

## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

<sup>1</sup>Asmaa Nagah Abd- Elrazek, <sup>2</sup>Howyida Sadek Abed El Hameed, <sup>3</sup>Hedya Fathy Mohy El-Deen and <sup>4</sup>Shimaa Gamal El-Dein Ibraheim

*(1) Nursing Supervisor in Benha University hospitals, (2) Professor of Community Health Nursing- Faculty of Nursing, Benha University-Egypt, (3&4) Assistant Professor of Community Health Nursing- Faculty of Nursing, Benha University-Egypt.*

### **Abstract**

**Background:** Suicide is defined as death caused by self-directed injurious behavior with intent to die as a result of the behavior. Poisoning is injury or death due to swallowing, inhaling, touching or injecting various drugs, chemicals, venoms or gases. **The aim** of this study was to evaluate effect of community based rehabilitation program on adolescents and their caregivers regarding poisoning suicidal attempts. **Research Design:** A Quasi-experimental research design was used. **Setting:** The study was conducted in Poisoning Control Unit at Benha University Hospitals. **Subjects:** A Convenience sample of 150 adolescents and their caregivers. **Tools of data collection:** Two tools were used **Tool (1):** (1) Structured interviewing questionnaire, consisted five parts: Personal characteristics data of adolescents, Socio-demographic data of caregivers, previous exposure to poisoning suicidal attempts, risk factors of poisoning suicidal attempts, knowledge of adolescents and their caregivers regarding poisoning suicidal attempts and reported practices of adolescents and their caregivers regarding poisoning suicidal attempts and **Tool (2):** Attitude of adolescents and their caregivers regarding poisoning suicidal attempts. **Results:** 13.3% of the studied adolescents had good total knowledge level pre implementation of rehabilitation program which increased to 65.3% in post program, 20% of the studied caregivers had good total knowledge level pre-program which increased to 64.7% in post program. Also, 24.7% of the studied adolescents had accepted practices pre-program, then this percentage increased to 72% in post program. 80.7% of the studied caregivers had unaccepted practices pre-program, then this percentage decreased to 21.3% in post program. 44% of the studied adolescents had positive attitude pre-program, then this percentage increased to 81.3% in post program. While, 85.3% of the studied caregivers had positive attitude pre-program, then this percentage increased to all of them in post program. **Conclusion:** Rehabilitation program improved adolescents and their caregivers' knowledge, attitude and reported practice regarding poisoning suicidal attempts. **Recommendation:** Health education program to caregiver about risk factors, early detection, first aids treatment regarding poisoning suicidal attempts.

**Keywords:** Adolescents, caregivers, Community Based Rehabilitation, Poisoning, Suicide.

### **Introduction:**

Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to adulthood. Adolescence is usually associated with the teenage years, but its

physical, psychological or cultural expressions may begin earlier or end later. The World Health Organization (WHO) definition officially designates adolescence as the phase of life from ages 12 to 21 years (Miller et al., 2021).

## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

Adolescence is very difficult stage. The adolescents during this stage are at a very delicate crossing, sometimes consider themselves as adult and consider themselves capable of thinking and doing everything and sometimes consider themselves mere as child and depend on other. Need of adolescents increase rapidly during adolescence. Adolescence demand good food, clothes, and other facilities at home and study and sports facilities in schools. Aspirations also increase and there is no limit of aspiration. In case of non-fulfillment of needs and aspirations, develop inferiority complex, which makes behavior negative (**Goldstick et al., 2021**).

Caregiver is anyone who provides care for another person. This care can be as simple as companionship to services as complex as medical care. There really is no static definition because the role and duties of a caregiver's job can vary according to the needs of those in charge (**del Pino et al., 2021**).

Caregivers must prepare for the upcoming changes in the parent-child relationship; teens will begin to detach to a greater degree from existing family bonds and focus more on peers and the outside world. This quest for greater independence and autonomy is a natural part of the developmental process in adolescence. Parents and caregivers must find the delicate balance between maintaining the familial bond and allowing teens increasing autonomy as they mature. Teenagers who feel connected to yet not constrained by families tend to flourish (**Kayaalp et al., 2021**).

Families are often the first to notice mental and Psychological health problems in children due to intimate involvement in and monitoring of adolescence's lives. Parents and caregivers in particular serve as critical advocates and essential partners in the prevention and treatment of adolescence's

mental health concerns. Psychologists treating behavioral problems in adolescence' always make engagement of the family a priority as this has been shown to boost positive outcomes for adolescence' and families as a whole (**Hazzan et al., 2022**).

Suicide is a growing public health concern globally, and suicidal behavior encompasses a range of outcomes, including suicidal ideation, impulses, plans, attempts, and completed suicide. Recently, suicide has been among the top 5 mental health issues facing college undergraduates worldwide. It is most prominent factor of mortality among young adults, and the majority of suicides occur in low- and middle-income countries (**Martínez et al., 2022**).

Suicide was the eleventh leading cause of death overall in the United States, claiming the lives of over 49,400 people. Suicide was the second leading cause of death among individuals between the ages of 10-14 and 25-34, the third leading cause of death among individuals between the ages of 15-24, and the fourth leading cause of death among individuals between the ages of 35 and 44. There were nearly two times as many suicides (49,476) in the United States as there were homicides (24,849) (**Saied et al., 2022**).

Suicidal behavior is closely linked to mental health issues, including impulsivity, psychological discomfort, mood disorders, trauma exposure, and a history of mental illness in the family. Scholastic difficulties and social obligations of university life, along with a decline in parental support and supervision, are also identified as suicide triggers for undergraduates (**Bassiony et al., 2022**).

It is equally important to determine the methods of suicide by which patients try to end lives. Identification of this information could help prevent the future actions of these

vulnerable patients. Most of the suicide are done by using hanging, firearms and poisoning. Suicidal attempts by poisoning done by psychotropic drugs, analgesics, antihistamines, antidepressants, psychoactive drugs, and sedative-hypnotics. The situation is somewhat different in developing countries because pesticides are the most widely used method of suicide (**Curtin et al., 2022**)

Poisoning is injury or death due to swallowing, inhaling, touching or injecting various drugs, chemicals, venoms or gases. Many substances such as drugs and carbon monoxide are poisonous only in higher concentrations or dosages. And others such as cleaners are dangerous only if ingested. Adolescence are particularly sensitive to even small amounts of certain drugs and chemicals (**Cai et al., 2022**).

Poisoning symptoms can mimic other conditions, such as seizure, alcohol intoxication, stroke and insulin reaction. Symptoms of poisoning may include: Burns or redness around the mouth and lips, breath that smells, like chemicals, such as gasoline or paint thinner, vomiting, difficulty, breathing, drowsiness, confusion or other altered mental status (**Albano et al., 2022**).

The first aids management for the poisoning suicidal attempts include: Remove anything remaining in the person's mouth. If the suspected poison is a household cleaner or other chemical, read the container's label and follow instructions for accidental poisoning. Poison on the skin; Remove any contaminated clothing using gloves. Rinse the skin for 15 to 20 minutes in a shower or with a hose. Poison in the eye. Gently flush the eye with cool or lukewarm water for 20 minutes or until help arrives. Get the person into fresh air as soon as possible and immediately take the child for an emergency X-ray to find its location. If the battery is in the esophagus, it will have to be removed. If it has passed into the stomach, it's

usually safe to allow it to pass on through the intestinal tract. If the person vomits, turn the person's head to the side to prevent choking. Begin CPR if the person shows no signs of life, such as moving, breathing or coughing. (**Mohamed et al., 2024**)

Rehabilitation program is not only for people with disabilities or long-term or physical impairments. Rather, rehabilitation is an essential health service for anyone with an acute or chronic health condition, impairment or injury that limits functioning, and as such should be available for anyone who needs it. Rehabilitation is not a luxury health service that is available only for those who can afford it. Nor is it an optional service to try only when other interventions to prevent or cure a health condition fail (**Singh, 2023**).

Community Health Nurses (CHNs) work as part of a team with treating mental health and social service professionals as needed. This is achieved by understanding basic suicide risk assessment and crisis intervention to better ensure their clients' immediate safety and developing a care plan based on goals that are negotiated between the client and their team (**Sun et al., 2023**)

Community Health Nurses play an important role in rehabilitation program regarding poisoning suicidal attempts by engaged families and community action for preventing poisoning suicidal re-attempts was developed as an approach to suicide prevention in low-resource settings to address these systemic, societal, and individual level factors (**Mohamed et al., 2024**).

#### **Significance of the Study:**

Suicide death rates in Egypt have raised dramatically reaching 3 per 100,000 people in 2019, and 2584 suicides were officially reported in 2021. Moreover, the most common causes of suicide in Egypt are social factors, such as bullying, violence, and family disintegration, bullying may be a major

## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

contributor, especially due to its spreading on social networking sites, which can expose victims to psychological pressures and loss of self-confidence, causing them to commit suicide to relieve such psychological fatigue. Family disintegration and violence within the family, especially when raising children, can also be factors contributing to suicide. The triad of love, poverty and unemployment constitute the main factors for youth suicide in the villages of Egypt. Suicide in certain villages represents a phenomenon that requires study. Some even describe it as “fashion”. So this study was important to improve knowledge, attitude and reported practices for adolescents and caregivers regarding poisoning suicidal attempts (El-mahdi et al., 2021)

### **Aim of the Study**

The aim of this study was to evaluate effect of community based rehabilitation program for adolescents and their caregivers regarding poisoning suicidal attempts.

### **Research Hypothesis:**

Community based rehabilitation program will improve knowledge, attitude and reported practices for adolescents and their caregivers regarding poisoning suicidal attempts

### **Subjects and Method:**

#### **Study design:**

A Quasi experimental study design (pre and post-test) was used.

#### **Setting:**

This study conducted in Poisoning Control Unit at Benha University Hospitals which have high flow of patients with capacity of 5 beds for patients. It works 24 hours per day, 7 days per week

#### **Subjects:**

A convenience sample constituted the study subjects

**Sample size and technique:** The total number of poisoning suicidal attempts

patients according to last year (2022) were (600) 200 of them were adolescents. The sample conducted at year (2023-2024) according to the following inclusion criteria:-

1-Average age of the adolescents is between 12-21 years

2- Adolescents and their caregiver's able to communicate relevantly, willing and agree to participate in the study.

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

Two tools were used to collect data.

**Tool (1): Structured interviewing questionnaire.** It was developed by researchers based on literature review of the current and past available national and international references about poisoning suicidal attempts by using a journal, textbooks, and internet search. It was written in simple clear Arabic language. It composed of the following five parts:

**Part I:** (A): It was designed to assess personal characteristics data of adolescents which included six items (age, sex, educational level, job, marital status and residence).

(B): It was designed to assess socio-demographic data of caregivers which included ten items (age, sex, educational level, job, marital status, residence, relationship, monthly income, family type and methods of solve problems).

**Part II:** Knowledge of adolescents and their caregivers regarding poisoning suicidal attempts which included ten closed ended questions (concept of suicide, risk factors, methods of suicide, methods of suicide using poisons, symptoms of a suicide attempt using toxins, physical complications, behavioral problems, psychological and emotional problems, first aid for poisoning cases and ways to prevent exposure to suicide by toxins).

**The scoring system for adolescents and their caregivers' knowledge:**

It was calculated as the follows: (2) score for correct complete answer. While (1) score for incomplete correct answer and (0) score for don't know. For each section of knowledge, the score of the points was summed up and total divided by the number of the points, giving a mean score for the part. These scores were converted into a percentage score.

The total knowledge score =20 points was considered good if the score of total knowledge equals  $>75\%$  and more ( $>15$  points), while considered average if it equals  $50<75\%$  ( $10<15$  points), and considered poor if it is equals  $<50\%$  ( $<10$  points).

**Part III: (A):** It was used to assess reported practices of adolescents regarding poisoning suicidal attempts adopted from (Kasemy et al. (2022) which included three categories included physical (7 items), psychological (4 items), social reported practices (5 items).

**Scoring system:**

The scoring system for adolescents' reported practices according to Likert scale was calculated as the follows: (2) for rarely, (1) for sometimes, (0) for always. Total reported practices= 32 points

The total score reported practices were considered accepted practices if the score of total reported practices equals  $<60\%$  ( $\leq 19$  and considered unaccepted practices if the score of total reported practices equals  $>75\%$   $\Rightarrow 2$

**Part III (B):** It was used to assess reported practices of caregivers regarding poisoning suicidal attempts which included three categories included physical practices (4 items), psychological practices (4 items), social practices (3 items).

**Scoring system:**

The scoring system for reported practices of caregivers according to Likert scale was

calculated as the follows: (0) for always, (1) for sometimes, (2) for rarely. Total reported practices= 22 points

The total score reported practices were considered accepted practices if the score of total reported practices equals  $<60\%$  ( $\leq 13$  and considered unaccepted practices if the score of total reported practices equals  $>75\%$   $\Rightarrow 16$ .

**Tool II: (A): Attitude of adolescents regarding poisoning suicidal attempts.** It was adopted from O'Mara et al., (2012) and modified by the researchers using three points likert scale related to negative and positive thoughts regarding poisoning suicidal attempts and included 14 items.

**(B): Attitude of caregivers regarding poisoning suicidal attempts** which included 12 items.

**Scoring system:**

The scoring system for adolescents and their caregivers attitude were calculated as the following: (2) score for degree, (1) score for slightly agree and (0) score for disagree .The score of items was summed-up and the total divided by number of items, giving a mean score. The total attitude score of adolescent= (28 point) was considered positive if score of total attitude equals  $>60\%$  ( $>14$  points), while consider negative if it is  $<60\%$  (14 points).

The total attitude score of caregivers = (24 point) was considered positive score of total attitude equals  $>60\%$  ( $>15$  points) while considered negative if it is  $<60\%$  (14 points).

**Content validity:**

Content of validity of the tools was done by five of Faculty's Staff Nursing experts includes four from the Community Health Nursing Specialty faculty of Nursing, Benha University and one from the Psychiatric Health Nursing Specialty who reviewed the tools for clarity, relevance, comprehensiveness and applicability and give their opinion.



## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

### **Reliability of tools:**

Reliability of tools was applied by the researchers for testing the internal consistency of the tools, by administration of the same tools to the same subjects under similar condition on one or more occasion. Answers from repeated testing were compared (test-retest reliability). The reliability was done by Cronbach Alpha (Cho, 2020) Coefficient test. The internal consistency of knowledge was 0.929 while reported practices were 0.883 and attitude was 0.831.

### **Ethical Considerations:**

The research approval to carry out this study was obtained from the Scientific Research Ethics Committee, Faculty of Nursing; Benha University concerned the title (REC.CHN.P92). All ethical issues were assured; approval and an informed oral consent from all study participants were obtained for the fulfillment of the study. Participants were also reassured that all information gathered would be confidentiality and the study will not cause any harmful effect. Ethics, values, cultural and beliefs was respected. The participants had the right to withdraw from the study at any time without giving any reasons

### **Pilot study:**

The pilot study was conducted to assess tools clarity and applicability. It has also served in estimating the time needed for filling the form of the study. It has also served in determining the needs of adolescents and their caregiver's which have been taken in consideration during developing the rehabilitation program. It represented 10% of the sample (15 adolescents and their caregiver's). No modification was done, so the adolescents and their caregiver's involved in the pilot study were included in the main study.

### **Field work:**

**Assessment phase:** In this phase of the rehabilitation program, the researchers carried out the pre-test through assessing knowledge, attitude and practices of studied sample through collection and analysis of baseline data from the filled tools. The time of interviewing each group was between 30-45 minutes. The interview questionnaire was conducted for data collection in the selected setting after getting the necessary official permission; the researchers introduced themselves and ask the questionnaire using simple Arabic language.

**Planning phase:** The researchers identified the important needs for target group, set priorities of needs, goals and objectives were developed.

### **General objectives of the program:**

By the end of the community based rehabilitation program; the adolescents and their caregivers will be able to discuss knowledge, attitude and reported practices regarding poisoning suicidal attempts.

### **Specific objectives:**

- Define suicide.
- List risk factors of suicide
- List types of suicide
- Enumerate poisoning
- List types of poisoning
- List signs & symptoms of poisoning
- Demonstrate complications regarding poisoning suicidal attempts.
- Discuss accepted and unaccepted practices regarding poisoning suicidal attempts
- Discuss positive and negative attitude regarding poisoning suicidal attempts
- Discuss ways of prevention regarding the poisoning
- Apply first aid treatment regarding poisoning suicidal attempts.

### **Implementation phase:**

Data were collected at a period of one year from the beginning of November 2023 to beginning of November 2024, three days per week (Saturday, Tuesday and Thursday) the researchers visited the Poisoning Control Unit at Benha University Hospitals from 9 A.M.-12 P.M. Adolescents were included in the program as group consisted of 4-5 Adolescents in each session and caregivers were included in the program as group consisted of 4-5 caregiver's.

Implementation done through sessions, the number of sessions was 6 (5 theoretical and 1 practical), the expected duration of each session from 30-40 minutes for 4 hours, motivation, open discussion and reinforcement was used during the lecture to enhance learning. Booklet contains all items related All participants were cooperative with the researchers. At the end of each session open discussion was done to remove any misunderstanding for adolescents and their caregivers and they informed about the time of the next session. The researchers provided the theoretical sessions through lectures, followed by discussion. Handouts, pictures, and real objects were used during the lecture to enhance acquisition of knowledge and to attract Adolescents and their caregivers ' attention. The average time needed for each session was around 30– 40 minutes. Each session starts by a summary about what was given during the previous session and the objectives of the new topics and ended by a summary of essential items discussed and performed.

Discussion, motivation and reinforcement during session were used to enhance learning. Direct reinforcement in the form of a copy of the illustrated handout with picture about poisoning, signs & symptoms of poisoning, complications regarding poisoning suicidal attempts, ways of prevention regarding the

poisoning was given as a gift for each Adolescent and the caregiver to use it as a future reference. The researchers discussed theoretical and practical sessions as following

**Frist session:** It covered definition of suicide, types of poisoning, risk factors of suicide and signs & symptoms of poisoning

**Second session:** Covered complications regarding poisoning suicidal attempts

**Third session:** Discussed ways of prevention the poisoning suicidal attempts.

**Fourth session:** Discussed role of family for preventing poisoning suicidal attempts.

**Fifth session:** Discussed role of community for preventing poisoning suicidal attempts.

**Six session:** First aid regarding poisoning suicidal attempts

**Teaching methods:** All participants received the same intervention instructions content using the same teaching methods, which were lecture, group discussion and demonstration /re demonstration.

**Teaching media:** Suitable teaching aids were specially selected for Community Based Rehabilitation Program as follow: booklets and posters.

### **Evaluation phase:**

Evaluation of the community based rehabilitation program was done using the post -test format which was the same format of pre-test to compare the change of adolescents and their caregivers' knowledge, reported practices and attitude immediately after implementation of the community based rehabilitation program.

### **Statistical analysis:**

Data were coded and transformed into specially designed formed to suitable for computer entry process. Data were entered and analyzed by using SPSS (Statistical package for social science) version 22. Graphics were done using Excel program. Quantitative data were presented by mean (x) a standard deviation (SD), qualitative data

## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

were presented in the form of frequency distribution tables, number and percentage. It was analyzed by chi-square test ( $\chi^2$ ) was used to examine the relation between it. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used. Level of significance was set as P-value < 0.05 for all significant tests. Significance level was considered as follows:

**\*\*P < 0.001** Highly Statistically Significant

**\*P < 0.05** Statistically Significant

**P > 0.05** Not Significant

### **Results:**

**Table (1):** Shows that; 52.7% of the studied adolescents aged from 15 to less than 18 years old with mean and standard deviation was  $16.77 \pm 3.11$ . 72.7% of them were females, 40.7% of them had basic education (primary and preparatory). While 86 % of them don't work, 79.3% of them weren't married. Regarding residence; 66% of them were lived in rural regions.

**Table (2):** Shows that; 47.3% of the studied caregivers aged from 30 to less than 40 with mean and standard deviation  $39.24 \pm 5.22$ . 59.3% of them were female, 46% of them had university education. While 52.7% of them didn't work, 59.3% of them were married. Regarding residence; 72.7% of them were lived in rural regions, 93% of them had first degree relationship with adolescents, and 79.3 % of them had enough monthly income. Also 54% of them had extended family and 79.1% of them reported that they solve problems by autocratic methods.

**Figure (1):** Illustrates that; 13.3% of the studied adolescents had good total knowledge level pre implementation of rehabilitation program which increased to 65.3% in post

implementation of the rehabilitation program. 20% of the studied caregivers had good total knowledge level pre implementation of rehabilitation program which increased to 64.7% in post implementation of rehabilitation program.

**Table (3):** Shows that; 25.3% of the studied adolescents had accepted of reported psychological practices pre implementation of rehabilitation program, then this percentage increased to 78% in post implementation of rehabilitation program and was considered accepted practices. 81.3% of the studied caregivers had unaccepted of reported psychological practices pre implementation of the rehabilitation program, and then this percentage decreased to 17.3% in post implementation of the rehabilitation program.

**Figure (2):** Shows that; 44% of the studied adolescents had positive attitude pre implementation of the rehabilitation program, then this percentage increased to 81.3% in post implementation of the rehabilitation program. While, 85.3% of the studied caregivers had positive attitude pre-program, then this percentage increased to all of them in post program

**Table (4):** Shows that; there were positive statistically significant relations between the studied adolescents' total knowledge, total reported practices and total attitude in pre and post implementation of the program ( $P < 0.05$ ). Also, there were highly statistical significant relations between the studied caregivers' total practices and total attitude in pre and post implementation of the program ( $P = 0.001$ ).



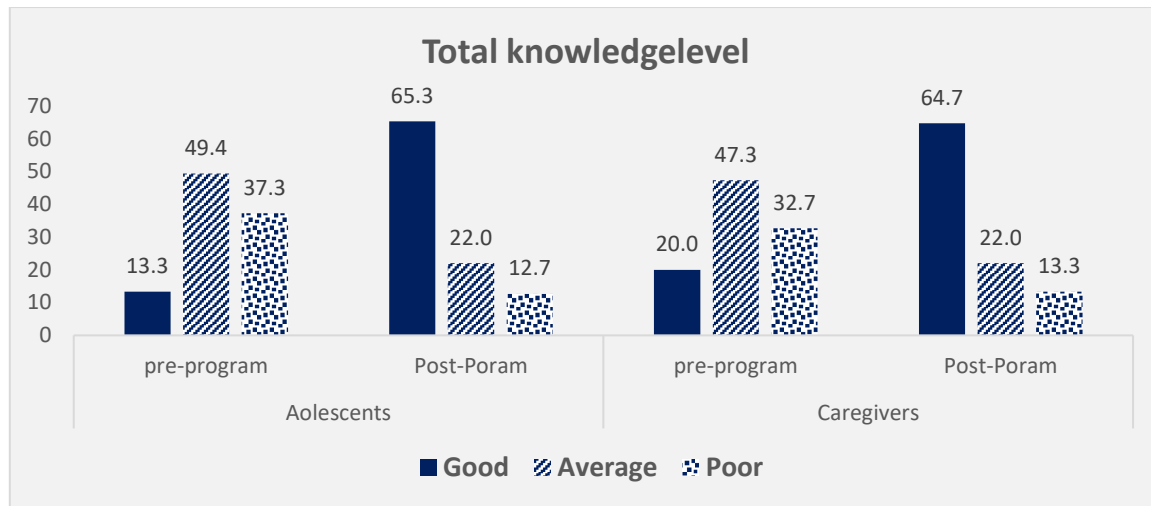
**Table (1): Personal characteristics of studied adolescents (n=150)**

<b>Personal characteristics data of adolescents</b>	<b>No.</b>	<b>%</b>
<b>Age</b>		
12 > 15 years	41	27.3
15 > 18 years	79	<b>52.7</b>
18 > 21 years	30	20.0
<b>Mean ± SD</b>	<b>16.77±3.11</b>	
<b>Sex</b>		
Male	41	27.3
Female	109	<b>72.7</b>
<b>Education</b>		
Cannot read and write	21	14.0
Basic education (primary-preparatory)	61	<b>40.7</b>
Intermediate education	58	38.7
University education	10	6.7
<b>Job</b>		
Work	21	14.0
Don't work	129	<b>86.0</b>
<b>Marital status</b>		
Single	119	<b>79.3</b>
Married	31	20.7
<b>Residence</b>		
Rural	99	<b>66.0</b>
Urban	51	34.0

**Community Based Rehabilitation Program for Adolescents and their Caregivers regarding  
Poisoning Suicidal Attempts**

**Table (2): Socio demographic characteristics of studied caregivers (n=150)**

<b>Socio demographic characteristics of caregivers</b>	<b>No.</b>	<b>%</b>
<b>Age</b>		
< 30	10	6.7
30 >40	71	47.3
40 and more	69	<b>46.0</b>
<b>Mean ± SD</b>	<b>39.24±5.22</b>	
<b>Sex</b>		
Male	61	40.7
Female	89	59.3
<b>Education</b>		
Basic education (primary-preparatory)	21	14.0
Intermediate education	60	40.0
University education	69	46.0
<b>Job</b>		
Work	71	<b>47.3</b>
Do not work	79	<b>52.7</b>
<b>Marital</b>		
Single	10	6.7
Married	89	<b>59.3</b>
Divorced	20	13.3
Widow	31	20.7
<b>Residence</b>		
Rural	109	<b>72.7</b>
Urban	41	27.3
<b>Relationship</b>		
First degree	140	93.3
Second degree	10	6.7
<b>Monthly income</b>		
Sufficient	119	<b>79.3</b>
Not enough	31	20.7
<b>Family type</b>		
Extended family	81	<b>54.0</b>
Nuclear family	69	46.0
<b>Method of solve problems</b>		
Autocratic	119	<b>79.1</b>
Laissez faire	31	20.9

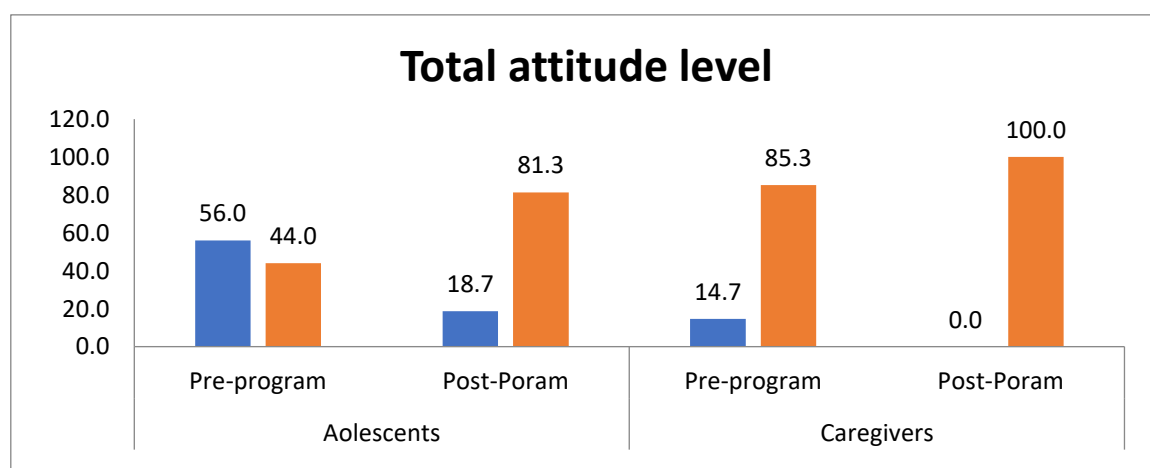


**Figure (1): Total knowledge of studied adolescents and caregivers regarding suicidal attempts pre and post program (n=150).**

**Table (3): Total reported practices of studied adolescents and caregivers regarding suicidal attempts pre and post program (n=150)**

Total practices for suicide		Adolescents						Caregivers					
		Pre program		Post program		X <sup>2</sup>	P-value	Pre program		Post program		X <sup>2</sup>	P-value
		No.	%	No.	%			No.	%	No.	%		
Physical Practices	accepted	69	46.0	114	76.0	28.37	.000**	41	27.3	126	84.0	97.6	.000**
	unaccepted	81	54.0	36	24.0			109	72.7	24	16.0		
Psychological Practices	accepted	38	25.3	117	78.0	83.30	.000**	28	18.7	124	82.7	122.9	.000**
	unaccepted	112	74.7	33	22.0			122	81.3	26	17.3		
Social Practices	accepted	29	19.3	107	71.3	81.83	.000**	29	19.3	106	70.7	79.9	.000**
	unaccepted	121	80.7	43	28.7			121	80.7	44	29.3		

**\*\*A highly statistically significant difference ( $P \leq 0.001$ )**



**Figure (2): Total attitude level of studied adolescents and their caregivers regarding suicidal attempts pre and post program (n=150).**

**Community Based Rehabilitation Program for Adolescents and their Caregivers regarding  
Poisoning Suicidal Attempts**

**Table (4): Correlation between total knowledge, reported practices and attitude among studied adolescents and caregivers pre and post program (n=150).**

	Pre program					Post program		
	Total Knowledge	r	Total Knowledge	Total Practices	Total Attitude	Total Knowledge	Total Practices	Total attitude
Adolescents	Total Knowledge		1	.188	.111	1	.938	.396
		P-value		.021*	.178		.006*	.040*
	Total Practices	r	.188	1	.023	.938	1	.610
		P-value	.021*		.779*	.006*		.042*
	Total Attitude	r	.111	.023	1	.396	.610	1
		P-value	.178*	.779*		.040*	.042*	
Caregivers	Total Knowledge	r	1	.119	.088	1	.772	.690
		P-value		.148*	.285*		.024*	.005*
	Total Practices	r	.119	1	.433	.772	1	.547
		P-value	.148*		.000**	.024*		.000**
	Total Attitude	r	.088	.433	1	.690	.547	1
		P-value	.285*	.000**		.005*	.000**	

**\*Statistically Significant P <0 .05    \*\*Highly Statistically Significant P >0 .05  
Not Significant P >0 .05**

### Discussion:

Suicide rates among adolescents increased over the past few decades. As past suicidal behavior is the most significant risk factor associated with future suicidal behavior and death, it is crucial to improve intervention for young people who have been suicidal (**Danzo et al., 2024**). Despite the greatest onset and increased frequency of suicidal or self-harm behavior occurring in adolescence, most youth affected do not receive professional care. Families can play an integral role in supporting adolescents through the hospitalization and school reentry process (**Babeva et al., 2020**).

Community-based interventions aim to build caregivers and community capacity by enhancing traditional kinship- or community-based support systems. Not only are community-based interventions cost-effective,

but also are consistent with cultural values of shared care for the community (**Penner et al., 2022**).

Concerning the studied adolescents' personal characteristics, the current study revealed that more than half of the studied adolescents aged from 15 to less than 18 years old with mean and standard deviation was  $16.77 \pm 3.11$ . This result was in accordance with a study carried out by **Mondol, (2024)**, entitled "Management of suicidal attempts among teenagers: a family-based approach" in Dhaka (n= 3783) and reported that the mean age of the adolescents was 16.1 with a standard deviation of 1.1. On the other hand, **Cloutier et al., (2022)** who conducted study about "Building resilience and attachment in vulnerable adolescents: A brief group intervention for adolescents with

mild to moderate suicidal ideation and their caregivers”, in Canada, (n= 6) and found that the mean and standard deviation of age among the studied adolescents was 14.5 (1.0) years old. This might be due to the developmental and psychological changes that adolescents experience during this critical age range, as they often face heightened emotional sensitivity, identity struggles, and social pressures.

As regards socio-demographic characteristics of the studied caregivers, the present study displayed that nearly half of the studied caregivers aged from 30 to less than 40 with mean and standard deviation  $39.24 \pm 5.22$ . This result was inconsistent with a study carried out by **Weissinger et al., (2024)**, about “Parents’ Role as Care Managers During and After Adolescent Suicide Crises” in USA, (N=18) and found that the mean age and (SD) of family caregivers was 48 (7.2) years. Also, a study carried out by **Vanderburg et al., (2023)** about “Caregiver experiences of adolescent school reentry after adolescent hospitalization due to suicidal thoughts and behaviors” in USA (N=15) found that the mean age of caregivers was 45.7 (7.7) years.

In addition, the current study revealed that more than half of the studied caregivers were female and nearly half of them had university education. This result was compatible with a study carried out by **Danzo et al., (2024)**, about “Caregiver Attitudes and Youth Suicidality” in Washington (n = 187), and found that more than three quarters of caregivers were females and more than half of them had university education. In the same scene, a study carried out by **Wayland et al., (2021)** entitled “The human approach to supportive interventions: The lived experience of people who care for others who suicide attempt” in Australia (n= 758), and stated that three quarters of the studied

participants were females. The high percentage of female caregivers might be attributed to the social and cultural roles that often assign caregiving responsibilities to females, making them more likely to be primary caregivers in families.

Moreover, the present study revealed that more than half of the studied caregivers didn't work and more than half of them were married. This finding agreed with a study adopted by **Wang et al., (2024)** about “Caregiving information needs of family caregivers of adolescent patients with suicide attempts” in China (n=25) and affirmed that most of the caregivers were married and more than half of them were housewives. Similarly, a study carried out by **Thapa et al., (2021)** entitled “Attitude towards suicide among caregivers of patients admitted with suicide attempt in a tertiary care hospital” in Nepal (N=52) and found that most of the studied caregivers were married and more than half of them were unemployed.

Furthermore, the current study displayed more than three quarters of the studied caregivers had enough monthly income. This result was against **Javdan et al., (2024)** who carried out a study about “Adolescent Self-harm Behavior Based on Depression, Family Emotional Climate, School Identity, and Academic Performance” in Iran (n=150) and reported that more than half of the studied participants had very low income. On the other side, **Kasemy et al., (2022)** who conducted a study entitled “Trend and epidemiology of suicide attempts by self-poisoning among Egyptians” (n=3377), and noticed that more than three fifths of the studied respondents had low socioeconomic standard. As well, the present study indicated that more than half of the studied caregivers had extended family and more than three quarters of them reported that they solve problems by autocratic methods. This might



## **Community Based Rehabilitation Program for Adolescents and their Caregivers regarding Poisoning Suicidal Attempts**

be due to a significant proportion of them were from rural areas and the fact that rural residents often rely on extended family structures for support, which can play a significant role in their daily lives and coping mechanisms.

Concerning the studied adolescents' and caregivers' total knowledge about suicide pre and post program, the current study portrayed that less than one fifth of the studied adolescents had good total knowledge level pre implementation of rehabilitation program which increased to almost two thirds in post implementation, while one fifth of the studied caregivers had good total knowledge level pre implementation of rehabilitation program which increased to nearly two thirds in post implementation. These findings were in harmony with a study conducted by **Simes et al., (2024)** who studied "Adolescent, caregivers, and therapists' experiences of youth and family suicide intervention" in Sydney (n=21), and reported significant improvement in level of knowledge among most of adolescents and caregivers post intervention compared to pre intervention. Consistently, a study by **Shepard & Palumbo, (2022)**, entitled "Adolescent Suicide Prevention via Parental Education" in Burlington (n=101), and stated that most of participants showed an increase in their knowledge regarding suicide both immediately after training and one month after training compared to pre-training.

Regarding studied adolescents and caregivers total reported practices items pre and post program, the current study highlighted that about one quarter of the studied adolescents had accepted total psychological practices pre implementation the of rehabilitation program, then this percentage increased to more than three quarters in post program. As well, most of

them had unaccepted total psychological practices pre-program, then this percentage decreased to less than one fifth of them in post program. Also, there were highly statistically significant differences in all adolescents and caregiver' practices items between pre and post program. These results were consistent with **Dai, (2022)** who carried out a study in New York, entitled "Family Involvement in School-Based Suicide Prevention Program" (N=70) and reported that there was significant improvement in the studied caregivers' total psychological practices after implementation of the program. In the same line, **Czyz et al., (2021)** whose studied "Psychological interventions for suicidal behavior in adolescents" Spain (n=80) affirmed that most of the studied adolescents had satisfied psychological practices for suicide prevention post-intervention compared to pre-intervention with highly significant difference between pre and post intervention.

According to the studied adolescents and caregivers total attitude level pre and post program, the current study displayed that more than two fifths of the studied adolescents had positive attitude pre-program, then this percentage increased to most of them in post-program. In addition, less than one fifth of the studied caregivers had negative attitude pre-program, then this percentage decreased to none of them in post-program. While, most of the studied caregivers had positive attitude pre-program, then this percentage increased to all of them in post-program. This result was in accordance with a study carried out by **Simes et al., (2024)**, who reported that the youth and family suicide intervention significantly improved their attitudes towards suicide, with most participants showing positive attitudes post-intervention. The study emphasized the role

of education in reducing stigma and increasing empathy. This might be due to the effectiveness of the rehabilitation program in enhancing, understanding, communication and awareness about suicide among both adolescents and caregivers.

The current study highlighted that there were positive statistically significant correlations between the studied adolescents' and caregivers' total knowledge, total reported practices and total attitude in pre and post implementation of the program. This might be attributed to interconnection between knowledge, practices, and attitudes, as improved awareness and understanding often translate into better practices and more positive attitudes. Also, this could reflect the effectiveness of the rehabilitation program in addressing gaps in knowledge and fostering mutual understanding and collaboration between adolescents and their caregivers.

#### **Conclusion:**

The current study showed that less than one fifth of the studied adolescents had good total knowledge level pre implementation of rehabilitation program which increased to almost two thirds in post program, while one fifth of the studied caregivers had good total knowledge level pre- program which increased to more than three fifths in post program. More than two thirds of the studied adolescents had accepted practices pre-program, then this percentage increased to two thirds in post program. Majority of the studied caregivers had unaccepted practices pre- program, then this percentage decreased to one fifth in post program. Approximately two fifths of the studied adolescents had positive attitude pre implementation of the rehabilitation program, then this percentage increased to majority in post program. While, majority of the studied caregivers had positive attitude pre- program, then this percentage

increased to all of them in post program attitude in pre and post program ( $P = 0.001$ ).

#### **Recommendations:**

1. Counseling programs for caregivers to deal effectively with their adolescents at different stages of their lives
2. Health education to adolescents and their caregivers about early detection, risk factors and first aids treatment regarding poisoning suicidal attempts
3. Continuous implementation of rehabilitation program for adolescents and their caregivers to rehabilitate adolescents who attempted to suicide physically, psychologically and socially.

#### **References:**

- Albano, G. D., Malta, G., La Spina, C., Rifiorito, A., Provenzano, V., Triolo, V. & Argo, A. (2022).** Toxicological findings of self-poisoning suicidal deaths: a systematic review by countries. *Toxics*, 10(11), 654.
- Babeva, K. N., Klomhaus, A. M., Sugar, C. A., Fitzpatrick, O., & Asarnow, J. R. (2020).** Adolescent suicide attempt prevention: Predictors of response to a cognitive-behavioral family and youth centered intervention. *Suicide and Life-Threatening Behavior*, 50(1), 56-71.
- Bassiony, M. M., Seleem, D., Khalil, Y., & Saad, A. (2022).** Suicide risk and ideation among patients with substance use disorders in Egypt. *Journal of Substance Use*, 27(6), 667-673..
- Cai, Z., Junus, A., Chang, Q., & Yip, P. S. (2022).** The lethality of suicide methods: A systematic review and meta-analysis. *Journal of affective disorders*, 300, 121-129
- Cho, E., (2020).** A comprehensive review of so-called Cronbach's alpha. *Journal of Product Research*, 38(1), 9-20.
- Cloutier, P., Gray, C., Sheridan, N., Silverman, A., Cappelli, M., Zemek, R. & Kennedy, A. (2022).** Building resilience and attachment in vulnerable adolescents

**Community Based Rehabilitation Program for Adolescents and their Caregivers regarding  
Poisoning Suicidal Attempts**

(BRAVA): A brief group intervention for adolescents with mild-to-moderate suicidal ideation and their caregivers. *Child and Adolescent Mental Health*, 27(4), 343-351.

**Curtin, S. C., Brown, K. A., & Jordan, M. E. (2022).** Suicide rates for the three leading methods by race and ethnicity: United States, 2000–2020.

**Czyz, E. K., King, C. A., Prouty, D., Micol, V. J., Walton, M., & Nahum-Shani, I. (2021).** Adaptive intervention for prevention of adolescent suicidal behavior after hospitalization: a pilot sequential multiple assignment randomized trial. *Journal of Child Psychology and Psychiatry*, 62(8), 1019-1031.

**Dai, E. (2022).** Family Involvement in School-Based Suicide Prevention Program (Doctoral dissertation, Doctoral dissertation, New York University).

**Danzo, S., Adrian, M. C., Twohy, E., Babeva, K., & McCauley, E. (2024).** Caregiver Attitudes and Youth Suicidality: Implications for Involving Caregivers in Outpatient Crisis Care for Adolescents. *JAACAP Open*.

**del-Pino-Casado, R., Priego-Cubero, E., López-Martínez, C., & Orgeta, V. (2021).** Subjective caregiver burden and anxiety in informal caregivers: A systematic review and meta-analysis. *PloS one*, 16(3), e0247143

**El-Mahdi, M., Radwan, M., Soliman, F. (2021).** Suicidal attempts among children and teenagers in Egypt 2(34) July 2021 pp. 135-172

**Goldstick, J. E., Cunningham, R. M., & Carter, P. M. (2022).** Current causes of death in children and adolescents in the United States. *New England Journal of Medicine*, 386(20), 1955-1956.

**Hazzan, A., Dauenhauer, J., Follansbee, P., Hazzan, J. O., Allen, K., & Omobepade, I. (2022).** Family caregiver quality of life and the care provided to older people living with

dementia: Qualitative analyses of caregiver interviews. *BMC geriatrics*, 22(1), 86.

**Javdan, M., Teifakani, B., Samavi, A., (2024).** Adolescents Self harm Behavior Based on Depression, Family Emotional climate. *Research Health* (3): Pp: 269-279

**Kasemy, Z. A., Sharif, A. F., Amin, S. A., Fayed, M. M., Desouky, D. E., Salama, A. A., & Abdel-Aaty, N. B. (2022).** Trend and epidemiology of suicide attempts by self-poisoning among Egyptians. *PLoS One*, 17(6), e0270026.

**Kayaalp, A., Page, K., & Rospenda, K. (2021).** Caregiver burden, work-family conflict, family-work conflict, and mental health of caregivers: A mediational longitudinal study. *Work & Stress*, 35(3), 217-240.

**Martínez-Alés, G., Jiang, T., Keyes, K. M., & Gradus, J. L. (2022).** The recent rise of suicide mortality in the United States. *Annual Review of Public Health*, 43(1), 99-116.

**Miller, L., & Campo, J. V. (2021).** Depression in adolescents. *New England Journal of Medicine*, 385(5), 445-449.

**Mohamed A., Z., Mahmoud S., E., & Mohamed A., F. (2024).** Effect of Educational Program on Nurses Role Regarding First Aid for Patients having Toxic Aluminum Phosphate Suicide. *Egyptian Journal of Health Care*, 15(4), 643-652.

**Mondol, M. A. (2024).** Management of suicidal attempts among teenagers: a family-based approach (Doctoral dissertation, University of Dhaka)

**O'Mara, R., M., Hill, B. and Cheryl. A., (2012).** Adolescent and Parent Attitudes Toward Screening for Suicide Risk and Mental health problems in the Pediatric Emergency Department.

**Penner, F., Sharp, C., Shohet, C., (2022).** Community Based Caregiver and Family Interventions to Support the Mental Health

of Orphans and Vulnerable Children Review and Future Directions. Available at: <https://www.researchgate.net/publication/34266359> Accessed on March 2024 9pm

**Saied, A. A., Shah, J., Dean, Y. E., Tanas, Y., Motawea, K. R., Hasan, W., & Aiash, H. (2022).** Suicide prevention in Egypt. *The Lancet Psychiatry*, 9(9), e41.

**Shepard, J., & Palumbo, M. V. (2022).** Adolescent Suicide Prevention via Parental Education. *The health strategy of the 21st century* 18; 50(4):309-316

**Simes, D., Shochet, I., Murray, K., & Sands, I. G. (2024).** Adolescent, caregivers, and therapists' experiences of youth and family suicide intervention: A qualitative study. *Psychotherapy Research*, 1-19.

**Singh, S., Minj, K., Devhare, L., Uppalwar, S., Anand, S., & Devhare, D. (2023).** An update on morphology, mechanism, lethality, and management of dhatura poisoning. *Eur. Chem. Bull*, 12(5), 3418-3426.

**Sun, F., Suman, A., & Long, A. (2023).** A suicidal recovery theory to guide individuals on their healing and recovering process following a suicide attempt. *Journal of Advanced Nursing*, 69(9), 2030-2040

**Thapa, P., Lama, S., Pradhan, N., Thapa, K., Kumar, R., & Basnet, M. (2021).** Attitude towards suicide among caregivers of patients admitted with suicide attempt in a tertiary care hospital: A descriptive crosssectional study. *JNMA: Journal of the Nepal Medical Association*, 59(236), 374.

**Vanderburg, J. L., Tow, A. C., Marraccini, M. E., Pittleman, C., & Cruz, C. M. (2023).** Caregiver experiences of adolescent school reentry after adolescent hospitalization due to suicidal thoughts and behaviors: recommendations to improve reentry practices. *Journal of School Health*, 93(3), 206-218.

**Wang, X., Miu, Q., Wang, J., Huang, X., & Xie, W. (2024).** Caregiving information needs

of family caregivers of adolescent patients with suicide attempts: a qualitative study in China. *BMC nursing*, 23(1), 445.

**Wayland, S., Coker, S., & Maple, M. (2021).** The human approach to supportive interventions: The lived experience of people who care for others who suicide attempt. *International Journal of Mental Health Nursing*, 30(3), 667-682.

**Weissinger, G. M., Bluteau-James, V. A., & Mensinger, J. L. (2024).** Parents' Role as Care Managers during and after Adolescent Suicide Crises. *Journal of the American Psychiatric Nurses Association*, 10783903241302258.

## البرنامج التأهيلي المرتكز علي المجتمع للمراهقين والقائمين علي رعايتهم تجاه محاولات الانتحار عن طريق التسمم

أسماء نجاح عبد الرازق- هويدا صادق عبد الحميد- هدية فتحي محيي الدين- شيماء جمال الدين إبراهيم

يساعد البرنامج التأهيلي المرتكز علي المجتمع للمراهقين والقائمين علي رعايتهم للتعرف علي أوجهه القصور, وتغير أوضاعهم وزيادة الترابط الأسري بينهم. **الهدف من الدراسة:** تقييم تأثير البرنامج التأهيلي المرتكز علي المجتمع للمراهقين والقائمين علي رعايتهم تجاه محاولات الانتحار عن طريق التسمم. **تصميم الدراسة:** تم استخدام تصميم شبه تجريبي لإجراء هذه الدراسة. **مكان الدراسة:** وحده مكافحه السموم بمستشفيات بنها الجامعية. **عينة الدراسة:** عينة متاحة تكونت من ١٥٠ من المراهقين والقائمين علي رعايتهم. **النتائج:** كشفت هذه الدراسة أن أقل من ١٣,٣ % المراهقين لديهم نسبة جيدة من المعلومات قبل تنفيذ البرنامج والتي ارتفعت بعد البرنامج إلى ٦٥,٣ %, ٢٠ % مقدمي الرعاية لديهم نسبة جيدة من المعلومات قبل تنفيذ البرنامج والتي ارتفعت بعد البرنامج إلى أكثر من ثلاثة أخماس بعد تنفيذ البرنامج, ٢٤,٧ % من المراهقين لديهم ممارسات مبلغ عنها مرضيه قبل تنفيذ البرنامج والتي ارتفعت إلى ٧٢ % بعد تنفيذ البرنامج, ٨٠,٧ % من القائمين علي رعاية المراهقين لديهم ممارسات مبلغ عنها غير مرضيه قبل تنفيذ البرنامج والتي انخفضت النسبة الي ٢١,٣ % بعد تنفيذ البرنامج, ٤٤ % من المراهقين لديهم موقف سلبي تجاه محاولات الانتحار عن طريق التسمم ثم زادت النسبة الي ٨١,٣ % بعد تنفيذ البرنامج ٨٥,٣ % من القائمين علي رعاية المراهقين لديهم موقف سلبي تجاه محاولات الانتحار عن طريق التسمم ثم زادت النسبة إلى جميعهم بعد تنفيذ البرنامج. **الاستنتاج :** وقد لخصت الدراسة أن البرنامج التأهيلي قد حسن معلومات, اتجاهات و الممارسات المبلغ عنها للمراهقين والقائمين علي رعايتهم تجاه محاولات الانتحار عن طريق التسمم. **التوصيات:** اوصت الدراسة الي تطبيق برامج تثقيفيه ارشاديه للقائمين علي رعاية المراهقين عن كيفية الوقاية من محاولات الانتحار عن طريق التسمم من خلال الحفظ الامن للسموم بعيدا عن متناول المراهقين.