

Nursing intervention of adult women to manage medical problems produced by stress urinary incontinence during pregnancy and after delivery

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Abstract: *across sectional study was conducted in two setting : obstetric clinic during antenatal care and homes of pregnant women following delivery . The aim was to identify the prevalence of stress urinary incontinence during pregnancy and following delivery , and to assess both obstetrics and maternal factors that may contribute to the condition and the sequences of this problem and the nursing implications . A total of 197 women were recruited to the study. One fourth of women (25 % .4) reported stress incon . during pregnancy and 13.2 % following delivery , 36 % of the incontinence women reported severe condition during pregnancy ,and following delivery . an association was found between parity , education ,social class as well as activity of home postpartum and stress urinary incontinence .Caesarian section was found to be associated with a lower incidence of stress incontinence compared with a normal vaginal delivery . No differences could be detected between continent and incontinent groups regarding their age.*

Keywords: *stress unary incontinence, during pregnancy, delivery, medical problems.*

I. Introduction

Stress urinary incontinence is the most common type of incontinence found among of females of all age , the term of stress incontinence means , involuntary bass of urine with absent of detrudes contraction .Pump 2008 .Thus it occurs when the urethra is un able to maintain closure against the force of pressure transmitted from the bladder at times of increased abdominal pressure . due to the weakness and relaxation of urethra vesicle junction muscle .Norton 2008.

Obesity can cause increase in abdominal pressure and is considered a risk factor in S.U.I. surgery can also increase the risk factors of S.U.I.

Hysterectomy , besides , occupations that may require prolonged physical action also may results to stress urinary incontinence .Carcken et.al. 2003.

The lower urinary tract is under control of both sympathetic and parasympathetic nerves . The parasympathetic fibers originate in the sacral spinal cord segments S2 through S4and reach the bladder via the pelvic nerve Fairley 2007.The sympathetic fibers originate from the thoracolumber segment (T10 through L2) of spinal cord and reach the bladder from sympathetic chain through the vesicle plexus of the bladder chamber lian 2007 .

The most common symptoms of stress urinary incontinence presents clinically , as the involuntary loss of urine during coughing , laughing ,sneezing ,bending ,lifting ,sexual intercourse ,aerobics exercise, changing of position , or any physical activities that increase intra abdominal pressure Pump 2011 .

II. Subjects and methods

Aim of the study

This study conducted to apply nursing intervention of stress urinary incontinence medical problems during pregnancy and following labor in Alexandria governorate institution .

Sample

Convenient sample are selected in this study .,total number of this sample are 250 adult pregnant women . all sample aged put in 16 – 45 years old . the half of sample are primipara and other half are multi para.

All sample free from the following criteria :-

- History of stress urinary incontinence before.
- Previous operations for incontinence.

Other causes of incontinence e.g. :-

- Diseases that affect lower urinary tract functions .
- Medications that affect lower urinary tract functions .

Setting :

This study conducted in gynecological governorate hospital and maternity Out Patient clinics IN KASRE EL-EINI Hospital .

Administrative design

Permission was obtained from the directors of gynecological hospital and Out Patient clinics centers Kasre eleini Hospital to conduct the study . This was done through official letters from the faculty of Nursing Helwan University . Also the ,permission of the expectant mothers was obtained to contact and follow up through home visits and phone calls .

Pilot study

It was done on a sample of 10 expected mothers to test the clarity and feasibility of the tool , and estimate the time needed for interview .

Tools

This study conducted by two tools :-

1-structured interview sheet:-

This sheet included demographic data ,obstetric s and gynecological history to determined risk factors of stress urinary incontinence .

2-stress urinary incontinence assessment sheet :-

This included :-

- stress provocation test : the test must be performed when the patient bladder is full with urine : then the patient was asked to cough vigorously while the researcher observe for urine loss from the urethra.
- The sheet included questions that covers the following points :
- The severity of the case.
- The consequence of the problem.
- The nursing intervention.

Methods

The data were collected over period of 9 months from 18 April 2013 to July 2014 , data were collected at morning shift from 10 Am to 12 mid day over two days per week .

III. Results

Table(1):-Distribution of study sample according to presence of incontinence during pregnancy and after labour

	Stress Urinary Incontinence				X ₂	P value
	Absent		Present			
	No.	%	No.	%		
During Pregnancy	74	37.3	25	13.2		
After Labor	92	52.2	7	3.3	13.5 33	<0.0001

This table choose that the ratio of stress urinary incontinence was statistically during pregnancy is more than after labour (3.3% vs. 13.5%, respectively, P < 0.001).

Table(2):-Characteristics of participants according to sociodemographic data

Characteristics	Stress Urinary Incontinence				T value	P value
	Present N=25		Absent N=24			
	Mean+/-SD	Range	Mean+/-SD	Range		
Age	26.23+/-5.65	17-38	26.76+/-5.15	18-38	0.33	<0.731
Age at 1 st pregnancy	21.27+/-4.16	16-34	21.20+/-3.11	16-33	0.27	0.781
Gravidity	2.24+/-1.45	1-4	2.58+/-1.25	1-4	0.42	0.676
Parity	1.31+/-1.03		1.13+/-0.81		3.37	<0.001
No. of abortion	0.36+/-0.83		0.29+/-0.88		0.59	0.556
Spacing period	3.66+/-2.22		3.27+/-2.57		1.15	0.251
Education	No.	%	No.	%		
Illiterate read/write	6	24.0	17	22.97		
Primary/Preparatory	6	24.0	7	9.45		
Secondary/University	13	52.0	50	67.56		0.029
Social Class	No.	%	No.	%		

Low	9	36.0	12	16.22		
Middle	15	60.0	50	67.57		
High	1	4.0	12	16.22		0.022
Employment	No.	%	No.	%		
Housewife	20	80.0	58	78.37		0.792
Working	15	20.0	16	4.21		

This table shows that the mean of both, age, age at 1st pregnancy, gravidity of participant who had stress urinary incontinence during pregnancy was matched to those who were free of stress urinary incontinence during pregnancy (2.48+/-1.45 and 2.58+/-1.46, respectively). Also this table shows that the T and P value of both parity, no. of abortions, spacing period were (3.37-<0.001), (0.59-0.556), (1.15-0.251) whenever P value of both education, social class, employment, where (7.118-0.029),(6.293-0.044), and (0.070-0.0792).

Table(3):-Distribution of participants according to their drinking habits during the current pregnancy.

Characteristics	Stress Urinary Incontinence During Current Pregnancy				X ₂	P value
	Present N=25		Absent N=74			
	No.	%	No.	%		
Water						
5-9 cups/day	12	48	32	43.24		
> 9 caps/day	13	52	42	56.57	0.121	0.728
Tea/Coffee						
No drink	7	28	44	59.45		
1 cup/day	18	32	17	22.97		
> 1 cup/day	10	40	13	17.57	0.471	0.790
Soft drink						
Doesn't drink	20	80	30	40.54		
1 liter/day	5	20	34	45.94		
> 1 liter/day	----	----	10	13.51	0.251	0.887

This table shows that participants with stress urinary incontinence during pregnancy consistently drank excess fluids rather than those who didn't have stress urinary incontinence respectively. However differences were not statistically significant (p=0.728, p=0.790 and p=0.882, respectively).

Tale(4):-Distribution of participants according to incidence of stress urinary incontinence (SUI) according to characteristics of their current delivery.

Characteristics	Stress Urinary Incontinence After Current Delivery				X ₂	P value
	Present N=25		Absent N=74			
	No.	%	No.	%		
Mode of delivery						
Vaginal	59	74.683	15	75		
CS	20	25.316	5	25	3.901	0.049
Place of delivery						
General hospital	30	37.97	3	59.45		
Private hospital	25	6.32	10	22.97		
MCH center	8	10.12	1	17.57		
Private clinic	14	17.72	6	40.54		
Home	2	2.53	0	13.51	5.473	0.244

This table shows that the participants who have stress urinary incontinence were 20 while didn't were 79. The 2 groups didn't differ significantly as regard their places of delivery. However, it is to be noted that the proportion of these with stress urinary incontinence who gave birth at MCH center was higher than those who didn't develop stress urinary incontinence.

Table(5):-Distribution of participants according to their postpartum condition after current delivery.

Characteristics	Stress Urinary Incontinence After Current Delivery				X ₂	P value
	Present N=79		Absent N=20			
	No.	%	No.	%		
Activity at home						
Light activities	65	8.34	2	10		
Usual activities	9	11.39	6	30		
More than usual	5	6.32	12	60	17.368	<0.001
Health problems						
Backache	51	37.97	7	35		
Hemorrhage	2	6.32	1	5		
Genital infection	9	10.12	5	25		
Uterus infection	4	17.72	1	5		
D.V.T	1		1	5		
Others	12	2.53	5	25	1.171	<0.974

This table shows that the highest proportion of participants who did not develop stress urinary incontinence performed post-partum light activities.

Table(6):-Participating factors for stress urinary incontinence during pregnancy and after delivery

Participating Factors	Stress Urinary Incontinence				X ₂	P value
	Present N=25		Absent N=20			
	No.	%	No.	%		
Cough	23	92	19	95		
Sneeze	12	48	9	45		
Laughing	13	52	4	20		
Lifting loads	9	36	3	15		
Coitus	8	32	1	5		
Climbing stairs	3	12	-----	----		
Changing position	1	4	-----	----	3.274	0.775

This table shows that participating factors for stress urinary incontinence didn't significantly statistically differ among participant who developed stress urinary incontinence during pregnancy than those who developed stress urinary incontinence after delivery.

Table(7):-The percentage of participant who complain from stress urinary incontinence during pregnancy and after delivery according to frequency, amount of urine, times of underwear changing, severity of condition

Characteristics of stress urinary incontinence	Stress Urinary Incontinence				X ₂	P value
	During pregnancy N=25		After delivery N=20			
	No.	%	No.	%		
Frequency						
Once/daily	15	60	5	25		
Twice/daily	13	52	7	35		
1-3/week	22	88	6	30		
1-4/month	19	76	2	10		0.521
Amount of urine leak						
Few amount	24	96	9	45		
Drops	20	80	6	30		
Gush	3	12	5	25		0.638
Times of underwear changing due to S.U.I						
Daily	22	88	11	55		
2-3 weakly	3	12	6	30		
> 1/month	---	-----	3	15		0.756
Severity of condition						
Sever	17	68	13	65		
Moderate	5	20	4	20		
Mild	3	12	3	15		0.536

This table shows that the participants who complain and after delivery didn't differ significantly as regard frequency of its occurrence, amount of urine leak, frequency of change of underwear, frequency of their severity of stress urinary incontinence.

Table(8):-Medical and psychological problems of stress urinary incontinence during pregnancy and after delivery

Medical & psychological problems of stress urinary incontinence	Stress Urinary Incontinence				X ₂	P value
	During pregnancy N=25		After delivery N=20			
	No.	%	No.	%		
Attitude of patient						
No problems	10	40	7	35		
Troubles	15	60	13	65		0.741
Personal disturbance						
Prayer	15	60	7	35		
Marital relation	10	40	6	30		
Work	-----	0	7	35		0.100
Medical problems						
Skin rash	7	28	4	20		
Ulcer	3	12	2	10		
Inflammation	10	40	7	35		
Urinary stress infections	5	20	7	35		0.868

This table shows that the participants who have stress urinary incontinence during pregnancy and after delivery didn't differ significantly as regard psychological and medical problems of their stress urinary incontinence. The medical problems were mainly inflammation during pregnancy and after delivery (40%, 35% respectively).

Table(9):-Implementations performed to manage stress urinary incontinence psychological and medical problems

Action implemented	Stress Urinary Incontinence				X ₂	P value
	Present N=25		Absent N=20			
	No.	%	No.	%		
Problems management						
Decrease drinking	3	12	2	10		
Strength muscle	1	4	1	5		
Visit physician	2	8	1	5		
More visit to toilet	7	28	6	30		
Use of antibiotics	4	16	2	10		
Use of warm water	8	64	8	40		0.821

This table shows that the main actions performed to manage the problems of stress urinary incontinence during pregnancy and after delivery were more visits to toilet (28%, 30%, respectively). Difference was not statistically significant between both groups.

Table(10):-Attitude of patients towards medical treatment for stress urinary incontinence

Patients attitude	Stress Urinary Incontinence				X ₂	P value
	During pregnancy N=25		After delivery N=20			
	No.	%	No.	%		
Attitude towards medical treatment						
Preferred	15	60	5	25		
Not preferred	10	40	15	75	0.997	0.317
Attitude towards seeking treatment						
Agree	17	68	7	35		
Not agree	8	32	13	65	1.379	0.500

Shows that medical treatment for stress urinary incontinence was more preferred by participants during pregnancy than after delivery 60% and 25% respectively. Difference was not significant statistically between both groups. The attitude of participant towards seeking treatment was 68%, 35% agree to seek treatment during

pregnancy and after delivery but 32%, 65% were not agree to seek treatment during pregnancy and after delivery.

IV. Discussion

Stress urinary incontinence is common ,and affecting the social and psychological ,occupational , physical and sexual quality of life among women .DUNNSH 201`2.

In some societies ,women's expression on stress urinary incontinence problem rank inferior to others, especially in reproductive age with limited recourses.

Sometimes it is considered shamfull events or stigma Didona 2007 .

Several studies and researchers have shown that the association between pregnancy ,delivery and stress urinary incontinence Farrel 2011 .

In this respect ,the main concern of the present study was to identify the prevalence of stress urinary incontinence during pregnancy and following delivery .The study also aimed to assess obstetrical and other medical problems associated factors to stress urinary incontinence during pregnancy and following delivery, and assess the consequences of this problems and the nursing interventions .

Stress urinary incontinence is a frequent complain during pregnancy ,the percentage of happen this problem ranged between 20%-75% .Fitzpatric 2001 .It begins frequently in second trimester. Howard 2002 .

Regarding the age of participants ,the present study showed that ,continent and in continent groups were matched without significant differences between the two groups in both first and last pregnancy . This result are agree with ,Hong 2001 who found that there 's weak association between age and stress urinary incontinence. However this in contrast to studies done by, Person 2000 . Who reported that these were a positive association between age and stress urinary incontinence during first and last pregnancy .

Hinshliff-et.al2006 ,stated that increasing parity is a risk factor for stress urinary incontinence .The the present study agree with Hughes etal., in which the mean parity of participants who had stress urinary incontinence during pregnancy was significantly higher than those who were free of stress urinary incontinence during pregnancy .Hanestad 2003,also reported that a higher incidence of stress urinary incontinence ,in multiparous women compared with nulliparous women . Hanssen 2000 , found a significant differences of stress urinary incontinence of women with one para compared with para two . Hirai 2001 , found that the increasing parity was risk factors ,but reported the risk increased after four children . In addition ,Newmen 2001 ,reported that the first birth seems to be the most harmful to the pelvic floor while subsequent deliveries moderately increase the risk for stress urinary incontinence .

In proportional to the level of education ,the present study revealed that there are statistically significant difference between both groups as regard education . This result are in line with both ,MacLennan 2000, found that stress urinary incontinence was more prevalent in less educated women .Moreover ,Taylor 2000 ,reported that more than two third of incontinence patients in his study can just read and write ,while few of them was illiterate .

Regarding the social class , the present study revealed that there were statistically significant difference between continence and incontinence group according social class .

Concerning the drinking habits ,the finding of the present study revealed that ,the participants with stress incontinence during pregnancy consistently drink excess fluids than those who did not have stress urinary incontinence . however ,there are not statistically significant difference between pregnant participant s how have incontinence and who not have .

According to mode of delivery ,the present study found that caesarean section participants proportion is lower prevelance of stress urinary incontinence than vaginal delivery . (75% - 25%) prospectively . Some women who had complain from urinary incontinence after caesarean ,thus is just from the protective effect of caesarean section but is not absolute . This results ,are agreement with Stanhope 2000 .

The findings of the present study indicated that ,associated post partum health problems didn't differ significantly between the two groups .

However ,high proportions were observed among incontinent group as regard genital tract infection and backache . This results is supported by ,Saural 2000 .

Regarding to participating factors of stress urinary incontinence during pregnancy and after delivery, the present study shows that coughing had an affect an pregnancy of stress urinary incontinence of incontinent women during pregnancy and following delivery ,92% - 95% .

According to characteristics of stress urinary incontinence table 7 showed that the items of characteristics and showed also that the higher percentage of pregnancy of stress urinary incontinence ,which was 1-3 times per month during pregnancy but twice daily after delivery .

Amount of urine ,few amount leak of urine takes higher percentage in both during pregnancy and after delivery . 96% - 45% .Which was agreement with Viktrup 2002 .

Table (8) showed the attitude of participants toward psychological and physical medical problems, which was higher percentage of participants complain from troubles in both two groups during pregnancy and after delivery. These troubles were in prayer, marital relations, work (60% - 35%) (40% - 30%) (0% - 35%) prospectively.

Table (9) showed the problems managements, actions implemented, there are variation in both groups (during pregnancy, and after delivery). Regarding their implemented managements, as followed: use of worm water (64% - 40%) more visit to toilet (28% - 30%) but use of antibiotics (16% - 10%), also decrease drinking (12% - 10%) visit physician was (8% - 5%), then strength muscle exercise (4% - 5%). Which is varied among people by different social class, and education.

V. Summary

Stress urinary incontinence is one of the most unpleasant and distressing problems a woman can suffer both psychologically and socially. Many women can experience SUI during pregnancy and following delivery. Nevertheless, certain myths still persist, such as the notion that incontinence is an inevitable consequence of child birth.

The aim of the present study was to estimate the prevalence of SUI during pregnancy and following delivery, to assess both obstetric and maternal factors that may contribute to SUI during pregnancy and following delivery, and to assess the consequences of these problems and its nursing implications.

The study has included 197 pregnant women who were attending the MCH centers in port said during maternal care. Both primigravida and multipara pregnant women in the second trimester of gestation, within the age bracket of 16 - 45 years, who were eligible for inclusion in the sample.

Data were collected over a period of 15 months, from October 2002 to December 2003. Two tools were used in this study, structured interview sheet, and SUI assessment sheet. These tools were used to collect data from each study subject in two settings, the first time during antenatal care at 13 - 26 weeks of gestation, the second time at delivery, 8 - 10 weeks postpartum.

VI. Recommendations

In the light of the results of this study, it is recommended that mass media educational programs should address the problem of incontinence during pregnancy and following delivery, its hazards, and prevention. Moreover, nurses need to be trained on assessment, and counseling women about these issues.

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