

PREVALENCE OF POSTPARTUM URINARY INCONTINENCE AMONG WOMEN ATTENDING POSTNATAL CLINIC AT AMINU KANO TEACHING HOSPITAL

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ABSTRACT

Background: Involuntary loss of urine has a major impact on the quality of life. The burden of vesico-vaginal fistula in our region obscured other forms and causes of urinary incontinence. We aimed at determining the prevalence of urinary incontinence, other than vesico-vaginal fistula, and their risk factors

Methods: It was a descriptive study of 257 women attending post natal clinic at Aminu Kano Teaching Hospital over the period of five months. All consenting women in the clinic were recruited for the study. Administration of the questionnaire was by a trained research assistant. Data were analyzed using SPSS version 17 for Windows (SPSS, Inc., Chicago, Illinois).

Comparison of categorical variables was done using Chi Square and Fischer's Exact test. P-value of ≤ 0.05 was considered significant. Ethical approval was obtained from the hospital ethical committee.

Results: Two hundred and fifty seven women were recruited for the study within the study period. The mean age \pm standard deviation (SD) was 27.83 ± 5.30 years.

The prevalence of postpartum urinary incontinence was 15.20%. There was statistically significant association between BMI and urinary incontinence. BMI of $>40 \text{ kg/m}^2$ was more associated with urinary incontinence. $P(\text{Fischer's}) = 0.000$.

Stress urinary incontinence constituted 17 (43.59%), urge incontinence constituted 18 (46.15%) while those with mixed incontinence were 4 (10.26%).

Conclusion: Urinary incontinence other than vesico-vaginal fistula is not uncommon among women within puerperium. Risk factors associated with it includes grand multiparty and obesity. Urge incontinence and stress urinary incontinence are the most prevalent among the respondents.

Keywords: prevalence, urinary incontinence, postpartum, Nigeria.

INTRODUCTION

The leakage of urine imposes a substantial burden on affected persons' emotional social and financial wellbeing and that of her family, though not a life threatening situation,

Women with urinary incontinence feel highly ashamed and refrain from social activities.^[1] The condition prevents them from meeting people, doing their shopping and participating in sports activities.

^[2]They tend to feel less attractive and avoid sexual

intercourse.^[3] Those with severe incontinence have 80% chances of suffering from depression than continent women.^[4] Apart from the negative impact of urinary incontinence on patients' wellbeing, it is also associated with considerable

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economic losses. The average direct medical cost of stress urinary incontinence per patient was estimated to range between \$US 9850 to 141935,642 in the United States.^[5]

Urinary incontinence is defined as “the complaint of any involuntary leakage of urine”.^[6] Its prevalence varies greatly. It ranges from 3-58% in the community^[7] and 6-72% in institutional surveys.^[8] This wide variation was mainly due to lack of uniform definition of urinary incontinence and methodological approach in individual studies.

Before 1979, urinary incontinence was defined by the International Continence Society (ICS) as “the involuntary loss of urine that is of social or hygienic problem and is objectively demonstrable”.^[9] This definition was impracticable for large epidemiologic studies mainly based on interviews and questionnaires.^[10] In order to promote treatment based on symptoms, help in comparison of results and facilitate effective interaction between investigators, the International Continence Society stated that urinary incontinence should be further described by specifying frequency, severity, risk factors, social and hygienic impact, effect of quality of life and whether or not the individual seeks help.^[11]

Varying prevalence of urinary incontinence has been reported in the literature, which is partially explained by methodological differences between studies. Urinary incontinence poses a significant economic burden on health and social services. Defining the extent of health care need in a population is a prerequisite step in establishing equitable, accessible and effective health and preventive services. Therefore, estimating the prevalence of incontinence in our institution will help us in projecting the level of need for medical and related health services.

Urinary incontinence is an important gynaecological condition that has a major impact on quality of life. It is a major cause of disability and dependence.^[12]

Several different types of urinary incontinence can

be distinguished but the commonest is stress urinary incontinence (SUI), which is urinary leakage on effort or exertion, or on sneezing and coughing.^[13] In urge urinary incontinence (UUI), the leakage is accompanied or immediately preceded by urgency. Patients with mixed urinary incontinence (MUI) have symptoms of both SUI and UUI.^[13]

Several risk factors have been associated with urinary incontinence among women. Due to the fact that maintenance of urinary continence is due to numerous factors, urinary incontinence is not attributable to a single cause. Gender, age, hormonal status, birthing trauma and genetic differences in tissues all help in achieving continence.^[14]

There is conflicting results about obesity as a risk factor for urinary incontinence. Huang and colleagues^[15,16] reported a significant association between obesity and stress or urge incontinence. Ojengbede and colleagues^[10] however, did not find a significant association between obesity and development of urinary incontinence.

In developing countries, vesico-vaginal fistula is a major cause of urinary incontinence. In Nigeria alone, about 200,000 women await surgical repair^[17]. Due to this immense burden of vesico-vaginal fistula in our region other forms and causes of urinary incontinence, though present, are less explored and addressed.

This study was aimed at determining the prevalence of urinary incontinence other than vesico-vaginal fistula and the risk factors associated with it at Aminu Kano Teaching Hospital.

MATERIALS AND METHODS

It was a descriptive study of 257 women attending post natal clinic at Aminu Kano Teaching Hospital over the period of five months (from 1st January to 31st May, 2015). All consenting women in the clinic were recruited for the study within the study period.

Women who denied consent for the study women

who were diagnosed with vesico-vaginal fistula and those below the age of 18 years were excluded from the study.

A trained research assistant administered the pretested closed and open ended questionnaires. Information recorded on the questionnaire included socio-demographic characteristics, history of involuntary leakage of urine during puerperium and associated factors. The heights of the respondents were then measured on bare feet and their weights were obtained using a commercial scale, which was corrected to zero.

Data were analyzed using SPSS version 17 for Windows (SPSS, Inc., Chicago, Illinois).

Comparison of categorical variables was done using Chi Square test where criteria were met while P-value of 0.05 or less was considered significant. For the unmet criteria, the results were adjusted with Fischer's Exact Test.

Approval for the study was obtained from the ethical committee of Aminu Kano Teaching Hospital (AKTH) and informed consent from the clients after adequate counseling with respect to the purpose of the study was sought for and obtained.

Participation of clients in this study was voluntary; respondents were assured of confidentiality.

In this study postpartum involuntary leakage of urine was defined as involuntary loss of urine that women often experience, usually while laughing, sneezing, coughing, or due to overly full bladder or performing any strenuous activity or inability to hold urgent desire to pass urine within 42 days after delivery.

Body Mass Index (BMI) was defined as the weight of the respondent in kilograms divided by the square of height in metres.

RESULTS

Two hundred and fifty seven women were recruited for the study within the study period from 1st January

to 31st May, 2015. The mean age \pm standard deviation (SD) was 27.83 \pm 5.30 years with a modal age of 30 year (table I). Majority of the respondents 94 (36.60%) were within the age group of 25 to 29 years. Age group of 40 to 44 years was the least represented 5 (1.90%). There was no statistically significant association between the age groups and postpartum urinary incontinence (P(Fischer's)= 0.257).

The parity of the respondents ranged from 1 to 14. The mean parity \pm SD was 4.18 \pm 2.82. Multiparae were the majority of the respondents 116 (45.10%) followed by grand multiparae 90 (35.00%). There was statistically significant association between the parity and postpartum involuntary loss of urine ($X^2= 11.597$, $P=0.003$). Most of the respondents' last pregnancies were booked for antenatal care either at AKTH or elsewhere 242 (94.30%). The unbooked constituted 15 (5.80%), most of the respondents were Hausas/Fulanis 205 (79.80%) followed by Igbos 41 (16.00%). An appalling figure of 247 (96.10%) of the respondents were married. The single constituted 10 (3.90%). A whopping figure of 214 (83.30%) were of the Islamic faith. Christians constituted 43 (16.70%). A significant proportion 107 (41.60%) of the respondents attended tertiary level of education. Up to 106 (41.20%) of the respondents were home managers.

Most of the respondents' last deliveries were spontaneous vertex 135 (52.50%). The least method of assisted vaginal delivery was by the use of forceps 3 (1.20%). The gestational age at delivery for most of the respondents was within 38-40 weeks of gestation 158 (61.50%) (Table II). A significant number of the respondents 172 (66.90%) had intact perineum following the last delivery (Table II). Up to 146 (56.80%) delivered at AKTH. Others 111 (43.20%) delivered elsewhere.

Grand multiparae were more likely to present with postpartum urinary incontinence. There was no

statistically significant association between their occupation and postpartum urinary incontinence (P (Fischer's)= 0.413).

There was statistically significant association between the types of delivery and postpartum urinary incontinence (P (Fischer's)= 0.000) Spontaneous vertex delivery was more associated with postpartum urinary incontinence (Table II).

The prevalence of postpartum urinary incontinence was 15.20% (Table III).

The mean gestational age at delivery \pm SD was 40.01 \pm 1.39. There was no significant association between the mean gestational age at delivery and postpartum urinary incontinence (P (Fischer's) = 0.54).

The mean birth weight \pm SD was 3.23 \pm 0.46 kg. Fetal macrosomia (birth weight of \geq 4.0 kg) was not associated with postpartum urinary incontinence ($X^2=0.354$, P=0.697).

The mean Body Mass Index (BMI) \pm SD was 28.12 \pm 4.19 kg/m². There was statistically significant association between BMI and urinary incontinence. BMI of >40 kg/m² was more associated with urinary incontinence (P (Fischer's)= 0.000).

Stress urinary incontinence constituted 17 (43.59%), urge incontinence constituted 18 (46.15%) while those with mixed incontinence were 4 (10.26%) table IV.

DISCUSSION

In this study, the prevalence of urinary incontinence was 15.20%. Ijaiya and colleagues^[18] found a prevalence rate of 30.60% of urinary incontinence among women attending family planning clinic in Ilorin. Our prevalence rate was lower. A smaller sample size (257 vs 333) was used in our study. However, Adaji and colleagues^[19] reported a prevalence rate of 21.10% of urinary incontinence among women attending antenatal clinic in Zaria, North Western Nigeria which was closer to our

finding. Our study area is within the same geopolitical zone with Zaria as such similar socio-demographic characteristics. Our prevalence rate was however within the normal range of institutional survey of 6-72%.^[8]

The mean age \pm SD of the respondents was 27.83 \pm 5.30 years. A study conducted at Michigan and Virginia hospital in the United States among patients with postpartum depression, urge urinary incontinence and over active bladder syndrome revealed mean age \pm SD of 29.2 \pm 6.1.^[20] Our finding was almost similar. The difference could be due to the methodology. Our findings showed no statistically significant association between the age groups and postpartum urinary incontinence P(Fischer's)=0.257).

The mean parity \pm SD was 4.18 \pm 2.82. The parity ranged from 1 to 14. A study conducted on postpartum urinary incontinence at Khon Kaen University hospital, Thailand showed a parity range of 1 to 4 among women with urinary incontinence.^[21] this is contrary to our findings. The culture and religion of the majority of the respondents in this study encourage high parity. Our study showed a statistically significant association between parity and postpartum urinary incontinence ($X^2= 11.597$, P= 0.003). Grand multiparae had more cases of postpartum urinary incontinence. Other researchers documented these findings.^[22,23]

Spontaneous vertex delivery was associated with postpartum urinary incontinence (P<0.000). Chang et al^[24] reported similar finding. This could be due to a large number of spontaneous vaginal deliveries when compared with other modes of delivery in this study. Our study did not show any association between the gestational age at delivery and postpartum urinary incontinence (P>0.05). Tingthong et al^[25] reported similar finding.

In our study birth weight of more than 4 kg was not associated with postpartum urinary incontinence

($P > 0.05$). Our finding was contrary to the findings of Persson et al^[26] in Sweden where odds ratio increases with increasing birth weight. Our study had a smaller sample size.

Our study revealed BMI had a significant association with urinary incontinence. BMI of at least 40 kg/m² was associated with postpartum urinary incontinence ($P < 0.000$). This was found in other studies^[27,28]

Our study found higher prevalence of urge incontinence (46.15%) and stress incontinence (43.59%) but there was not a case of overflow incontinence. Smaller sample size might have contributed to the findings.

Conclusion: Urinary incontinence other than vesico-vaginal fistula is not uncommon among women within puerperium. Risk factors associated with it includes grand multiparity and obesity. Urge incontinence and stress urinary incontinence are the most prevalent among the respondents. Efforts should be made towards addressing these challenges within puerperium.

Limitations: is a questionnaire based study.

Table I: *Socio-Demographic Characteristics of the Patients*

Age group	Frequency	percent
18-24	67	26.10
25-29	94	36.60
30-34	63	24.50
35-39	28	10.90
40-44	5	1.90
Total	257	100.00
Parity		
Primipara	51	19.80
Multipara	116	45.10
Grand multipara	90	35.00
Total	257	100.00
Booking status		
Booked	188	73.20
Unbooked	15	5.80
Booked elsewhere	54	21.10
Total	257	100.00
Ethnic group		
Hausa/Fulani	205	79.80
Igbos	41	16.00
Yoruba	5	1.90
Others	6	2.30
Total	257	100.00
Marital status		
Single	10	3.90
Married	247	96.10
Total	257	100.00
Religion		
Islam	214	83.30
Christianity	43	16.70
Total	257	100.00
Educational status		
None	7	2.70
Primary	35	13.60
Secondary	103	40.10
Tertiary	107	41.60
Quranic/ Islamiyya	5	1.90
Total	257	100.00
Occupation		
Home Manager	106	41.20
Business	58	22.60
Professional	19	7.40
Artisan	8	3.10
Student	55	21.40
Others	11	4.30
Total	257	100.00

Table II Delivery and Postpartum Urinary Incontinence

	Frequency	Percent
Types of Delivery		
SVD	135	52.50
Vacuum	15	5.80
Forceps	3	1.20
C/S	96	37.40
Breech	8	3.10
Total	257	100.00
Gestational age at delivery		
34-37	8	3.10
38-40	158	61.50
41-42	90	35.00
43	1	0.40
Total	257	100.00
Perineum		
Intact	172	66.90
Laceration	37	14.40
Episiotomy	48	18.70
Total	257	100.00
Place of delivery		
AKTH	146	56.80
Elsewhere	111	43.20
Total	257	100.00

Note: SVD= spontaneous vertex delivery, C/S= Caesarean section.

Table III Involuntary Loss of Urine

	Frequency	percent
Did you experience involuntary loss of urine after delivery?		
Yes	39	15.20
No	218	84.80
Total	257	100.00
Did it persist?		
Yes	20	51.30
No	19	48.70
Total	39	100.00
Did you seek for medications?		
Yes	24	61.54
No	14	35.90
No response	1	2.56
Total	39	100.00
Have you had similar experience in previous delivery?		
Yes	8	20.50
No	31	79.50
Total	39	100.00

Table IV Types of Incontinence

Do you lose urine when you:	Frequency	Percent
i. Cough, laugh or sneeze		
Yes	17	43.59
No	22	56.41
Total	39	100.00
ii. Run, jump or play sport		
Yes	17	43.59
No	22	56.41
Total	39	100.00
iii. Feel an urgent desire to pass urine and are unable to reach the toilet on time		
Yes	18	46.15
No	21	53.85
Total	39	100.00
All of the above(stress + urge incontinence)		
Yes	4	10.26
No	35	89.74
Total	39	100.00

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