Educational Program for Multipara Women with Stress Urinary Incontinence

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Abstract

Background: Stress urinary incontinence is one of the most frequently observed health problems among multipara women and has a significant impact on physical health, psychological wellbeing and social functioning. **This study aimed** to evaluate the effect of educational program on multipara women's knowledge, practice and attitude regarding stress urinary incontinence. **Design:** Quasi experimental time series design (Pre and posttest) was used. **Setting:** This study was conducted at komhamada general hospital. **Sample:** A Purposive sample was used and was about 70 cases. **Tools: Tool 1:** Interviewing questionnaire. **Tool II**: Multipara women's self-care practices regarding stress urinary incontinence. **Tool III:** Likert attitude scale. **Tool IV:** Incontinence severity index. **Tool V:** Follow up card for multipara women with stress urinary incontinence. **Results:** The study results showed a highly statistically significant improvement regarding their knowledge, practice and attitude post intervention compared to pre intervention regarding stress urinary incontinence P<0.001. There was highly statistically significant relation between total knowledge, total attitude & total self-care practice of multipara women with stress urinary incontinence P<0.05. **Conclusion:** Implementing educational program for multipara women with stress urinary incontinence had highly statistically significant positive effect on multipara women's knowledge, attitude and self-care practice. **Recommendation:** Increase health awareness of multipara women with stress urinary incontinence about the importance of self -care practices.

Keywords: Educational Program, Multipara women, Stress Urinary Incontinence.

Introduction

SUI is a condition with a relatively high prevalence among women and although not life-threatening, It is a complaint that may be severely disabling and require costly treatment, Pregnancy increases the risk of SUI in the postpartum period. Anatomical and metabolic changes occurring during pregnancy may influence the onset of SUI as early as this period. There is also a body of evidence implicating vaginal delivery in the development of SUI. It has been hypothesized that the passage of the fetus through the birth canal causes damage to the pelvic floor muscles that makes multipara women more likely to experience SUI *(Gabilondo et al., 2021).*

Also, Childbirth is an established risk factor for the onset of SUI, but the exact mechanism is not well understood. Most women with pregnancy and postpartum SUI recover their incontinence after a short follow-up period. On the other hand, some remain incontinent a few months postpartum and some found to be at increased risk of long-lasting SUI *(Falah– Hassani et al., 2021).*

Urinary incontinence has a prevalence of up to 28%, with SUI being the most common form SUI is defined by involuntary loss of urine during tasks (e.g., coughing, sneezing, straining) in which bladder pressure exceeds the pressure at which the urethra has

the capacity to remain closed. Diagnosis of **SUI** and subsequent management decisions appear to be best evaluated by subjective report; however, subjective measures do not offer any information about contributing pathology and do not inform any potential opportunity to personalize interventions *(Gabilondo et al., 2021).*

The impact of incontinence educational programs on incontinent women is remarkable. Nurses have high responsibilities with incontinence education developmental programs for changing and enhancing women's attitudes towards incontinence and resulting in an improvement in patient care and culture *(Steinert, Naismith, Mann, 2017).*

Nursing care stands out: assist women in the perception and adaptation of the incontinent being; early identification of urinary incontinence risk factors to stimulate self-care as the best way to cope with **UI** to seek practical theoretical knowledge to deal with the incontinent patient, encourage participation in support groups and exchange of experience to foster trust and empathy in the nurse-women relationship, identify strategies to approach the incontinent patient to guide change in lifestyle, guide hygiene care and infection prevention and stimulate the practice of physical exercise and reduction of body weight *(De Jesus, 2017).*

Significant of the study

SUI is a common condition affects 200 million people worldwide with the prevalence of female **SUI** 27.6% *(Haylen et al., 2015).* **UI** affects 17–45% of women worldwide and **SUI** is responsible for 48% of all cases *(Palma & Lorenzetti, 2015).*

In Egypt, **SUI** represent 14.8%, many women do not seek medical attention as they do not aware that **UI** is treatable, insufficient reproductive health education and few researches are responsible for increased morbidity throughout the world *(El-Azab and Moeen, 2017).*

Health education is the most important thing to ensure educational program and bring knowledge not only to the women who are affected, but also to their surroundings. This can prevent new cases of **SUI** in the community In association with the need of health education, women were foreseen to require knowledge about self-care, so that educational program can affect future researches as it can contribute in increasing knowledge and self-care practices and attitude toward **SUI**.

Subjects and Methods
Aim of Research:

The current study aimed to evaluate the effect of educational program on multipara women's knowledge, self care practices and attitudes regarding **SUI** through:
1. Assessing knowledge, Self-care practices and attitudes of multipara women with **SUI**.
2. Developing and implementing educational program for multipara women with **SUI**.
3. Investigate correlation between multipara women's knowledge, self-care practice & attitude with severity of **SUI**.

Research Hypothesis:

1- Educational program has a positive effect on multipara women's knowledge, Self-care practices and attitudes regarding **SUI**.
2- There are correlation between multipara women's knowledge, practices & attitude with severity of **SUI**.

The subject and methods of the current study were discussed under the following four designs:
  I. Technical Design.
 II. Operational Design.
III. Administrative Design.
IV. Statistical Design.

1. Technical Design: The technical design for the study included research design, setting of the study, study subjects, and tools of data collection.

Research design: Quasi experimental time series research design using pre and posttest was used to achieve the aim of the current study.

Quasi experimental time series design is a type of quasi-experimental design where a series of periodic measurements is taken from one group of test units, followed by a treatment, then another series of measurements *(Campbell and Stanley, 2015).*

Settings: The current study was conducted at komhamada general hospital (Albouhera governorate) where women come to outpatient Obstetrics and Gynecological Clinics as this hospital is general hospital and the researcher expected to meet high flow rate of multipara women who complained of **SUI** and this could help the researcher to cover the number of the sample.

Komhamada general hospital is one of the most important medical buildings at albouhera governorate and Obstetric and gynecological outpatient clinics consisting of three rooms (one for assessment and one for family planning and other for ultrasonography).

Sampling:
Sample Type: A Purposive sample

Sample size: Predictive sample size is about 70 clients (Multipara women with **SUI**) at komhamada outpatient Gynecology and Obstetrics Outpatient Clinics from which calculated according to Steven and Thompson equation where n is sample size=70, N is the population = 86 cases according The last annual statistical report at Gynecology and Obstetrics Clinic at komhamada hospital.

It was calculated using Steven and Thompson 2012 equation to calculate the sample size from the next formula

$$n = \frac{Np(1-p)}{(N-1)(d^2/z^2) + p(1-p)}$$

N= Population (86)
Z= confidence level 95% (1.96)
P= probability (50%)
d= margin of error (0.05)
So, sample size (n) = 70 according to the equation**.**

A purposive sample used in this study with the following;

Inclusion criteria: The subjects of this study comprised all multipara women visiting gynecology and obstetrics outpatient clinics whose age from 35 to 60 years, who diagnosed with stress urinary incontinence from at least two months and who reported at least one stress urinary incontinence episodes /weak and regardless woman able to read and write.

Exclusion criteria: Women who had these criteria excluded from the study as Women who had neurological problems, urinary tract infection, diabetes mellitus, hepatitis and ascites.

Tools of data collection: Five data collection tools were used to carry out the current study namely; structured interview questionnaire, Multipara women's self-care practices, the incontinence severity index **(ISI),** Likert attitude scale and Follow Up card.

Tool I: Structured interviewing questionnaire: It was adapted from *(Fathi, 2015)* and modified by the researcher for fulfilling the aim of the study, it was written in simple Arabic language, contained 20 questions and included the following parts:

• **Part one:** This part developed to collect data about general characteristics of the study sample which include age, education, occupation, residence, and income and telephone number (Questions 1-6).

• **Part two:** This part designed to assess medical and surgical history of the study sample as (suffering from any disease or health problem, previous surgery, duration

of complain of stress urinary incontinence) and obstetrical history as (gravidity, parity, type of birth, mode of delivery in previous pregnancies, previous pregnancy complications and previous delivery complications (Questions 7-15).

• **Part three:** This part was developed to assess Multipara women's knowledge about SUI which include definition, risk factors, signs, symptoms, complication, management, health consequences of stress urinary incontinence(Questions 16-20) and this part will be filled again after implementing educational program to evaluate the effect of the program on multipara woman 's knowledge regarding SUI.

❖ Scoring system for evaluating women's knowledge was developed as the following:

Women responses were scored (two) for the correct answer and (one) for incorrect answer, Mean and standard deviation was calculated and then converted into percent score, the total score for knowledge = 17 scores and Knowledge percent scores were further divided into knowledge levels as the following:
o Poor knowledge (< 50%) (Score <9).
o Average knowledge (50 % to 75%) (Score 9 to 13).
o Good knowledge (>75%) (Score (>13).

Tool II: Multipara women's self-care practices regarding SUI: adopted from **(Fathi, 2015)** and modified by the researcher for fulfilling the aim of the study and to measure Multipara women's self-care practices regarding **SUI** such as using towel frequently, entering bathroom before sleeping**,** practicing personnel hygiene, try decreasing weight, avoid cough band constipation as possible and practicing kegel exercise, it was filled again after implementing the program to evaluate the effect of the program on the practice of multipara women with **SUI**.

❖ Scoring system for evaluating women's practice regarding SUI: Women responses were scored (two) for the done practice and (one) for not done, Total score=13, Mean and standard deviation was calculated and then converted into percent score. Practice percent scores were further divided into Practice levels as the following:
o Poor practice (<50%) (Score < 7)
o Average practice (50 % to 75%)   (Score 7 to 10).
o Good practice (> 75 %) (Score >11)

Tool III: Likert attitude scale: Likert attitude scale adopted from **(Fathi, 2015)** to assess multipara women's attitude regarding stress urinary incontinence. The researcher added and modified some questions at likert scale for fulfilling the aim of the study and the researcher tested the validity of the tool through jury of expertise to test the content, accuracy, and relevance of added and modified questions for tool and this tool was filled again after implementing the educational program.

❖ Scoring system for evaluating women's attitude regarding SUI:

It contained 9 statements with 3 responses (agree =3 - uncertain= 2 – disagree= 1) Women responses were scored (1) for disagree responses, (2) for uncertain responses, and (3) for agree responses with total score (27) scores.

The highest score was given to the most positive perception and the response are categorized in the following manner:
1 - 9: negative attitude
10 - 17: neutral attitude
18 - 27: positive attitude

Tool IV: The incontinence severity index (ISI): It was adopted from **(Abd Elgaleel, 2013) .** It was used to assess the severity of the incontinence problem for multipara women and was filled again after implementing the educational program the index consisted of 2 questions regarding

frequency and amount of urine leakage. The first question, how often was urine leakage experienced? The responses were categorized in the following manner: less than two times per month (1), one to several times month (2), one to several times week (3), every day and/or night (4).

The second question, how much urine was lost each time? The score of this question was as follows: a few drops (1), a little (2), more (3).

❖ Scoring system for evaluating severity of SUI for multipara woman:

The index value was obtained by multiplying the total amount in the two parameters (i.e. Severity index=points for frequency x points for amount).

1-2=slight, 3-6=moderate 8-9= severe, 12=very sever

The higher score was the more severity of urinary incontinence

Tool V: Follow Up card: It is a card structured in Arabic language which included interviewing question. It was designed and filled by the researcher to assess effect of the educational program on multipara women with stress urinary incontinence on the amount of urine and number of times of urinary incontinence and contact with women through telephone number. The schedule of follow up was filled every 4, 8 and 12 weeks.

Supportive materials: It was designed by the researcher based on literature review. It was designed in the form of handout (booklet) using simple Arabic language and different illustrative pictures in order to facilitate understanding its content. It contained knowledge about stress urinary incontinence e.g. (Definition of stress urinary incontinence, sings, symptoms, causes, types, health consequences, self-care practices and health education.

Tools Validity: Content validity of the study tools was assessed by jury group consisted of five experts in maternity and gynecological nursing department of faculty of nursing, Ain-Shams University for compre-hensiveness, accuracy and clarity in language

Tools Reliability: The study tools were tested for its internal consistency by Cronbach's Alpha test. It was 0.7for the structured interview questionnaire.

II- Operational Design: The operational design for this study included three phases namely; preparatory phase, pilot study, and field work.

Preparatory phase: This phase started with a review of current and past, national and international related literature concerning the subjects of the study, using textbooks, articles, journals, and websites to help the researcher in reviewing and developing the data collection tools, the researcher visited the place of data collection to detect any obstacles for the study and to know the system of the hospital, then the researcher met the director of hospital and nurses of gynecological and obstetric outpatient clinic and explain to them the aim of the study and sessions of the educational program and asked them for help for implementation of the program.

Pilot study: Pilot study was carried out on 10% of the total study sample (7 women) to evaluate the applicability, efficiency, clarity of tools, assessment of feasibility of field work, beside to detect any possible obstacles that might face the researcher and interfere with data collection. Necessary modifications were done based on the pilot study findings such as (omission of some questions from tool) in order to strengthen their contents or for more simplicity and clarity and also made the question simpler and easy for the lower level of education to understand it .The pilot sample was excluded from the main study sample

Field work: Data collection of the study was started at the beginning of August

2018, and completed by the end of March 2018. The field work of this study was carried out through assessment, planning, implementation, and evaluation phases.

Assessment phase: The researcher attended at Komhamada general Hospital (outpatient Gynecology and Obstetrics Clinic) two days per week from 9am to 1pm. The researcher introduced herself to women, started to explain the aim of the program for women, the duration, the number of sessions of the program and its implications and ensured their cooperation, took their agreement for participation in the program and told them that they had the right to withdraw from the program at any time, took the telephone number of each women for follow up and gave them her telephone number. The researcher divided the number of women (70) to only 10 women every visit and used lab top and the booklet to encourage them to understand quickly.

The researcher used five tools to collect data for the educational program (the interviewing questionnaire, likert attitude scale, self-care practices, incontinence severity index and follow up card). The researcher started at the assessment phase to fill the interviewing questionnaire to assess women's general characteristics, woman's knowledge regarding stress urinary incontinence and women's practices regarding stress urinary incontinence in a time ranged from 20-25 minutes. The researcher filled likert scale sheet in a time ranged from 10-15minutes to assess women's attitude regarding stress urinary incontinence and the incontinence severity index in a time ranged from 5-10 minutes to assess the severity of stress urinary incontinence and the assessment phase took four weeks.

Planning phase: Based on the analysis of the data obtained from the assessment phase, and review of the related literature, the researcher obtained woman visiting schedule and plan the orientation process (implementation and follow up phases) with the head nurse of the hospital.

Implementation phase: The educational program was implemented at the training halls of outpatient Gynecology and Obstetrics Clinic at komhamada general hospital, supportive booklet designed by the researcher was distributed among multipara women and contain more pictures to illustrate information for illiterate women and The researcher started to explain The educational program for women in the form of lectures, three theoretical sessions were conducted, At the beginning of each session the objectives of the session were explained and brief revision for the previous session was explained and the researcher also used lap top during explanation to allow woman to watch any video for illustrating any actions or information.

In the first session the researcher gave women Introduction about the educational program, explained physiology of female urinary system, simple information about normal urination, definition and types of urinary incontinence.

The researcher explained also stress urinary incontinence (definition of stress urinary incontinence, prevalence, causes, risk factors, sign, symptoms, and health consequences, medical and surgical treatment) and the session took about 45 minutes.

The second session (practical session) includes kegel exercise for multipara women with stress urinary incontinence as the researcher gave health education for women to practice kegel exercise to improve symptoms of stress urinary incontinence which include that woman should Stand, sit or lie down with the knees slightly apart then Relax, Find the pelvic muscle, Imagine trying to hold back urine or a bowel movement. Squeeze the muscles that would use to do that. Don't tighten the stomach or buttocks, to make sure got the right muscle, insert the finger into the vagina while doing the exercise. Feel a tightening around finger; tighten the muscles for 5 to 10 seconds. Make sure keep breathing normally and relax the muscles for about 10 seconds and the session took about 30 minutes.

The third session includes self-care practices and life style habits that should be followed and conducted through minimizing fluid intake, Avoid carrying heavy objects, entering bathroom daily before seeping, trying lose excess weight, Avoid chronic cough and constipation and the session took about 30 minutes.

Each session was started by overview about what has been discussed in the previous session and the objectives of the new session, using a simple Arabic language, also the session ended.

Each session was started by overview about what has been discussed in the previous session and the objectives of the new session, using a simple Arabic language, also the session ended by a summary of its content and feedback from women to ensure that women got the maximum benefits and the researcher divided women to 10 women every session to give every woman the chance to ask if any information not understood so the researcher took eleven weaks at implementation phase. The researcher also communicated via telephone call for follow up and reinforcement at 4, 8, 12 weeks.

Evaluation & follow up phase: evaluation of women's knowledge, practice and attitude was done immediately after implementation of the educational program using the same data collection tools used at the assessment phase for measuring the effect of educational program on severity and symptoms through the follow up card every 4, 8 and 12weeks for three times, Evaluation phase completed by the end of March 2019.

III-Administrative Design: An official letter requesting permission to conduct the study was directed from the dean of the faculty of nursing Ain-Shams University to Komhamada hospital and Komhamada hospital director and the nursing director to obtain their approval to carry out this study. This letter included the aim the study and photocopy from data collection tools in order to get their permission and help for collection of data.

Ethical Consideration:

Prior study conduction, ethical approval was obtained from the scientific research ethical committee of the faculty of nursing, Ain Shams University. The researcher met both medical and nursing directors of the hospitals to clarify the aim of the study and take their approval. The researcher also met the study subjects to explain the purpose of the study and obtain their approval to participate in the study. They were reassured about the anonymity and confidentiality of the collected data, which was used only for the purpose of scientific research. The subjects' right to withdraw from the study at any time was assured.

IV- Statistical Design: The collected data were coded and entered into the statistical package for the social science (SPSS20.0) Data was presented and suitable analysis was done according to the type of data obtained for each parameter. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical variables, and means and standard deviations for continuous quantitative variables. Qualitative categorical variables were compared using Chi-square (X^2) test but when the expected count is less than 5 in more than 20% of the cells; Fisher's Exact Test was used. Person and spearman correlation was used to examine the correlation between quantitative and qualitative variables. Statistical significance was considered when P-value < 0.05.

Limitation of the study:
1- Some women didn't answer telephone calls during filling follow up card and the researcher forced to go to their home to complete follow up card.
2-Waiting for women until they finish their examination.

3- Collect women at the same time was very difficult and the researcher tried arrange collection of women through calling women by telephone for collection.

There were five women excluded from the study during and after the educational program as they didn't convinced by the program and they didn't want to complete the program so the researcher replaced them with another 5 woman to complete the number of the sample and meet the educational program.

Result:

Table (1): showed that, 54,3% of the studied sample their ages ranged from 55 to 60 years with mean age 50± 4,0 & 42,9% of them were read and write and 74,3% of them were living in rural area. Also 62,8% hadn't enough income, 68,6 % of them were house wife and 75,7 of them were married.

Table (2): showed that, there was significant improvement in studied sample's knowledge regarding all items of stress urinary incontinence after implementation of educational program as 7,2% of the studied sample had good knowledge regarding risk factors of stress urinary incontinence before the program and reached 94.3& 91.4% after and during follow up respectively . While 90% of the studied sample had poor knowledge regarding risk factors of stress urinary incontinence before the program and reached 2.8% & 4.3% after and during follow up respectively.

Table (3): showed that, there was a positive statistically significant correlation between total knowledge and total self-care practices of studied sample regarding stress urinary incontinence throughout the study phases (before, after, and follow up) of implementing educational program.

Table (4): showed that, there was a positive statistically significant correlation between total knowledge and total attitude of studied sample regarding stress urinary incontinence throughout the study phases (before, after and follow up) of implementing educational program.

Table (5): showed that, there was statistically significant correlation between total self-care practices and total attitude of studied sample regarding stress urinary incontinence throughout the study phases (before, after, and follow up) of implementing educational program.

Figure (1): showed that there was significant improvement in multipara women's total knowledge regarding all items of stress urinary incontinence after and during follow up implementation of educational program as less than one fifth of multipara women had total good knowledge before the program and the majority of them improved after and during follow up of educational program. While about two thirds of multipara women had total poor knowledge before the program and reached less than one tenth after and during follow up.

Figure (2): showed that there was there was significant improvement in multipara women's total self-care practices regarding all items of stress urinary incontinence after and during follow up of educational program as multipara women's total good self-care practices were less than one fifth of them before the program and the total good practice of the majority of them improved after and during follow up. While more than two thirds of them had total poor self-care practices before the program and reached less than one tenth after and during follow up of educational program.

Figure (3): showed that there was highly statistically significant improvement of multipara women's total attitude regarding all items of stress urinary incontinence as before the program was only one tenth of multipara women's total attitude were positive and the majority of multipara women's total attitude improved after and during follow up of implementing educational program. While more than three fifth of them had negative total attitude

before the program and reached less than one tenth after and during follow up.

Figure (4): showed that there was significant improvement in the total severity of multipara women as more than half of them had very severe stress urinary incontinence before the program and reached less than one tenth after and slightly more than one tenth during follow up.

Table (1): Frequency and percentage distribution of general characteristics of the studied sample (N: 70).

Socio Demographic characteristics	No	%
1-Age (years):		
▪ 35-44 years	8	11,4
▪ 45 - 54 years	24	34,3
▪ 55-60 years	38	54,3
Mean ± SD	**50± 4,0**	
2- Educational level:		
▪ Illiterate	18	25,7
▪ Read and write	30	42,9
▪ Primary	8	11,4
▪ Secondary	8	11,4
▪ High education	6	8,6
3-Monthly income:		
▪ Enough	26	37,2
▪ Not enough	44	62,8
4- Occupation		
▪ Employee	22	31,4
▪ House wife	48	68,6
5- Residence		
▪ Rural	52	74,3
▪ Urban	18	25,7
6- Marital status		
▪ Married	53	75,7
▪ Divorced	8	11,4
▪ Widowed	9	12,9

Table (2): Distribution of studied sample according to their knowledge regarding stress urinary incontinence before, after and during follow up of implementing the educational program (N=70).

Items	Before		After		Follow up		X2	P
	No	%	No	%	No	%		
Definition of stress urinary incontinence								
Correct knowledge	23	32.8	68	97,2	65	92.8	4.52	.000*
Incorrect knowledge	47	67.2	2	2.8	5	7.2		
Signs &Symptoms of stress urinary incontinence								
Correct knowledge	12	17.2	65	92.8	63	90	1.42	.000*
Incorrect knowledge	58	82.8	5	7.2	7	10.0		
Causes of stress urinary incontinence								
Correct knowledge	9	12.8	67	95.7	65	92.8	7.19	.000*
Incorrect knowledge	61	87.2	3	4.3	5	7.2		
Risk factors of stress urinary incontinence								
Correct knowledge	5	7.2	66	94.3	64	91.4	12.27	.000*
Incorrect knowledge	65	92.8	4	5.7	6	8.6		
Complication of stress urinary incontinence								
Correct knowledge	10	14.3	67	95.7	65	92.8	8.07	.000*
Incorrect knowledge	60	85.7	3	4.3	5	7.2		

(*) statistically significant at P < 0.05   (**) Highly statistically significant at P < 0.01

Table (3): Correlation between total knowledge and total self-care practices of studied sample regarding stress urinary incontinence.

Total Knowledge	Total Self Care Practices					
	Before		After		Follow up	
	R	P	R	P	R	P
Before	.327	.046*				
After			.183	.002*		
Follow up					.248	.017*

(*) statistically significant at P < 0.05

Table (4): Correlation between total knowledge and total attitude of studied sample regarding stress urinary incontinence studied sample

Total Knowledge	Total Attitude					
	Before		After		Follow up	
	R	P	R	P	R	P
Before	.327	.046*				
After			.183	.002*		
Follow up					.248	.017*

(*) statistically significant at P < 0.05

Table (5): Correlation between total attitude and total self-care practices of studied sample regarding stress urinary incontinence.

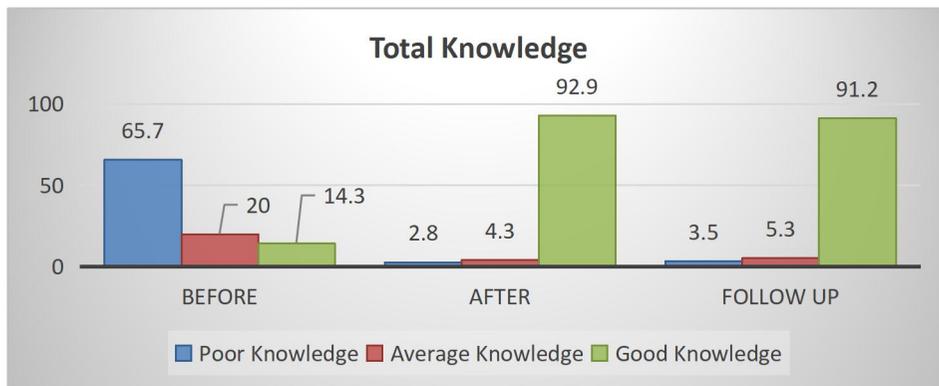| Total Self Care Practices	Total Attitude					
	Before		After		Follow up	
	R	P	R	P	R	P
Before	.421	.072*				
After			.306	.053*		
Follow up					.218	.064*

(*) statistically significant at P < 0.05

Figure (1): Distribution of total knowledge scores of studied sample regarding stress urinary incontinence before, after and during follow up of implementing the educational program.
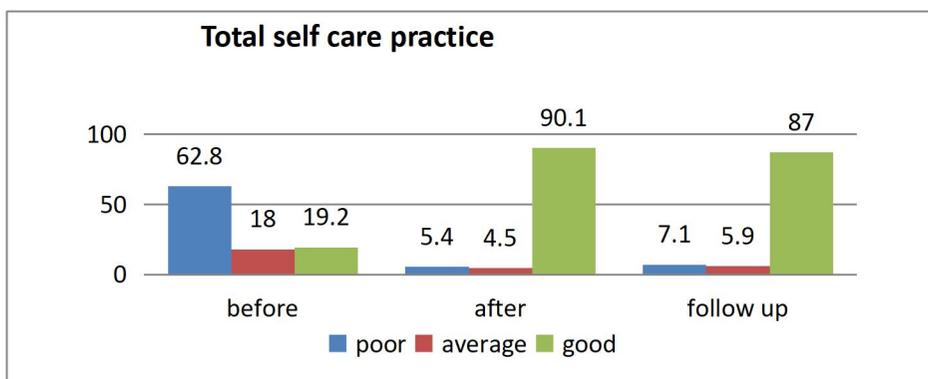

Figure (2): Total self-care practices scores of the studied sample regarding stress urinary incontinence before, after and during follow up implementing the educational program.
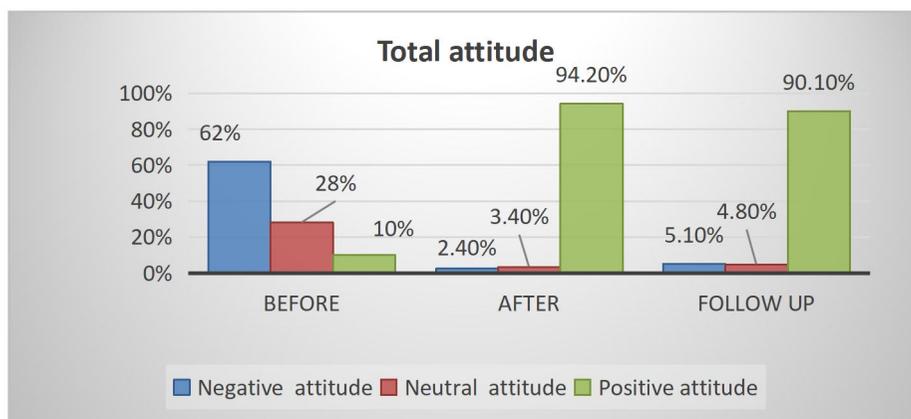

Figure (3): Total attitude scores of the studied sample regarding stress urinary incontinence before, after and during follow up implementing the educational program.
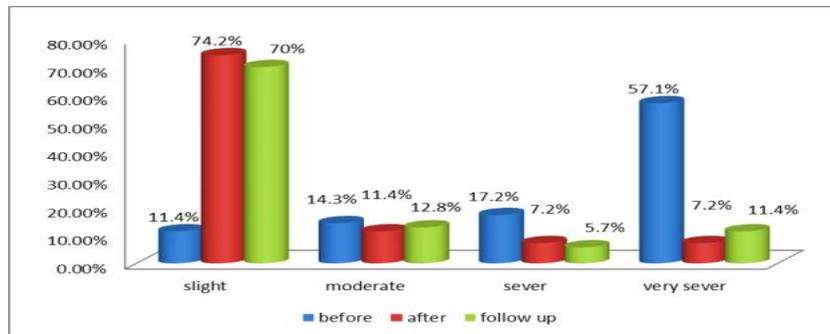
Figure (4): Distribution of total severity of stress urinary incontinence for the studied sample before, after and during follow up of implementing the educational program.

Discussion:

SUI occurs in the presence of an increase of intra-abdominal pressure (cough, sneeze, physical exercise, laughing, etc.) without perception of previous micturition desire. It depends on the functional adequacy of urinary sphincter and muscular and ligament structures that support female pelvic floor. When these mechanisms fail and with increase of intra-abdominal pressure, it is observed incontinence *(Ariffianto et al., 2018).*

Regarding general characteristics, the current study revealed that more than half of multipara women their ages ranged from 55 - 60 years, more than two fifth of them were read and write, more than three fifth hadn't enough income, more than two thirds of them were housewife and about three quarters of them were living in rural area and married, This may be due to the setting of the study as it is a rural area.

This study was agreed with *Priya, Singh, & Rajaram, (2017)* who conducted study entitled "Prevalence and risk factors of **UI** during antenatal period in women delivering in a tertiary care center of Northern India" who found that majority of women were married, more than half of them were housewife and lived in rural area. Conversely, this study was disagreed with *Shlain et al. (2018)* who conducted study entitled "Urinary incontinence type, symptoms, and quality of life: A comparison between grand multipara and non-grand multipara women aged ≥ 50 years" who found that more than one quarter of multipara women had more than 50 years old, and more than half of them had enough income monthly, This difference may be due to the difference of the study sample or setting.

Regarding multipara women's knowledge about **SUI**, the current study showed that there was significant improvement regarding **SUI** after and during follow up implementation of educational program as before the program the percentage of multipara women who had correct knowledge regarding risk factors of **SUI** were less than one tenth and the majority of them become had correct knowledge after and during follow up of implementation of educational program. While the majority of them had poor knowledge regarding causes of **SUI** before the program and reached less than one tenth after and during follow up. From the researcher point of view, this result may be due to educational program about **SUI** was very important for multipara women that increase their knowledge that reflect the decrease of awareness program that provided by the care provider that considered very important for their patient.

This study was agreed with *Tarukallo, Lotisna, & Pelupessy, (2018)* who conducted study entitled "Effect of Postpartum Pelvic Floor Muscles Training in Pelvic Floor Muscles

Strength on Postpartum Women with **SUI**" who found that women's knowledge about **SUI** was improved after implantation of training program. Conversely, this study was disagreed with ***Worlanso, & Shimray, (2020)*** who conducted study entitled "Quality of Life and Health-seeking behavior of women with Postpartum Urinary Incontinence" and found that majority of women had good knowledge. This difference may be due to difference of the study sample or sitting.

The current study revealed that there was a positive statistically significant correlation between total knowledge and total practice throughout the study phases (before, after, and follow up) of implementing educational program.

This study was agreed with ***Vasconcelos & Costa, (2020)*** who conducted study entitled "Frequency and factors associated with **UI** in pregnant women" and found that that there was a positive statistically significant correlation between total knowledge and total practice. Conversely, this study was disagreed with ***Kebede & Kassaye, (2020)*** who conducted study entitled "**UI** Prevalence during Pregnancy" and found that that there was no statistically significant correlation between total knowledge and total practice. This difference may be due to difference of the cultures between two groups.

The current study showed that there was a positive statistically significant correlation between total knowledge and total attitude throughout the study phases (pre, post, and follow up) of implementing educational program.

This study was agreed with ***Ariffianto et al. (2018)*** who conducted study entitled "Prevalence of urinary incontinence and its association with the body mass index (BMI) among pregnant women" and found that there was a positive statistically significant correlation between total knowledge and total attitude. Conversely, this study was disagreed with ***Priya, Singh & Rajaram, (2017)*** who conducted study entitled "Prevalence and risk factors of **UI** during antenatal period in women

delivering in a tertiary care center of Northern India" and found that there was no statistically significant correlation between total knowledge and total attitude. These differences may be due to the variety in the tools of data collection between the two studied samples that were applied.

The current study revealed that there was statistically significant correlation between total self-care practices and total attitude of women with **SUI** throughout the study phases (pre, post, and follow up) of implementing educational program.

This study was agreed with ***Cosimato et al. (2015)*** who conducted study entitled "Ultra sonographer evaluation of urethra vesicles junction mobility" and found that there was statistically significant correlation between total practice and total attitude of women with stress urinary incontinence. Also, this study was agreed with ***Erkal, et al. (2020)*** who conducted study entitled "**UI** experiences of pregnant women" and found that there was statistically significant correlation between total practice and total attitude of women with **SUI.**

Regarding multipara women, s total knowledge about **SUI**, the current study showed that there was significant improvement of multipara women's total knowledge regarding all items of **SUI** after and during follow up implementation of educational program as less than one fifth of multipara women had total good knowledge before the program and the majority of them improved after and during follow up of educational program. While about two thirds of multipara women had total poor knowledge before the program and reached less than one tenth after and during follow up. From the researcher point of view, this result may be due to educational program about **SUI** was very efficient for multipara women.

The present study agreed with ***Zhang et al. (2016)*** who conducted study untitled "Effects of a new community-based reproductive health intervention on knowledge, attitudes and behaviors toward **SUI** among women in Shanghai" and reported that there was significantly higher in total knowledge

After the intervention (P<0.05), While, disagreed with **Sidik et al. (2021)** who conducted study entitled "effectiveness study of pelvic floor muscle training among incontinent women" and emphasized that, 58.0% of studied sample had good knowledge, This difference between two studied samples may be due to difference in tools of data collection between two studied samples.

The current study showed that there was highly statistical significance improvement of multipara women's total practice regarding all items of **SUI** after and during follow up implementation of educational program as multipara women's total good self-care practices were less than one fifth of them before the program and the total good practice of the majority of them improved after and during follow up. While more less than two thirds of them had total poor self-care practices before the program and reached less than one tenth after and during follow up of educational program.

The present study findings agreed with **Sidik et al. (2021)** who conducted study entitled "effectiveness study of pelvic floor muscle training among incontinent women "and emphasized that less than half of them had good practice, this may be due to similarity between personnel characteristics between two studied samples. While the present result contrasted with **Cardoso, Lima & Ferreira, (2018)** who conducted study entitled Prevalence of urinary incontinence and their association with knowledge, attitude and practice about this dysfunction and reported that, zero adequate practice. This result indicated that the women needed for educational program to increase their self-care practices about **UI**.

The current study showed that there was highly statistically significant improvement of multipara women's total attitude regarding all items of **SUI** after and during follow up implementation of educational program as before the program was only one tenth of multipara women's total attitude were positive and the majority of multipara women's total attitude improved after and during follow up of implementing educational program. While more

than three fifth of them had negative total attitude before the program and reached less than one tenth after and during follow up

The present study result agreed with **Wang et al. (2015)** who conducted their study to examine whether and how stigma influences attitudes towards seeking treatment for urinary incontinence, and whether its effect varies by symptom severity, and reported that, the women had negative attitudes about **SUI**, this result indicated to the women's needed to applied effective educational program in this topic to enhance women's attitude toward **SUI**. While disagreed with **Vasconcelos et al. (2019)** who conducted entitled" Women's knowledge, attitude and practice related to **UI**" and reported that, the attitude was evaluated before and after an educational intervention in which the results presented negative scores with no significant difference before and after the intervention .This difference between the two studies may be due to the difference of the culture and settings between the studied sample.

The current study showed that there was highly statistically significant improvement of multipara women's total severity of **SUI** after and during follow up implementation of educational program as before the program were more than half of them had very severe **SUI** before the program and reached less than one tenth after and slightly more than one tenth during follow up. While slightly more than one tenth of them had slight **SUI** before the program and reached slightly three quarters of them after and slightly less than three quarters during follow up of implementing educational program.

The result of this study was agreed with **Stafne et al. (2020**) who conducted study entitled "Training program for women with **SUI** in pregnancy" who found that majority of women improved in the severity of stress incontinence of after implantation of training program. Conversely, the result of this study was disagreed with **Al Belushi et al. (2020)** who conducted study entitled "Effects of home based pelvic floor muscle training on decreasing symptoms of **SUI** and improving the quality of life of urban adult Omani women" and reported

that, The majority of the studied sample in the control group (>80%) reported no improvement or worsening of urinary frequency and the amount of leakage. This difference between the two studies may be due to the difference of the personnel characteristics in the studied sample of the educational program itself.

Conclusion:

In the light of previous result this study concluded that:

Implementing educational program for multipara women with stress urinary incontinence had a positive effect on multipara women's knowledge, self-care practices, attitude and severity.

Recommendations:

The following recommendations were reached in the light of the results of this study:

➢ Increase health awareness of multipara women with **SUI** about the importance of self-care practices to improve their symptoms.

➢ Increase awareness of multipara women with **SUI** regarding healthy life style habits as reducing strong practice, exercise and avoid smoking, reducing weight and treating chronic disease

➢ Develop follow up programs for multipara women with **SUI**.

Further researches:

➢ Barrier of seeking treatment for stress urinary incontinence.

➢ Effect of stress urinary incontinence on multipara women's quality of life.

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