

The Effect of an Educational Intervention Program on Prevention of Domestic Violence among Adolescent Girls.

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Abstract: Domestic violence is a pattern of coercive behavior that is a manifestation of historically unequal power relations between men and women. The aim of the study was to evaluate the effect of an educational intervention program on prevention of domestic violence among adolescent girls. **Subject and Methods:** This study was a quasi-experimental design and it is carried out in the four governmental technical schools for girls in Tanta city. The total studied sample was 150 girls. **Tools of the study:** two tools were used for data collection according to PRECEDE PROCEED model; **tool I:** A questionnaire sheet to assess socio demographic data of the girls and their preventive behaviors against domestic violence; **tool II:** A questionnaire sheet to assess educational and ecological factors. **Results:** The educational intervention had significantly positive effect on the total mean score of knowledge, attitudes, behaviors of the studied girls regarding domestic violence from preprogram and three months after PRECEDE PROCEED model application with $P > 0.05$. **Conclusion and recommendation:** PRECEDE PROCEED model is an effective method in planning health education to improve knowledge, attitudes, behaviors of adolescent girls toward domestic violence and promoting enabling and reinforcing factors that support prevention of such problem. The researcher recommended, the importance of continuous conduction of seminars, workshops and campaigns for secondary and high schools` students and their families to create awareness about domestic violence.

Key words: Domestic violence- PRECEDE PROCEED model- Adolescents girls.

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I. Introduction

Domestic violence is a major public health problem worldwide. It is a major cause of disability and death among women worldwide, which can involve any women regardless of her characteristics; regional, social or cultural characteristics⁽¹⁾. The family is a place where individuals seek love, safety, security and shelter. However, it is also a place that imperils lives, and breeds some of the most drastic forms of violence perpetrated against women and girls⁽²⁾. Violence in the domestic sphere is usually perpetrated by males who are, or who have been, in positions of trust and intimacy and power as husbands, fathers, fathers-in-law, stepfathers, brothers, uncles, sons, or other relatives⁽³⁾.

The studies indicate at the widespread domestic violence as an important cause of morbidity and mortality in the world^(4, 5). Thirty five percent of women worldwide (2015) have experienced either physical and/or sexual violence in their lives⁽⁶⁾. According to the Egypt demographic and health survey 2014, more than half of the adolescent girls had been subjected to physical violence by a male perpetrator other than their husband as their fathers and brothers⁽⁷⁾.

In Egypt, religion has played a major role in the community and it has influenced people's behaviors and actions in public and private spheres. Some Muslim and Christian men misinterpret the Holy Quran and the Holy Bible to justify their behavior of abusing the females in their households. Egyptian traditions also validate that Egyptian women must obey their fathers, brothers, and husbands. Despite decades of activism to address violence against women, some people remain uneducated about domestic violence^(7, 8).

Health education should be used to prevent domestic violence; effective educational intervention must be depended on scientific models of comprehensive assessment, planning and implementation. One of the frequently used models in health education and promotion is the PRECEDE-PROCEED model. This model proposed in 1974 by Dr. Green and colleagues, to provide a comprehensive structure for assessing health and quality of life needs, and for designing, implementing, and evaluating health promotion and other public health programs to meet those needs^(9, 10). The goal of the model is explaining health behaviors and environments, and to design and evaluate the interventions needed to influence both the behaviors and the living conditions⁽¹¹⁾.

This model prescribes eight phases acting in four planning phases, one implementation phase, and 3 evaluation phases. The PRECEDE portion of the model (phases 1-4) includes social, epidemiological,

behavioral, environmental, educational, administrative, and policy assessments. The PROCEED portion of the model (phases 5-8) includes implementation, process evaluation, impact evaluation, and outcome evaluation. The first portion of the model focuses on program planning and the second portion focuses on implementation and evaluation⁽¹²⁾.

The schools have been identified as a key setting for primary prevention activities and promotion of the preventive behaviors of domestic violence among youth⁽¹³⁾. Community health nurse plays an important role in preventing violence within the family and reducing the negative consequences of domestic violence through conducting health education and promotion programs to increase awareness of the family member's especially adolescent girls in the schools about domestic violence and healthy relationships to prevent its occurrence. She plays also, a central role in the female preparation as a wife and mother⁽¹⁴⁾. Hence, the present study aims to evaluate the effect of an educational intervention program on prevention of domestic violence among adolescent girls based on precede proceed model.

II. Aim of the study:

This study aimed to evaluate the effect of an educational intervention program on prevention of domestic violence among adolescent girls.

Research hypothesis:-

Knowledge, attitude and the preventive measures of domestic violence among the adolescent girls improve after implementation of an educational intervention program.

III. Subjects and Methods:

Research design: A quasi- experimental research design was used in this study.

Study settings: This study was conducted in the governmental technical schools for girls in Tanta city affiliated to the Ministry of Education in Tanta city, El-Gharbiya Governorate. The total number of girls' schools was 4 schools (3 schools from east sector and 1 from west sector).

Study subjects: The female students from third-grade were selected from the previous setting because they leave high school a year later and usually get married soon afterwards. The total number of the study sample was 150 students. They chose randomly by proportion allocation technique representing approximately 10% of all the students in the four schools. With a 5% margin of error, the level of significance is 95% and 80% power of the study.

Tools of the study: - The collection of the necessary data and application of the study was based on the Precede-Proceed model.

- Two tools were used to collect the necessary data from the studied girls in this study.

Tool (I): Epidemiological, behavioral, and environmental assessment tool: It included two parts as follow:-

Part I: Socio demographic data questionnaire:-

Which included data about: age, school, student's residence, marital status, religious, birth order, number of the family members, house room's number, having a specific room, the family type, student's parents level of education, student's parents occupation and the family income.

Part II: Preventive behaviors of domestic violence questionnaire:

This part used to assess the preventive behaviors of domestic violence among the participants girls. This developed by the researcher, it included statements asked about how to behave if the student exposed to the physical, psychological or sexual violence. The positive response was scored (1) and the negative response was scored (0). The total behavior score was calculated as classified as

*Positive behavior > 60 %

*Negative behavior: ≤ 60%

Tool (II): Educational and ecological assessments

It consisted of three parts as follow.

Part I: The predisposing factors assessment: it included items related to the knowledge and the attitude of the studied girls about domestic violence.

(A) Knowledge about domestic violence.

It included 12 questions covered girls' knowledge about:- the definition, types, causes and risk factors, warning signs, symptoms, victims of violence, cycle of violence, consequences of violence, how to deal with it and measures for prevention domestic violence. Correct complete answer was scored 2, the correct incomplete answer was scored 1 and don't know and the incorrect answer took 0.

The total knowledge score was calculated as classified as

*Poor knowledge: < 50% of the total knowledge score.

*Fair knowledge: 50-70% of the total knowledge score.

*Good knowledge: >70-100% of the total knowledge score.

(B) Attitude assessment questionnaire regarding domestic violence.

It included 16 statements in the form of a five-point Likert scale. The students were given the options of strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1) with regard to each item. The total attitude score was calculated as classified as

*Positive attitude: > 60%

*Negative attitude: ≤ 60

Part II: The reinforcing factors assessment

It included questions about getting influence from significant people for a positive behavior as from parents especially mothers, teachers, school counselors, peers, getting influence from specialist individual, getting influence from specialist places, frequent follow up and the health education about the domestic violence from specialist counselor.

Part III: The enabling factors assessment

It included questions about availability and accessibility of counseling centers, educational classes, and informational resources, such as books, website, educational material, educational classes etc., and sources of their information.

IV. Method

The operation of this study was carried out as follows: 1. Obtaining approvals.

- Official permission to conduct the study was obtained from the dean of the Faculty of Nursing to the director of educational administration in Tanta city and then to the directors of the selected schools

- Directors of selected schools were informed about the objective of the study to maintain their cooperation.

2. Developing the tools.

- The study tools were developed by the researcher after reviewing relevant literatures.

- The study tools were tested for content validity by a jury of six experts in the field of community health nursing) .3 professors of public health at the Faculty of Medicine and 3 professors of community health nursing at the Faculty of Nursing, Tanta University). Accordingly corrections and modifications were done.

- The study tools were assessed for reliability using cronbach alpha test and re-test through distributing tools to 15 students (pilot study) two times separated by two weeks. The reliability of the tool was (0.9882).

3. Ethical considerations

- Every student was informed about the purpose ,the nature and the benefits of the study at the beginning of the interview and they had the right to withdraw at any time.

- Nature of the study didn't cause any harm and/ or pain for the entire sample.

- Confidentiality and privacy was put into consideration regarding the data collected.

4. A pilot study

- A pilot study was carried out on 10 % (15) students to test the tools for its clarity and applicability and to determine the length of time needed to collect the data from each student. The necessary modification was done .This sample was excluded from the study.

5. The actual study

- Collection of data continued during a period of about 4 months from the end of September 2016 to end of the January 2017.

- The researcher met with students in their class in the schools or in the seminars hall in the schools according to date and time specified by the directors.

- The researcher was available 4 days/ week in the afternoon schools from 1pm to 4 pm and 2 day/week in other schools from 8 am to 12 pm to implement the educational program.

- Tools were administered individually to each student to complete it by herself with the attendance of the researcher to offer guidance and clarification when needed.

- The researcher was designed the educational intervention for the domestic violence based on proceed portion of the model. It included steps of implementation and evaluation of the program.

1- Developing the educational program: It included the following phases:-

a) Planning phase: an education program was planned according to the student's needs and the literature review.

- **The goal of the program:** was to enable adolescents girls to gain the knowledge, skills and attitude helping in early detection and prevention of the domestic violence in their life.

b) Implementation phase: the program consisted of five sessions provided for the students in each school in five separate days. The duration of each session was 30-45 minutes.

-The sessions were as follow:

Session I (1st day): Program orientation and expectation; in which

The researcher orient the student about the importance of the program, its sessions and expectations from each session.

Session II (2nd day): An overview on domestic violence which aimed at enabling the student to identify family and its pattern, prevalence of domestic violence in Egypt and worldwide, cycle of violence and causes of it.

Session III (3rd day): Types, classification and sequence of the domestic violence which aimed at enabling the students to be oriented with the classification of the domestic violence, warning signs and symptoms, complication, and the importance of early detection of the domestic violence.

Session IV (4th day): consequences of domestic violence and healthy relationship which aimed at educating the students the consequences of the domestic violence and the techniques of how to deal in therapeutic and the healthy relationship with others.

Session V (5th day): Prevention of the domestic violence which aimed at enabling the student to discuss how to break cycle of violence and enable them to maintain early detection and prevention to domestic violence.

- Lectures, group discussion, brain storming, role playing and case study were used as teaching methods.
- Power point presentation, brochure, handouts and flipcharts, booklets were used as teaching aids.
- A handout booklet and power point were prepared by the researcher based on literature review ⁽¹⁻⁷⁾. Booklets were given to the students to refresh their knowledge continuously and to act as a guide for preventing domestic violence.

2) **Evaluation phase:** The aim of this phase is to evaluate the outcome of an educational intervention program giving to the study sample. This evaluation was conducted to the study sample two times:

- **First time:** before implementation of the health educational intervention using tool (I) and tool (II).
- **Second time:** two months after implementation of the health educational intervention using tool (I) part 2 and tool (II).

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS version 19. For numerical values the range mean and standard deviations were calculated. The differences between two mean values were used using student's t test. Differences of mean values between more than two groups were tested by analysis of variance (F) and when found significant least significant difference (LSD) test was used to compare between each two groups. For categorical variable the number and percentage were calculated and differences before and after intervention were tested using Wilcoxon signed ranks test (Z). The correlation between two variables was calculated using Pearson's correlation coefficient. The level of significant was adopted at $p < 0.05$.

V. Results

Table (I): Distribution of the studied students according to their socio-demographic characteristics.

Socio-demographic characteristics	The studied students (N=150)	
	No	%
Age :		
<16-	51	34.0
17-18-	95	63.3
>18	4	2.7
Range	16-19	
Mean + SD	16.91±0.81	
Residence:		
Rural	91	60.7
Urban	59	39.3
Marital status:		
Single	131	87.3
Married	14	9.4
Divorced	5	3.3
Crowding index:		
1-	80	53.3
2-	53	35.3
3+	17	11.4
Family type:		
Nuclear	115	76.7
Extended	35	23.3
Fathers' educational level:		
Illiterate / Basic education	86	57.4
Secondary/ University education	64	42.6

Fathers' occupation:		
Not working / Manual work (handicraft)	96	64.0
Employee	54	36.0
Mothers' educational level:		
Illiterate / Basic education	113	75.3
Secondary / University education	37	24.7
Mothers' occupation:		
Employee	17	11.3
Housewife	133	88.7
Family income/ month:		
Enough and spare	48	32.0
Enough	83	55.3
Not enough	19	12.7

It shows that, the age of the studied students ranged from 16–19 years, with the mean age 16.91±0.81years. About two thirds of students (60.7%) were from rural areas, while 39.3% of them were from urban areas. Most of them (87.3%) were single, while just 9.4% and 3.3% of them were married and divorced respectively. More than half of studied students (53.3%) had one crowding index (1 individual/ room). Three quarters (76.7%) of the studied students lived in nuclear family, while about one quarter (23.3%) of them lived in extended family. More than half fathers of the studied students were illiterates or basic education and not working or manual work (57.4% & 64.0%) respectively. About Three quarters (75.3% & 88.7%) of students' mothers were illiterates or basic education and housewives respectively. More than half (55.3%) of the studied students had enough family income.

Table (II): Distribution of the studied students according to the total knowledge score regarding the domestic violence.

Total knowledge score	The studied students (N =150)			
	Before intervention		After intervention 3months	
	N	%	N	%
Poor (<50%)	91	60.7	15	10.0
Fair (50-70%)	39	26.0	35	23.3
Good (>70-100%)	20	13.3	100	66.7
Range	1-55		1-58	
Mean ± SD	27.40±12.68		49.06±11.90	
T	9.504			
P	0.001*			

*Significant P> 0.05

Table (II): Distribution of the studied students according to the total knowledge score regarding the domestic violence. It illustrates that, before intervention, about two thirds (60.7%) of studied girls had poor total knowledge score compared with 26.0% and 13.3% of them had fair and good knowledge score respectively with a mean (27.40±12.68). While, 3 months after model application, nearly half (46.7%) of them became had good knowledge score and more than one third of them (36.7%) had fair knowledge score compared to only 16.7% of them had poor knowledge score with mean (41.06±11.90). There was a statistically significant improvement in the total knowledge score of studied students before intervention and 3 months after intervention (P=0.001).

Table (III): Distribution of the studied students' behaviors in facing the domestic violence.

Behavior items against domestic violence	The studied students (N =150)				Z	P
	Before intervention		After intervention months 3			
	N=150	%	N=150	%		
**Behavior items against physical violence						
- Avoidance abuser until improve relation with her	81	54.0	115	76.7	4.007	0.001*
- Leaving the house	3	2.0	1	0.7	1.000	0.317
- Communicate with the same way	12	8.0	11	7.3	0.209	0.835
- Calling family to help	63	42.0	115	76.7	5.607	0.001*
- Calling centers facing violence against women	6	4.0	34	22.7	4.542	0.001*
- Coping with it	47	31.3	11	7.3	3.515	0.001*

**Behavior items against psychological violence						
- Avoidance abuser until improve relation with her	102	68.0	105	70.0	3.010	0.003*
- Leaving the house	4	2.7	0	0.0	2.000	0.046*
- Communicate with the same way	16	10.7	16	10.7	0.000	1.000
- Calling family to help	60	40.0	143	95.3	6.039	0.001*
- Calling centers facing violence against women	3	2.0	3	2.0	0.000	1.000
- Coping with it	80	53.3	34	26.0	5.301	0.001*
**Behavior items against sexual violence						
- Leaving the house	10	6.7	14	9.3	0.816	0.414
- Calling family to help	79	52.7	110	73.3	3.825	0.001*
- Calling the police (center facing violence against women)	74	49.3	106	70.7	3.628	0.001*

*Significant P> 0.05

** can select more than one answer

Table (III): Distribution of the studied students` behaviors in facing the domestic violence. Regarding the behaviors of studied girls when exposed to the physical violence; the present study revealed, before PRECEDE PROCEED model application, about half of them (54.0% and 42.0%) reported that they will avoid abuser or call family members respectively, about one third of them (31.3%) will cope with violence. While 3 months post educational intervention application, more than three quarters of them (76.7% and 76.7%) reported they will avoid abuser or call family respectively at first followed one fifth of them (22.7 %) will call centers facing violence with a statistically significant difference in students` behaviors against physical violence (P =0.001)

Regarding behaviors of studied students if they exposed to psychological violence; before intervention, about two thirds of them (68.0%) reported they will avoid abuser at first followed by about half of them (53.3%) will cope with violence and more than one third (40.0%) will call family members. While 3 months post intervention, the majority of them (95.3%) will call family followed two thirds of them (70.0%) will avoid abuser and about one quarter of them (26.0%) will cope with it. The difference in behaviors of studied students in facing psychological violence was a statistically significant P> 0.05.

In relation to behavior of studied students in they exposed to sexual violence; before intervention about half of them (52.7% and 49.3%) will call family for helping and call centers facing violence respectively.. While 3 months post intervention more than three quarters of them (73.3% and 70.7%) reported that will call family or call center facing violence respectively. There was a statistically significant difference in behaviors of studied students in facing sexual violence (P=0.001) and noted that the minority of studied girls will leave the house in facing physical, psychological and sexual violence.

Table (IV): Distribution of the studied students according to the total behavior score against domestic violence.

Total behavior score	The studied students (N =150)			
	Pretest		months3 Post test	
	N	%	N	%
Positive (> 60 %)	45	30.0	116	77.3
Negative (≤ 60%)	105	70.0	34	22.7
Range	2-13		0-15	
Mean + SD	7.50+2.26		10.77+3.35	
T-test	10.149			
P	0.001*			

*Significant P> 0.05

Table (IV): Distribution of the studied students according to the total behavior score against the domestic violence. It illustrates that, before educational model application, more than two thirds of the studied students (70.0%) had negative total behavior score compared with 30.0% of them had positive behavior score with mean score (7.50±2.26). While, three months after precede-proceed model intervention, slightly three quarters of them (77.3%) became had a positive total behavior score compared with 22.7% of them had a negative behavior score with mean score (10.77±3.35) with a statistically significant improvement as P=0.001.

Table (V): Distribution of the studied students according to the total attitude score about the domestic violence.

Total attitude score	The studied students (N =150)			
	Before intervention		After intervention 3 Months	
	N	%	N	%
Negative ≤ 60%	98	65.3	20	13.3
Positive > 60%	52	34.7	130	86.7
Range	36-67		36-80	
Mean ± SD	50.96±7.27		68.85±5.97	
T	4.805			
P	0.001*			

*Significant P> 0.05

Table (V): Distribution of the studied students according to the total attitude score about the domestic violence. It illustrates that, before intervention, nearly two thirds (65.3%) of the studied students had negative attitude score compared with 34.7% of them had positive attitude score respectively with a mean (50.96±7.27). While, 3 months after intervention. More than half (56.0%) of them become had positive attitude score compared with 44.0% of them had negative attitude score with a mean (54.85+6.97) with a statistically significant improvement as P=0.00

Table (VI): Distribution of the studied students in relation to the reinforcing factors of the domestic violence

Reinforcing factors of domestic violence	Before intervention		After intervention 3 months		Z	P
	N=150	%	N=150	%		
** Source of encouragement to combat domestic violence						
Family members	89	59.3	30	20.00	6.3	0.141
Health care workers	95	63.3	5	3.3	3.4	0.114
Governmental organizations	80	53.3	15	10.0	0.53	0.468
School	80	53.3	10	6.6	0.57	0.449
All of above	19	12.7	100	66.7	4.326	0.001*
**Types of encouragement						
Health education	116	77.3	120	80.0	2.342	0.001*
Follow up	78	52.0	100	66.6	3.421	0.114
Free medication	5	3.33	5	3.33	0.000	1.000
Financial support	10	6.6	10	6.6	0.000	1.000
All of above	29	19.3	29	19.3	0.000	1.000
Technical education provide lessons about DV	32	21.3	20	13.3	0.000	1.000
Offering educational sessions/workshop about DV by school	61	40.7	100	66.6	7.250	0.001*
Interesting to attend workshops about DV	123	82.0	150	100.0	9.202	0.001*
Family encourage on building healthy relations with others	128	85.3	150	100.0	8.741	0.001*
Health education provide skills to combat DV	105	70.0	150	100.0	9.661	0.001*

Table (VI): Distribution of the studied students in relation to the reinforcing factors of the domestic violence. It demonstrates that there was a significant improvement in the reinforcing factors for the studied students regarding all the sources of encouragement, health education as type of encouragement, interested to attend workshops, family encourage for establishment of good relations with others, health educational provided skills to deal with domestic violence and offering educational sessions by schools about domestic violence from before intervention to 3 months post intervention (P> 0.05).

Table (VII): Distribution of the studied students in relation to the enabling factors preventing the domestic violence

Enabling factors preventing domestic violence	The studied students (N =150)					
	Before intervention		After intervention months 3		Z	p
	N	%	N	%		
Have financial resources	63	42.0	63	42.0	0.000	1.000
Family support financial support	111	74.0	111	74.0	0.000	1.000
Planning availability to deal with violence	77	53.1	120	80.0	4.389	0.001*
School provides posters, booklets and pannier about DV.	58	38.7	120	80.0	6.847	0.001*
**Awareness of available services						
Unaware	140	93.3	6	4.0	8.435	0.001*
Family court	34	22.6	132	88.0	9.430	0.001*
National center for women	34	22.6	116	77.3	8.741	0.001*
Police center	18	12.0	117	78.0	9.661	0.001*
School or home provides internet sites or library to learn about DV	58	38.7	120	80.0	6.847	0.001*

** More than one answers

*Significant P> 0.05

Table (VII): Distribution of the studied students in relation to the enabling factors preventing the domestic violence. It shows that there was a significant improvement in the enabling factors for the studied students in relation to items of plans availability to deal with violence, posters availability for guidance, awareness of available services provided through family court, national counsel for women, toward domestic violence and availability of electronic resources at school to learn about domestic violence from baseline to 3 months post intervention (P=0.001).

Table (VIII): Mean and standard deviation of the total reinforcing and enabling factors score before and after intervention 3 months.

Total score	The studied students (N =150)			
	Before intervention	After intervention months 3	T	p
Reinforcing factors			7.250	0.001*
Range	2-13	3-13		
Mean ± SD	7.97±2.69	8.37±2.59		
Enabling factors			19.896	0.001*
Range	0-7	0-8		
Mean ± SD	2.89±1.71	5.16±1.58		

*Significant P> 0.05

Table (VIII): Mean and standard deviation of the total reinforcing and enabling factors score before and after intervention 3 months. In relation to the reinforcing factors, there was a statistically significant improvement in the total mean score from (7.97±2.69) before intervention to (8.37±2.59) 3 months post intervention with a statistically significant improvement (P=0.001). As regard the enabling factors score, there was also, a statistically significant improvement in the total mean score from (2.89±1.71) before intervention to (5.16±1.58) 3 months post intervention (P=0.001).

Table (VIII): Correlation between the total knowledge, attitude, behavior, reinforcing and enabling scores among the studied students.

Total scores	The studied students (N =150)							
	Attitude		Behavior		Reinforcing		Enabling	
	r	p	R	P	r	P	r	P
Knowledge	0.123	0.010*	0.175	0.044*	0.184	0.040*	0.154	0.049*
Attitude			0.154	0.059	0.082	0.318	0.075	0.364
Behavior					-0.064	0.437	0.094	0.250
Reinforcing							0.178	0.029*

*Significant P> 0.05

Table (VIII): Correlation between the total knowledge, attitude, behavior, reinforcing and enabling scores among the studied students. The table reveals that, there was a significant positive correlation between the total knowledge score of the studied students and their attitudes, behaviors, reinforcing and enabling scores of them from baseline to three months after precede model application ($P > 0.05$). Also, there was a positive a statistically significant correlation between the total reinforcing score and the total score of enabling factors ($P = 0.029$).

VI. Discussion

Domestic violence (DV) is a complex, difficult and widespread issue which we faced in our lives. It is a kind of hidden threat that consider irrepressible. It affects the individuals especially women and girls either physically, mentally or socially aspects as well ⁽¹⁵⁾.

The present study revealed that the majority of studied girls had poor total knowledge score. While 3 months after model application, three quarters of them had good and fair total knowledge score with a statistically significant improvement ($P = 0.001$) (table II). This reflect the importance of continuous education of DV prevention that empower and motivate them to use this knowledge in self-protection. This findings was supported by **Hallberg M. (2010)** ⁽¹⁶⁾, who reported that there was a significant improvement of the participant's total knowledge score 3 months after implementation of the health educational program regarding abused women management. The result also is in agreement with **El-shabrawy E. (2013)** ⁽¹⁷⁾, who reported an improvement in his participants' knowledge about violence after educational intervention application. These results indicated the importance of having well educated parents to positively empower their children toward acquiring better health information.

Regarding behaviors that the studied girls reported if they exposed to physical violence; The present study revealed that before precede proceed model application, about half of them reported that they will avoid abuser or call family members, one third of them will cope with violence and the minority of them will call centers facing violence or communicate with the same way or leave house. While 3 months post educational intervention application, more than three quarters of them reported they will avoid abuser or call family at first followed one fifth of them will call centers facing violence and the minority of them will communicate with the same way or cope with violence or leave house with statistically significant difference in students' behaviors against physical violence ($P = 0.001$) (table III). The present study was in agreement with **Umoh A. (2017)** ⁽¹⁸⁾, who reported that women face physical violence through avoiding abuser until improve relation with her and ask for family member help while their sample refuse cope with violence or communicate with abuser with same way absolutely.

Regarding behaviors of studied students if they exposed to psychological violence; before intervention, more than two thirds of them reported they will avoid abuser at first followed by about half of them will cope with violence, more than one third will call family members and the minority of them will communicate with the same way or call centers facing violence or leave the house. While 3 months post intervention, the majority of them will call family followed avoid abuser and less than one quarter will cope with it. The difference in behaviors of studied students in facing psychological violence was a statistically significant $P > 0.05$ (table III). This result in contrast with **Davis D. (2013)** ⁽¹⁹⁾, who reported that their sample facing psychological violence through leaving their houses. This difference may be related to culture differences in which leaving houses for females isn't accepted behavior in the Egyptian community.

In relation to behavior that reported by studied students if they exposed to sexual violence; before intervention about half of them reported they will call family for helping followed by call centers facing violence and the minority of them will leave the house. While 3 months post intervention more than three quarters of them reported that will call family or call center facing violence and the minority of them will leave the house (table III). The present study was disagreement with **Daigneault M. (2015)** ⁽²⁰⁾, who stated that students educated to face sexual violence through calling the police. This difference may be related to adolescent girls fear about herself and her honor due to calling police center.

Regarding the total behavior score, the present study showed a significant improvement in behavior score of the studied students than baseline $P = 0.001$. Before educational model application, more than two thirds of them had negative total behavior score with mean score (7.50 ± 2.26) while three months after precede-proceed model intervention, slightly three quarters of them became had a positive total behavior score with mean score (10.77 ± 3.35) (table III). This finding was supported by **Soleiman E. (2013)** ⁽²¹⁾ who reported a significantly positive effect on the total mean score of the knowledge, attitudes, behaviors of their participants regarding domestic violence after educational intervention based on precede-proceed model.

The present study were significantly improved after educational intervention implementation. As the mean score of total attitude score was (50.96 ± 7.27) before intervention; while, after three months post educational intervention was the mean score of the total attitude score became (68.85 ± 5.97) with significant improvement ($P = 0.001$) (table V). This finding was supported by **Soleiman E. (2013)** ⁽²¹⁾ and **Ekhtiari D. (2014)**

⁽²²⁾ who reported an increase in the mean cumulative attitude post health education program application based on precede and proceed model regarding DV of their sample, this results supported the effectiveness of precede and proceed model in improving persons attitude.

The present study revealed that there were a statistically significant improvement in total mean scores of the reinforcing and enabling factors of the studied girls from baseline to three months after precede-proceed model educational intervention ($P=0.001$) (table VI-VIII). This results were agreement with **Moshki M. (2015)** ⁽²³⁾ and **Masoudy G. (2014)** ⁽²⁴⁾, who reported that the mean score of the knowledge, attitude, behaviors, enabling and reinforcing factors improved after educational intervention based on the precede-proceed model of their sample.

The present study showed a significant positive correlation between the total score of the studied students' knowledge and their attitudes, behaviors, reinforcing and enabling factors from baseline to three months after precede model application ($P > 0.05$) (table VIII). This finding was supported by **Soleiman E. (2013)** ⁽²¹⁾ and **Ekhtiari D. (2014)** ⁽²²⁾, who reported positive correlation between the total score of knowledge and enabling and reinforcing factors score post intervention program application.

VII. Conclusion

At the end of this research, we can concluded that the educational program based on PRECEDE - PROCEED model has a positive effect on knowledge, attitudes, behaviors of adolescent girls toward the domestic violence and promoting enabling and reinforcing factors that support prevention of such problem.

Recommendations

- Conducting the seminars, workshops and campaigns for the secondary and university` students and their families to create awareness about domestic violence.
- Encourage the availability of the booklets and posters about the domestic violence prevention in the libraries of technical and secondary schools for adolescence.
- All possible forms of mass media such as (T.V, Newspaper, Radio , Posters and booklets) are needed to help in dissemination information to a large sector of the community about domestic violence to educate the people and especially women what, when, where and how to deal with the domestic violence.
- Encourage the availability of the religious committee which include religious leaders and scholars who define the rights of women in the lights of Islamic teaching with solving the family disputes to prevent divorce.
- Allocating pages for women on the internet or journals or television to discuss the women issues and the problems and mobilize public opinion.

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