

Self-body Examination: Instructional Guide for Early Detection of Physical and Reproductive Health Problems among Adolescent Girls

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Abstract: Background: Self-body examination considered one of the most important health strategies for discovery, early detection & management of many health problems among adolescent age. **Aim & design:** This study aimed to evaluate the effect of Self-body Examination instructional guide for Early Detection of Physical and Reproductive Health Problems among Adolescent Girls. The design of the study was **Quasi-experimental**. **Setting:** The study was conducted at Technical Institute of Nursing, & Faculty of Nursing, Ain Shams University. The subjects involved unmarried female student nurse at first academic year 2014 – 2015. **Sample: Purposive** sample consisted of 63 nursing students. **Tools:** Data were collected through three Tools (structured interviewing questionnaire, performance check lists, and follow up card). **Results:** The study revealed that there was statistically significant difference between pre-intervention program compared to post 1 month and post 2 months regarding practice of self- body exam. Many health problems discovered by adolescent girls through improvement of self-examination for different parts of their body & referred to physicians; Breast problems, skin problems, genital infection, ENT problems, dental problems, eye problems & menstrual problems. **Conclusion & recommendation:** The study **concluded** that the positive impact of the Instructional guide on adolescent girls' self -body examination practices for early detection of their Physical and Reproductive health problems. There searchers **recommended that** integrating self-body exam guideline in adolescent schools. Further researches are still needed to explore the barriers that confront practice of self- body exam among adolescence.

[Eman Mostafa Sayed Ahmed, Omaima Mohamed Esmat, Hyam Refaat Tantawi, Hala Mohamed Sanad. **Self-body Examination: Instructional Guide for Early Detection of Physical and Reproductive Health Problems among Adolescent Girls**. *Life Sci J* 2017;14(10):45-54]. ISSN: 1097-8135 (Print) / ISSN: 2372-613X (Online). <http://www.lifesciencesite.com>. 7. doi:[10.7537/marslsj141017.07](https://doi.org/10.7537/marslsj141017.07).

Key words: Self-body Exam, Adolescent, Health Problems

1. Introduction:

Globally, it is acknowledged that adolescents represented a major demographic and socioeconomic force, and were a major factor in influencing public health trends. It is also important to note here that adolescence is a special stage in the lives of the young people. Adolescence, these years from puberty to adulthood, may be roughly divided into three stages: *early* adolescence, generally ages eleven to fourteen; *middle* adolescence, ages fifteen to seventeen; and *late* adolescence, ages eighteen to twenty-one. It is a period of transformation from childhood into adulthood. Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to woman hood, characterized by major biological, physical, psychological and behavior changes, which if not properly managed, could lead to significant exposure to risky behaviors with high consequences on their immediate and long term health and socio-economic lives (1).

Self-care is process that assist people to know about health promoting items and activities. Promotion of self-care, an attitude fostered early in life, may pay lifelong dividends. The adolescent period is a time of rapid change that provides teaching opportunities for shaping health behaviors into adulthood (2).

Self-examination is one of the self-care activities, which increase the adolescent's awareness about the importance of screening procedures and the benefits of early detection of diseases for proper treatment, less complication and better health status. **Self -body exam** defines as an examination of one's body for signs of illness or disease, *or* careful examination of own behavior and beliefs to see whether they are good or bad, and the act or practice of checking body for symptoms of illness (3,4) *Self-body exam* Foundation recommended that everyone must practice monthly from head-to-toe self-examination from their skin, so that everyone could find any new or changing lesions that might be cancerous or precancerous. Health problems and /or Body disorders found and removed

early were almost always curable. Learn about the warnings signs of body parts and what to look for during self-examination (5).

Performed regularly, self-examination can alert any person to change in the body organ and aid in the early detection of disease and cancer. Learn about any changes, such as cuts, sores, redness, swelling and pus, as well as hair distribution overall the body. If presence spots anything suspicious, see a doctor. Seek prompt attention for excessive vaginal discharge or other signs of vaginal inflammation and infection. Untreated reproductive tract infections can have severe consequences on health, fertility and productivity of women (6).

Menstrual disorders frequently affect the quality of life of adolescents and young adult women and can be indicators of serious underlying problems. Those disorders can be also detected through self-exam during assessment of vaginal discharge. Menstrual disorders include menstrual cycle irregularities, hyper- or hypomenorrhoea, poly- or oligomenorrhoea, dysmenorrhoea, amenorrhoea, menorrhagia and premenstrual syndrome (7).

Nurse provides and directs nursing care of the adolescent client that incorporates the knowledge of expected growth and development principles, prevention and/or early detection of health problems, and strategies to achieve optimal health. The nurse promotes physical health and wellness by providing care and comfort, reducing client risk potential and managing health alterations (8).

Nurses play a vital role, including aiding adolescent clients to develop responsible, informed self-examination and self-care competency. Nurses can recommend treatment of common health problems as well as many recurrent and chronic illnesses. In many parts of the world, nurses are the main providers of primary health care including the use of prescription and non-prescription medicines (9). Finally, the nurse described what to expect in first physical examination and how could make the process easier. Regular physical exams helped maintain or improve female health, preventing future problems (10).

Justification of the study:

Adolescents face a dramatic challenge, one requiring adjustment to change in the self, in the family, and in the peer group. In modern society, adolescents experience institutional changes as well. Among young adolescents, there is a change in school setting, typically involving a transition from elementary school to either junior high school or middle school; and in late adolescence there is a transition from high school to the worlds of work, university, or childrearing (11). Girls under age 20—around 19 million of them make up one-fifth of

Egypt's population. In 2015, about 8 million of these girls were adolescents between ages 10 and 19. According to the latest projections from the United Nations (UN) Population Division, this group will grow to 11.5 million in 2030, 44% increase in 15 years. Improving the lives of adolescent girls in Egypt requires a national response.

Such a response is necessary because of the girls' demographic significance & more importantly because adolescence is a critical period in determining the extent to which individuals will reach their potential as adults. For girls, the impact of adolescence may be especially profound because, during this phase of life, they tend to internalize their subordinate position at home and in society (12). In addition, early detection and management of health problems during adolescent stage can prevent many health problems during pregnancy, labor and post labor stage. Moreover, it decreases maternal and neonatal mortality and morbidity rates (13).

All previous Egyptian studies stressed the importance of breast self-examination not self-body exam. The adolescent population is neglected group of community regards their knowledge and practice regarding self-care and self-examination. This was directing attention towards the importance of integrating the concept of self-body exam into undergraduate adolescent student nurses to enhance them to educate and council clients about the importance and the process of self-body exam in Egyptian community.

Aim of the study

This study aimed to evaluate the effect of Self-body Examination instructional guide for Early Detection of Physical and Reproductive Health Problems among Adolescent Girls.

Research hypothesis:

Instructional guide about self-body examination enhance positively adolescent girls' practices for early detection of their physical & reproductive health problems.

2. Methods:

Design: Quasi-experimental design was utilized.

Settings:

The study was conducted at Technical Institute of Nursing, & Faculty of Nursing, Ain Shams University. Cairo, Egypt.

Sample: Purposive sample with the following criteria; Unmarried female student, at first academic year 2014 – 2015. Their age ranged from 15 to 21 years old at middle & late stage of adolescence.

Size: Sample included all first academic year nursing students at technical institute of nursing, faculty of nursing Ain Shams University and faculty of Nursing Ain Shams University, during the

academic year 2014 – 2015. A sample of 38 of female student nurses at Health Technical Institute were participated in the study and a sample of 25 of female student nurses from faculty of Nursing Ain Shams University the total sample size was 63 female student nurses.

Tools:

Three tools were used for data collection in addition to the supportive instructional Arabic guideline booklet of self-body exam.

1. Structured interviewing questionnaire:

Adopted tool was used to assess female student nurses' general characteristics data & menstrual history. (14)

2. Performance checklists for students contained the following:

A. A standard practice list for breast self-examination:

It was constructed tool based on literatures to assess practices of breast self-examination (BSE) after instruction by 1 and 2 months of study. It was included (12) steps for breast self-examination each step has score = (15). **Scoring system** for this part as the following; the items reported to be done correctly were scored "1" and the items not done or incorrectly done were scored "0". For each area, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The practice was considered adequate if the percent score was 60% or more and inadequate if less than 60%.

B. Assessment of degree of hirsutism:

An adapted tool was designed to assess hirsutism degree in upper lip, chin, chest, upper back, lower back, upper abdomen, lower abdomen, upper arm and thigh to assess practice of self-examination after instruction by 1 and 2 months of study. This system grades hair growth only over nine body areas from 1-4, which quantifies the extent of hair growth in nine anatomical sites.

Scoring system: Grade "1" (no hair) to grade "4" (maximal growth), with a maximum score of 36. (16)

C. A physical assessment checklist for body:

It was designed by the researcher after constructed an English practice lists after reviewing the related literature according to (18). It consisted of 10 body parts systemically. Each system (item) assessed grades by special numbers scored for each items after instruction by 1 and 2 months of study to assess the following:

- Skin problems (8 statements).
- Neck problems (1 statement).
- Mouth and throat (1 statement).
- Eyes, ears and nose (3 statements).
- Hands and feet (4 statements).

- Abdomen abnormalities (4 statements).
- Urinary system problems (3 statements).
- External genitalia (5 statements).
- Perineal problems (3 statements).
- Calf muscle (2 statements).

Scoring system for this part as the following: the items reported to be done correctly were scored "1" and the items not done or incorrectly done were scored "0". For each area, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The practice was considered adequate if the percent score was 60% or more and inadequate if less than 60%.

3. Follow up card:

adopted tool was used to assess female adolescence's health problems which discovered by self-examination after instructions by 1 & then 2 months. It consisted of 6 items as the following: date of interview, address, telephone no, result of physical examination (diagnosis) and the prescribed treatment if medically diagnosed. (14)

In addition to a supportive instructional Arabic guideline booklet of self-body exam

Ethical consideration:

An official approvals were obtained from Scientific Research Ethical Committee in Faculty of Nursing at Ain Shams University and Technical Institute of Nursing before conducting study.

Administrative Design

An official written approval letter clarified the purpose of the study had been obtained from Scientific Research Ethical Committee in Faculty of Nursing at Ain Shams University before conducting the study. An official written approval letter clarified the purpose of the study was obtained from the dean of Technical Health Institute and the dean of faculty of nursing at Ain Shams University.

Validity & reliability:

Tools were evaluated for face and content validity by 5 experts from the staff Faculty of Nursing, Obstetric-Gynecological nursing, Community Health Nursing and pediatric nursing and their comments were considered. Reliability was done by Cronbach's Alpha coefficient test which revealed $r = 80.2$.

Pilot Study:

Pilot study was carried out on 10% from adolescent students to evaluate efficiency, clarity and applicability, as well as the time required to fulfill each study tool. No modifications were done of tools after the analysis of the results of the pilot study.

Field Work:

Data were collected over one year period from March 2015 till February 2016. the researchers visited

the previously mentioned study settings 4days every week. through the following three phases:

Assessment phase:

- Firstly, the aim of the study was explained to all first year academic females to gain their trust and confidence to participate in the study. Consent of each female adolescent was obtained orally and written to participate in the study.

- Next, the researchers interviewed each student nurse individually; the duration of each interview was spending 15-20 minutes.

- Then, data was collected within the study day, it had been in between sessions, or at the end of the day after finishing sessions. It was spent 2 hours started from 1 pm until 3 pm afternoon in two settings. Every place taken four days.

- The researcher was interviewed five student nurses every day in two settings using questionnaire to assess general characteristics, pre-intervention.

- After that, the researcher assessed each student (in groups) by the tools of breast self-examination, hirsutism examination and physical assessment chick list about body system using designed tools pre-intervention educational program at two settings.

- Next, an observational chick list was utilized to assess student nurses' skills regarding self-body exam using manikin model.

Implementation phase:

- the researchers were classified students into 12 groups, each group included 5 students, except one group was consisted of 8 students. 5 groups at faculty of Nursing Ain Shams University (25 students). 7 groups at the technical institute of nursing, faculty of nursing Ain Shams University (38 students). 5 theoretical and practical sessions for each group were conducted.

- The practical sessions were included to train student nurse about self-body exam procedures.

Then, the researchers were distributed an instructional guideline booklet about self-body exam for each student according to schedule time for sessions.: The guideline booklet developed by researchers & consisted of six chapters; *the first chapter* included the importance of self-examination and different sites of the body which examined by self-examination. *The second chapter* included the breast self-examination (anatomy and physiology of the breast, steps and technique of examination and breast disorders). *The third chapter* included the hirsutism (types of body hair, causes of hirsutism, steps of examination of hair degree and disorders). *The fourth chapter* included the vulval self-examination (anatomy and physiology of the perineum, types of vaginal secretions, and causes of vaginal inflammation and health care of external genitalia). *The fifth chapter*

included the self-care of leg and feet (problems and health care for feet). Lastly, the sixth chapter included the self-examination of body parts (neck, mouth and throat, eyes, ears & nose, abdomen, urinary system problems, and calf muscle).

- Next, the researchers were planned the educational program five sessions in theoretical parts and six sessions in practical parts in the form of one session every day at two settings.

- **Theoretical session** divided into five sessions, every session was taking one hour for each group, every day for one group, and schedule session was three days/week. The teaching methods were implemented during guideline program for theoretical part included lecture, group discussion and brain storming in theoretical sessions using data show and black board about concept and importance of self-examination, anatomy of breast and hirsutism.

- **Practical session** divided into six sessions, the researcher done re-demonstration in the lab after theoretical session in the same day to guide the female while performing the procedures and training about self-examination on dolls was done according to predetermined plan with the groups. Teaching methods for practical parts about breast self-examination, hirsutism self-examination, examination of external genitalia and body parts were using different media in the lab such as simulation, role play, scenario, models and bed side teaching.

- The time for each theoretical session consumed one hour in the class room, after that they were attending the practical session taking half an hour in the institution lab at the two study settings.

Evaluation phase:

- At the end of practical sessions the researcher started to assess practice for students using predetermined tools format for student nurse by interview using the same tools according to the predetermined plan.

- The researcher evaluated the nurses' performance of self-body exam using predetermined tools (one month and two months after intervention).

- Reinstruction was done as needed in the period of one month to assure their understanding for their practices of all procedures accurately. At the end, during follow up period the adolescent females were needed explanation and classification of their health problems. The researcher was guided the cases to specialist.

- The result of investigations and diagnosis and treatments had been recorded in follow up card for each student.

- Finally, the researcher refers cases as needed according to problems discovered by self-exam.

Statistical Design:

The data were analyzed using SPSS version 2. Data were presented using descriptive statistics in the form of frequencies & percentages for qualitative variables, mean & standard deviation for quantitative variables. Other statistical tests as Kruskal Wallis test used for comparing means of two or more independent samples & Fisher test used to compare proportions between three qualitative parameters.

Significance of result:

- $P > 0.05$ no significance difference.
- $P < 0.05$ significance difference.
- $P < 0.001$ highly significance difference.

3. Results:

Table (1) showed that, the student nurses' age ranged between 17-19 years. Also, 88.9% of students had previous educational background of technical nursing school, while only 11.1% of them had general secondary school. In addition, 69.8% of them had sufficient monthly income.

Table (1): Distribution of student nurses in the study sample according to their general characteristics (n=63)

General characteristics	No.	%
Age by years:		
17> 18	34	54.0
18 - 19	29	46.0
Pre-university education:		
General secondary school	56	88.9
Technical nursing school	7	11.1
Income:		
Sufficient	44	69.8
Insufficient	19	30.2

Table (2) revealed that, age of menarche for 84.1% of student nurses less than 15 years. Also, 60.3% of student nurses menstruated regularly. Their menstrual duration ranged between 2-10 days. Additionally, 81% of student nurses had menstrual associated complaints. These complaints which reported by them were pains, nausea/vomiting, tension/insomnia, high menstrual flow, low menstrual flow and headache 98.4%, 36.0%, 70.5%, 29.5%, 16.4% & 44.3% respectively

Table (3) showed that, there were statistical significant differences throughout pre-intervention and post 1 month and post 2 months of follow up regarding self-body exam practices.

Table (4) showed that, there were statistical significant differences in students' practice of self-assessment for hands and external genitalia scores pre & post-intervention. There were no statistical differences in students' practice of self-assessment for skin, neck, mouth, eyes, abdomen and urinary system pre & post-intervention.

Table (5) showed that, there were statistical significant differences between pre-intervention and post-intervention in student nurses' assessment for body hirsutism.

Figure (1) revealed that, no one of studied nurses practiced breast self-examination correctly in pre-intervention phase, reached to 74.6% of them practiced breast self-examination correctly post-intervention.

Table (6) revealed that, there were abnormal findings discovered by self-examination post 1 month & 2 month of intervention which represented 77.8% & 60.3%. The percentage of students who seeking medical examination raised from 66.2% pre-intervention to 73.7% post 2 month of intervention. There were many health problems discovered by physicians for adolescents' girls who seek medical exam post 1 month & 2 month of intervention 59.2% & 73.7% as; Breast problems (cyst, adenoma,...), skin problems (hirsutism, acne,...), genital infection, ENT problems, dental problems, eye problems & menstrual problems (irregular menstruation, dysmenorrhea, PMS). Additionally, most of female health problems were treated after referral for medical seeks as percentage of most problems decreased throughout the study.

Table (2): Distribution of student nurses in the study sample according to their menstrual history (n=63)

Menstrual history	No.	%
Age at menarche (years):		
<15	53	84.1
15+	10	15.9
Range	9.0-15.0	
Mean±SD	13.1±1.3	
Menstrual characteristics:		
Regular	38	60.3
Duration (days):		
<6	36	57.1
6+	27	42.9
Range	2.0-10.0	
Mean±SD	5.3±1.4	
Having menstrual complaints :		
Yes	51	81
No	12	19
complaints (n=51):		
Pains (lower abdomen, back, headache)	60*	98.4
Nausea/vomiting	22*	36.0
Tension/insomnia	43*	70.5
High menstrual flow	18*	29.5
Low menstrual flow	10*	16.4
Headache	27*	44.3
Number of complaints:		
Range	0.0-5.0	
Mean±SD	2.9±1.2	

* Not mutually exclusive

Table (3): distribution according to practice of nursing students' self-body exam (n=63)

Practice	Study phase						F (<i>p</i> -value) Pre-post 1	F (<i>p</i> -value) Pre-post 2
	Pre		Post (1-month)		Post (2-month)			
	No.	%	No.	%	No.	%		
Practice self-body exam	29	46.0	62	98.4	63	100.0	43.08 (<i><0.001*</i>)	46.57 (<i><0.001*</i>)
Sites examined:								
Breast	29	100.0	61	98.4	63	100.0	Fisher (1.00)	0.00 (1.00)
Hair distribution	6	20.7	57	91.9	63	100.0	47.08 (<i><0.001*</i>)	66.62 (<i><0.001*</i>)
External genitalia	6	20.7	46	74.2	60	95.2	23.10 (<i><0.001*</i>)	54.44 (<i><0.001*</i>)
Body	5	17.2	45	72.6	49	77.8	24.44 (<i><0.001*</i>)	30.02 (<i><0.001*</i>)
Total self-exam practice:								
Correct	12	19.0	56	88.9	63	100.0	61.85	85.68
Incorrect	51	81.0	7	11.1	0	0.0	(<i><0.001*</i>)	(<i><0.001*</i>)

(*) Statistically significant at *p*<0.05

Table (4): Students' practice of body self-examination throughout the study phases (n=63)

Assessment	Study phase (max=2)			Kruskal Wallis Test	<i>p</i> -value
	Pre	Post (1-month)	Post (2-month)		
	Mean±SD	Mean±SD	Mean±SD		
Skin	1.4±1.5	1.2±1.1	1.6±1.6	0.83	0.66
Neck	0.3±0.4	0.3±0.5	0.4±0.5	1.81	0.40
Mouth	0.7±0.5	0.7±0.5	0.6±0.5	1.28	0.53
Eyes	0.7±0.7	0.9±0.9	0.8±0.9	1.53	0.47
Hands	1.0±0.8	1.6±1.2	1.7±1.3	10.58	0.005*
Abdomen	0.5±0.7	0.3±0.5	0.4±0.7	5.21	0.07
Urinary system	0.4±0.6	0.7±0.9	0.7±1.0	2.37	0.31
External genitalia	0.8±0.8	1.3±1.0	1.3±1.0	9.77	0.008*
Perineum	0.3±0.6	0.7±0.9	0.5±0.9	5.39	0.07
Calf muscles	0.4±0.6	0.4±0.6	0.4±0.6	0.14	0.93
Total assessment (max=20)	6.5±3.8	8.0±5.0	8.3±6.4	2.55	0.28

(*) Statistically significant at *p*<0.05

Table (5): distribution according to student nurses' practice self- assessment concerning hirsutism (n=63)

Hirsutism assessment	Study phases (max=4)			Kruskal Wallis Test	<i>p</i> -value
	Pre	Post (1-month)	Post (2-month)		
	Mean±SD	Mean±SD	Mean±SD		
Upper lip	1.6±0.6	1.5±0.8	1.6±0.8	2.81	0.25
Chin	1.2±0.5	1.1±0.5	1.1±0.4	1.94	0.38
Chest	1.2±0.5	1.1±0.5	1.1±0.5	4.92	0.09
Upper back	1.4±0.6	1.2±0.6	1.2±0.6	5.94	0.049*
Lower back	1.7±0.6	1.3±0.7	1.3±0.7	23.92	<i><0.001*</i>
Upper abdomen	1.8±0.7	1.3±0.7	1.3±0.6	34.28	<i><0.001*</i>
Lower abdomen	3.5±0.9	2.3±1.2	2.5±1.2	35.78	<i><0.001*</i>
Upper arm	1.9±0.6	1.3±0.7	1.4±0.7	44.80	<i><0.001*</i>
Thigh	2.2±0.6	1.5±0.8	1.5±0.8	36.60	<i><0.001*</i>
Total (max=36)	16.5±2.8	12.7±4.6	13.0±4.5	49.09	<i><0.001*</i>

(*) Statistically significant at *p*<0.05

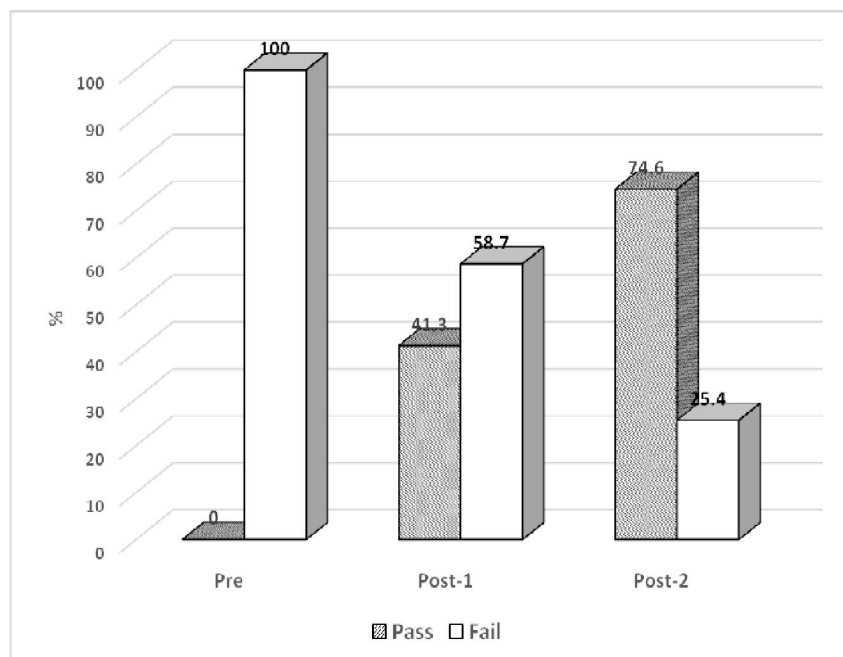


Figure (1): Total students' practice of Breast Self-Examination (BSE) throughout the study phases (n=63)

Table (6): Adolescent reaction to abnormal findings discovered by self-examination after intervention (n=63)

Results of self-examination Practice	Pre		Post 1 month		Post 2 months	
	No	%	No	%	No	%
Abnormal findings discovered by self-examination						
Present	59	93.7	49	77.8	38	60.3
Absent	4	6.3	14	22.2	25	39.7
Reaction to abnormal findings	N= 59		N=49		N=38	
- Seeking the medical examination	39	66.2	29	59.2	28	73.7
- Asking relatives or friends for help	10	16.9	18	36.7	10	26.3
- No reaction	10	16.9	2	4.1	0	0
Results of medical examination	N=39		N=29		N=28	
- Breast problems (cyst, adenoma,..)	2	5.1	9	31	10	35.7
- Genital infection	10	25.6	3	10.3	8	28.6
- Skin problems (hirsutism, acne,...)	9	23.1	6	20.8	6	21.4
- Eye problems	7	18	3	10.3	0	0
- Dental problems	7	18	3	10.3	1	3.6
- ENT problems	4	10.2	5	17.3	3	10.7
- Menstrual problems (irregular menstruation, dysmenorrhea, PMS)	15*	38.5	10*	34.5	6*	21.4

* Not mutually exclusive

4. Discussion:

The results showed a highly statistical significant improvement in the adolescents' practices for self-body examination post-intervention compared to pre-intervention. This significant improvement in students' was undoubtedly attributed to the effect of instructional guide. The finding was agreed with **Bokaie and Hassan (18)** who observed a significant improvement in their study samples' performance, and more than three quarter of the students practiced self-examination compared by none practiced before

training. They recommended and highlighting the importance of self-examination as a self-screening promotes issue.

Also **Jane (19)** were in agreement with the study, they found that, there was highly statistical significant improvement among study sample post-intervention compared to pre-intervention regarding BSE which it was enhancing their screening abilities of self-breast abnormalities. This similarity among these study results may be due to the subjects of these studies had the same cultures, and traditions.

Janet (16) who reported in the study Effect of self-screening practices on early detection of reproductive system problems, the findings were in agreement with the study results who concluded that, there was a direct positive effect on female's practice of self-screening. As females who practiced self-screening on regular basis were less than a ten percent of the study sample and almost reached to more than quarter after counseling. In addition, females who were practicing breast and vulvar examination increased from more than ten percent almost reached to most of them after counseling. The previous finding was agreed with **Abdelsabour et al. (20)** who stated in the study Effectiveness of breast self-examination nursing interventions for Taiwanese community target groups that, intervention program was significantly increased both self-examination frequency and accuracy among experimental group.

The previous finding was in agreement with **Yousuf.21)** who studied the impact of health intervention program regarding breast self-examination among Port Said female University students. The findings revealed that, most of the studied sample had poor practices regarding early detection of problems through breast self-examination in pre-program. A statistically significant improvement was detected in the practices post program.

To compare the results with other studies it found in a study of Saudi nurses; that nurses had lack of BSE practices (22). Another study carried out in Ain Shams University, Egypt about the effect of Breast Self-Examination training program on attitude and practice of a group of working women almost one fourth only of the participants heard about breast self-examination (23). This diversity between results may be related to different cultures and traditions of study sample in both studies.

Self-body exam considered as one of the most important health strategies for the early detection of many health problems among adolescent. Also, the current study was aimed at discovery and early detection of health problems among adolescent females through self-body exam. Moreover, there were many health problems discovered by the student through their self-body exam after sought medical advice for example; Breast problems (cyst, adenoma,...), skin problems (hirsutism, acne,...), genital infection, ENT problems, dental problem, eye problems & menstrual problems (irregular menstruation, dysmenorrhea, PMS). This was evident in dealing with the problems resulting from the examination itself, and/ or its treatment by specialists. This was stressed the importance of application of self-body exam guideline for all female adolescents. While the results regarding action taken as sought

medical advice compared between pre and post intervention reported increasing in student percentage throughout the study follow up.

In line with the foregoing study, **Rajakumari. (24)** who studied the perceived problems of higher secondary school students in a district, using Teenage Screening and the study results revealed that, a school based adolescent care service program was effective and feasible related to early detection of many health problems.

Similar to the foregoing current study results, strong correlations were reported for practice as in the study by, **Mohammad et al. (25)** who evaluated the effectiveness of structured educational program regarding early detection of breast problems by self-screening in Vandhana school of Nursing, India. It showed that, structured teaching program was an effective method to improve attitude and practice there by the prevention of breast problems. In the same line, concerning the referred (26) who discovered breast problems throughout program which conducted among nursing students in Qena, Egypt, the results of this study found that, most of nursing students at pre - program did not notice any breast problems. After BSE education program nearly more than three quarter stated that they will go to the doctor if they detect any change in breast by BSE technique.

Meanwhile, in Iranian females (27) reported that, the mean age of participants was 28.02 years. Less than half of the subjects were reported degree of hirsutism throughout self-examination. This related to decrease awareness about self-body exam among participants. Moreover, the current study was in agreement with study done by Huppert *et al* (28) who reported problems by self-exam affected in adolescence-a therapeutic conundrum. The finding revealed that, there was a metabolic syndrome was a possible long term sequel, menstrual disorders, acne and hirsutism.

The present study finding was in congruence with **Palep-Singh and Prentice (29)** who approved that, self-testing and point-of-care tests were improved the detection of sexually transmitted infections (STIs) in adolescents and discovered vaginal infection after experience and examination. The result related to the similarity in adolescents age (14-22 years old).

Menstrual dysfunction is a common cause of referral to the gynecology clinic and the problem has a considerable impact on the health status and the quality of life of adolescence female (30). The present study revealed menstrual problems among the studied sample discovered by self-exam as irregular menstruation, dysmenorrhea & PMS, these problems may affected adolescence social activities and academy attendance. These disorders are not only likely to affect the quality of life and future

productivity of women but may also be indicators of underlying problems that can become serious in the future and this is an important concern for reproductive health policy-makers. Health education on menstrual problems targeting female students and their parents, and including education on reproductive health in the school curriculum may assist in early detection of these disorders.

On the same line of other study by **Lee *et al* (31)**, the results showed that a high percentage of student nurses suffered from different kind of menstrual disorders; 59.4% had irregular menstruation, 63.1% experienced dysmenorrhoea and 54.0% suffered from PMS. Another study by **Allsworth *et al.* (32)** reported that 75% of girls experience some problems associated with menstruation and in a study done by **Lakshmi (33)** among female prisoners 33% reported menstrual irregularity. Similar studies **(34)** among female high school adolescents showed that a majority identified dysmenorrhoea and PMS as problems that significantly affected their academic performance.

All Egyptian researchers were neglected the area of adolescent because no investigations were directed their attention towards the importance of adolescent self-body exam; while it highly critical period of time and most abnormalities have been occurred during the area of adolescent. As well as, it is the area of transition between childhood and adulthood during which physiological, psychological and socio-sexual changes have been occurred during this time according to their adolescent needs and changes that needs continuous monitoring and screening and follow up to enhance normal practices and prevent abnormal mal practices and early identification of abnormalities for management and treatment.

Conclusion

The results of this study highlighted the positive impact of the instructional guide on adolescent girls' self-body examination practices; there were statistical significant differences throughout pre-intervention and post 1 month and post 2 months of follow up regarding self-body exam practices.

Many health problems discovered by adolescent girls through improvement of self-examination for different parts of their body & referred to physicians for example; Breast problems, skin problems, genital infection, ENT problems, dental problems, eye problems & menstrual problems.

Recommendation

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

- Self-body exam guideline must be integrated in the educational strategies used at under graduated Technical Student Nursing.

- Further researches are still needed to explore the barriers that confront practice of self-body exam among adolescence.

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