Menstrual Pattern and Hygiene among Female Prisoners in Kano, North-western Nigeria

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Article Information:

Date Submitted: 13/11/2019.
Date Accepted: 11/01/2020
Date Published: 03/04/2020

ABSTRACT

Menstrual hygiene management services among female inmates should be in a professional manner equivalent to what is provided in the country. Female prisoners' menstrual patterns could differ from normal due to stress and uncertainty about the future. This cross sectional survey was aimed to assess the menstrual bleeding pattern of the female prisoners and their menstrual hygiene. It was conducted among three selected Prisons in Kano. Ethical approval was obtained from Ethical Committee of Kano State Ministry of Health. Information such as socio-demographic characteristics, menstrual hygiene and pattern were recorded on a questionnaire. All consenting female prisoner were recruited for the survey. Data collected were analyzed using SPSS Version 26.0. A p value of < 0.05 was considered significant. Their mean age ($\pm$ SD) was 30.1 ± 3.42 years. The mean menstrual cycle was 28.9 ± 4.42 days. The average duration of menstrual flow was 3 ± 1 . Thirty two (33.0%) of the female prison inmates experienced pains during menstruation (dysmenorrhea) while 43 (44.3%) had no dysmenorrhea. Majority of the inmates 83(85.6%) took bath once during menstrual period. More than 4/5th (81.4%) changed their absorbent twice a day during the period. Majority of the female inmates used toilet (80%) as the method of absorbent disposal. In conclusion; the survey showed that female prisoners relatively showed regular and normal menstrual patterns. Menstrual hygiene was relatively poor.

Keywords: Female Prisoners, Hygiene, Menstrual Pattern

INTRODUCTION

Menstrual hygiene management refers to a situation whereby Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials.¹ Imprisonment should not deny the rights of prisoners to receive a good level of healthcare and female inmates

must have the benefit of care equivalent of that available to the general public including health promotion interventions.² In Nigeria, studies have shown that our prisons are characterized by inhumane conditions and overcrowding, leading to a deplorable health situation among inmates.³ Menstrual bleeding patterns are believed to be relevant indicators of reproductive health, and abnormal bleeding patterns may affect the quality of life for pre- and peri menopausal women.⁴ Menstrual irregularities affect 2-5% of childbearing women and it's

believed to be considerably higher among women under constant stressful conditions.⁵ The phrase health promoting prison is used to cover the prisons in which: the risks to health are reduced to a minimum; essential prison duties such as the maintenance of security are undertaken in a caring atmosphere that recognizes the inherent dignity of every prisoner and their human rights; health services are provided to the level and in a professional manner equivalent to what is provided in the country as a whole; and a whole-prison approach to promoting health and welfare is the norm".⁶

A female prisoner is denied certain rights as a result of the custodian judgment passed on her by a court of law. She is restrained from movement and can, therefore, not have total assurance of enjoyment of the freedom of personal liberty under the law.⁷ A female inmate does not totally lose her rights as a human being and must, therefore, enjoy some basic rights despite being confined to prison. Female prisoners face health care challenges related to menstruation, pregnancy, childbirth, childcare, violence and sexual abuse in prisons all over the globe. It is pathetic to observe that female prison inmates are denied their right to health services. The African charter on human and peoples right, which Nigeria is signatory to also provides that "every individual shall have the right to enjoy the best attainable state of physical and mental health".⁸ But the Nigerian government is not living up to expectation as regards to provision of health care for prisoners. As a result of lack of health care system in the prison, there is a need to assess the menstrual bleeding pattern of the female prisoners and their menstrual hygiene.

MATERIALS AND METHODS

This study was a cross-sectional survey conducted among three selected Prisons (Kurmawa Prison in Kano Municipal Local Government, Goron Dutse in Dala Local Government and Wudil Prison in Wudil Local Government) in Kano, North-Western Nigeria. A list of all the prisons in Kano was made and three prisons were selected at random using a random number generator. The target population in this survey were all the reproductive female prisoners at the Three (3) Selected Prisons. Ethics approval was obtained from Ethical Committee of Kano State Ministry of Health and the approval letter was presented to the Three (3) Selected Prisons before the study was conducted. A questionnaire was structured and pretested which comprised close and open ended questions. Information such as socio-demographic

characteristics, menstrual hygiene and pattern were recorded on the questionnaires. This survey followed the approach described by Patton (2002), which was a purposeful sampling technique, by using small sample population to study the phenomenon of menstrual bleeding pattern indepth and detail. All consenting female prisoner within the reproductive age who were willing to participate in the survey were recruited for the survey. Data collected were checked for completeness, code entered into Microsoft excel and analyzed using SPSS Software Version 26.0 (2016, IBM Corp., USA). The data entered were then expressed as a descriptive statistics, percentage and associations between variables were tested using the chi-square test. A p value of < 0.05 was considered significant.

RESULTS

The survey was conducted from 1st February to 31st March 2019. During the period a total number of 97 female inmates were recruited. Their mean age ($\pm$ SD) was 30.1 $\pm$ 3.42 years. A larger proportion of the female inmates were within the age group of 18-27 years 46 (47.4%), followed by 28 – 37 years 33 (34.0%). Table: 1 However, when categorization of female prisoner inmate surveyed based on Ethnic group was considered, results showed that Hausa/Fulani ethnic group were the majority 64 (66.0%), followed by Igbo with 21 (21.7%) and Yoruba ethnic group with 7 (7.2%).

Christianity had the highest representative 41 (42.3), followed by Islamic religion 37 (38.1%) and the least was Traditional religion with 19 (19.6%) (Table: 1). A significant number of the female inmates had no formal education 40 (41.2%), while those with secondary and tertiary level of education were 28 (28.9%), 12 (12.4%) respectively. More than half of the female prisoners were artisans 53 (54.6%) while teachers were least represented 3 (3.1%).

Also, the time (years) spent in prison by the female prisoners during the study showed that; those that spent 10 – 14 years had the largest proportion 46 (47.4%). The mean menstrual cycle was 28.9 $\pm$ 4.42 days, the median was 29 days with a modal of 30 days. A larger proportion of the female prisoner inmates had 30 - 34 days 39 (40.2%), 25 - 29 days 32 (33.0%), 20 – 24 days 18 (18.6%) and 35 39 days 8 (8.3%) menstrual cycle (Table:

Table 1: Socio-Demographic Characteristics of Female Prison Inmates

Variable	Frequency	Percent
Age group (yrs)		
18-27	46	47.4
28-37	33	34.0
38-47	18	18.6
Total	97	100.0
Ethnic group		
Hausa/Fulani	64	66.0
Igbo	21	21.6
Yoruba	7	7.2
Others	5	5.2
Total	97	100.0
Religion		
Islam	37	38.1
Christianity	41	42.3
Traditional	19	19.6
Total	97	100.0
Educational status		
Primary	7	7.2
Secondary	28	29.3
Tertiary	12	12.5
Qur'anic	9	9.3
None	41	41.7
Total	97	100.0
Occupation		
Business	19	19.6
Professional	5	5.2
Artisan	53	54.6
Farming	17	17.5
Teaching	3	3.1
Total	97	100.0
Duration of stay (yrs)		
<5	7	7.2
5-9	21	21.7
10-14	46	47.4
≥15	23	23.7
Total	97	100.0

Table 3: Dysmenorrhea among Female Inmates

Variable	Frequency	Percent
Do you experience pain during menses?		
Yes, mild	32	33.0
Yes, moderate	9	9.3
Yes, severe	13	13.4
None	43	44.3
Total	97	100.0
How frequent you experience pain during menses?		
Always	23	23.7
Most of the time	20	20.6
Occasionally	54	55.7
Total	97	100.0
Do you experience intermenstrual bleeding?		
Yes	13	13.4
No	84	86.6
Total	97	100.0

Table 4: Practice of Menstrual Hygiene among Respondents

Number of bath during menses		
Once	83	85.6
Twice	10	10.3
Thrice	4	4.1
Total	97	100.0
Number of absorbent changes/day		
Once	9	9.3
Twice	81	81.4
Thrice	9	9.3
Total	97	100.0

Table 2: Patterns of Menstrual Cycle of the Inmates

Feature	Frequency	Percent
Length of menstrual cycle		
20-24	18	18.6
25-29	32	33.0
30-34	39	40.2
35-39	8	8.2
Total	97	100.0
Duration of flow		
1-8	83	85.0
≥8	14	15.0
Total	97	100.0
Amount of blood flow		
Normal	58	59.8
Scanty	29	29.9
Heavy	10	10.3
Total	97	100.0
Regularity of menstrual cycle		
Regular all the time	67	69.1
Regular in majority of the time	24	24.7
Regular occasionally	6	6.2
Total	97	100.0

Figure 1: Age at Menarche (Years)

Figure 2: Types of Absorbent Used During Menses

Figure 3: Methods of Absorbent Disposal

2). The average duration of menstrual flow was 3 ± 1 days. The amount of blood flow was normal in 58 (59.8%), scanty/light in 29 (29.9%), and heavy in 10 (10.3%) of the female prisoner inmates (Table 2).

The menstrual cycle was regular all the time 67 (69.1%), regular in majority of the time 24 (24.7%) and regular occasionally 6 (6.2%) among the female prisoner inmates (Table 3). Also, age at menarche among female inmates was higher between 15 – 18 years with 42 (43.3%), followed by 12 – 14 years with 31 (32%) and the least between 18 – 20 years with 24 (24.7%). Figure 1

Thirty two (33.0%) of the female prisoner inmates experienced pains (dysmenorrhea) during menstruation while 43 (44.3%) had no dysmenorrhea. Among those that had dysmenorrhea, 54 (55.7%) experienced it occasionally, 23 (23.7%) always and 20 (20.6%) most of the time. Only 13

(13.4%) experienced intermenstrual bleeding (metrorrhagia). Table 4 showed the practice of menstrual hygiene among the inmates. Majority of the inmates 83 (85.6%) took bath once during menstrual period. More than $4/5^{\text{th}}$ (81.4%) changed their absorbent twice a day during the period.

Figure 1 showed the age at menarche. The mean age at menarche was 14.9 ± 1.51 years. The median age was 15 years. A larger proportion of the inmates attained menarche at 14-16 years. Figure 2 depicted the types of absorbent used during menses. Sanitary pad (92%) was the most used by the inmates.

Majority of the female inmates used toilet (80%) as the method of absorbent disposal, followed by dustbin (11%). Figure 3

DISCUSSION

In this survey, the mean menstrual cycle was 28.9 ± 4.42 days with a median of 29 days. This was similar to the mean menstrual cycle of 29.7 days among Igbo women of South Eastern Nigeria.⁹ It was higher than the figure of 27.5 ± 8.76 days reported by Rabiu *et al.*¹⁰ in Kano, North Western Nigeria. However, the finding is within the normal range of 21 days to 35 days.¹¹ Our findings showed that female prison inmates had normal menstrual cycle despite high level of stress and uncertainty about their future life. The duration of flow was 1 to 8 days in about 85% of the inmates which is within the normal range reported by Umeora and Egwuatu⁹ in Enugu. Only 10.3% of the inmates had heavy menstrual flow. This was slightly higher than 7.1% reported among female medical students in University of Maiduguri, Nigeria.¹² Difference in age group between the female inmates and the medical students in Maiduguri could be responsible for the varying figures. Only 6.2% of the inmates presented with occasionally regular menstrual cycles. All other inmates had regular menstrual cycle (93.8%). This showed that despite sub optimal standard level of hygiene, high level of anxiety and stress coupled with uncertainty of future normal life among the female inmates, irregular menstrual cycle was highly uncommon. Our study revealed that menstrual cycle was regular all the time 67 (69.1%), regular in majority of the time 24 (24.7%), regular occasionally 6 (6.2%), and irregular (unpredictable) 0 (0.0%) among the female prisoner inmates (Table: 4.2). Rabiu *et al* showed that the menstrual cycle was regular all the time 96 (44.1%), regular in majority of the time 87 (39.7%), regular occasionally 11 (5.0%), and irregular 24

(11.0%) among the adolescent girls. Our study and their findings suggested that most of the female have a regular menstrual cycle.

In this survey, 32 (33.0%) of the female prison inmates experienced pains during menstruation (dysmenorrhea). This was lower than the figure of 93 (42.5%) reported by Rabiu *et al.*¹⁰ among adolescent school girls in Kano. However, an alarming figure of 299 (83.1%) of dysmenorrhea was reported by Bello and colleagues¹³ among female students at a Teaching Hospital in South-Western Nigeria. Based on these findings, the rate of dysmenorrhea was also within normal findings. Only 13 (13.4%) experienced intermenstrual bleeding (metrorrhagia) in this study. This was similar to the finding of Rabiu *et al.*¹⁰ who reported 12.5% among adolescent school girls in Kano.

Our study revealed 43.3% of female prisoners attained menarche at 15-18 years. The mean age at menarche was 14.9 ± 1.51 years. The median age was 15 years. This was slightly lower than the mean age at menarche of 15.26 years reported among school girls in Sokoto, North Western Nigeria¹⁴ and higher than the mean age at menarche of 12.83 ± 1.312 reported among adolescent school girls in Kano, North Western Nigeria¹⁵ but within the age range of 10-14 years reported by Fagbamigbe and colleagues¹⁶ in Ibadan, South Western Nigeria. Similarly, a study by Balamurugan *et al.*¹⁷ found majority of women attained menarche at the age of 13-15 years. This showed that attainment of menarcheal age by female prisoners falls within normal age group in our community and are unlikely to influence abnormal menstrual patterns among prisoners.

Considering menstrual hygiene among female prisoners, we found 85.6% of the inmates only took bath once during the duration of menstruation. This was inadequate and it demonstrated poor menstrual hygiene and quality of life. Majority of the inmates 89 (91.8%) used sanitary pads, followed by cloths 6 (6.2%) and toilet roll 2 (2.1%) during menstruation. Santral 8 in a slum of Kolkata, West Bengal, India, revealed that though 97% of women opined that sanitary pad is the ideal absorbent to be used during menstruation, only 65% women used sanitary pad and 30% used cloth pieces. Majority of the inmates (80%) used toilet for disposal of menstrual absorbent. Only a few (6%) recycled their absorbents by washing.

CONCLUSION

The survey showed that despite stressful condition and uncertainty faced by female prisoners, they relatively showed regular and normal menstrual pattern obtainable among women of child bearing age groups. Menstrual hygiene was relatively poor; majority of female inmates took bath once only during the entire period of menses and most of the used absorbents were disposed in the toilets.

Recommendations

Non-governmental organization should come forward to educate female prisoners on menstruation, menstrual hygiene management, hand washing and diseases related reproductive tracts due to poor hygiene. Female prisoners should be aware of consequences of disposing used menstrual product in open or flushing them in toilet. Dustbin with proper lids should be placed in the toilet. If possible, incinerators should be installed in the prisons.

Conflict of interest

None

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