The Effect of Applying Life skills training program on Substance Abuse Behaviors of Male Preparatory Schools Students in Alexandria

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Abstract:

Background: Prevention and early intervention of substance abuse represent the most promising and appropriate ways to maximize adolescent's health and minimize the negative and serious consequences of such pervasive problem. Therefore, effective prevention strategies are critically important in community efforts to combat such problem. ***Objective:*** Identify the impact of applying preventive interventions on substance abuse behaviors of male preparatory schools students in Alexandria. ***Settings:*** The study was carried out at four governmental male preparatory schools representing two educational zones of Alexandria Governorate affiliated to the Ministry of Education. El-Montazah (Elbactoshy and El-Shaheed Hanafy Mahmoud), East (Esmael Elkabany and Mohamed Hafez). ***Subjects:*** a) All students in the first and second grades in the previously selected schools were screened by using Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), they were 3493 students. b) **Thirty students** from those having mild or moderate substance abuse related risk were randomly selected from each school (total number was **120 students**). **Tools**: Two tools were used for data collection. **The first tool** was Students' socio-demographic and health profile structured interview schedule. **The second tool** was Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). **The study had four phases.** The first was the assessment and preparatory phase where tool (II) was used to assess students' substance abuse behaviors, the second was the development phase while the third was the implantation phase and finally the fourth phase was the evaluation phase during which tool (II) was reused for immediate and 3 month and 6 month follow up evaluation. **Results:** results of the study implies that the total ASSIST mean score for smoking/substance use among study group students was significantly decreased from 40.17± 15.54 before the program implementation phase to 7.20 ± 12.75 immediately after the program implementation. Further reductions were reported in each of 3 and 6 months follow up assessment (3.92± 10.28 and 2.21± 1.39 respectively). **Conclusion:** The study concluded that the preventive interventions based on life skills training program were the most promising strategies for combating substance use among adolescents. **Recommendations**: Evidence based substance use preventive interventions like life skills training program must be rooted in school curriculum.

Keywords: Substance abuse, Adolescents, life skills, prevention.

Introduction

Substance abuse is a serious and growing health problem all over the world. It has great socio-economic impacts that touch the future of the young generation and influence the infrastructure of such dynamic states (National Addiction Workforce Development [NAWD], 2017). It is considered one of the most significant threats to adolescents and their families. Substance abuse is an intense desire to use a drug in which the user consumes the substance in amounts or with methods which are harmful to themselves or others and is a form of substance-related disorder (Fogoros, 2018).

Indeed, substance abuse affects all sectors of society in all countries; in particular, it affects the freedom and development of young people, the world's most valuable asset (Givaudan & Pick). Adolescence is a time when enormous changes take place in the process of normal development. It is "a time for developing a person's sense of self-identity, a process that involves separating from parental attachments and values and establishing new social ties, values and ideals. In separating from parents, youth need to form other meaningful relationships. Sometimes the peers with whom the growing youth associates influence him or her to adopt drugs as part of their social behavior (McNeely & Blanchard, 2010; American Academy of Child and Adolescent Psychiatry [AACAP], 2011).

Globally, the alarming increases in illicit drugs problems both reflect and contribute to international tensions as: rapid changes in political alignment, reduced family and community cohesiveness, increased unemployment and underemployment, economic, social marginalization and increased crime. The World Drug Report 2018 declared that, over 5% of the adult population, or nearly 275 million people between the ages of 15 and 64 used at least one drug and there are over 29 million people classified as suffering from drug user disorders (United Nations Office on Drugs and Crime [UNODC], 2017).In Egypt, substance use has been emerging as a serious public health issue. Recent studies demonstrated that prevalence of substance abuse among Egyptians is double of the world prevalence rate, that equal to 12.6%. It is also evident that there is an increase in the use of tobacco, illegal drugs and over-the-counter drugs, particularly among youth (Drug rises in Cairo, 2018). It was more prevalent among males (13.2%) than females (1.1%). Youth aged 15-19 years of Bedouin origin, seaside governorates, low levels of education and certain occupations experienced far more substance abuse (Hamdi et al., 2013).

Adolescents' substance abuse presents a unique challenge to the treatment services as lack of comprehensive substance abuse coverage and treatment is often not effective, not supported by the scientific evidence and sometimes not in line with human rights principles(Kaminer & Waldron, 2006).

Indeed, prevention of substances abuse is critically important in community efforts to combat this devastating problem. Early intervention helps prevent substance abuse and reduce the negative consequences of addiction before they occur. Prevention also makes economic sense; each dollar invested in an evidence-based prevention program can reduce

costs related to substance use disorders (Department of Justice Response Center [DJRC], 2000).

In this respect, the UN General Assembly special session on the world drug problem place a landmark moment in global drug policy which resulted in a series of concrete operational recommendations as a clear recognition of substance abuse issue under Sustainable Developmental Goal SDGs Target 3.5 (strengthen the prevention and treatment of substance abuse) (United Nations Office on Drugs and Crime [UNODC], 2017).

There is a large base of research supporting the effectiveness of adolescents' substance abuse prevention at both international and national level. Globally, the WHO/UNODC have a global initiative on the primary prevention of substances abuse that aim to mobilize communities to respond to the global rise in substance use in young people (World Health Organization [WHO] & United Nations Office on Drugs and Crime [UNODC], 2017). In this respect, The World Health Organization (WHO) at 2017 Department of Mental Health and Substance Abuse organized for the first time the global Forum on Alcohol, Drugs and Addictive Behaviors (FADAB). The primary goal was to enhance public health actions in these areas by strengthening partnerships and collaboration among public health oriented organizations, networks and instructions in the era of Sustainable Development Goals 2030 (SDG 2030) (World Health Organization [WHO], 2017).

In this context, youth-oriented programs identified as significantly having potential to prevent the onset of drug abuse and developing the basic life skills in adolescence that can in turn facilitate a healthy transition into adulthood. These basic skills and capacities function to enhance individual strengths and act as protective factors against drug use, as well as lay the foundation for positive behavior throughout adulthood (Schinke et al., 1991). Moreover, school environment has proven to be an effective site for preventive programs as it offers the ability for long-term implementation and the opportunity to establish trusting relationship (Schinke et al., 1991; Gottfredson & Wilson, 2003; Oliver et al., 2006). Moreover, extensive body of research has identified a number of prevention strategies that measurably reduce drug use, including those at high risk. These strategies share a common goal: strengthening "**protective factors**" such as well-developed social skills, strong family bonds, attachment to school and active involvement in the community and religious organizations, while reducing "**risk factors**" that increase vulnerability to drug abuse(Cleveland et al., 2008).

Botvin Life Skills Training (LST) is one of this an internationally recognized evidence-based programs that supports the decrease of risky behaviors such as drug and/or alcohol use, violence, aggression, and delinquency (National Health Promotion Associates [NHPA], 2018). LST is considered an approach that can be used effectively in both schools and youth-serving organizations to support the social and emotional development of youth. It provides youth with effective social skills and self-management skills such as communication and anxiety management which in turn decreases the motivation to use drugs and the vulnerability to social influences that support drug use (Botvin et al., 2001).

According to the World Health Organization (WHO) life skills defined as, "the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life (World Health Organization [WHO], 2012). In particular, life skills are a group of psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathize with others and cope with and manage their lives in a healthy and productive manner. It also may be directed toward personal actions or actions toward others, as well as toward actions to change the surrounding environment to make it conducive to health (World Health Organization [WHO], 2012).

Furthermore, the life skills program is a comprehensive behavior change that concentrates on the development of the skills needed for life that enable individuals to translate knowledge, attitudes and values regarding their concerns into well informed and healthy behaviors. Yet, empowering the young people with these skills help them to take positive actions to protect themselves and to promote health, mental well-being and meaningful social relationship competence as they face the realities of life (Kaur, 2016).

Accordingly, prevention of adolescents' substance abuse is critical responsibility of community health nurse. As a school member she has the greatest chance of being in close contact with adolescents students. In primary level of prevention, she can implement the best and effective preventive school programs to prevent the use of or the delay of initial onset of drug use. While, in secondary prevention she is concerned with the early detection and reduction of drug problems once they have begun and in tertiary prevention she is concerned with preventing further deterioration and reducing problems associated with the specific disorder or disease (Gottfredson & Wilson, 2003; Oliver et al., 2006).

Aim of the study

The aim of the study is to identify the impact of applying preventive interventions (life skills training program) on substance abuse behaviors of male preparatory schools students in Alexandria.

Research hypothesis

Male preparatory schools students who receive the preventive interventions demonstrate less substance abuse risky behaviors than those who do not.

Materials and method

Materials

Research Design:

A true experimental research design was adopted to carry out this study.

Settings:

Two governmental male preparatory schools were randomly selected from El-Montazah educational zone namely: Elbactoshy and El-Shaheed Hanafy Mahmoud and from East educational zone namely: Esmael Elkabany and Mohamed Hafez.

All students in the first and second grades in the previously selected schools were screened by using Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) (WHO ASSIST Working Group, 2002) they were 3493 students. Third grade students were excluded from the study as the preventive interventions were implemented then evaluated after 3 and 6 month, so third grade students will leave the school before being assessed for the interventions effect.

Two schools (one from each zone) were blindly assigned to select the study group (60 students) and the other two were for the controls (**60 students**).**thirty students** were randomly selected from the 1st and 2nd grades from those having mild or moderate substance abuse related risk in each school (total number was **120 students**).

Tools of the study: In order to fulfill the objective of this study, two tools were used;

Tool one: Students' socio-demographic and health profile structured interview schedule:

This tool included the following parts part I: Socio-demographic characteristics of the students, part II: Students' life style, part III: Students' health profile, part IV: Students' social and educational profile.

Tool two: The Arabic Version of Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) Version 3.0 (Gawad):

It was developed by the World Health Organization (WHO) by an international group of researchers and clinicians. It was designed as a technical tool to assist with early identification of substance use related risk disorders (WHO ASSIST Working Group, 2002).

- **ASSIST tool** composed of eight main questions asking about risky use of a) tobacco, b) alcohol, c) cannabis, d) cocaine, e) amphetamine-type stimulants, f) sedatives, g) hallucinogens, h) inhalants, i) opioids and j) other drugs.
  - The 1st question was about the substance that have ever used. The response was either "No" or "Yes". A score "3" was given to the answer "Yes" and “zero” was given to answer "No" for each abused substance.
  - The 2nd question was about the frequency of using different substances in the last three months, if the answer was "Never" zero score was given, if used one/twice the score was 2, if used monthly the score was 3, weekly use given a score 4, while daily used a score 6 was given.
  - The 3rd question was about the frequency of having a strong or urge desire to use substances during the past three months, if the answer was "Never" zero score was given, if used one/twice the score was 3, if used monthly the score was 4, weekly use was given a score 5, while daily/almost daily used was given a score 6.
  - The 4th question was about the frequency of having health, social, legal or financial problems as a result of using the substances during the past three months, if the answer

was "Never" zero score was given, if used one/twice the score was 4, if used monthly the score was 5, weekly use was given a score 6, while daily almost daily used was given a score 7.

- The 5th question asked about the frequency of failing to do what was expected to do because of abusing such substances in the past three months, if the answer was "Never" zero score was given, if used one/twice the score was 5, if used monthly the score was 6, weekly use was given a score 7, while daily almost daily used was given a score 8.
- The 6th question was asked about having a friend, relative or any anyone else ever expressed concern about abuse of such substance, if the answer was "No, never" zero score was given, if the answer was "Yes" during the last three months the score was 6, while "Yes" but not during the last three months was given a score 3.
- The 7th question was asked whether the students tried and failed to reduce or quit using such substances, if the answer was "No, never" zero score was given, if the answer was "Yes" in the past three months the score was 6, while "Yes" but not in the past three months was given a score 3.
- The 8th question asked whether the students have ever used any injecting drugs (Non-medical uses only), if the answer was "No, never" zero score was given, if the answer was "Yes" in the past three months the score was 2, while "Yes" but not in the past three months was given a score 1.
- A risk score is given for each substance and the total scores were calculated and explained into low level risk, moderate level risk and high level risk. The risk score determines the level of intervention needed as shown in table II.
- The responses from either question 1 or question 8 were not included in this score. In addition, question 5 for tobacco is not coded and is calculated as: Q2a + Q3a + Q4a + Q6a + Q7a.

Method

I. Administrative process:

- Before conduction of the study an official letters from the Faculty of Nursing, university of Alexandria were directed to the Central Agency for Public Mobilization and Statistics (CAPMAS), the Directorate of Education in Alexandria to obtain their approval to carry out the study at selected schools in Alexandria.
- An official letter from Community Health Nursing department, Faculty of Nursing was directed to the director of the National Fund for Drugs Control and Treatment (NFDCT) to take the approval to use the training manual.
- Directors of the selected schools were met to explain the purpose of the study and the time for starting of the study in order to facilitate data collection and implementation of the preventive measures.

- An official letter from Faculty of Nursing was directed to the director of addiction center at El Maamoura hospital to take the approval for making an orientation for the students of the study group about the services provided by the center.

II. Development of study tools:

- Tool I was developed by the researcher after reviewing the current relevant literature to collect the necessary data.
- The content of the constructed tool was revised by a group of five experts in the field of the study to test its validity, completeness, and clarity of items, recommendations and suggestions of the jury were considered and the tools were modified accordingly.
- The reliability of tool I was tested using Cronbach Alpha Coefficient test. The tool had a reliability of (r = 0.85).

III. Pilot study:

A pilot study was carried out on a random sample of 30 students that were not included in the study sample. Its purpose is to assure the clarity, applicability and comprehensiveness of the tools, to identify obstacles and problems that may be encountered during data collection and to test the wording of questions and estimate the time required to fill the interview sheets. The data obtained from the pilot study was analyzed and the necessary modifications were done.

1. Preparatory and assessment Phase:

Selection of preventive interventions students:

- An initial assessment done for all students enrolled in the four male governmental preparatory schools grade one and two (Academic year 2016-2017), the high risk students were identified.
- Male preparatory students who have mild and moderate substance abuse behaviors were chosen from each school, 30 students were assigned as a control group and the other 30 students were the interventions group (15 students from grade one and the other 15 students from grade two) in each school (Four groups: two intervention groups and two controls).
- Students who had severe risk were referred to the National Fund for Drugs Control and Treatment (NFDCT) and for addiction center at El-Mamoura hospital in Alexandria.

School environment preparation:

The researcher selected well equipped, comfortable, safe, easily accessible and nonthreatening place that will provide privacy for all participants at Elbactoshy, Esmael Elkabany, Mohamed Hafez and El-Shaheed Hanafy Mahmoud schools as library, lecturer room and sometimes computer room.

2. Development Phase:

Preventive interventions (life skills training program) learning objectives and structures were developed by the researcher based on the data obtained from the assessment phase as well as the training manual developed by the National Fund for Drugs Control and Treatment (NFDCT) to identify the effect of implementing preventive interventions on substance abuse among male preparatory school students.

3. Implementation Phase:

The preventive interventions were conducted on 60 class sessions over 6 months (30 sessions for grade one students and the other 30 sessions for grade two).

The intervention sessions were implemented as two sessions per week for each group; each session has duration ranged from 45 - one hour at selected school settings. These sessions including:

Session I: **Program expectation**: which aims to inform the purpose and the objectives of the program, enable the adolescents to articulate their issues and know their rights, build their self-esteem and self-confidence and develop their ability to take responsibility for self, relationships and to an extent society around them.

Session II: Acquaintance and identify (Breaking the ice) which aims to acquaintance between the students and to recognize the nature of the program. This session included two sub sessions namely;

Sub Session 1: Acquaintance between the students which aims to confirm that all information discussed among the group will be kept confidential, to enhance development of group identify by exchanging personal information, to help all participants to get familiar with each other and promote interaction among the group members and the researcher as well as to develop self-confidence by expressing their feelings and thinking in front of the group.

Sub session 2: **Part one of the program**: This aims to help the students to know the meaning of word (program) and to identify the different types of preventive programs

Session III: Raising the awareness: This session aims to raising the participants' awareness about different types of drugs and its harmful effects on individual, family and community, the main stimulants of being abusers and the expected gains and losses from substance abuse. This session was implemented on **four sub sessions as follow:**

- **Sub session 1:** to identify what the students know about substances abuse.
- **Sub session 2:** to present the dangerous effect of drugs.
- **Sub session 3:** to know the triggers of students' substance abuse.
- **Sub session 4:** to know what the students gained and lose from their being involved in substance abuse behaviors.

Session IV: Information treasure (smoking and narcotics): the main objectives of this session were: knowing the importance of searching about the information and how to search about the information.

Session V: Social communication: this session was implemented on three sub sessions as follow:

- **Sub session 1: Communication skills:** which aimed to know the elements, types and the importance of communication in the management of life affairs, enhance the value of non-verbal communication, highlight the importance of integration between verbal and nonverbal communication and to practice communication skills.
- **Sub session 2: communication with friends:** this aimed to identify the different relationships in the students' lives, identify the personal qualities that characterize their friends and identify the characteristics they want to have in their friends.
- **Sub session 3: Friends circle**: at the end of this session the students become able to identify their good friends.

Session VI: Group work: the aim of this session includes the following:

1. Recognizing the concept and the importance of working within a team
2. Recognizing the difference between personal and team work
3. Knowing skills required for successful team building and its advantages
4. Recognizing the role of leader, facilitator and recorder.
5. Knowing the characteristics of the leader.

Session VII: Decision making: the aim of this session includes:

1. Identifying the process of making decisions
2. Outline the steps of decision making in different situations.
3. Identifying the tactics used to influence decisions of others.

Session VIII: Problem solving skills: this aims to building the capacity of students on the mechanisms of dealing with personal problems.

Session IX: Time management: this session aims to help the students:

1. Recognizing the importance of time.
2. Identifying the causes of wasting time.
3. Identifying time constraints for optimal use of time.
4. Knowing the time lost and how much time is spent positively.

5. Providing the optimal method to take advantage of time

Session X: Family relations: it conducted on two sub sessions as follow:

- **Sub session1**: it aimed to identify the most prominent family problems and advantages of family relations management.
- **Sub session 2**: it aimed to determine the most prominent personal patterns of family members as well as clarification of the most prominent psychological changes that occur on the adolescents' personality in family dealings and problems caused by them.

Session XI: Peer pressure: this session was conducted on two sub sessions as the following:

- **Sub session 1:** this aims to: determine the most prominent negative patterns for peer pressure and encourage creating a positive style of peer pressure. It also helps them to deal with peer pressure.
- **Sub session 2**: (**I'm strict**) the aim of this sub session is to motivate all students to deal firmly in risk situations and potential conditions in the future, especially with regard to substance abuse and how they could say "No" with complete self-confidence.

Session XII: Self-expression: it was implemented on three sub sessions

The aim of this session is to motivate the students to express themselves, understanding the importance of self-evaluation, work to discover their strengths and weaknesses in personality, to enable them to communicate with themselves and owing a mechanism to deal with the negatives of the self before its positives.

- **Sub session 1: (Who am I?) Self-assessment through self-perspective**. The aim of this session is to motivate the students to express themselves, understanding the importance of self-evaluation.
- **Sub session 2: Self-evaluation by others:** this sub session aimed to help the students getting feedback from each others to increase their self-awareness.
- **Sub session 3: Self-assessment through situations**

Session XIII: Express feelings: the purpose of this session is to emphasize the importance of expressing feelings in a calm and timely manner for the right person, whether those feelings are positive or negative and to emphasize the crises that can occur due to lack of expression of the stock of feelings within the individual and the impact of those crises on the confidence of the individual in himself.

Session XIV: Smoking and substance abuse: the purposes of this session include the following:

1. Focusing on the information aspect of substance abuse problem.
2. Investing of the knowledge component of previous sessions.

3. Opening the debate surrounding the narcotics rumors.
4. Explaining the package of rumors that encapsulate the drug problem.
5. Clarifying the role played by these rumors in the spread of drugs between adolescents and the different groups of society
6. Raising awareness of the participants how to respond scientifically to these rumors.

Session XV: Dissemination of information: the purposes of this session include; raising awareness of the students' colleagues in the school and increase the participants' self-confidence.

Session XVI: Before and after the program implementation: the aim of this session include; expressing self-perception, identifying desired or undesired changes and recognizing what changes occurred during the program.

Program termination: the program was ended by simple party for the participants who shared in the program, giving them simple gifts and reward. The researcher also confirmed the importance of communication between them.

The social worker in each school participated in each session as a facilitator in which he recorded notes during the session where they helping the researcher to organize any activities conducted before, during and after the sessions. The sessions were conducted during the free time in each school.

V. Evaluation Phase:

At the end of the program, a post program assessment was carried out using the same ASSIST tool (II) as in pre-program assessment. The evaluation were conducted three times, immediately after the end of the program, 3 months later (November, 2017) and 6 months later (March , 2018) to evaluate the immediate and retained changes in the students' substance abuse related behaviors.

VI. Collection of data:

The study was conducted in a period of 15 months; the first 3 months were for screening of students (from October to December 2016) and the next 6 months for implementation of the preventive interventions sessions (from February to July 2017).

- Preparatory male students were interviewed individually in previously selected schools after brief explanation of the aim of the study to collect the needed data using **tool I and II**. An informed consent was obtained from each student before starting to fill out the interview sheet.
- Students' school health records and students' scholastic achievement records were checked to collect necessary data about the students' health profile and their academic performance.

Ethical considerations:

Research consent form was given to the director of each school in order to assume protection of human rights of the study subjects.

Written informed consent was obtained from each student, their parents, after complete explanation of the aim of the study in order to ensure voluntary participation.

Statistical analysis: The collected data were coded and analyzed using PC with the Statistical Package for Social Sciences (SPSS version 20) and tabulated frequency and percentages were calculated. Analytical statistical tests, which included; Chi-Square (χ^2), Fisher exact test (FET), Cohen's d, Paired T test and ANOVA test. The level of significance selected for this study was $P \leq 0.05$.

Results:

Table (1) illustrates that in slightly less than two thirds (62.6%) of the students never tried smoking or any type of substances, whereas less than two fifths (37.4%) of them had. In addition, the age of starting smoking, ranged from 8-14 and more years with a mean of 11.38 ± 2.849 years. Less than half (48.1%) of them were staring cigarette smoking at the age of 10 to less than 12 years, whereas slightly less than two fifths (39.8%) of them were in the age of 12 to 14 years old. Those whose age was 10 years old at starting of smoking constituted (12.2%).

Figure (1) presents that in that the vast majority (93%) of students was tobacco smokers. Cannabis (hashish) was used by 55.5% of them followed by inhalants and other synthetic substance (23.3% and 22.8% respectively). More than one tenth (16%) of the users were drinking alcoholic beverages like wine and beer, while few of them (2.7%) were abusing sedatives. It can also be observed that the minority (1.4%, 0.6%, 0.5% and 0.3%) of the students were abusing cocaine, opioids, amphetamines and hallucinogens respectively.

Table (2) shows that in the majority (83.5%) of students were abusing tobacco daily/almost daily compared to less than two fifths (38.3%) of them who were abusing alcohol weekly and more than one third (36.8%) of them were abusing alcoholic beverages once/twice and 21.1% of the students were monthly alcohol users. Less than three quarters (71.6%) of cannabis users were abusing it weekly followed by 13.4% of them who were abusing it once/twice in the past three months.

Regarding the frequency of problems (health, social, legal and financial) that resulting from tobacco/substances use in the past three months, the highest percent (88.3%) of cocaine users were experienced problems once/twice followed by alcoholic beverages (83.2%), tobacco (80.1%), and other substances like tramadol (76.5%), hallucinogens (75%), inhalants (74.4%), cannabis (73.4%), amphetamine (71.4%), opioids (62.5) and sedatives (57.1%).

In relation to experiencing problems from the current pattern of use and type of interventions that were required by tobacco/substances users, all cocaine and hallucinogens users were needed for short term interventions followed by those who used other substances

(98%), tobacco (89.4%), sedatives (88.6%), opioids (87.5%), cannabis (86.9%), inhalants (86.9%), alcohol (85.6%) and amphetamines (71.4%) respectively. However, those who were at high risk of experiencing severe problems as a result of their current pattern of use and are likely to be needed for condensed intervention represented by amphetamines users (28.6%) followed by cannabis (13.1%), inhalants (13.1%), opioids (12.5%), sedatives (11.4%), tobacco (10.6%), alcohol (9.1%) and other substances users (2%) respectively.

Table (3) represents that all students in the study and control group were tobacco smokers before implementing the preventive program. On the immediate evaluation, less than three quarters (71.7%) of them quit smoking in the study group compared to 1.7% in the control group. Further progress was observed in both post 2 and post 3 assessment since 86.7% and 90% of them quit smoking respectively compared to 1.7% in both assessments in control group. A statistically significant difference between post 1, post 2 and post 3 among study and control groups (X^2=63.301, P=0.000, X^2=87.896, P=0.000 and X^2=98.182, P=0.000).

In relation to alcohol use, slightly more than one fifth (21.7%) of the study group students and less than one fifth (18.3%) of the control group were alcoholic users. In the immediate, post 1 and post 2 program assessment only few 1.7% of the study group was users compared to more than one quarter (26.7%) of the control group. Further progress was observed in post 3 assessment since none of the students who belonging to the study group were abusing alcohol. A statistically significant difference between study and control group in the post 1, post 2 and final evaluation (X^2=15.419, P=0.000, X^2=15.419, P=0.000 and X^2=21.176, P=0.000).

As regards cannabis use among both groups before implementing the preventive program, in slightly less than two thirds (65%) of the study group students and 70% of the control group students were cannabis users. In the immediate and second assessment after 3 months only few 1.7% of the study group and all users were quit cannabis in the third assessment after 6 months of the life skills program implementation compared to more than three quarters (83.3%, 83.3% and 86.7% respectively) of the control group. The difference was statistically significant between both group on the post 1, post 2 and post 3 assessment (X^2= 81.875, P = 0.000 X^2= 81.875, P = 0.000 and X^2= 91.765, P = 0.000).

Table (4) portrays that the mean score for study group was significantly decreased from 19.72 ± 2.18 before implementing the life skills program to 6.10 ± 9.86 immediately after the program compared to 20.62±4.28 in the control group. Then, it became in the second assessment after 3 months 2.82 ± 7.33 and in the third assessment after 6 months 2.08 ± 1.47 compared to 20.62 ±4.28 and 23.97±5.34 in both assessment in control group respectively. The difference between post 1, post 2 and post 3 assessment was statistically significant where (F=10.457, P= 0.000, F= 16.239, P= 0.000 and F=20.89, P= 0.000 respectively).

Regarding alcoholic beverages use, the mean score for study group was significantly decreased from 3.92 ± 7.66 before implementing the life skills program to 0.38 ± 2.97 immediately after the program compared to 5.22 ± 8.75 in the control group. Further progress

was observed in both post 2 and post 3 assessment since it became 0.38 ± 2.97 and 0.00 ± 0.00 compared to 5.22 ± 8.75 and 5.73 ± 9.87 in both assessment in the control group. A statistically significant difference between study and control group in the post 1, post 2 and final assessment (F=4.050, P=0.000, F=4.050, P=0.000 and F=4.496, P=0.000 respectively).

Concerning cannabis use, the mean score for the study group was significantly decreased from 10.95 ± 8.68 before implementing the life skills program to 0.33 ± 2.58 immediately after the program compared to 14.28 ± 9.95 in the control group where (F=1.955, P=0.053).

Further progress was detected in both post 2 and post 3 assessment since it became 0.33 ± 2.58 and 0.00 ± 0.00 compared to 16.50 ± 8.17 and 18.25 ± 8.84 in both assessment in the control group.

The difference between pre assessment, post 1, post 2 and post 3 was statistically significant where (F=14.620, P= 0.000, F=14.620, P= 0.000 and F=15.99, P= 0.000 respectively).

Table (5) illustrates that the total ASSIST mean score for smoking/substance use among study group students was significantly decreased from 40.17± 15.54 before implementing the life skills program to 7.20 ± 12.75 immediately after the program. Then, it became in the second assessment after 3 months and in the third assessment after 6 month (3.92± 10.28 and 2.21± 1.39 respectively).

Discussion

Primary prevention in the form of identifying risk factors influencing substance abuse among adolescents and those who are the most vulnerable to develop such problem, promoting healthy life style, providing guideline against the health-damaging behaviors like the use of drugs among adolescents and developing community preventive programs to decrease the risk of substance use and abuse among adolescents in different setting may be the key to diminish the burden of adolescents' substance abuse in the community(Benes & Alperin, 2016; Substance Abuse and Mental Health Services Administration [SAMHSA], 2017; National Health Promotion Associates [NHPA], 2018)

Few studies have researched the effectiveness of life skills programs on preventing substance abuse among adolescents. Thus this study is distinguished and one of the pioneers in this area of research. It helps to shed the light on the importance of one of the most serious problem in our community and to contribute to find out a solution. Hence, this study was conducted with the aim of identifying the effect of implementing preventive interventions on substance abuse among male preparatory school students in Alexandria.

Tobacco use remains the leading cause of preventable and premature death in all over the world. It is also one of the leading behavioral risk factors for non-communicable diseases (NCDs) (Levy, 2018). Recent prevalence estimates by WHO suggest that 20.2% of the world population aged 15 years and more are currently smokers (Hamdi et al., 2011). The present study revealed that smoking was experimented by more than one third of the adolescents'

students. In addition, tobacco use represented the highest percent among substance abusers students.

This high percentage of tobacco users agrees with many theories which explained why smoking as a risk taking behavior reached its peak in the teenage years. The transition from childhood to adolescence is widely believed to be critically and stressful period in which the child faces arrays of changes that occur spontaneously. In this period, there is also a complex hormonal changes initiated during pre pubertal period. These hormonal changes play an important role in stimulating the mental development of children.

The accumulated evidence indicated that synthetic drugs like tramadol is the most frequently abused drugs among youth due to its wider availability without prescription, illegal smuggling and cheaper prices than other types of abused drugs. The unplanned indirect media advertising for tramadol abuse through movies and show series also played a remarkable role in promoting tramadol abuse (El-Morsy & Smith, 2011; Negm & Fouad, 2014). Results from the current study revealed that more than one fifth of the students who admitted drug abuse were tramadol users.

Consistently, Fawzy et al. (2012) found that about one third of children and adolescents who presented to the Emergency Unit of the Poison Control Center of Assiut University Hospitals (PCC-ASU) for toxicological assessment were tramadol users (Fawzy et al., 2012). Bassiony et al. (2015) provided further support and added that the most commonly abused substance was tramadol (83.3%) among adolescent school students in Zagazig governorate (Bassiony et al., 2015).

However, until recently less attention has been paid to school based preventive programs. Therefore, it is reasonable to be concerned about these results which dictate the massive need for applying standardized preventive interventions (life skills training program) in order to protect the young generation from serious consequences of drug use.

Moreover, health behaviors are increasingly recognized as pivotal factors in health promotion and prevention of incidence of substance use among young generations (Prochaska & Velicer, 1997).

Notably, there are a significant gap between adolescents having accurate information and its translation into behavior. So, skills development is a key to facilitate this process of transforming information into healthy behavior (M, 2016; Ravikanth & Dinakar, 2016).

In the light of this, the present study revealed the most successful achievement of the life skills training program (LST) is that the total means score for smoking/substances abuse among study group students was significantly decreased from 40.17± 14.54 before implementing the life skills program to 7.20 ± 12.75 immediately after the program. Then, it became in the second evaluation after 3 months and third evaluation after 6 month (3.92± 10.28 and 2.21± 1.39 respectively).

Life skills training program (LST) has been found to be an empirically validated program for prevention of substance abuse. This program help young people develop these

skills (communication, team work, problems solving, family relationships, peer pressure, self-expression, feeling expression, smoking and substance abuse) through interactive teaching methods that include role plays, open discussion, skills rehearsal and small group activities (Hagell et al., 2012; Bassiony et al., 2015; World Health Organization [WHO], 2015).

These skills enable adolescent to accept his social role responsibilities and to face others' demands and expectations and daily interpersonal problems effectively without hurting himself or others (Substance Abuse and Mental Health Services Administration [SAMHSA], 2015). It can organize personal, interpersonal and environmental actions in a way to lead to better health, which in turn leads to more physical, psychological and social comfort (Palamar et al., 2015).

Furthermore, these preventive interventions (life skills training program) can help to retain the way the users students thinks, acts and behaves and also nurtures new skills that improve the undesirable behaviors. It can make a difference to adolescents' behaviors and help to cope and manage any problems at home, school, and street or with friends (Hagell et al., 2012).

These results come in accordance with several studies as Schinke et al. (1991), Bühler et al. (2008), Moradi et al. (2009) and Nazarpour et al. (2010) which confirmed the positive impact of life skills training on promotion of the intervention group's insight, drug abuse resistance skills, self-efficacy and decision-making balance in preventive activities (Schinke et al., 1991; Bühler et al., 2008; Moradi et al., 2009; Nazarpour et al., 2010). Barati et al. (2011) also pointed out the effectiveness of LST on the reduction of abstract norms encouraging drug abuse among university students which can affirm the positive impact of training on modification of beliefs and abstract norms of the youth (Barati et al., 2011).

These results also matched with the findings drawn from a study conducted by the International Youth Foundation (International Youth Foundation [IYF], 2014), which revealed that life skills training program are catalysts of change that empowering young to be healthy, help them obtain a quality education, gain coping skills, being productive and improve their communities(International Youth Foundation [IYF], 2014).

Therefore, youth participation in the development of life skills programs is important for many reasons. Young people have ideas and solutions to propose and if they are given the chance to be heard and to work, their contribution can be extremely significant. Such participation provides young people with a sense of purpose and direction, giving them the feeling of being more connected to the activities and the mission of the program (Ravikanth & Dinakar, 2016).

According to the World Health Organization (WHO) and the United Nations Educational Scientific and Cultural Organization (UNESCO) schools provide a route for communicating with a large proportion of young people. One fundamental way to address youth substance use prevention is to keep young people on a positive trajectory by engaging them in positive activities from an early age in their childhood (Bassiony et al., 2015).

In this context the present study illustrated that, the difference between post 1, post 2 and post 3 assessments was statistically significant for each of smoking/substance abuse among study group students. Similar findings were drawn from a trial experimental study conducted on 60 students in Gonabad Medical University by (Moshki et al., 2014).

The results also come in line with that of Botvin and Griffin (2004) who suggested that their 6-year-long educational program confirms the effectiveness of LST on drug abuse prevention (Botvin & Griffin, 2004). Similar finding added by theories of human development and adolescent behavior which found that life skills are essential components of healthy development and the skills that define a resilient child which considered mediators of behavior in adolescence (Deković et al., 2004; Steinberg et al., 2006).

The National Institute on Drug Abuse (National Institute on Drug Abuse [NIDA], 2015) recommended that communities should consider implementing LST plus strengthening families program (SFP) to help control the ongoing epidemic of youth substances misuse. Additionally, LST was the only intervention of the three tested that was effective by itself and it was the most effective when the interventions were combined with SFP (National Institute on Drug Abuse [NIDA], 2015).

Over all, findings of the current study concluded that substance use is one of the gravest social harms that dramatically alter the well-being of the adolescents as well as their quality of life. Life skills program is an integral part of preventions and health maintenance of those young generations.

So, behavioral changes in children and the adults who interact with them can be mutually self-reinforcing. It is also important to know that improving the child's family or school environment can over time cause the young's social behavior to become more positive and healthy; this in turn can elicit more positive interactions with others and improve the social environment.

Conclusion

Findings of the present study revealed that substance use is a prevalent problem among preparatory school students since more than one third of students of those enrolled in the first and second grade governmental preparatory male schools students were substance users. Tobacco was the most widely used substances among adolescents followed by cannabis, inhalants and tramadol. Additionally, preventive interventions based on life skills training program were the most promising strategies for combating substance use among adolescents.

Recommendations:

In the light of the study findings, the following recommendations are suggested:

- Parents and siblings should be involved in educational programs concerning substance use and should be motivated to share a healthy relationship with their children and give more time to them, especially in the growing up stage when deviant behavior can influence them easily.

- The anti-drug message should be disseminated through different channels like youth clubs, schools, religious institutions, internet and media.
- Provision of mental health clinics in all schools. These clinics could help in designing programs to promote health behaviors and mental health.
- Substance abuse screening test should be carried out during the routine examination in all school health clinics.
- Scrutinize all media campaigns that have already being produced, assess its effectiveness for different target groups.
- Enhance the use of new technologies like internet, social working sites and cellular phones (what's up, Skype, face book) in disseminating the antidrug message to young people.
- Support the implementation of substance abuse preventives interventions (life skills) at schools and sport centers.
- Promote an easy channel of communication between families with substance abuser adolescents in need for support and treatment and the local authority of social solidarity services

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Table (1): Distribution of the students according to their tobacco/ substances use:

Items	Total N=3493	
	No.	%
Students' tobacco/substances use		
- No	2185	62.6
- Yes	1308	37.4
Starting age of tobacco/ substances use (years)	**N=1308**	
- 8-	159	12.2
- 10-	629	48.1
- 12+	520	39.8
Min- Max	**8-14**	
X ± SD	**11.38 ± 2.849**	
Reasons for tobacco/substances use*		
- Curiosity and desire to experiment	1004	76.8
- Escaping from problems	278	21.3
- Psychological stress	258	19.7
- Peer pressure	188	14.4
- Feeling of sadness/ loneliness	67	5.1
- Absent family control	57	4.4
- Disintegration of family	32	2.4
- Misconception about drugs	9	0.7
- Leisure time	4	0.3
- Weakness of religious deployment	3	0.2
Availability of tobacco/substances in the surrounding environment	2185	62.6
- No	1308	37.4
- Yes		
Difficulty to reach tobacco/ substances		
- No difficulty	1063	81.3
- Some difficulty	178	13.6
- Major difficulty	67	5.1
Sources of obtaining tobacco/substances*		
- Distributor / sale man	1045	79.9
- Friends	905	69.2
- Theft	193	14.8
- Pharmacy	76	5.8
Effects of tobacco/substances use		
- Forgetting what is going on	516	39.4
- Fatigue	429	32.8
- Feeling happy	363	27.8

Table (1): Cont.

Items	Total N=1308	
	No.	%
Guilt feeling about tobacco/ substances use		
- No	632	48.3
- Yes	676	51.7
Students' opinion about s tobacco/ substances use risks	**N=1308**	
- High risk	662	50.6
- Moderate risk	353	27.0
- Mild risk	177	13.5
- No risk	116	8.9
Readiness for quitting tobacco/ substances use		
- Thinking about quitting	625	47.8
- Not ready	411	31.4
- Ready for treatment	272	20.8
Attending awareness sessions about tobacco/substances hazards		
- No	779	59.6
- Yes	529	40.4
Students' source of information about tobacco/substances*		
- Friends	1119	85.6
- Family	281	21.5
- Media	68	5.2
- Scientific lectures	7	0.5

* Multiple answers are allowed

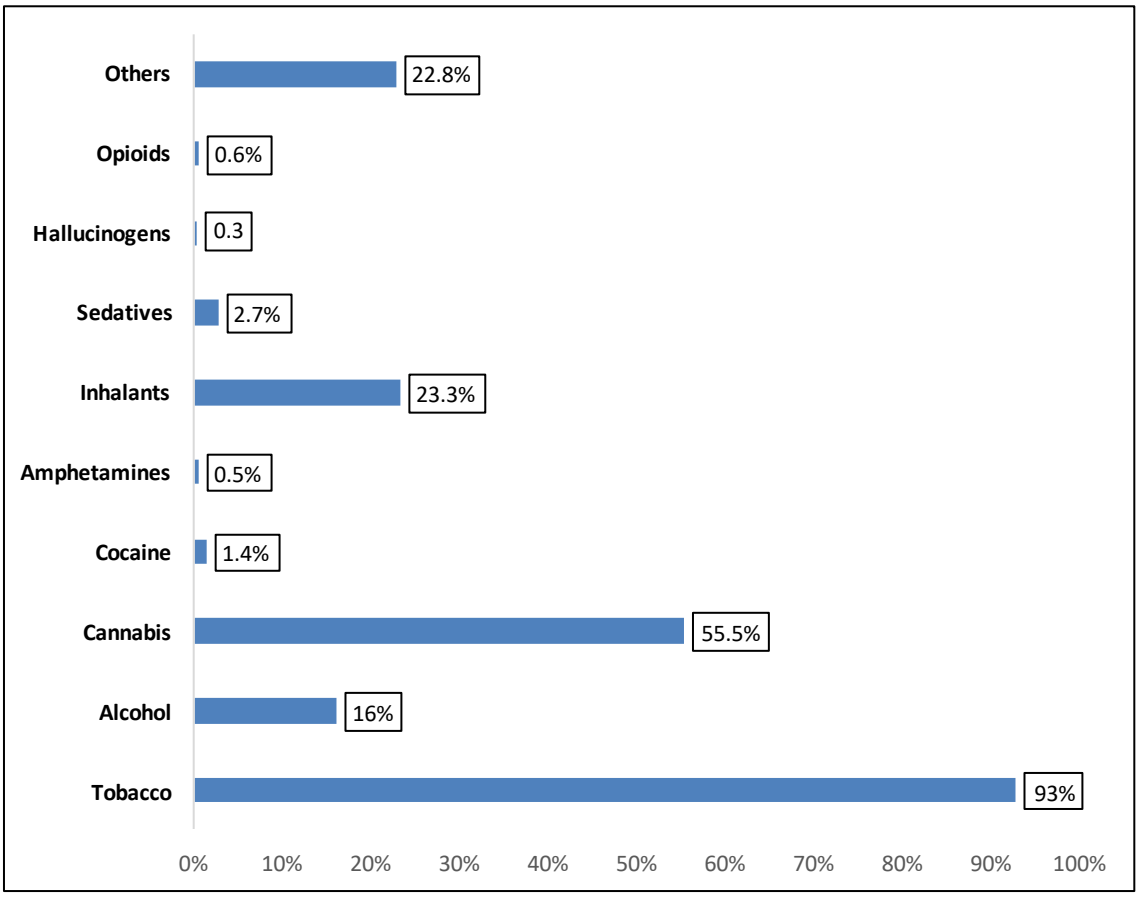

Fig: (1) Distribution of the students according to their tobacco/substances use:

Table (2): Distribution of students according to their tobacco and substances use pattern. N=1308*

Types of substances / Using pattern	Tobacco N=1217		Alcohol N=209		Cannabis N=726		Cocaine N=18		Amphetamines N=7		Inhalants N=305		Sedatives N=35		Hallucinogens N=4		Opioids N=8		Other substances N=298	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Smoking and substance use																				
- Yes	1217	93.0	209	16.0	726	55.5	18	1.4	7	0.5	305	23.3	35	2.7	4	0.3	8	0.6	298	22.8
- No	91	7.0	1099	84.0	582	44.5	1290	98.6	1301	99.5	1003	76.7	1273	97.3	1304	99.7	1300	99.4	1010	77.2
Frequency of use in the past three months																				
- Once/ twice	96	7.9	77	36.8	98	13.4	18	100	2	28.6	44	14.4	0	0.0	4	100.	4	50.0	184	61.7
- Monthly	1	0.1	44	21.1	80	11.0	0	0.0	5	71.4	0	0.0	0	0.0	0	0.0	0	0.0	57	19.1
- Weekly	104	8.5	80	38.3	520	71.6	0	0.0	0	0.0	122	40.0	0	0.0	0	0.0	0	0.0	52	17.4
- Daily / almost daily	1016	83.5	8	3.8	28	3.9	0	0.0	0	0.0	139	45.6	35	100.	0	0.0	4	50.0	5	1.7
Substance desire/urge in the past three months																				
- Never	400	32.9	19	9.1	72	9.9	18	100	1	14.3	99	32.5	9	25.7	1	25.0	3	37.5	167	56.0
- Once/ twice	612	50.3	159	76.1	533	73.4	0	0.0	6	85.7	146	47.9	0	0.0	3	75.0	5	62.5	116	38.9
- Monthly	16	1.3	20	9.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
- Weekly	16	1.3	0	0.0	22	3.0	0	0.0	0	0.0	9	2.9	0	0.0	0	0.0	0	0.0	0	0.0
- Daily / almost daily	173	14.2	11	5.3	99	13.6	0	0.0	0	0.0	51	16.7	26	74.3	0	0.0	0	0.0	15	5.0
Substance related problems in the past three months																				
- Never	106	8.7	34	16.3	121	16.7	2	11.1	2	28.6	42	13.8	15	42.9	1	25.0	3	37.5	70	23.5
- Once/ twice	975	80.1	174	83.2	533	73.4	16	88.9	5	71.4	227	74.4	20	57.1	3	75.0	5	62.5	228	76.5
- Monthly	35	2.9	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
- Weekly	59	4.8	0	0.0	72	9.9	0	0.0	0	0.0	28	9.2	0	0.0	0	0.0	0	0.0	0	0.0
- Daily / almost daily	42	3.5	0	0.0	0	0.0	0	0.0	0	0.0	8	2.6	0	0.0	0	0.0	0	0.0	0	0.0
Substances use related failure to do what was normally expected																				
- Never	1217	100	152	72.7	574	79.1	15	83.3	4	57.1	242	79.3	24	68.6	2	50.0	5	62.5	258	86.6
- Once/ twice	0	0.0	57	27.3	144	19.8	3	16.7	3	42.9	43	14.1	11	31.4	2	50.0	3	37.5	40	13.4
- Monthly	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	20	6.6	0	0.0	0	0.0	0	0.0	0	0.0
- Weekly	0	0.0	0	0.0	8	1.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Friends/relatives concern about students' substances	311 524	25.6 43.1	62 110	29.7 52.6	227 331	31.3 45.6	5 13	27.8 72.2	3 4	42.9 57.1	172 57	56.4 18.7	27 7	77.1 20.0	4 0	100.0 0.0	4 4	50.0 50.0	218 50	73.2 16.8

- No, never -Yes, but not in the past 3 months -Yes, in the past 3 months	382	31.4	37	17.7	168	23.1	0	0.0	0	0.0	76	24.9	1	2.9	0	0.0	0	0.0	30	10
Trail to control/ quit substances use																				
- No, never	205	16.8	42	20.1	109	15.0	6	33.3	1	14.3	120	39.3	23	65.7	4	100.0	5	62.5	43	14.4
-Yes, but not in the past 3 months	716	58.8	126	60.3	440	60.6	12	66.7	6	85.7	156	51.1	12	34.3	0	0.0	3	37.5	226	75.8
-Yes, in the past 3 months	296	24.3	41	19.6	177	24.4	0	0.0	0	0.0	29	9.5	0	0.0	0	0.0	0	0.0	29	9.7
Type of interventions/ level of risk																				
- No intervention/ mild risk	0	0.0	11	5.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
- Short term intervention/ moderate risk	1088	89.4	179	85.6	631	86.9	18	100.0	5	71.4	265	86.9	31	88.6	4	100.0	7	87.5	292	98.0
-Condensed intervention/high risk	129	10.6	19	9.1	95	13.1	0	0.0	2	28.6	40	13.1	4	11.4	0	0.0	1	12.5	6	2.0

* More than one type of substance use.

Table (3): Distribution of the students (study and control group) according to their substances use before and after program:

Items	Pre assessment N=60				Test of sig.	Post 1 assessment N=60				Test of sig.	Post 2 assessment N=60				Test of sig	Post 3 assessment N=60				Test of sig
	Study		Control		X^2	Study		Control		X^2	Study		Control		X^2	Study		Control		X^2
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Tobacco																				
- Yes	60	100.0	59	98.3	X^2=1.008	17	28.3	59	98.3	X^2=63.301	8	13.3	59	98.3	X^2=87.896	6	10.0	60	100	X^2=98.182
- No	0	0.0	1	1.7	P=0.315	43	71.7	1	1.7	P=0.000*	52	86.7	1	1.7	P=0.000*	54	90.0	0	1.7	P=0.000
Alcohol																				
- Yes	13	21.7	11	18.3	X^2=0.208	1	1.7	16	26.7	X^2=15.419	1	1.7	16	26.7	X^2=15.419	0	0.0	18	30.0	X^2=21.176
- No	47	78.3	49	81.7	P=0.648	59	98.3	44	73.3	P=0.000*	59	98.3	44	73.3	P=0.000*	60	100.0	42	70.0	P=0.000*
Cannabis																				
- Yes	39	65.0	42	70.0	X^2=3.419	1	1.7	50	83.3	X^2=81.875	1	1.7	50	83.3	X^2=81.875	0	0.0	52	86.7	X^2=91.765
- No	21	35.0	18	30.0	P=0.558	59	98.3	10	16.7	P=0.000*	59	98.3	10	16.7	P=0.000*	60	100.0	8	13.3	P=0.000*

Cocaine																		
- Yes	0	0.0	1	1.7	X^2=1.008	0	0.0	0	0.0		0	0.0	1	0.0	X^2=1.008	0	0.0	2	3.3	X^2=2.034
- No	60	100.0	59	98.3	P=0.315	60	100.0	60	100.0	---------	60	100.0	59	98.3	P=0.315	60	100.0	58	96.7	P=0.153
Inhalants																				
-Yes	12	20.0	11	18.3	X^2=0.538	1	1.7	15	25.0	X^2=14.135	1	1.7	15	25.0	X^2=14.135	0	0.0	18	30.0	X^2=21.176
- No	48	80.0	49	81.7	P=0.817	59	98.3	45	75.0	P=0.000*	59	98.3	45	75.0	P=0.000*	60	100.0	42	70.0	P=0.000
Sedatives																				
- Yes	0	0.0	1	1.7	X^2=1.008	0	0.0	1	1.7	X^2=1.008	0	0.0	1	1.7	X^2=1.008	0	0.0	3	5.0	X^2=3.077
- No	60	100.0	59	98.3	P =0.315	60	100.0	59	98.3	P=0.315	60	100.0	59	98.3	P=0.315	60	100.0	57	95.0	P=0.079
Other substance																				
-Yes	10	16.7	11	18.3	X^2=0.058	0	0.0	10	16.7	X^2=10.909	0	0.0	10	16.7	X^2=8.107	0	0.0	15	25.0	X^2=17.143
-No	50	83.3	49	81.7	P=0.810	60	100.0	50	83.3	P=0.001*	60	100.0	50	83.3	P=0.004*	60	100.0	45	75.0	P=0.000*

Table (4): Distribution of the students (study and control group) according to their mean ASSIST scores before and after the program

Items	**Pre assessment N=60**		**Test of significance**	**Post 1 assessment N=60**		**Test of Significance**	**Post 2 assessment N=60**		**Test of significance**	**Post 3 assessment N=60**		**Test of significance**
	Study	**Control**		**Study**	**Control**		**Study**	**Control**		**Study**	**Control**	
	Mean± S.D		**F**	**Mean± S.D**		**F**	**Mean± S.D**		**F**	**Mean± S.D**		**F**
Tobacco	19.72±2.18	20.62±4.28	F=1.452 P=0.149	6.10 ±9.86	20.62±4.28	F=10.457 P=0.000*	2.82 ±7.33	20.62±4.28	F=16.239 P=0.000*	2.08 ±1.47	23.97±5.34	F=20.89 P=0.000*
Alcohol	3.92 ±7.66	3.58 ±7.65	F=0.238 P=0.812	0.38 ±2.97	5.22 ±8.75	F=4.050 P=0.000*	0.38 ±2.97	5.22 ±8.75	X^2=4.050 P=0.000*	0.00 ±0.00	5.73 ±9.87	F=4.496 P=0.000*

Cannabis	10.95±8.68	14.28±9.95	F=1.955 P=0.053*	0.33 ±2.58	16.50±8.17	F=14.620 P=0.000*	0.33 ±2.58	16.50±8.17	F=14.620 P=0.000*	0.00 ±0.00	18.25±8.84	F=15.99 P=0.000*
Cocaine	0.00 ±0.00	0.25 ±1.94	F=1.000 P=0.319	0.00 ±0.00	0.00 ±0.00	---------	0.00 ±0.00	0.25 ±1.94	F=1.000 P=0.319	0.00 ±0.00	1.53 ±2.85	F=1.305 P=0.196
Inhalants	3.68 ±7.49	2.98±6.64	F=0.542 P=0.589	0.38 ±2.96	4.28 ±7.77	F=3.633 P=0.000*	0.38 ±2.96	4.28 ±7.77	F=3.633 P=0.000*	0.00 ±0.00	5.02 ±8.35	F=1.462 P=0.148
Sedatives	0.00 ±0.00	0.20 ±1.55	F=1.000 P=0.319	0.00 ±0.00	0.20 ±1.55	F=1.000 P=0.319	0.00 ±0.00	0.20 ±1.55	F=1.000 P=0.319	0.00 ±0.00	1.30 ±2.96	F=1.068 P=0.289
Other substance	1.90 ±4.31	2.82 ±6.49	F=0.911 P=0.364	0.00 ±0.00	2.62 ±6.39	F=3.171 P=0.002*	0.85 ±1.07	2.62 ±6.39	F=2.116 P=0.036*	0.00 ±0.00	2.99 ±7.53	F=3.075 P=0.003*

Table (5): The effect size of ASSIST program

ASSIST Mean Scores				Cohen's d Effect Size
Pre ASSIST	**Post 1 ASSIST**	**Post 2 ASSIST**	**Post 3 ASSIST**	
40.17±15.54	7.20±12.75			2.03*
40.17±15.54		3.92 ±10.28		2.18*
40.17±15.54			2.21±1.39	3.41*
	7.20±12.75	3.92 ±10.28		0.51**
	7.20±12.75		2.21±1.39	0.54**
		3.92 ±10.28	2.21±1.39	0.23***

* Large effect ** Medium effect *** Small effect