

## Predisposing Factors related to Relapse among Addicted Persons

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### Abstract

**This study aimed to:** assess the predisposing factors related to relapse among addicted persons. **Design:** Descriptive study. **Setting:** The study was conducted at the Outpatient clinics of El-Abbassia Mental Hospital and the Psychiatric Medical Center. **Sampling:** Purposive sample of 260 addicted persons. **Data collection:** An interviewing questionnaire was used and included five parts: **Part I:** Socio-demographic characteristics, **Part II: a)** History of addiction **b)** Previous history of relapse addiction, **Part III: a)** Assessing addicted person's knowledge about addiction **b)** Assessing addicted person's knowledge regarding to relapse addiction, **Part IV: a)** Assessing addicted person's needs **b)** Assessing addicted person's health problems, **Part V:** Assessing factors related to relapse of addiction. **Results:** More than three - quarters of addicted persons were returned to the same type of substance abuse during relapse. More than half of addicted persons were not compliant with follow- up plan before relapse. More than half of addicted persons had unsatisfactory knowledge regarding addiction and relapse. Less than two-third of addicted persons had inadequate health needs. **Conclusion:** A highly statistically significant difference was found between the studied addicted person's knowledge and needs, and their relapse of addiction. Statistical significant differences were found between the studied addicted person's socio-demographic characteristics and their relapse of addiction. **Recommendations:** This study recommended increasing the awareness among addicted persons through effective educational programs, carrying out effective discharge plans for addicted persons including follow- up visits schedule and healthy lifestyle guidelines. Further nursing researches are required to assess the addicted person's needs and health problems.

**Keywords:** Relapse, Addiction, Addicted persons.

### Introduction

Addiction is a chronic relapsing illness and the major public health problem that affects millions of persons and places enormous financial and social burdens on society, it destroys families, damage the economy, victimizes communities and place extraordinary demands on the education, criminal justice, and social service systems (Hashim,2010).

Addiction results from a series of factors, including social and family issues, availability or fashion trend. Personality is another factor that may play an important role in the predisposition, precipitation or perpetuation of abuse or dependence behaviors (Iqbal, 2018).

Relapse is a common concept among addicted persons, and it is widely used and engrained into the minds of almost all who are lucky enough to enter some form of treatment programs from chemical dependency (Baumeister & Nadal, 2017).

However, there are different risk factors (or variables) that interfere in the development of addiction. Those factors are biopsychosocial; that is, they are related to the drug itself, the user, and the environment the user is in. The literature points out that genetic factors account for 40-60 % of an individual's vulnerability to develop dependence. This estimate includes the effects caused by environmental factors on the function and expression of a person's genes, the epigenetic heritage. The lack of proper communication with the family

members and lack of understanding was found as an important factor in addiction relapse (NIDA, 2014).

### **Significance of the study:**

Addiction is a national health problem in the Arab countries; epidemiological data on drug abuse very scare, where drug abuse is prohibited by legal and religious systems. In Egypt, drug addiction is considered one of the serious problems that worry the government, where 28602 of persons were diagnosed as addicted persons in the year 2002, increased to 33,452 in 2005 and increased to 43,152 in 2010 (Hamdi et al., 2013).

According to a WHO survey in Egypt, there are 10.4 % of the total population was an addict in Egypt, 40% of them in youth. This survey also found that 13.8% of them were starting addiction before 16 years old, 59.9% were starting addiction from 17 years old up to 22 years old and 73% of them continue addiction and cannot stop it (WHO, 2017).

### **Aim of the study**

This study aims to assess the predisposing factors related to relapse among addicted persons through:

- Assessing the Psychological, Social, Family and Environmental factors related to relapse among addicted persons.
- Assessing of addicted persons 'health needs and problems.
- Assessing of addicted persons' knowledge regarding addiction and relapse.

### **Research questions:**

**Q1:** What is the predisposing factors influencing relapse?

**Q2:** Is there a relation between socio-demographic characteristics and relapse?

**Q3:** Is there a relation between addicted persons' needs and relapse?

**Q4:** Is there a relation between addicted persons' knowledge about addiction and relapse?

### **Subjects and Methods**

#### **Research Design:**

A descriptive correlation design was conducted for this study.

#### **Setting:**

The present study conducted at the addiction outpatient clinics at Abbassia Mental Hospital, and in the Addiction Outpatient Clinics, Psychiatric Institute at Ain Shams University.

#### **Sampling:**

A purposive sample was selected. The subjects of the current study included 260 addicted persons from both sexes. The total number of addicted person in El-Abbassia Mental Hospital during the years of 2014 - 2015 was 1038 addicted persons and the relapse rate of substance addiction is 10 to 30 percent from the flow of addicted person, but other setting the manager of the Psychiatric Institute at Ain Shams University did not report the total number of addicted persons during the years of 2014 and 2015. The investigator was selected 25% of the total flow of addicted persons.

#### **Data Collection Tool:**

##### **A Structured interviewing**

**questionnaire sheet:** This tool designed by the investigator to gather data with the following five parts;

**Part I:** The socio-demographic characteristics of the addicted persons which include sex, age, marital status, level of education and occupation.

**Part II:** Previous history of addiction and relapse.

**Part III:** Addicted person's knowledge regarding addiction and relapse.

**Scoring system:**

- It contains 11 questions; each question has 4 or more responses.
- The correct answer was scored two and the incorrect answer was scored zero, the incomplete answer was scored one.
- The response (do not know) was considered as an incorrect answer during collecting the scores of the total answers and took score zero.
- The answers to the open-ended questions were evaluated as correct, incorrect or incomplete with the same of the multiple-choice questions.
- The scoring system was followed to the outcome of an addicted person's responses to questions. Total correct responses of questions were 22 points equal to 100% and according to an addicted person's responses, the knowledge satisfaction level was categorized as a satisfactory level for 50% or more of the total correct answers and unsatisfactory level for less than 50% of the total correct answers.

**Part IV:** Health needs and problems for addicted persons related to relapse.

**Scoring system:** If the needs were fulfilled, it was scored one, and if not fulfilled was score zero. It contains 40 questions equal to 100%, addicted person who chose 30% of total needs approximately 11-12 needs, was considered having inadequate health needs when calculating the total score. Adequate needs were considered when 30% of the total needs exceed.

**Part V:** Assessment of predisposing factors related to relapse after a period of abstinence. It includes four main variables such as environmental, social, psychological and family factors.

❖ **Scoring system:** The predisposing factors of relapse contained 41 items for all the factors: The environmental factor

contains 11 items, the social factor contains 11 items, the psychological factor contains 14 items and the family factor contains 5 items.

- The responses were categorized into three degrees according to their influence on addicted person understudy, low, moderate or high, the low response took score zero, the moderate response took score 1, and the high response took score 2.

- The scoring system was followed to the total of the addicted person's responses. Total responses were 82 points equal to 100% and according to addicted person's responses, the factors affecting relapse were categorized as high-risk factors for more than 70% equal to (29-41) points, moderate risk factor for 50% - 70% equal to (20-28) points, and low-risk factor for less than 50% equal to (1-19) points of the total responses .

**Content and Face Validity and Reliability:**

Content validity was ascertained by five experts from the community health nursing department- Faculty of Nursing- Ain Shams University. To test its content validity, reliability was tested statistically.

**Pilot study:**

A pilot study was carried on 10% of the sample size and excluded within the total sample size of 260 addicted persons. The conducted pilot study aimed to test the applicability of the constructed tools and the clarity of the included questions related to predisposing factors related to relapse among addicted persons. The pilot study has also served to estimate the time needed for each subject to fill in the questions. According to the results of the pilot, some corrections and omission of items were performed as needed.

**Fieldwork:**

The data collection process spanned 6 months during the period from mid-January 2018 till the end of mid-July 2018. This was conducted within four days weekly, a day for the Psychiatric Institute at Ain Shams University on Sundays from 9:00 a.m. to 12.00 a.m., and 3 days for the addiction outpatient clinics at El-Abbassia Mental Hospital on Saturday, Monday and Tuesdays from 10.00 a.m. - 1.00 p.m.

The investigator met the addicted person at the outpatient clinics of the Psychiatric Institute at Ain Shams University in the follow-up room. The investigator met the addicted person at the outpatient clinics of El-Abbassia Mental Hospital in the follow-up room and the waiting area in front of Clinics. The investigator introduced herself firstly for each participating addicted person and a brief explanation of nature and the aim of the study were done before each interview. The investigator's role in completing the questionnaire was to facilitate the understanding of any confusion or difficult question for the addicted person. The time needed for completing one questionnaire was about 30-45 minutes, depending on the response of the participants. The average number was 3 to 4 questionnaires per day.

**Administrative Design:**

Official approval for conducting the study was obtained. The purpose of the study was illustrated as well as the main data items to be covered, and the study was carried out after obtaining the necessary approval from the directors of the Psychiatric Institute at Ain Shams and El-Abbassia Mental Hospital, through formal letters from the Dean of Faculty of Nursing at Ain Shams University.

**Ethical considerations:**

The study protocol was approved by the pertinent ethical committee at the

Faculty of Nursing, Ain Shams University. Official permissions to conduct the study were secured. Verbal approval was obtained from the addicted person before conducting the study: a clear and simple explanation was given according to a level of understanding physical and mental readiness as regard to the addicted person, they had the right to refuse to share and the investigator provided strict concerns for privacy, confidentiality of the obtained information was ascertained. The study maneuvers did not entail any harmful effects on the participant.

**Statistical Design:**

Data collected from the studied sample was revised, coded and entered using computerized data entry and statistical analysis were fulfilled using the Statistical Package for Social Science (SPSS), version 24. Quantitative data were expressed as mean  $\pm$  standard deviation (SD). Qualitative data were expressed as frequencies and percentages. A statistically significant difference was considered at P-value  $< 0.05$ .

**Results:**

**Table (1):** shows that 87.3% of the studied addicted person was males as regards to sex. The mean age of them was  $30.45 \pm 7.55$  years, as regards to marital status 45.8% were single, while 39.2 % were divorced, as regards to Educational level 34.6% elementary education, and as regards to Occupation 67.3% of addicted persons were technician education.

**Fig (1):** Illustrates that 57.3 % of the studied addicted person had an unsatisfactory level of knowledge about addiction and relapse, and 42.7 % of them had a satisfactory level of knowledge about it.

**Fig (2):** Illustrates that 65% of the studied addicted persons had physical needs, 59.2% of them had social needs, 58.9% of

them had psychological needs and 56.9% of them had financial needs.

**Fig (3):** Shows that 60% of the studied addicted persons did not have adequate health needs, while 40 % of them had adequate health needs.

**Fig (4):** Illustrates that regarding the environmental factors 43.1 % of the studied addicted persons reported a high relapse factor and 14.6 % of them reported low relapse factors. Regarding the Social factors, 41.9 % of the studied addicted persons reported a high relapse and 20.8 % of them reported low relapse. Regarding psychological factors, 52.3 % of the studied addicted persons reported a high relapse and 14.6 % of them reported low relapse. Regarding family factors, 49.6 % of the studied addicted persons reported a high relapse and 27.3 % of them reported low relapse.

**Table (2):** demonstrates that there was a highly statistically significant relation between the studied addicted person's marital status and their frequencies of relapse with a p-value < 0.001. And there was a statistically significant difference between the studied addicted person's age and their frequencies of relapse with a p-value <0.05.

**Cont. Table (2):** clarifies that there was a highly statistically significant relation

between the studied addicted person's occupation and their frequencies of relapse with a P- value <0.001, and there was a statistically significant relation between the studied addicted person's level of education and their frequencies of relapse with a P-value <0.05.

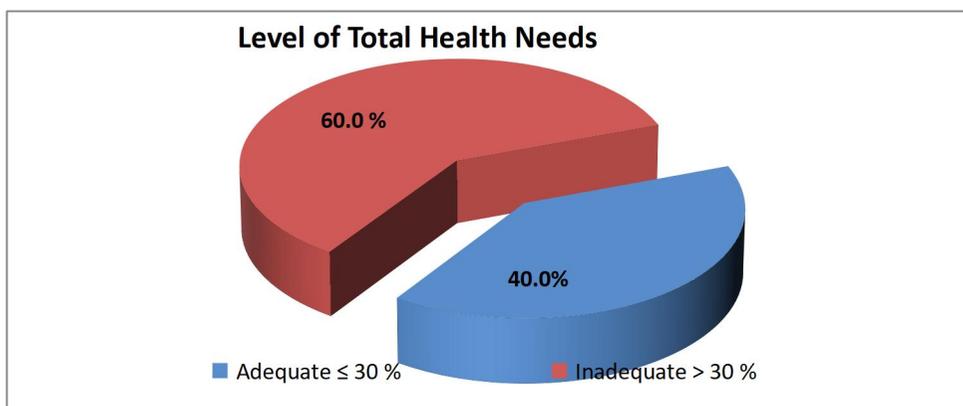
**Table (3):** shows that there was a highly statistically significant relation between the studied addicted person's total knowledge about addiction and their frequencies of relapse with a p-value <0.001.

**Table (4):** demonstrates that there was a highly statistically significant relation between the studied addicted person's psychological needs and their frequencies of relapse, also there was a highly statistically significant relation between the studied addicted person's social needs and their frequencies of relapse with a p-value <0.001. And there was statistically significant relation between the studied addicted person's physical needs and their frequencies of relapse with a p-value <0.05.

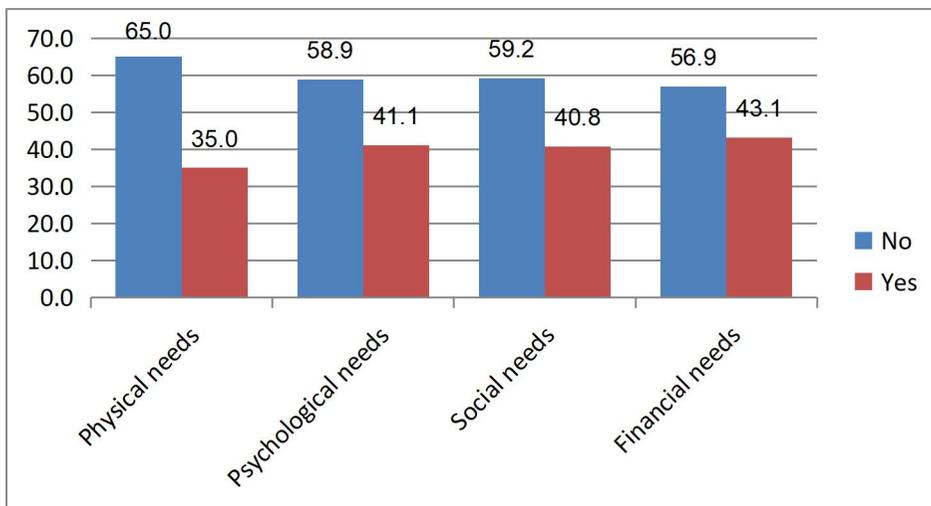
**Cont. Table (4):** Shows that there was a highly statistically significant relation between the studied addicted person's financial needs and their frequencies of relapse, also there was a highly statistically significant relation between the studied addicted person's total needs and their frequencies of relapse with a p-value <0.001.

**Table (1):** Distribution of studied addicted person according to their socio-demographic characteristics (n=260).

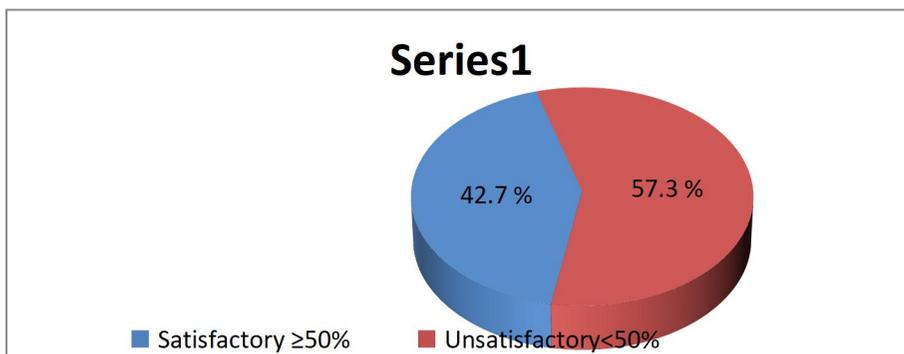
Socio-demographic data	No.	%
Sex:		
Male	227	87.3
Female	33	12.7
Age ( years)		
18 < 28 yrs.	120	46.15
28 < 38 yrs.	104	40.0
38 ≤ 48 yrs.	29	11.15
≥ 48 yrs.	7	2.7
Mean ± SD	<b>30.45 ± 7.55</b>	
Marital status:		
Single	119	45.8
Married	31	11.9
Divorced	102	39.2
Widow	8	3.1
Level of education:		
Illiterate	35	13.5
Elementary Edu.	90	34.6
Secondary Edu.	82	31.5
University	53	20.4
Occupation:		
Unemployed	29	11.2
Student	7	2.7
Technician	175	67.3
Employer (professional work).	49	18.8



**Fig (1):** Percentage distribution of the Addicted person's total knowledge about the addiction and relapse.

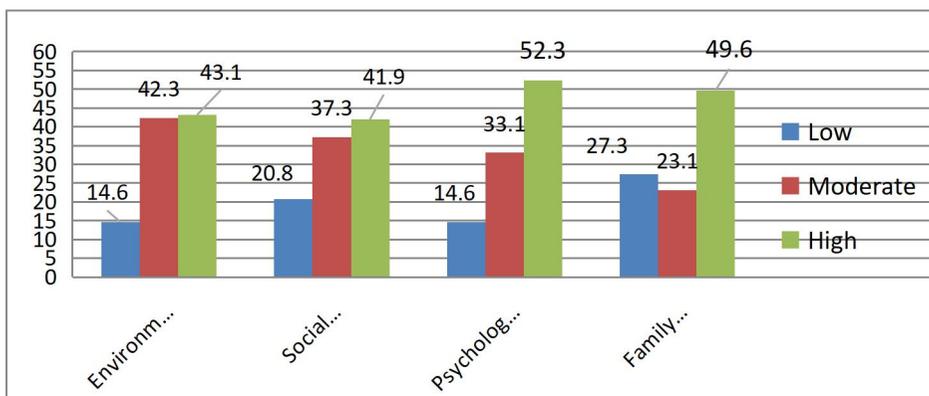


**Fig (2):** Percentage distribution of the addicted persons according to their needs (n=260).



**Fig (3):** Percentage distribution of the addicted persons according to their total needs (260).

According to research question number (1):



**Fig (4):** Percentage distribution of the studied addicted persons according to their different relapse factors.

According to the research question number (2):

**Table (2):** Relation between the studied addicted person's socio-demographic characteristics and their Frequencies of relapse using Chi-square( $X^2$ ) test (N=260).

Socio -demographic data:	Frequencies of relapses				Chi-square	
	Once (n=87)	Twice (n=71)	Three times (n=53)	More than three (n=49)	( $X^2$ )	P- value
<b>Age:</b>						
(18-28) (n=120)	49	27	21	23	18.05	0.032*
	56.3%	38.0%	39.6%	46.9%		
(28-38) (n=104)	32	29	26	17		
	36.8%	40.8%	49.1%	34.7%		
(38-48)(n=29)	4	14	3	8		
	4.6%	19.7%	5.7%	16.3%		
(≥ 48) (n=7)	2	1	3	1		
	2.3%	1.4%	5.7%	2.0%		
<b>Marital status:</b>						
Single (n=119)	54	42	11	12	43.828	<0.001**
	62.1%	59.2%	20.8%	24.5%		
Married (n=31)	8	7	5	11		
	9.2%	9.9%	9.4%	22.4%		
Divorced (n=102)	22	20	35	25		
	25.3%	28.2%	66.0%	51.0%		
Widow (n=8)	3	2	2	1		
	3.4%	2.8%	3.8%	2.0%		

\*Significant

\*\* highly significant

**Cont. Table (2):** Relation between the studied addicted person's sociodemographic characteristics and their frequencies of relapse (n=260).

Socio –demographic data:	Frequencies of relapses				Chi-square test	
	Once (n=87)	Twice (n=71)	Three times (n=53)	More than three (n=49)	X <sup>2</sup>	P- value
<b>Level of education:</b>						
Illiterate (n=35)	4 4.6%	11 15.5%	10 18.9%	10 20.4%	8.361	0.039*
Elementary (n=90)	21 24.1%	10 14.1%	32 60.4%	27 55.1%		
Secondary (n=82)	32 36.8%	36 50.7%	9 17.0%	5 10.2%		
University (n=53)	30 34.5%	14 19.7%	2 3.8%	7 14.3%		
<b>Occupation:</b>						
Unemployed (n=29)	11 12.6%	9 12.7%	3 5.7%	6 12.2%	37.023	<0.001**
Student (n=7)	4 4.6%	1 1.4%	1 1.9%	1 2.0%		
Technician (n=175)	42 48.3%	46 64.8%	46 86.8%	41 83.7%		
Employer ( n=49) (professional work)	30 34.5%	15 21.1%	3 5.7%	1 2.0%		

\*Significant

\*\*highly significant

**According to the research question (3):** Is there a relation between addicted persons' knowledge about addiction and relapse?

**Table (3):** Relationship between the studied addicted person's total knowledge about addiction and their frequencies of relapse (n=260).

Frequencies of relapse	Total knowledge				Chi- square test	
	Unsatisfactory (n=149)		Satisfactory (n=111)		X <sup>2</sup>	P- value
		%		%		
Once (n=87)	23	26.4	64	73.6	69.547	<0.001**
Twice (n=71)	38	53.5	33	46.5		
Three times (n=53)	47	88.7	6	11.3		
More than three times (n=49)	41	83.7	8	16.3		

**According to the research question (4):** Is there a relation between addicted persons' needs and relapse?

**Table (4):** Relationship between the addicted person's needs and their frequencies of relapse (n=260).

Items	Frequencies of relapses				Chi – Square test	
	Once (n=87)	Twice (n=71)	Three times (n=53)	More than three (n=49)	X <sup>2</sup>	P- value
<b>Physical needs</b>						
Inadequate > 30 % (n=169)	45 51.7%	47 66.2%	36 67.9%	41 83.7%	14.494	0.003*
Adequate ≤ 30 % (n=91)	42 48.3%	24 33.8%	17 32.1%	8 16.3%		
<b>Psychological needs</b>						
Inadequate > 30 % (n=153)	31 35.6%	37 52.1%	38 71.7%	47 95.9%	52.111	<0.001**
Adequate ≤ 30 % (n=107)	56 64.4%	34 47.9%	15 28.3%	2 4.1%		
<b>Social needs</b>						
Inadequate (n=154)	23 26.4%	39 54.9%	47 88.7%	45 91.8%	79.897	<0.001**
Adequate (n=106)	64 73.6%	32 45.1%	6 11.3%	4 8.2%		

**Cont. Table (4):** Relationship between the addicted person's needs and their frequencies of relapse (n=260).

Items	Frequencies of relapses				Chi – Square test	
	Once (n=87)	Twice (n=71)	Three times (n=53)	More than three (n=49)	X <sup>2</sup>	P -value
<b>Financial needs</b>						
Inadequate (n=148)	30 34.5%	39 54.9%	38 71.7%	41 83.7%	37.000	<0.001**
Adequate (n=112)	57 65.5%	32 45.1%	15 28.3%	8 16.3%		
<b>Total needs</b>						
Inadequate (n=156)	31 35.6%	44 62.0%	39 73.6%	42 85.7%	39.215	<0.001**
Adequate (n=104)	56 64.4%	27 38.0%	14 26.4%	7 14.3%		

\*Significant

\*\*highly significant

## Discussion

Addiction is a chronic relapsing disorder with different genetic, mental, social and environmental factors influencing its commencement and continuation.

Addiction is a disorder associated with an unhealthy pattern of substance consumption, and causes social problems for persons. These problems include the lack of responsibility in the home, workplace, and school or even legal problems for the

individual. It imposes serious damage to the societies that could be social, economic, political, cultural or related to health (*Afkar et al., 2017*).

Regarding the socio-demographic data of the studied addicted persons, the present study revealed that the majority of the studied addicted persons were males as regards to sex (**Table 1**). This result reflects that female addicted persons rarely participate in treatment programs addiction to avoid negative community attitude that labels them as immature, less tolerant to stressors, independent, irritable, and impulsive. This result is supported by *Abol et al. (2019)*, who studied "Psychiatric and social profile of recovering substance-dependent women " in Egypt, explained that Egyptian culture conceptualizes female addicted person as deviant, guilty, impulsive, easily irritable, less emotionally stable and less resistant to life stressors. So, they avoid any involvement in the follow-up services.

The results of the present study revealed that less than half of the studied persons had become addicted during their teens and twenty of age and the mean age  $30.45 \pm 7.55$  years (**table 1**), almost consistent with *Abdelkarim et al. (2015)* who studied " The prevalence and characteristics of attention-deficit hyperactivity disorder among a sample of Egyptian substance-dependent inpatients ", in Alexandria, Egypt, showed that the mean age of high relapse rate was  $(29.3 \pm 5.92)$  years and  $(30.76 \pm 5.63)$  years in low relapse rate persons, and almost equivalent to the study of *Morsi et al. (2014)* who studied " Emotional regulation, impulsivity and personality profile among an Egyptian sample of patients with substance use disorder" found that the mean age of addicted persons was 28.8 years also, *Stein et al. (2017)* who studied "Adverse childhood experience effects on opioid use

initiation, injection drug use, and overdose among persons with opioid use disorder". In the USA, found that the mean age of addicted persons was 25.7 years. This was also consistent with the study of *Sharma et al. (2012)* " factors affecting relapse in substance abuse Indians," in India, who found that the majority of substance abusers were in the age group of 20-30 years. Also, consistent with *Hamdi et al. (2016)* who studied " Sociodemographic Indicators for Substance Use and Abuse in Egypt", showed that most of the sample was from the age group 26-35 years old.

Also, The study of *Benaiges et al. (2012)* "Health-related quality of life in patients with dual diagnosis: clinical correlates", in Spain, noticed that the mean age of the addicted persons was  $36.37 \pm 6.72$  years.

In the investigator's opinion, Egyptian culture especially, the male population is more prone to abuse drugs at an earlier age compared with the female population due to earlier work career and more freedom.

In relation to occupation more than two- thirds of the studied addicted persons were technicians (**Table1**). According to the investigator's opinion , this result was due to the fact that technical professions mostly are done in a difficult and stressful working environment that needs special professional skills as more concentration, wakefulness and perfectionism like persons who work as drivers, mechanicals, steel makers, metal lathers, creating negative emotions such as feeling of stress, tension, anxiety, anger, depression, dysphoria. So, those persons relapse to addiction in order to elevate their mood, slow reaction to time, improve their alertness, wakefulness, excitement and provide them with high energy to complete their works, overcome their work difficulties and reduce negative emotions. This result

was approved by *Bassiony et al. (2019)* in the study of "Substance Use Disorders among Industry Workers in Egypt"; found that areas of work are contributing to employee relapse to addiction because of stressors and workgroup culture that substances enhance work performance and productivity. They may illicit drugs to cope with stressful working conditions or reduce job induced stress. This current study disagreed with *Sau et al. (2013)* in a study of "A study of Socio-demographic and substance use correlates of repeated relapse among patients presenting for relapse treatment at an addiction treatment center in Kolkata", India, showed that unemployment was strongly associated with relapse in addicted persons, these results might be due to the cultural difference as the study was conducted among Indian community.

In the investigator's opinion, these findings are probably related to the role of the work and its relation to relapse as maintaining the income which is directed to the use of the substance and being the rationale to cutting treatment and follow up and so relapse.

Considering the distribution of addicted persons according to their knowledge about addiction the present study showed that more than half of the studied addicted person had an unsatisfactory level of knowledge about the addiction and more than one-third of them had a satisfactory level of knowledge about it (**figure 1**). This finding was supported by *Treveli, (2016)* who studied "Assessment of the knowledge and attitude of drug addiction among adolescent boys in selected pre-university colleges in Pune", in Pune, Maharashtra, India; the result indicated that both the sexes had a fair level of knowledge on different aspects of drug abuse. This result showed that 73% of the adolescent boys had average knowledge, 22% of them had poor

knowledge and 5% of them had good knowledge regarding drug addiction.

As regards to the studied addicted person's health needs (**Figure 2**), this study revealed that less than two-thirds of them had physical needs, more than half of them had psychological, social and financial needs; as regard to the studied addicted person's total health needs (**Figure 3**) less than two-third of them had inadequate health needs, this finding was in the same line with *Odenwald & Al'Absi, (2017)* in a study of "Chat use and related addiction, mental health and physical disorders: the need to address a growing risk ",in Yemen, found that addiction lead lo many disturbances mainly effect on physical and psychological health aspects and the addicted persons suffer from inadequate health needs especially physical needs.

In the investigator's opinion, the addicted persons generally did not care about anything except taking the substance which he addicts, they are neglect all basic needs and avoid social contact because of feeling of fear and low self-stem, this may due to changes of lifestyle and disturbance in their physical and social aspect these factors effect on their ability and quality of work which lead to financial problems.

#### **According to the research question (1):**

In relation to the studied addicted persons according to their different relapse factors (**Figure 4**), this study revealed that more than two-fifth of them reported high relapse factors as regarding the environmental factors, regarding the social factors slightly more than two-fifth of them reported high relapse factor, as regard to the psychological factors more than half of them reported high relapse factor and nearly half of them reported high relapse factor as regarding the family factors.

In the investigator's opinion, there was many factor effect on the person to relapse spatially the psychological factors are the most responsible factor contributing to relapse of addiction. But these results disagree with **Rollins, et al, (2015)** who studied "Special Section on Relapse Prevention: Substance Abuse Relapse and Factors Associated with Relapse in an Inner-City Sample of Patients with Dual Diagnoses" mentioned that the psychological factors had no significant relation with drug and substance abuse.

#### According to the research question (2):

In particular, the relation between the studied addicted person's socio-demographic characteristics and their frequencies of relapse, this study revealed that there was a statistical significant relation between the studied addicted person's age and their frequencies of relapse with p-value  $<0.05$  (**Table 2**). Regarding marital status, the result of this study showed that more than two-fifth of the studied addicted persons were single and more than one-third of them divorced with high statistically significance relation between the studied addicted person's marital status and their frequencies of relapse with p-value  $< 0.001$ , this result is supported with the result of the study of **Prady et al. (2012)** in "Do risk factors for post-partum smoking relapse vary according to marital status", in United Kingdom, reported that there was a significant relation between the marital status and relapse addiction but these results disagree with **Hosseini et al. (2014)** who done the study "Evaluation of Drug Abuse Relapse Event Rate Over Time in Frailty Model", in Hamadan, Iran, reported that there was no statistically significant relation regarding the marital status.

This study indicated that there was a highly statistically significant relation between the level of education of the addicted persons and the frequencies of

relapse addiction (**Table 2**), this finding agreed with **Kassani et al. (2015)** who studied "Survival Analysis of Drug Abuse Relapse in Addiction Treatment Centers" in Iran, noticed that there was a highly significant difference related to the educational level and addiction relapse.

But, in the study of **Mohammad et al. (2012)** who studied "Addiction Relapse and Its Predictors: A Prospective Study" in Iran, disagree with the results of this study as who reported that there was no significant difference among the addicted persons related to the level of education and the recurrence of relapse.

The current study denoted that there was a highly statistically significant relation between the studied addicted person's occupation and their frequencies of relapse with a P-value  $<0.001$ , this result agreed with **Mohammad et al. (2012)** who notified that there was significant difference related to occupation.

According to **Kassani et al. (2015)** who studied "Survival Analysis of Drug Abuse Relapse in Addiction Treatment Centers" in Iran, disagree with this result and found that there was no significant relation between the type of occupation and the relapse addiction.

#### According to the research question (3):

In particular, the relation between the studied addicted person's total knowledge about addiction and their frequencies of relapse (**Table 3**) revealed that there was a highly statistical significant relation between the studied addicted person's total knowledge about addiction and their frequencies of relapse with a p-value  $<0.001$ , so that increasing level of awareness and knowledge about the addiction decreasing the frequencies of relapse among the addicted persons. This result is supported by **Maremmani, et al.**

(2012) who studied "Correlations between Awareness of Illness (Insight) and History of Addiction in Heroin-Addicted Patients", in Italy; found a highly significant relation related to level of knowledge and awareness about the addiction and its relapse.

#### According to the research question (4):

In particular, the relation between the studied addicted person's needs and frequencies of relapse (**Table 4**) showed that the studied addicted persons who had inadequate physical needs fulfillment had a higher level of relapse than the person who had a moderate level of physical activity with statistically significant relation and this result is consistent with *França et al. (2015)* and *Wang et al. (2014)* who studied "Factors associated with smoking cessation" in Brazil and "Impact of Physical Exercise on Substance Use Disorders: A Meta-Analysis" in the USA, respectively, found that increasing the physical exercises was directly proportional with reducing the relapse of addiction. But, *Chew et al. (2015)* who studied "Determinants of medication adherence among adults with type 2 diabetes mellitus in three Malaysian public health clinics: a cross-sectional study" in Malaysia, noticed that there was no a significant difference in relation to the physical needs and the recurrence of the relapse addiction.

According to *Swanpoel et al. (2016)* who studied "Risk factors for relapse among young African adults following in-patient treatment for drug abuse in the Gauteng Province", in South Africa, reported that the only physical risk factor leading to addiction relapse is presence of pain related to physical activity.

According to social needs (**Table 4**), the present study displayed that there was a highly significant relation related to social needs and the frequencies of addiction relapse the study represent that about three-fifth of the total study personnel had inadequate social practice and this result is

confused with the study conducted by *Chie et al. (2015)* who studied "Drug abuse, relapse, and prevention education" in Malaysia, found no significant difference in relation to social and community support.

According to *Chew et al. (2015)* agreed with the results of this study found that the social factors increase the frequency of relapse especially difficult to find employment and boredom.

In the investigator's opinion, there were many factors effect on the person to relapse spatially social support which plays a great role in the personal characters and general health, so the absence of this role leads to disturbances which finally may help this addicted person to relapse easily.

Regarding the financial needs of the studied addicted person (**Table 4**) displayed that about three-fifth of them not meeting the financial needs and the monthly income of this group is inadequate but they spent a large amount of their finance in drug addiction. This result is in the same line with *Ewing et al. (2015)* who studied "Longitudinal family effects on substance use among an at-risk adolescent sample in the USA", mentioned that many of financial problems which may be caused by money spent on substances, or money problems associated with the loss of jobs or reliance on public assistance.

#### Conclusion

**On the light of the finding of the present study and according to the study aims, it can be concluded that:**

Around half of the studied addicted persons had high predisposing factors related to environmental, social, psychological and family factors of relapse.

A Highly statistically significantly relation between the studied addicted person's marital status and their frequencies

of relapse with p-value < 0.001, also there was a statistically significant relation between the studied addicted person's age and their frequencies of relapse with p-value <0.05. Also, there was a highly statistically significant relation between the studied addicted person's occupation and their frequencies of relapse with a P-value <0.001, also there was a highly statistically significant relation between the studied addicted person's monthly income and their frequencies of relapse with a p-value <0.001). And there was a statistical significant relation between the studied addicted person's level of education and their frequencies of relapse with a P-value <0.05, also there was a statistical significant relation between the studied addicted person's having a children and their frequencies of relapse with a P-value <0.05.

There was a highly statistically significant relation between the studied addicted person's total knowledge about addiction and their frequencies of relapse with a p-value <0.001.

There was a highly statistically significant relation between the studied addicted person's total needs and their frequencies of relapse with a p-value <0.001.

### **Recommendations**

**The findings of the present study suggest the following Recommendations:**

- 1- Counseling program for the addicted persons about predisposing factors, causes and consequences of relapse among addicted persons.
- 2- Discharge plan for addicted persons including follows up visits schedule, the required examinations, and referral numbers for each type of the expected complaints from addiction.
- 3- Health education sessions for addicted persons regarding healthy lifestyle

programs including healthy nutrition and physical exercising.

- 4- Further studies should be conducted focusing on studying the health needs and problems for addicted persons.

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