Effect of An Instructional Brochure on Technical Institute Student's Knowledge Related to Self-Body Exam

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Abstract

An instructional brochure should positively affects student's knowledge related to self body exam. This study **aimed** to evaluate the effect of an instructional brochure on technical institute student's knowledge related to self-body exam. **An intervention study was utilized.** The study was conducted at Port-Said City, in Health Technical Institute, and Technical Institute of Nursing Health Insurance. The subjects involved unmarried female student nurse at first academic year 2014 – 2015 and their age ranged from 18 to 20 years old so, **the sample size** was 63 students. Data were collected through two **Tools** (a questionnaire sheet and Follow up card). The study revealed that there was a significance difference between pre and post implementation (one & two month) of an instructional self body exam brochure related to knowledge among technical institute student. The study **concluded** that an instructional brochure is effective on enhancing students' level of knowledge related to self body exam among technical institute students. The researcher **recommended** integrating an instructional brochure regarding self body exam at all Technical health Institute. **Further** researches are needed to explore the barriers that confront knowledge of an instructional brochure regarding self body exam among technical institute students.

Key words: Health an instructional brochure, self body exam, Technical Institute Student.

Introduction

The promotion of self-examination remains controversial and the recommendations made by health organizations were inconsistent. For example, in the US self-examination is not endorsed by the US Preventive Task Force, the American Cancer Society frames it as a personal choice and the American College of Obstetricians and Gynecologists recommends regular monthly self-examination. In part this controversy reflects the anxiety associated with self-examination and the number of benign biopsies that may occur. Research demonstrating that, self-examination identified over half of tumors and enhanced detection of other diseases however, indicated the positive outcomes associated with self-examination. *(Allen, etal., 2010, Calonge, etal., 2009, American Cancer Society, 2012, American College of Obstetrics and Gynecology, 2012)*

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.

(http://www.thefreedictionary.com/self-examination, 2011)

The person may find self examination helpful than to have a doctor do a full-body exam first, to assure that any existing spots, freckles, or moles are normal or treat any that may not be. After the first few times, self examination should take no more than 10 minutes, a small investment in what could be a life-saving procedure. *(The Skin Cancer Foundation, 2015).*

These issues are of particular concern during adolescence, not only because adolescence is an important period for forming views about oneself and socio cultural ideals, but also because the onset of puberty entails bodily changes (such as greater adipose deposits, and acne) that, on average, move girls further away from societal standards of female beauty. A longitudinal study of 12–15-year-old girls has confirmed that such bodily changes are associated with increased concerns about weight and eating. *(Dittmar & Halliwell, 2005)*

Justification of the study:

The period of adolescence was the most confusing and it was a neglected stage. This is because the adolescent is acquiring physical attributes of adulthood but less emotionally developed as an adult. One can imagine what it looks like for a girl to know have breast like adult, to be menstruating like adult women and to be nearly as tall as or taller than her mother. This and many other reasons may make her start feeling on top of the world whereas she is not adequately equipped emotionally for adult life, she thus get confused as to whether she is still a child or an adult. *(African Population Conference, 2007)*

While, the adolescent population was neglected group of our community related to their knowledge and practice regarding self-care and self examination. Those students will be the future nurses who will instruct and educate females regarding their self body exam. No previous studies were conducted to assess self-body exam during adolescence age in maternal and neonatal health nursing department neither in Faculty of Nursing, Ain Shams University nor in Technical Health Institution at Port Said City. So, this study was conducted among female students in Technical Health Institution at Port Said City and Technical Institute of Nursing Health Insurance at Port Said city to study the effect of an instructional brochure on technical institute student's knowledge related to self-body exam.

Aim of the Study

This study aims to**:** evaluate the effect of an instructional brochure on technical institute student's knowledge related to self-body exam.

Research hypothesis

An instructional brochure about self body exam was positively expected to enhance technical institute student's knowledge.

Subject and Methods

An intervention study was utilized to accomplish this study. The study was conducted at Port-Said City, at Health Technical Institute, and Technical Institute of Nursing Health Insurance. Sample included Unmarried female student nurse at first academic year 2014 – 2015. Their age ranged from 18 to 20 years old. Sample size was 63 female student nurses.

Tools and technique of data collection

1. *A questionnaire sheet:* It was adopted from **Mostafa Eman, 2006**. It was divided into 4 parts which included 29 question "close and open end questions" as the following:

- 1st part (1-4 questions) to assess female student nurses' general characteristics data.

- 2nd part (5-10 questions) to assess medico-surgical history.

- 3rd part (11-17 questions) to assess menstrual history.

- 4th part (18-29 questions) to assess student's knowledge regarding breast self examination, such as: types, sites, time, and technique BSE.

Scoring system for knowledge, the correct answers were predetermined according to literature. Each knowledge question was given a score and the total score of knowledge was obtained for each study subject as follows; for the knowledge items, a correct response was scored 1 and the incorrect response was scored zero. For each area of knowledge, 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. Knowledge was considered acceptable if the percent score was 60% or more and unacceptable if it was less than 60%.

2. **Follow up card:** It was adopted from **Mostafa Eman, 2006** to assess female's breast problems which discovered by female self-examination after instructions by 1 & then 2 months. It consisted of 5 items as the following: date of interview, address, telephone, result of physical examination if present.

Pilot Study

Pilot study was carried out on 10% from adolescent students from total sample size which were included in the study (6 students) to evaluate the content validity, efficiency, clarity and reliability of the tools, and find out the possible problems that might be faced researcher and interfere with data collection. No modifications were done of tools after the analysis of the results of the pilot study therefore those 6 students were not excluded from the main study sample.

Field Work:

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 starting study. An official written approval letter clarified the purpose of the study was obtained from the dean of Technical Health Institute at Port-said. An official written approval letter clarified the purpose of the study had been obtained from the dean Technical Institute of Nursing Health Insurance at Port-said. It included three phases:

Preparatory Phase (Phase 1):

In this stage the researcher was developed the instructional Arabic brochure related to self body exam guided by supervisors on bases of literature review. The process of data collection carried out in the period from the second semester in the academic year 2013/2014,

and at beginning of first semester of the academic year 2014-2015. The sample size was included in the study; all eligible students according previous criteria were 63 female student nurses. Included the researcher visited the previously mentioned study settings 3 days every week. This phase was spending three month. 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 student nurse was obtained orally and written to participate in the study. Next, the researcher interviewed each student nurse individually; the duration of each interview was spending 15-20 minutes.

Educational & training phase (Phase 2):

▪ Firstly, the researcher was classified the student into 12 groups, each group included 5 students, except one group was consisted of 8 students. 5 groups at the Technical institute of nursing health insurance. 7 groups at the Health technical institute. 5 theoretical and practical sessions for each group were conducted.

▪ The researcher assessed the knowledge level of technical students before starting the instructional program.

▪ Then, the researcher was distributed an instructional brochure on self body exam for each student according to schedule time for sessions.

▪ Next, the researcher was planned the educational program five sessions in theoretical parts, one session every two days at two settings.

▪ The teaching methods were implemented during brochure program for theoretical part included lecture, group discussion and brain storming in theoretical sessions using data show and white board about concept and importance of self-examination, anatomy of different organs can examine.

▪ 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.

Evaluation phase (Phase 3):

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

▪ Reinstruction was done as needed in the period of one month to assure their understanding for their knowledge level accurately.

▪ At the end, during evaluation period the student nurse were needed explanation and classification of their problems. The researcher was guided the cases to specialist.

▪ The result of investigations and diagnosis and treatments had been recorded for each student.

▪ Immediately, pre and post intervention using the same interview questioners previously mentioned to assess and evaluate student's knowledge regarding self body exam.

▪ Immediately, one month and two months post intervention using the same interview questioners and follow up card previously mentioned to assess and evaluate knowledge of self-body exam.

▪ A comparison between pre and post intervention program was done to evaluate the effect of an instructional brochure about self body exam was positively expected to enhance technical institute student's knowledge according to schedule time for sessions to investigate the research hypothesis.

Ethical considerations

The research approval was obtained from Scientific Research Ethical committee in Faculty of Nursing at Ain Shams University before starting the study. Researcher clarified the objective and aim of the study to students included in the study. The researcher assured maintaining anonymity and confidentiality of the subject data. No harmful methodology was used with participant. Each participant had right to withdrawal from the study at any time

Limitations of the study

Data collection was somewhat difficult and exhausted due to the necessity of researcher to assess and evaluate each student alone using various methods of data collection.

Results

Table (1): showed that, the student nurses were aged 18 and 19 years (54% and 46%) respectively. Also, the majority (88.9%) of students had previous educational background of nursing diploma, while only few (11.1%) of them had nursing secondary school. In addition, most (69.8%) of them had sufficient monthly income. As well, 63.5% of the student nurses had family size less than 6 members.

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

General characteristics	No.	%
Age by years:		
18	34	54.0
19	29	46.0
Pre-university education:		
General	56	88.9
Technical	7	11.1
Income:		
Sufficient	44	69.8
Insufficient	19	30.2
Family size:		
<6 member	40	63.5
6+ member	23	36.5

Table (2): revealed that, 42.9% of student nurses had chronic diseases as follows, 3.7% had diabetes meanwhile 29.6% had hart disease and 74.1% of total sample had other cornice diseases for example; rheumatic fever, kidney stone, anaemia, hair loss and gout. Also the table showed that, about one third (34.9%) of student nurses had previous surgery, while whom had regular medications were represented 28.6%.

Table (2): Frequency distribution of student nurses in the study sample according to their medical history (n=63)

Medical history	No.	%
Having chronic diseases:		
Yes	27	42.9
No	36	57.1
Diseases (n=27):[@]		
Diabetes	1	3.7
Hypertension	2	7.4
Heart diseases	8	29.6
Others	20	74.1
Had previous surgery:		
Yes	22	34.9
No	41	65.1
Types (n=22):[@]		
Tonsillectomy	15	68.2
Others	8	36.4
On regular medications	18	28.6

[@] Not mutually exclusive

Table (3): showed that, there was statistical significant difference between students' knowledge about self examination sits pre-intervention, post 1 month and post 2 months regarding their correct knowledge score. Also the table illustrated that, there were statistical significant differences between pre-intervention, post 1 month, and post 2 month regarding students' concept, importance, methods and anatomy of self-body exam p-value <0.05.

Table (3): Frequency distribution among student nurses regarding their correct and not correct knowledge about self body exam throughout the study phases (n=63)

Correct knowledge	Study phase						Fisher (p-value) Pre-post 1	Fisher (p-value) Pre-post 2
	Pre		Post (1-month)		Post (2-months)			
	No.	%	No.	%	No.	%		
Self-exam sites:								
Breast	55	87.3	63	100.0	63	100.0	Fisher (0.006*)	Fisher (0.006*)
Hair distribution	20	31.7	61	96.8	62	98.4	58.11 (<0.001*)	61.60 (<0.001*)
External genitalia	18	28.6	53	84.1	62	98.4	39.53 (<0.001*)	66.29 (<0.001*)
Feet	10	15.9	52	82.5	57	90.5	56.01 (<0.001*)	70.41 (<0.001*)
Concept of self-exam	7	11.1	47	74.6	63	100.0	51.85 (<0.001*)	100.80 (<0.001*)
Importance of self-exam	52	82.5	62	98.4	63	100.0	9.21 (0.002*)	12.05 (0.001*)
Method of self-exam	39	61.9	61	96.8	63	100.0	23.46 (<0.001*)	29.65 (<0.001*)
Anatomy of the breast	14	22.2	59	93.7	63	100.0	65.95 (<0.001*)	80.18 (<0.001*)

(*) Statistically significant at p<0.05

Figure (1): revealed that, only less than one third (28.6%) of studied nurses were passed regarding their knowledge about self-examination throughout the pre-intervention phase, while all (100%) of them were passed in both next two phases.

Figure (1): Students' total knowledge of self-examination throughout the study phases
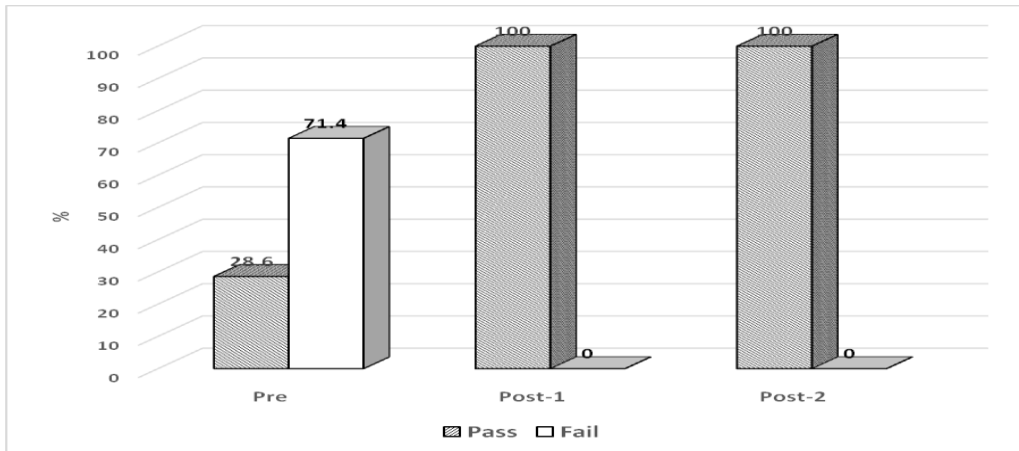

Figure (2): showed that, the majority (85.7%) of student nurses had their information from school study. While relatives, physician/nurse, media and healthcare centers as a source of information to the students represented (17.5%, 11.1%, 7.9% and 3.2%) respectively.

Figure (2): Frequency distribution according to self reported student nurses' sources of information about self body exam (n=63)
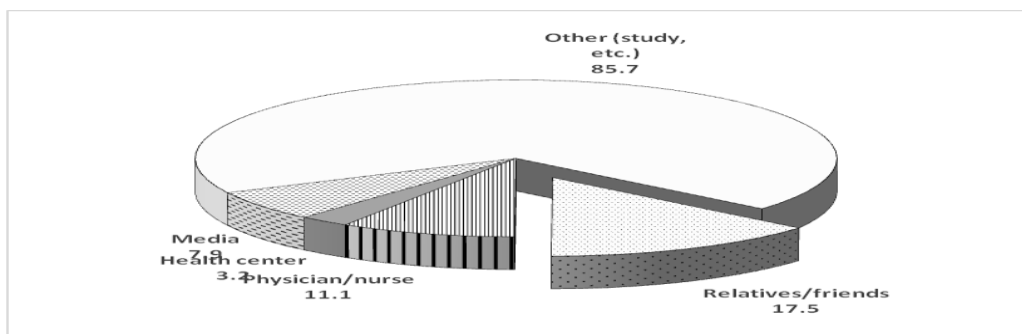

Table (4): showed that, the student nurses who had 19 years old were obtained correct self-body exam knowledge and represented 82.8%. Also, all (100%) the student nurses who had technical nursing school were pass in pre-intervention self-body exam knowledge; while 67.9% of student nurses who had secondary school were passing in pre-intervention self-body exam knowledge. Additionally, 67.5% of nurses with family size less

than 6 members were passed in pre-intervention knowledge of self-body exam, but 78.3% of nurses with family 6 members or more obtained correct knowledge score.

Table (4): Relation between students' pre-intervention knowledge of self-examination and their personal

Personal characteristics	Knowledge				X^2 test	p-value
	Correct		Incorrect			
	No.	%	No.	%		
Age (years):						
18	21	61.8	13	38.2	3.38	0.07
19	24	82.8	5	17.2		
Pre-university education:						
General	38	67.9	18	32.1	Fisher	0.18
Technical	7	100.0	0	0.0		
Income:						
Sufficient	32	72.7	12	27.3	0.12	0.73
Insufficient	13	68.4	6	31.6		
Family size:						
<6 members	27	67.5	13	32.5	0.83	0.36
6+ members	18	78.3	5	21.7		

Table (5): illustrated that, the student nurses who had chronic diseases and obtained correct scores in pre-intervention self-body exam knowledge were represented 70%, while who failed represented 29.6%. Also, the table revealed that, the students age at menarche that's less than 15 years old and obtained correct knowledge score were represented 69.8%, while who failed represented 30.2%. Furthermore, student nurse who had menstrual problems and obtained correct pre-intervention knowledge of self-body exam were represented 72.1%, while who hadn't menstrual problems and obtained in pre-intervention knowledge of self-body exam were represented 50%.

Table (5): Relation between students' pre-intervention knowledge of self-examination and their medical history

Medical history	Knowledge				X^2test	p-value
	Correct		Incorrect			
	No.	%	No.	%		
Having chronic disease:						
No	26	72.2	10	27.8	0.03	0.87
Yes	19	70.4	8	29.6		
Had previous surgery:						
No	29	70.7	12	29.3	0.03	0.87
Yes	16	72.7	6	27.3		
On regular medications:						
No	32	71.1	13	72.2	0.01	0.93
Yes	13	72.2	5	27.8		
Age at menarche (years):						
<15	37	69.8	16	30.2	Fisher	0.71
15+	8	80.0	2	20.0		
Have menstrual problems:						
No	1	50.0	1	50.0	Fisher	0.49
Yes	44	72.1	17	27.9		

Discussion:

The present study results revealed that, there was highly statistical significant difference in student nurses' knowledge of self body exam between pre-intervention program, and post 1 month. Also, there was statistical significant difference in student nurses' knowledge of self body exam post 1 month program compared to post 2 months.

The previous finding was in agreement with *(Abd Elsabour M, et al., 2013)* who studied the impact of health intervention program regarding self body exam on knowledge and practices among Port Said female University students, the findings revealed that, most of the studied sample had poor knowledge regarding self body exam in pre-program compared to post-program.

Also, the previous finding was supported by *(Mohammad, et al., 2013)* who examined the efficacy of Instructional Training Program in Self-examination among University Students. The findings revealed that, there was a statistically significant difference between the pre and post scores of knowledge self examination. The intervention program had a positive effect on students' knowledge.

In addition *(Doshi, et al., 2012)* in his study about assessment the knowledge regarding self-examination in a cohort of Indian female dental students and the results revealed that, knowledge scores revealed a significant correlation between knowledge scores pre and post scores only.

Moreover, the current study was similar to the study done by *(Abd El-Mohsen and Abd El-Maksoud, 2015)* who studied the "improve Knowledge, Beliefs of Undergraduate Female Nursing Students in Al-Alzhar University towards Breast Self-examination Practice". The result illustrated that, the participants in this study showed more deficiency on screening knowledge of BSE at pre-education, which it showed a statistically significant difference between students' pretest and posttest concerning BSE knowledge and beliefs. This similarity between both studies results may be due to the subjects of both studies had the same culture, and educational level as university degree.

It was concluded from the present study that, nursing school study was the main source of knowledge about self-body exam for technical institute students which it represented the majority source of information among studied sample. While, there were other few student nurses gaining their knowledge from relatives and their friends. On the other hand, very few of them got their knowledge from health team members and similarity from media.

Our flinging was disagreed with the finding of a study done by *(Abd El-Mohsen and Abd El-Maksoud, 2015)* who stated that, more than one half of the study subjects reported that, the commonest source of information about self-examination was from health team members and teachers. While very few number of the study sample were reported that, they were gain the knowledge from (newspaper, books, magazine, and relatives), and very few number of them did not gain any information about self body exam. This controversy between the two results may be due to the presence of different cultures and traditions among both study subjects. Comparing to our results, *(Isara and Ojedokun, 2011)*

found that, more than quarter of students had heard about self-examination from heath team at Abuja-Nigeria.

The present study illustrated that, there was relation between the student nurses and who had chronic diseases and obtained correct knowledge scores related to self-body exam were represented almost less than three quarter, while who obtained incorrect knowledge scores were represented almost more than quarter.

Moreover, the present study was in agreement with the study done by *(Lin, et al., 2012)* who study result reveled that, Chinese adolescents with gynecological problems manifested by increased awareness and knowledge regarding self-examination. Another study done by *(Ahmad, 2015)* was agreed with our finding; which stated that, less than half of study sample had a poor knowledge level of BSE among participants hadn't chronic diseases.

The study finding illustrated that student's knowledge related to self-body exam affected by many factors; as the present study clarified positive correlation between students' age and their pre-intervention knowledge of self-body exam, as age increases the knowledge increase.

This result was incongruent with *(Rosmawati, 2010)* who conducted a study to determine the knowledge towards self-examination among female aged 15 years old and above. The proportions of respondents with good score for knowledge were less than half. This divergence between both studies results due to the subjects of both studies had different age range; the range in the current study was from 18 to 19 years versus 15 years in the other study.

Moreover, the present study was in agreement with *(Shalini, et al., 2011)* the

analyzed data of their study showed that, more than half of the participants were in the age group of 18 - 19 years and most of them were had average score of knowledge on BSE in the pretest. This similarity between both studies results may be due to the subjects of both studies had the same age, and educational level as university degree.

This was disagreed with a study done by *(Mousa and Salah, 2014)* who indicated that, there was no statistical significant relation between age and knowledge score. The finding reveled that, the older students their knowledge scores were higher compared to younger students.

Conclusions:

An instructional brochure has a positive effect on technical institute students' knowledge related to self-body exam.

Recommendations:

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

- An instructional brochure 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 knowledge of self body exam among technical institute students.

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