

## Psychosocial Adjustment of Adolescent with Substance Abuser during Rehabilitation Phase of Treatment

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### Abstract

**Background:** Adolescence represents a critical period for the onset of drug use; onset of use during these years increases the likelihood of negative impacts on a range of developmental factors, including cognitive, physical, and psychosocial. Adolescents may use various substances to improve psychological wellbeing or to face personal discomfort. So they need psychosocial adjustment to avoid substance abuse. **The aim of this study was** to assess the psychosocial adjustment for adolescence with substance abusers during rehabilitation phase of treatment. **Research design;** a descriptive design was used. **It was conducted on** 100 substance abusers from Abbasia psychiatric and mental health hospital. **Data were collected using three tool;** interview questionnaire to assess socio demographic characteristics of the studied sample, psychological adjustment scale and social adjustment scale. **The result of the study showed that;** there was a highly positive correlation was found between psychological and social adjustment of substance abusers under study. **Result concluded that;** the majority of adolescence with substance abuse under the study were have maladjusted during their rehabilitation phase of treatment in both psychological and social adjustment **Recommendations;** further research on large number of adolescence with substance abuse about how to cope effectively with their psychosocial problems.

**Keywords:** substance abuse, adolescence, psychological adjustment, rehabilitation phase.

### Introduction

Substance abuse may continue for a long period of time or progress to substance dependence, a more severe disorder associated with physiological signs of dependence (tolerance or withdrawal syndrome) or compulsive use of a substance. Substance abuse involves a person using alcohol, tobacco, narcotics or other substances despite serious problems that may affect the user physically, mentally or socially (Samir, 2018).

Adolescence is a challenging stage of life for most individuals and often is characterized by uneven biological, psychological and social development<sup>1</sup>. It often marks the onset of many unhealthy behaviors; including alcohol and drug misuse .It is a key developmental period during which insertion in society is prepared .Indeed, the first stepping-stones of adult life are laid in this period, as the adolescent faces choices and situations that

can influence the course of events in the years to come. Due to the intensity of the physical, sexual, emotional, cognitive, and social changes that occur during this period, the risks of experiencing psychosocial problems increase and the likelihood of these problems occurring are interrelated (Villatte ,2020)

In adolescence, high school dropout and substance abuse are among the adaptive difficulties that can have disastrous consequences for the future life course. Studies indicate that adolescents who dropout or abuse substances have more difficulties in their socio-professional integration, are more socially isolated, may experience more physical and mental health problems, are more likely to develop risky sexual attitudes and behaviors early in life, and are more likely to be associated with juvenile and adult crime . This complex outlook on the development and emergence of adaptive difficulties in

adolescence allows for a deeper understanding of implied processes. However, it makes it harder to pinpoint specific factors and developmental stages to target in order to promote resilience with regards to student dropout and substance abuse (Bailey et al. 2017; Dahl et al. 2018; Yeager et al. 2018)

Rehabilitation is the process of restoring an individual (such as an alcoholic, substance abuser or drug addict) to a useful and constructive place in society especially through some form of vocational, correctional, or therapeutic measures and reeducation to participation in the activities of a normal life within the limitations of the person's disability (Rudnick F, Abraham S, Roe T and David S., 2011).

Substance abusers have a lack of adjustment skills and maladaptive adjustment style for navigating through their day- to-day life. Difficulties in adjustment can be the result of person-environment interactions, such as biological predispositions and precipitating stressful environmental demands, which can include long term stress or the buildup of daily hassles (Benyamini Y, 2011).

Psychosocial adjustment of the individual and family is a holistic process, in which each domain of life affects the others. Therefore, a change in one domain affects adjustment in another domain (Hoyt MA and Stanton AL, 2012).

Social adjustment is a continuous process in which social learning experiences of person is causing his emotional needs and also provides the possibility of acquiring ability and skills through which he can be focus to satisfy his needs (Marshall et al., 2014). Social adjustment of a drug addict is a process of social bonds renewal between the personality and the out world. Substance abusers have a lack of adjustment skills and maladaptive adjustment style for navigating through their day- to-day life. Difficulties in adjustment can be the result of person environment interactions, such as biological predispositions and precipitating stressful environmental demands, which

can include long term stress or the buildup of daily hassles (Benyamini, 2015).

Psychiatric mental health nurse has a crucial role in preventing and management of patients with substance abuse undergoing drug rehabilitation. They monitor their progress, help them adjust to life without Substance and teach them how to maintain their sobriety after leaving rehabilitation and prepare the patient for healthier life style with lifelong abstinence (Smedslund G, Berg RC, Hammerstrøm KT, Steiro A, Leiknes KA, Dahl HM ., 2011) . Also, they play a vital role in helping patients undergoing drug rehabilitation. They teach patients about the dangers of drug abuse, including the physical and psychological effects; the damage to relationships and family life. They monitor their progress, help them adjust to life without substances and teach them how to maintain their sobriety after leaving hospital (Jahedi & Reyshahri, 2015).

### Significance of the study

The problem of substance abuse is an old phenomenon in the present day world. People have been using various kinds of psychotropic substances not only as a means of coping with various problems of life but also to derive pleasure out of it and to facilitate religious and ritualistic aims. It leads to addiction and has been associated with wide range of psychosocial problems.. Adolescence are in a period where they are attempting to find their own personality, looking for peer acceptance, and deal with problems or perform well in school, this makes them more prone to explore different avenues regarding substance abuse and engage in other harmful behaviors. (Rabie, Shaker, Gaber, El-Habiby & Ismail, 2020).

The problem of adolescent substance use is becoming one of the most serious and rapidly growing phenomena all over the world, It is considered a brain disorder, because it involves functional

changes to brain circuits involved in reward, stress, and self-control, those changes may last a long time after a person has stopped taking drugs (Volkow, 2020).

According to WHO survey in Egypt there is 10.4% from total population were addict in Egypt, 40% of them in youth. This survey also show 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).

Psychosocial adjustment works to reintegrate substance abusers after recovery with the community to become productive and positively influencing individuals. It also helps to reform his thinking and behavioral changes to achieve a healthy life, as well as to teach the patient how to cope with difficult situations that may lead him to think about substance abuse. So this study aims to assess the psychosocial adjustment for adolescence with substance abusers during rehabilitation phase of treatment.

#### **Aim of the Study**

This study aims to assess the psychosocial adjustment for adolescence with substance abusers during rehabilitation phase of treatment.

#### **Research question:**

What are the psychological adjustment for adolescence substance abusers during rehabilitation phase of treatment?

What are the social adjustment for adolescence substance abusers during rehabilitation phase of treatment?

#### **Material and Methods**

##### **Technical design**

##### **Research design:**

A descriptive design was used to assess factors affecting relapse among adolescent with substance abuse during Rehabilitation Phase of Treatment.

#### **Subjects of the study:**

##### **Types of sample:**

A convenient sample of 100 substance abusers from Abbassia psychiatric and mental health hospital was selected from the outpatient clinics and inpatient wards. Adolescence patients in rehabilitation phase and willingness to participate in the study fulfilled the following inclusion criteria:

- ❖ Adolescent were substance abuser for at least for 6 months.
- ❖ Sex: both sex
- ❖ Free from neurological or psychiatric disorder (through checking the patient chart).
- ❖ Agree to participate in this research.

##### **Setting**

This study conducted in addiction clinic of the outpatient clinics-Abassia mental health hospital

##### **Sample Size:**

The sample size determined according to formula for determining sample size by (Krejcie & Morgan, 1970).  
 $S = X^2NP (1-P) \div d^2 (N-1) + X^2P (1-p)$ .

Description:

S = required sample size.

$X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level ( $1.96 \times 1.96 = 3.841$ )

N = the population size

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

##### **Tools of data collection:**

Data will be collected by using the following tools:

##### **A) Socio demographic interview sheet:**

This sheet was designed by the researcher and written in simple Arabic language based on scientific literature review to gather data in relation to the following: Socio demographic characteristics of adolescent which include age, sex, level of education, family size etc.

**B) Psychological adjustment scale:** developed by Sery (1986) it was modified and translated into Arabic language by the researcher to assess psychological adjustment of the adolescence with substance abuse it include (4) items on psychological factors contain (24 elements) regarding Self-esteem contain (5 elements), loss of interest contain (7 elements), anxiety for future contain (6 elements) and Powerlessness contain (6 elements).

❖ The scoring system used to assess Psychological adjustment of the patients as follows; each sentence has score ranging from 1-3 (1=yes, 2=sometimes, and 3=no).

Total Psychological adjustment score was calculated as: Mal adjusted = (1:36) while Adjusted = (37:72).

**C-Social adjustment scale:** Social adjustment scale developed by Weissman& Bothwell (1976) and modified by the researcher to assess social adjustment of the adolescence with substance abuse .It was included (5) subscales on social adjustment as the following: Regarding Family adjustment contains (6 items), Economic adjustment contain (5 items), Craving signs contain (5 items), back to school contain (5 items), back to friends contain (4 items).

The scoring system used to assess social adjustment of the adolescence with substance abuse were as the following; each sentence has score ranging from 1-3 (1=yes, 2=sometimes, and 3=no). Total social adjustment score was calculated as: Mal adjusted = (1:37) Adjusted = (38:75)

#### **Validity & Reliability:**

The developed tool was reviewed by experts in psychiatry and psychiatric mental health nursing, as well as experts in socio-behavioral sciences, who reviewed the tool for clarity, relevance, comprehensiveness, understanding, applicability and ease for implementation. Validation was through majority agreement. Testing the Arabic interviewing questionnaire sheet was done using alpha

Cronbach test. The Statistical result was 0.89.

#### **Operational design:**

##### **Pilot study:**

A pilot study was carried out on a sample of 10 adolescence with substance abuse during rehabilitation phase of treatment to test the designed assessment tool and its applicability on the sample, in order to estimate the time needed to collect data, and to identify obstacles or problems in data collection and accordingly necessary modifications were done. Subjects who shared in the pilot study were excluded from the main study sample.

##### **Administrative design:**

Official permissions were obtained from the administrators of the addiction clinics in El -Abassia Mental Health hospital affiliated to Egyptian ministry of health.

##### **Ethical consideration:**

Ethical approval was obtained from the research ethics committee of faculty of nursing, Ain shams University and therefore the official permission to hold out the study was obtained from the General Director of El -Abassia Mental Health hospital affiliated to Egyptian ministry of health and the head of Psychiatric Department after clarifying the aim of the study. Verbal consent of the adolescence with substance abuse to participate in the study was obtained after explanation of the aim of the study. The adolescence with substance abuse privacy were considered. Before the interview, participants were informed regarding the aim of the study and were assured regarding confidentiality of data. The researchers emphasized to adolescence with substance abuse that the study was voluntary and anonymous. Adolescence with substance abuse had the full right to refuse to participate in the study or to withdraw at any time without giving any reason.

##### **Field Work:**

Data collection was carried out, from the first of March 2021 to the end of June 2021. The interview methods were used for data collection; subjects were interviewed by the researcher, after explaining the aim of the study that was conducted.

#### Statistical analysis:

Data entry and statistical analysis were done using the Statistical Package for Social Science (SPSS) version 22.0. For statistical analysis, data were tabulated, coded, revised, analyzed using number and percentage distribution in order to determine whether there were significant differences or not and the arithmetic mean, standard deviation, and Pearson correlation. Statistical significance was considered at p-value <0.05

#### Results

**Table (1):** shows the demographic characteristics of adolescence with substance abuse under this study and found that, more than half (59%) of them are in the age group from 16- <18 years with a mean age of  $16.8 \pm 6.2$  and lived with family composed of 5 to 6 persons, the majority (85%) of them are males. Regarding their educational level it was found that, (52%) of them are in secondary school and (70%) are lived in urban area.

**Table (2):** illustrates that, the most common psychoactive substances abused by adolescence understudy during their initial addiction are Cannabis (Banjo, hashish, estrox), Alcohol (whisky, brandy, vodica), Opiates (heroin, morphine,

Cocaine- Tramadol), and Sedative hypnotics (Librium, valium, Xanax, Ativan, Sleeping pills) which constitute (79%), (66%), (63%) and (47%) respectively.

**Figure (1):** shows Distribution of total levels psychological adjustment of adolescence with substance abuser during rehabilitation phase of treatment and found that, more than three quarter of them (78%) are maladjusted while (22%) are adjusted.

**Figure (2):** shows Distribution of total levels of social adjustment of adolescence with substance abuse during rehabilitation phase of treatment and found that, more than two third of them (67%) are maladjusted while about one third (33%) of them are adjusted.

**Table (3):** explained the relationships between Psychological adjustments, Social adjustment and Socio-demographic characteristics of adolescence with substance abuse during rehabilitation phase of treatment and found that, there was a highly statistically significant relation between Psychological adjustments, social adjustment and socio-demographic characteristics of adolescence with substance abuse regarding their age, sex and level of education. Meanwhile, there was no statistically significant relation regarding their family size and residence.

**Table (4):** show that, there was a positive correlation between psychological adjustment of adolescence with substance abuse and their social adjustment during rehabilitation phase of treatment with highly statistically significance relation as evidenced by  $p = 0.000$ .

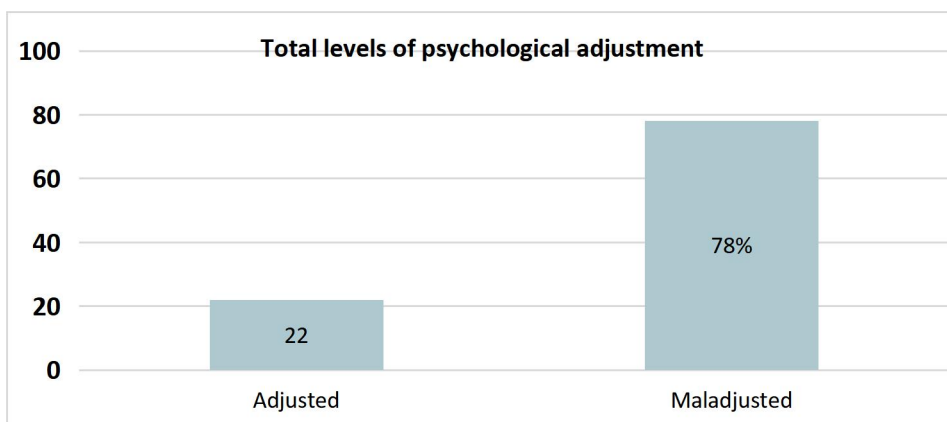
**Table (1):** Distribution of the adolescence with substance abuse regarding their demographic.

Items	Adolescence with substance abuse	
	No.	%
<b>Age ( years ) :</b>		
• 12-< 14y	15	15
• 14-<16y	26	26
• 16- 18y	59	59
<b>Mean ± SD</b>	16.8 ± 6.2	
<b>Sex:</b>		
• Male	85	85
• Female	15	15
<b>Level of education:</b>		
• Not Read & write	12	12
• Read & write	6	6
• Primary	30	36
• Secondary school	52	52
<b>Family Size</b>		
• 3-4 persons	37	37
• 5-6 persons	53	53
• More than 6 persons	10	10
<b>Residence</b>		
• Urban	70	70
• Rural	30	30

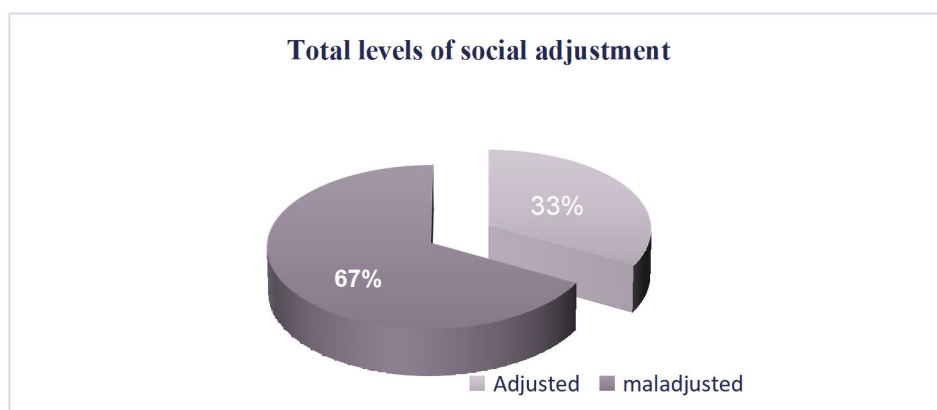
**Table (2):** Psychoactive substances abused by adolescence understudy during their initial addiction (No = 100).

Types of abused substances during initial addiction	Adolescence with substance abuse	
	No.	%
• Cannabis (Banjo, hashish, Estrox )	79	79
• Opiates (heroin, morphine, Cocaine- Tramadol )	63	63
• Sedative hypnotics (Librium, valium, Xanax, Ativan, Sleeping pills)	47	47
• Stimulants (Amphetamines, retaline, Ecstasy, Dexedrine)	33	33
• Alcohol (whisky, brandy, vodica)	66	66
• Hallucinogens (LSD, Ketamine)	42	42
• Inhalation (kola, Benzene, Pain)	23	23

Numbers are not mutually exclusive



**Figure (1):** Distribution of total levels of psychological adjustment of adolescence with substance abuse during rehabilitation phase of treatment (n=100).



**Figure (2):** Distribution of total levels of social adjustment of adolescence with substance abuse during rehabilitation phase of treatment (n=100).

**Table (3):** Relationships between Psychological adjustments, Social adjustment and Socio demographic characteristics of adolescence with substance abuse during rehabilitation phase of treatment.

Items of Socio- demographic	Pearson correlation coefficient	
	Psychological adjustment	Social adjustment
Age	0.122*	0.13*
	0.001	0.001
Sex	.019*	.017*
	.05	.05
Level of education	.145*	.136*
	0.01	0.01
Family Size	.175	.165
	0.09	0.09
Residence	.094	.799
	0.8	0.7

**Table (4):** Correlation between Psychological adjustment of adolescence with substance abuse and their social adjustment during rehabilitation phase of treatment (n=100).

Items	Psychological adjustment	
	r	P
Social adjustment	0.321	0.000

Highly statistical significant at  $p < 0.01$

### Discussion

Substance abuse represents a condition whereby drug-taking and drug seeking come to dominate behavior to such a degree that drug use appears to control over behavior that was once influenced by normal environmental reinforces. For many individuals, the pattern of abusive drug use continuous despite serious adverse effects and repeated efforts to abstain. Both individuals, families are destroyed. Every part of the substance abuser's life as social life, family life, work productivity, physical health and personal relationships is affected. Substance abuse in work environment increases accidents, theft, absenteeism and workers' compensation claims while decreasing in the quality of work performed overall (Yazdani & Abardeh, 2018).

The aim of this study was to assess the psychosocial adjustment for adolescence with substance abusers during rehabilitation phase of treatment.

Results of the current study showed that, the majority of adolescence with substance abuse is male in age from 16 to 18 years from urban areas. This result agrees with (Ragab, et al. 2018) who studied the effect of psychosocial nursing intervention program on adjustment pattern of addict adolescent children and found the same result in their study. Also, this study was in accordance with (The Ministry of Social Solidarity in Egypt, 2017) who said that the rate of substance abuse was about ten percentage of the population and more than two third of adolescence with substance abuse are males and this results also supported with (Lutfi, 2010) who reported the majority of drug users were males aged between 15 and 18years.

Meanwhile, this results disagrees with (Samir, 2018) who found the same results that the majority of the patient with substance abuse are male and from rural area and the majority of them are in age from 16 to 18 years.

Regarding their educational level it was found that, more than half of adolescence with substance abuse are in secondary school. This result is disagrees with (Samir, 2018) who showed that, more than quarter of the educational level were read and write. Also, the present study disagree with (Choopan et al. 2016) who studied "Effectiveness of emotion regulation training on the reduction of craving in drug abusers". One quarter were illiterate, and more than one ten of them had an elementary education, and had a degree higher than a diploma.

Results of the present study illustrates that, more than two third of adolescence with substance abuse are found to use the most common psychoactive substances abused during their initial addiction are Cannabis (Banjo, hashish, estrox) followed by Alcohol (whisky, brandy, vodica). This may be due to those psychoactive substances easy to access available in abundance and cheaper because Egypt's location makes it a transit point for drug trafficking from major production areas in South East Asia and Europe.

These results agree with (Hamdi et al ., 2013) an Egyptian study termed "Lifetime prevalence of alcohol and substance use in Egypt: a community survey" who found that, Cannabis is the substance mostly misused in Egypt; alcohol is a distant second . Also, these results supported by NCFTA, 2010, who



mentioned that Egypt's students depend on drugs, most of them smoke Bango, and three percent prefer Hashish.

Meanwhile, these results of the current study disagrees with (Asghari et al., 2016). Who found in his study tramadol is the most common substance in Egypt among users, where represent more than one third and also found that, one quarter of them depends on hashish and heroin.

Results of the current study shows that, more than three quarter of adolescence with substance abuse are psychologically maladjusted while near one quarter of them are psychologically adjusted. In my opinion, this result could be due to lack of knowledge and instruction about coping pattern which creates negative feelings and decrease capability in adolescence, which disturb their ability to better cope with their illness problems and to adjustment to their home and families, school, social interaction and compliance with medication.

This result is inconsistent with (Samir, 2018) who found that, the majority of substance abuser in his study was maladjusted regarding to their total score of psychological adjustment during rehabilitation phase of treatment.

Concerning social adjustment results of the present study shows that, more than two third of adolescence with substance abuse are socially maladjusted while one third of them are socially adjusted. This result could be due to stigma and shyness of adolescence make them feels sense of inferiority and refuse to deal with others in form of social isolation, avoidance of dealing with strangers and dependence in achieving needs which affects them broadly in impaired relationships with family and friends.

This result is supported with (Yount, 2010 & Samir, 2018) who found that in their studies on substance abuser that, The individual not only suffer from physical

and psychological problems but also loses the ability to interact with family, peers and society.

Results of the present study found that, there was a highly statistically significant relation between psychological adjustment, social adjustment and socio-demographic characteristics of adolescence with substance abuse regarding their age. This finding reveals that adolescent substance users have more psychosocial problems than adult substance abusers. Contrary to this finding, the other study done by (Poudel, 2016) revealed higher psychosocial problems in young adult followed by mid adult and lesser in 12–18 years youth.

Results of the current study found that, there was a highly statistically significant relation between psychological adjustment, social adjustment and socio-demographic characteristics of adolescence with substance abuse regarding their sex. The findings were also supported by (Tarter, 2011) in the study done among individuals admitted for substance use treatment in Manitoba, Canada which showed that female had significantly severe disturbance on overall and all the domain of psychosocial adjustments.

Results of the present study found that, there was a highly statistically significant relation between Psychological adjustment, social adjustment and socio-demographic characteristics of adolescence with substance abuse regarding their level of education.

### **Conclusion**

**Result of the present study concluded that;** the majority of adolescence with substance abuse under the study were have maladjusted during their rehabilitation phase of treatment in both psychological and social adjustment.

### **Recommendation**

- Establish psycho-educational program should be given for all adolescence with

- substance abuse based on to enhancing their self-esteem and social adjustment.
- Further studies should be done about how to deal with psychosocial problems that leads to substance abuse.
  - Further research on large number of substance abuser about how to cope effectively with their psychosocial problems.
  - Counseling intervention should be integrated as a part of routine nursing intervention for adolescence with substance abuse to enhance their coping patterns and improve their positive adjustment.
  - Nursing intervention program should be designed on prevention of the factors hindering addiction among adolescence

## References

- Asghari, F., Akbari, B., Shadman, R. and Saadat, S. (2016):** The effect of cognitive behavioral training on quality of life and aggression among drug addicted prisoners. *Journal of Research & Health*, 5(4), 77 -86.
- Bailey, D., Duncan, G. J., Odgers, C. L., & Yu, W. (2017):** Persistence and fadeout in the impacts of child and adolescent interventions. *Journal of research on educational effectiveness*, 10(1), 7–39.
- Benyamini Y (2011):** Health and illness perceptions. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology* (pp. 280–293). Oxford, UK: Oxford University Press.
- Choopan H, Kalantarkousheh SM, Aazami Y, Doostian Y, Farhoudian A, Massah O (2016):** Effectiveness of Emotion Regulation Training on the Reduction of Craving in Drug Abusers. *Addiction & Health*; 8(2):68-75.
- Dahl, R. E., Allen, N. B., Wilbrecht, L., & Suleiman, A. B. (2018).** Importance of investing in adolescence from a developmental science perspective. *Nature*, 554(7693), 441.
- Hamdi E, Gawad T, Khoweiled A, Sidrak AE, Amer D, Mamdouh R, and Fathi H (2013):** Lifetime prevalence of alcohol and substance use in Egypt: a community survey. *Subst Abus*; 34(2):97-104.
- Jahedi, Z. and Reyshahri, A. (2015).** The Impact of communication skills training on the adjustment of opiate addicts. *International Journal of Human Resource Studies*, 5(4), 128-141.
- Lutfi , H. and Tejada, M. (2010):** Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *The American Journal of Drug and Alcohol Abuse* 27(4):651-688
- Marshall, S., Parker, P., Ciarrachi, J. and Heaven, P. (2014).** Is self-esteem a cause or consequence of social support?. A 4-year longitudinal study. *Child Development*, 85, 1275–1291.
- Poudel, A. Sharma, C. & Gautam, S. (2016):** *Substance Abuse Treatment, Prevention, and Policy*, vol. 11, N: 28
- Rabie. M, Shaker. M, El-Gaafary.M, Lotfy.A, Sabry.N, & Muscat.R. (2020):** Prevalence updates of substance use among Egyptian adolescents. *Middle East Current Psychiatry*, 27(1), 4.
- Ragab, O. Zaki, R. Mohammed, H. & Refaat, H. (2018):** the effect of psychosocial nursing intervention program on adjustment pattern of addict adolescent children, *International Journal of Novel Research in Healthcare and Nursing*. Vol. 5, Issue 3, pp: (306-318),
- Rudnick F, Abraham S, Roe T and David S eds. (2011):** *Serious Mental Illness: Person-centered Approaches*. London: Radcliffe. ISBN 9781846193064.
- Samir, M. (2018):** Factors Affecting Relapse among Adolescent with Substance Abuse. Unpublished thesis of Master Degree in Psychiatric Nursing, Faculty of Nursing. Ain Shams University.
- Smedslund G, Berg R, Hammerstrøm KT, Steiro A, Leiknes K, Dahl H, et**

- al. (2011):** Motivational interviewing for substance abuse. *Cochrane Database Syst Rev*; 5:CD008063.
- Tarter R, Kirisci L, Mezzich A, Patton D (2011):** Multivariate Comparison of Male and Female Adolescent Substance Abusers with Accompanying Legal Problems. *J Crim Justice*. 2011; 39(3):207–11.
- Villatte , A. (2020):** Longitudinal Association Between Risk Profiles, School Dropout Risk, and Substance Abuse in Adolescence, *Child & Youth Care Forum* , 49:687–706.
- Volkow.D.N. (2020):** Drugs, Brains, and Behavior: The Science of Addiction. National Institute on Drug Abuse. Department of Health and Human Services.No.20-DA-5605.
- Yeager, D. S., Dahl, R. E., & Dweck, C. S. (2018).** Why interventions to influence adolescent behavior often fail but could succeed. *Perspectives on Psychological Science*, 13(1), 101–122.