; 67.8% were from cities; 40% were married, and only 15.5% were divorced. The majority (75.6%) of the participants were employed. In terms of educational level, less than half (42.2%) of the studied group had a higher educational level, while 31.2% completed secondary school, and (36.6%) were literate (read and write). Only 28.9% of the studied group had attended workshops on addiction program intervention, despite the fact that more than half of the sample had sufficient income and 66.7% had a positive family history of addiction (**Figure 2**).

Table 2: Distribution of studied participants related to their socio-demographic characteristics (N=90).

Studied variables		Number	Percentage
Age	Less than 40	79	87.78
	More than 40	11	12.22
Place of living	Rural	29	32.2
	Urban	61	67.8
Marital status	Single	33	36.7
	Married	36	40
	Widowed	7	7.8
	Divorced	14	15.5
Occupation	Worked	68	75.6
	Not worked	22	24.4
Educational level	High education	38	42.2
	Secondary	28	31.2
	Read and write	13	14.4
	Illiterate	11	12.2
Attending any workshop before	Yes	26	28.9

	No	64	71.1
Income	Sufficient	48	53.3
	Insufficient	42	46.7
Family history of addiction	Positive	60	66.7
	Negative	30	33.3

Figure 2: Showed that an equal number (31.11%) of the participants were using heroin and multiple drugs, followed by (18.89%, 11.11%) and 7.78%) using hashish, tramadol and opioids, respectively.
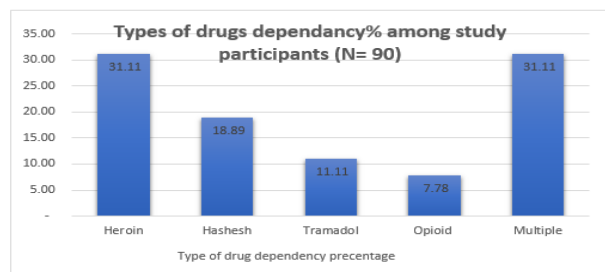
Table 3 illustrated that there is a highly statistically significant reduction in the potential for addiction among the participants post-intervention than pre-intervention at P<0.01.

Table 3: Mean and SD of the quality of relationships among studied patients on pre/post interventions (N=90).

Items	Type	Mean	Standard deviation	Degree of freedom	T-test	P-value
Active potential for addiction	Pre	63.52	9.82	178	40.67	0
	Post	39.36	5.27			
Passive potential for addiction	Pre	18.78	3.46	178	52.55	0
	Post	8.84	1.59			
The total potential for addiction	Pre	82.4	11.33	178	25.13	0
	Post	48.1	6.27			

Table 4 clarified that the increase in the mean score of quality of relationship in all aspects of social support, depth of relationship, and total score of quality relationships among participants post-intervention was greater than pre-intervention at P<0.01.

Table 4: Mean and SD of the quality of relationships among studied patients on pre/post interventions (N=90).

Items	Type	Mean	Standard deviation	Degree of freedom	T-test	P-value
Social support	Pre	12.08	3.64	178	17.79	0
	Post	21.14	3.19			
Conflicting relationships	Pre	19.62	6.49	178	12.27	0
	Post	41.98	4.06			
Depth of relationships	Pre	10.4	2.94	178	43.63	0
	Post	19.91	2.55			
Total quality of relationships	Pre	42.1	8.62	178	16.11	0
	Post	83.03	7.7			

This **Table 5** reflected that there is a highly statistically significant improvement in all dimensions of assertion in drug use and total score among the participants post-intervention than pre-intervention at P<0.01.

Table 5: Difference between pre and post assertion program in drug use of the studied patients (N=90).

Items	Type	Mean	Standard deviation	Degree of freedom	T-test	P-value
Positive feedback	Pre	11.68	2.83	178	25.36	0
	Post	21.4	2.28			
Negative feedback	Pre	19.64	2.27		30.05	0
	Post	10.26	1.91			
Drug	Pre	11.34	2.09	178	37.84	0
	Post	21.73	1.54			
Authority	Pre	9.6	1.89	178	28.47	0
	Post	19.57	2.73			
Heterosexual	Pre	10.27	1.89	178	32.49	0
	Post	20.81	2.43			
General assertiveness	Pre	16.94	4.99	178	25.02	0
	Post	34.06	4.14			
The total assertion in drug use	Pre	79.48	8.27	178	39.16	0
	Post	127.82	8.29			

Figure 3 revealed that there was a highly statistically significant improvement in both the quality of the relationship and the assertion of drug use among the studied patients after the intervention compared to before the intervention. Also, there was a highly statistically significant reduction in the potential for addiction among the studied patients' post-intervention compared to pre-intervention.

Table 6 shows at P<0.01 there was a statistically significant negative correlation between assertion in drug use, relationship quality, and potential for addiction post-intervention. This means that when the patients have high assertiveness skills and quality of the relationship, the potential for addiction will be decreased.
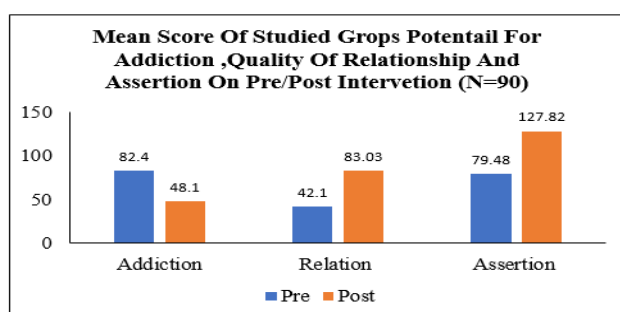

Figure 3: The difference between the total mean score of studied groups' potential for addiction, quality of relationships, and assertion in drug use pre and post-intervention (N=90).

Table 6: Spearman's correlation between the potential for addiction, quality of relationships, and assertion in drug use among the studied patients' pre and post-intervention (N=90).

Variables		Pre-total potential for addiction	Post-total potential for addiction	Pre-total assertion in drug use	Post-total assertion in drug use	Pre-quality of relationship	Post-quality of relationship
Pre-total potential for addiction	r	1	0.63	-0.213	-0.197	0.225	-0.012
	P-value		0	0.043	0.063	0.033	0.91

Post-total potential for addiction	r	0.63	1	-0.302	-0.362	-0.194	0.058
	P-value	0		0.004	0	0.067	0.585
Pre-total assertion in drug use	r	-0.213	-0.302	1	0.729	0.302	0.086
	P-value	0.043	0.004		0	0.004	0.419
Post-total assertion in drug use	r	-0.197	-0.36	0.729	1	0.19	0.2
	P-value	0.063	0	0		0.073	0.058
Pre-quality of relationship	r	-0.225	-0.194	0.302	0.19	1	0.605
	P-value	0.033	0.067	0.004	0.073		0
Post-quality of relationship	r	-0.012	0.058	0.086	0.2	0.605	1
	P-value	0.91	0.585	0.419	0.058	0	

Table 7 shows there was a highly statistically significant relationship between age less than 40, the residence of the participants, marital status, occupation, income, family history of addiction, attending any workshop before, and potential for addiction post-intervention at P< 0.01. At p-values=(0.825, 0.795, 0.105, and 0.825), there was no significant relationship between age over 40, widowed, read and write, and illiterate and potential for addiction post-intervention.

Table 7: Relation between potential for addiction and socio-demographic characteristics of the studied patients.

Studied Variables		Pre	Post	T-value	P-value	R-value	P-value		
		Mean	S.D.					Mean	S.D.
Age	Less than 40	82.68	10.98	48.86	5.99	24.04	0	0.76	0
	More than 40	80.36	14.03	42.63	5.69	8.26	0	-0.08	0.825
Place of living	Rural	84.97	11.06	49.34	7.26	14.92	0	0.45	0.013
	Urban	81.18	11.34	47.51	5.72	20.72	0	0.74	0
Marital status	Single	84.67	9.86	50.76	5.34	17.37	0	0.81	0
	Married	81.06	10.36	48.14	5.07	17.13	0	0.63	0
	Widowed	84.43	16.58	40.86	6.23	6.51	0	0.12	0.795
	Divorced	79.5	13.92	45.36	7.6	8.05	0	0.86	0
Occupation	Worked	82.07	11.05	47.74	6.34	22.38	0	0.55	0
	Not worked	83.86	12.24	49.55	6.01	11.81	0	0.91	0
Educational level	High education	82.76	10.92	49.29	5.42	16.92	0	0.87	0
	Secondary	87.14	7.71	51.36	4.74	20.93	0	0.51	0.006
	Read and write	72.85	11.42	42.23	5.45	8.73	0	0.47	0.105
	Illiterate	80.36	14.03	42.64	5.69	8.26	0	-0.08	0.825
Attending any workshop before	Yes	83.22	10.93	48.38	6.62	21.81	0	0.55	0
	No	80.38	12.22	47.42	5.39	12.57	0	0.87	0
Income	Sufficient	78.67	12.16	44.81	6.12	17.23	0	0.51	0
	Insufficient	86.87	8.61	51.86	3.92	23.85	0	0.71	0

| Family history of addiction | Positive | 83.48 | 10.19 | 49.53 | 5.39 | 22.8 | 0 | 0.72 | 0 |
| | Negative | 80.23 | 13.23 | 45.23 | 6.98 | 12.81 | 0 | 0.51 | 0 |

Table 8 shows there was a highly statistically significant relationship between all socio-demographic characteristics of studied patients (age less than 40, the residence of the participants, marital status, income, family history of addiction, and attendance at any workshop before and after the assertion in drug use post-intervention at P-value=(0.01) except age more than 40, widowed, and illiterate. There was no significant relationship between them and the assertion in drug use post-intervention at p-value=(0.477, 0.863, and 0.477) respectively.

Table 8: Relation between assertion in drug use and socio-demographic characteristics of the participated patients.

Studied variables		Pre		Post		T-value	P-value	R-value	P-value
		Mean	S.D.	Mean	S.D.				
Age	Less than 40	79.62	8.67	128.27	8.59	35.42	0	0.77	0
	More than 40	78.45	4.69	124.64	4.72	23.01	0	-0.24	0.477
Place of living	Rural	73.24	8.18	121.45	9.69	20.48	0	0.75	0
	Urban	82.44	6.52	130.85	5.4	44.65	0	0.51	0
Marital status	Single	77.45	9.23	127.18	8.81	22.39	0	0.82	0
	Married	79.94	8.45	128.78	8.88	23.9	0	0.74	0
	Widowed	76.86	5.27	126	5.48	17.1	0	-0.08	0.863
	Divorced	84.36	3.61	127.79	6.94	20.77	0	0.89	0
Occupation	Worked	79.81	8.21	127.84	8.24	34.31	0	0.64	0
	Not worked	77.68	9.01	126.82	9.55	17.56	0	0.86	0
Educational level	High education	81.11	6.87	130.21	6.46	32.13	0	0.43	0
	Secondary	76.46	11.12	124.75	11.51	15.97	0	0.91	0
	Read and write	82.08	5.29	130.15	3.05	28.35	0	0.59	0.035
	Illiterate	78.45	4.69	124.64	4.72	23.01	0	-0.24	0.477
Attending any workshop before	Yes	79.52	8.99	126.03	8.85	29.5	0	0.79	0
	No	79.38	6.33	132.23	4.34	35.1	0	0.76	0
Income	Sufficient	82.35	6.08	129.69	5.36	40.49	0	0.55	0
	Insufficient	76.19	9.25	125.69	10.37	23.09	0	0.78	0
Family history of addiction	Positive	78.9	8.6	126.03	9.21	28.97	0	0.79	0
	Negative	80.63	7.58	131.8	4.29	31.92	0	0.62	0

Table 9 shows there was a highly statistically significant relationship between age less than 40, the residence of the participants, marital status, occupation, income, family history of addiction, attending any workshop before and the quality of relationships post-intervention at P-value=(0.01). While there was no significant relationship between age over 40, widowed, read and write, and illiterate and post-intervention relationship quality at p-values of (0.194, 0 .444, 0 .250, and 0.194).

Table 9: Relation between quality of relationships and socio-demographic characteristics of the participated patients N=90.

Studied variables		Pre		Post		T-value	P-value	R-value	P-value
		Mean	S.D.	Mean	S.D.				
Age	Less than 40	41.14	8.57	82.85	8.02	31.58	0	0.63	0
	More than 40	49	5.39	84.63	4.82	16.23	0	0.424	0.194
Place of living	Rural	39.89	10.73	81.34	6.37	17.89	0	0.79	0
	Urban	43.15	7.28	83.84	8.19	29.01	0	0.53	0
Marital status	Single	37.76	8.21	83.21	7.03	24.15	0	0.83	0
	Married	43.38	7.42	85.06	5.94	26.32	0	0.79	0
	Widowed	49	6.51	84.29	5.88	10.65	0	0.35	0.444
	Divorced	45.57	9.16	76.79	10.91	8.19	0	0.71	0.004
Occupation	Worked	42.77	8.55	82.78	7.76	28.79	0	0.69	0
	Not worked	39.27	8.97	83.36	7.81	17.39	0	0.61	0
Educational level	High education	44.84	7.27	85.66	5.65	27.34	0	0.64	0
	Secondary	35.25	8.63	80	8.12	19.99	0	0.73	0
	Read and write	43	4.32	80.77	11.11	11.42	0	0.34	0.25
	Illiterate	49	5.39	84.36	4.82	16.23	0	0.42	0.194
Attending any workshop before	Yes	41.86	9.49	81.43	7.83	25.72	0	0.61	0
	No	42.69	6.06	87	5.82	26.88	0	0.77	0
Income	Sufficient	44.65	6.75	83.5	8.21	25.32	0	0.42	0
	Insufficient	39.19	9.63	82.5	7.13	23.42	0	0.84	0
Family history of addiction	Positive	41.6	9.92	83.27	6.86	26.76	0	0.67	0
	Negative	43.1	5.12	82.57	9.27	20.41	0	0.65	0

Figure 4 revealed that there was a highly statistically significant reduction in the level of potential for addiction post-intervention compared to pre-intervention where 16.67% of the participants had a high level of potential for addiction post-intervention compared to 84.4% pre intervention.
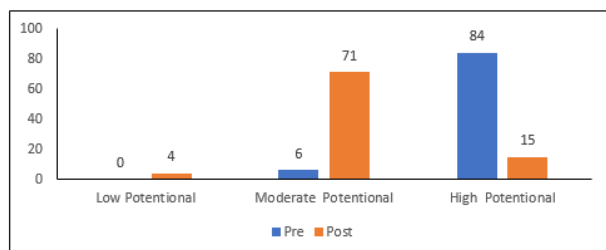

Figure 4: levels of potential for addiction among the studied patients' pre- and post-Intervention.

Figure 5 sillustrated that there was a highly statistically significant improvement in the level of assertiveness skills in drug use post-intervention compared to pre-intervention, where 85.56% of the participants had a high

level of assertiveness skills in drug use post-intervention compared to 3.33% pre-intervention.
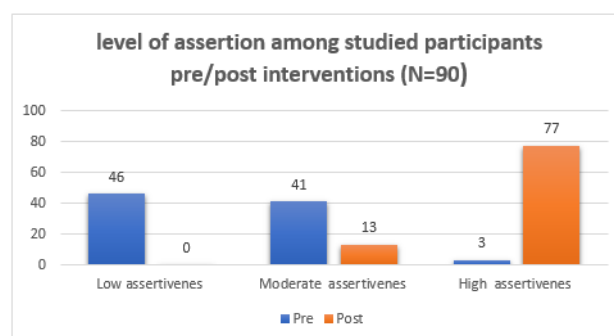

Figure 5: levels of assertion in drug use among the studied patients' pre and post-intervention (N= 90).

DISCUSSION

Drug abuse is not affected only every part of the abuser's life as social life, family life, work productivity, bodily health, and individual relationships but also affected all aspects of the community. Drug abusers are experiencing problems related

to non-assertive and aggressive behaviors. Assertiveness training is a central component affecting the continuous sobering behavior among drug abusers and relapse prevention and recovery. Assertion training appears to be a productive drug abuse prevention strategy. The role of assertion training as a drug abuse prevention strategy is restricted to that fostering the competence to say "no" in peer pressure situations focused on drug use.

CONCLUSIONS

The study showed that the most common types of addiction among participants were heroin and multiple types. Assertiveness training in this study positively affected the reduction of drug use tendency. It can play a significant role in the design and implementation of drug abuse prevention training programs. There was a significant improvement in the level of assertiveness skills for drug addicts' post-intervention compared to pre-intervention, with 85.56% of participants having a high level of assertiveness skills post-intervention. This indicates the efficiency of the assertiveness training program in continuous sobering behavior among drug abusers. Moreover, the participants were satisfied as their goals and expectations were met during the training program. Therefore, the following is highly recommended:

- Assertiveness skills training programs must be disseminated to all psychiatric hospitals and addiction treatment centers in Egypt.
- Assertiveness training for nurses should be ongoing in order to detect, prevent and treat drug abuse as early as possible.
- Communities that make an effort to come together in the fight against drugs are sure to make an impact on the prevention of drug abuse.
- Implementing the prevention and assertiveness program in many other places, including schools, churches and community based clubs.

Implications for Nursing Practice and Management

Great attention should be paid by society to reducing the drug abuse of its citizens. There is a need for close collaboration between schools and the community in addressing drug abuse. Parents and family members should thus play an effective role in reducing drug abuse among their children. The ministry of primary and secondary education must formalize and support the establishment of a vibrant guidance and counseling system in schools. Design appropriate assertiveness skills training to enhance life skills training and should be applied in drug rehabilitation centers along with detoxification treatments to improve self-esteem and assertiveness and maintain sobriety. Assertiveness skills training should be given to psychiatric and community nurses in different psychiatric and mental health settings. A high premium should be placed on developing and mainstreaming prevention programs on drug abuse into the school curriculum for students to become more assertive and acquire more knowledge about drugs and their effects and complications on mental health. In the end, it is suggested that some steps should be taken toward enhancing the awareness of people and reducing their drug use tendencies by holding assertiveness skills training workshops for them. Further longitudinal research studies should be carried out to assess the causes and cultural factors that significantly affect addiction and drug abuse. Further studies in different settings are to be conducted, such as schools, factories, other colleges, and institutions all over the Arab Republic of Egypt to increase awareness about the complications and dangers of drug abuse.

LIMITATIONS OF THIS STUDY

Because of the small sample size and the absence of a control group, the findings cannot be generalized to the population of drug users. Furthermore, no follow-up was performed in the current study to confirm whether the program was effective or not to maintain sober behavior among studied participants.

ETHICAL CONSIDERATIONS

Permission to conduct the study was obtained from the ethical and research committee of the Faculty of Nursing, Menoufia University, who sent an official letter to the Egyptian general secretariat of mental health to receive their approval to conduct the study at the psychiatric and addiction treatment hospital in Meet-Khalaf, affiliated to Menoufia Governorate, Egypt. After official approval was obtained, the letter was sent to the director of the selected setting to send the approval to conduct the study. The purpose of the study was explained to all participants and an informed letter of consent was received. Along with an emphasis on confidentiality and anonymity of information, participants were informed that they would be free to withdraw from the study at any time during the study.

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CONFLICT OF INTEREST

The authors declared that they have no conflict of interest.

AUTHOR CONTRIBUTIONS:

- **Prof. Amal Khalil:** Initiated the idea of the research and design; wrote the background, methodology, and data collection procedure; prepared the assertiveness training program; did a review of the whole manuscript (editing and paraphrasing); and formatted the manuscript for publication submission.
- **Dr. Safaa Shatalah:** Collected data, shared in preparing the contents of the program, conducted the training with the

patient in the hospital setting, and added comments to tables.

- **Dr. Eman Shoker:** Wrote the discussion, conclusion and recommendations.

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