Determinants of Delayed Menstrual Period among Students of Tertiary Institutions in Rivers State

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ABSTRACT

Menstrual period is a normal and significant process that every female who have attained the age of puberty must experience in life and it is a monthly process. However, delayed in having this normal process every monthly is a concern. Several factors may be responsible for delayed menstrual period experienced by females. This research states to examine the Determinants of Delayed Menstrual Period among Students of Tertiary Institutions in Rivers State. Sample size for the study was 250 and participant were randomly selected and the questionnaire were issued to the participants to fill and return it to the researcher. Data was analyzed with SPSS version 26 and P value < 0.05 was considered significant. Results from the study revealed that some of the determinants that are precursors of delayed menstrual period observed were unprotected sex, use of contraceptives, alcohol consumption, use of public toilet, unwanted pregnancy, vaginal discharge, abortion, stress and infection. Also, 98.8% of the responders have started dating and 78.00%) respondents agreed that they have been involved in intermittent sex without protection. The findings revealed that 98.4% of the participants have used contraceptives for more 5 years. However, 62.8% of the responders affirmed that they experienced milky discharge from their breast and 69.2% have done abortion. The study shows that 68.4% of the respondents used public toilet and 62.4% respondents experienced vaginal discharge. Furthermore, 65.20%) of responders have been pregnant without knowing. Results also shows that 73.2% of the respondents have conducted hormonal profile and 64.4% of respondents have hormonal imbalance while 94.4% of the participants consumed alcohol.

KEYWORDS: Determinants, Delayed, menstrual period, Students, Tertiary, Institutions

ARTICLE DETAILS

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INTRODUCTION

Menstrual cycle is a process that every woman who have attained puberty must undergo and this occur monthly in a normal physiological pattern unless in some cases were certain factors may halt the monthly process (Gbaranor, et al., 2022). This cycle varies in individual in duration of flow, length of cycle, pattern of flow (scanty, moderate or heavy with or without clot). Virtually every woman who have attained puberty and she has started menstrual period will experience certain physiological changes in her body. These changes may occur before or during the menstrual cycle (Gbaranor, et al., 2022). The length and regularity of menstrual cycles reflect changes in ovarian steroid production (Kato et al, 1999; Harlow SD and Ephross SA, 1995). If an undetected pregnancy and loss occurs, menstrual cycle length may be misclassified if self-reported information is used alone (Harlow SD and Matanoski GM, 1991). Physical activity of many hours per week has been shown to be associated with an increased cycle length, which could be due to a dampening of FSH pulses during the luteal follicular transition, leading to delayed maturation of the next cohort of follicles (Akaike H. A, 1974; De Souza, et al, 1997). Increased cycle length is associated with delayed ovulation and increased follicular phase length, since luteal phases are self-limited to 14 days (Vollman RF, 1977). Cycle length has been negatively associated with age because of shortening of the follicular phase (Harlow SD and Ephross SA, 1995; Dennerstein, et al, 1997; Harlow et al, (1991), revealed that overweight is associated with the occurrence of long cycles in college women. Alcohol consumption has shown to be associated with a reduction in long cycles in young women (Cooper et al, 1996) and changes in hormone dynamics (Reichman et al, 1993; Mendelson JH and Mello NK, 1988). Non modifiable factors, like ethnicity, and potentially modifiable risk factors, like smoking, physical activity. The major cause of menstrual cycle irregularity is functional hypothalamic amenorrhea linked with reduced gonadotropin-releasing hormone secretion and hypothalamic–pituitary–adrenal (HPA) axis dysregulation (Reindollar, et al, 1986; Loucks AB and Thuma JR, 2003; Liu JH, 1990; Berga S and Naftolin F, 2012). Study, revealed that smoking could cause hypoestrogenism (Westhoff , et al, 1996) and high stress has been demonstrated to affect the HPA axis activity (Westhoff , et al, 2014). Previous study revealed that delayed in menstrual period affected majority (96.00%) of the participants' academic performance (Gbaranor, et al., 2023). The participants are students and they are confused why they are not seeing their period and this alone could affect their level of intelligence and 97.20% of them were worried due to delayed in their menstrual period (Gbaranor, et al., 2023). The participants are female students who might not know the cause of delay in menstrual period and because they do not know the cause of the delayed, that could be the reason why the participants experienced psychological effects as like depression, isolation, ashamed, thinking, worried and poor academic performance (Gbaranor, et al., 2023).

MATERIALS AND METHOD

This is a cross-sectional study involving 250 female students who are within the age of 18 to 42 years. A well-structured questionnaire was administered to participants. Each participant had one questionnaire to fill appropriately and independently after a well informed consent was granted. The study lasted for a period of 2 months. Statistical analysis of data was done using SPSS Version 25 and P value < 0.05 was considered significant for data.

RESULTS

The result on this research shows that 34(13.6%) of the responders examined are <20 years; 13(5.2%) were within the ages of 20-24 years while 98(39.2%) were within the ages of 25-29 years and 47(18.8%) were within the ages of 30-34 years, 52(20.8%) were within 35-39 years and 6(2.4%) were greater than 40 years (Table 4.1). Also, regarding the levels of study which showed 38(52.2%) of the participants were in 100 level, 22(8.8%) in 200 level, 98(39.2%) in 300 level, 52(20.8%) in 400 level while 30(12.0%) were in 500 level and 10(4.0%) were in 600 level (Table 4.2). The results of the study also indicated that 62(24.20%) of the respondents were married while 188(73.4%) were single (Table 4.3). The study shows 247 individuals (98.8%), confirmed that they have commenced dating, whereas 3 (1.2%) has not commence dating (Figure 1) and 195(78.0%) respondents had unprotected sex (Figure 2). Also, 247(98.8%) of the participants used contraceptives, whereas 3(1.2%) and 157(62.8%) experienced milky discharge (Table 4). The findings showed that 161(64.4%) of the participants have their hormonal profile imbalance (Table 4).

Table 1: Age distribution of Respondents

Age	Frequency	Percentage (%)
<20 years	34	13.6
20-24 years	13	5.2
25-29 years	98	39.2
30-34 years	47	18.8
35-39 years	52	20.8

>40 years	6	2.4
Total	**250**	**97.7**

Table 2: Distribution of Level of Study of Respondents

Level of Study	Frequency	Percentage (%)
100 Level	38	15.2
200 Level	22	8.8
300 Level	98	39.2
400 Level	52	20.8
500 Level	30	12.0
600 Level	10	4.0
Total	**250**	**100.00**

Table 3 Marital Distribution of Respondents

Marital Status	Frequency	Percentage (%)
Married	62	24.2
Single	188	73.4
Total	**250**	**100.00**

Table 4: Respondents who experienced milky discharge from breast

Milky Discharge	Frequency	Percentage (%)
Experienced milky discharge	157	62.8
Do not experienced	93	37.2
Total	250	100.0

Table 5: Outcome of hormonal profile done by respondents

Outcome of Hormonal Profile	Frequency	Percent (%)
Normal	89	35.6
Imbalance	161	64.4
Total	250	100.0

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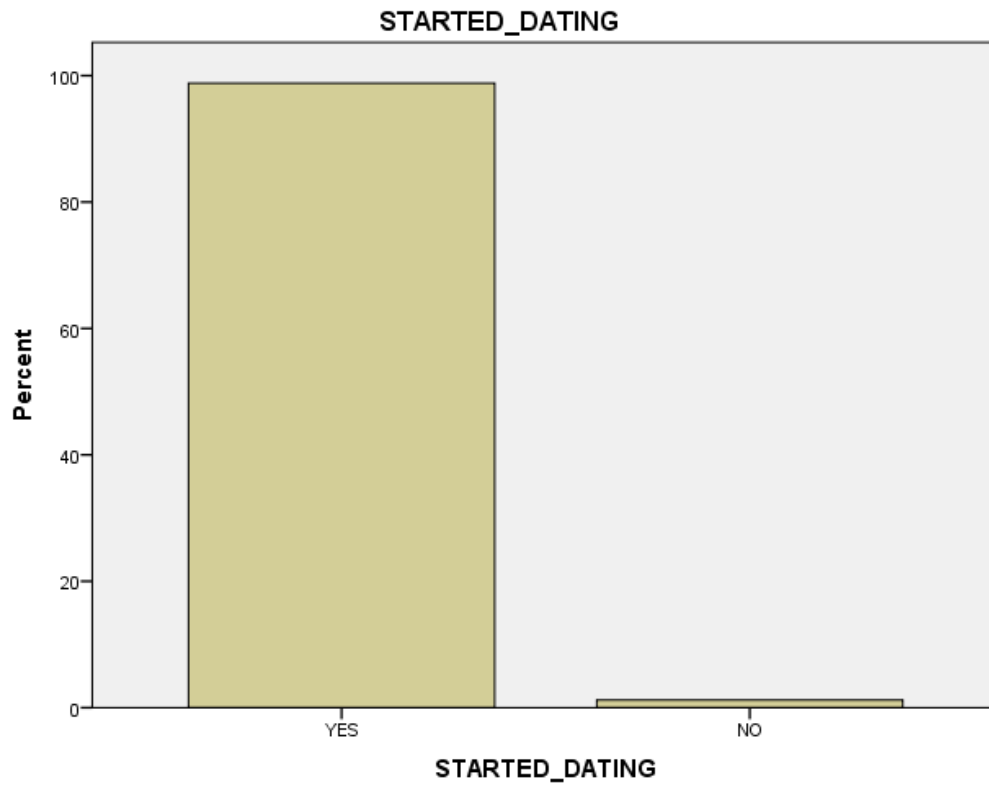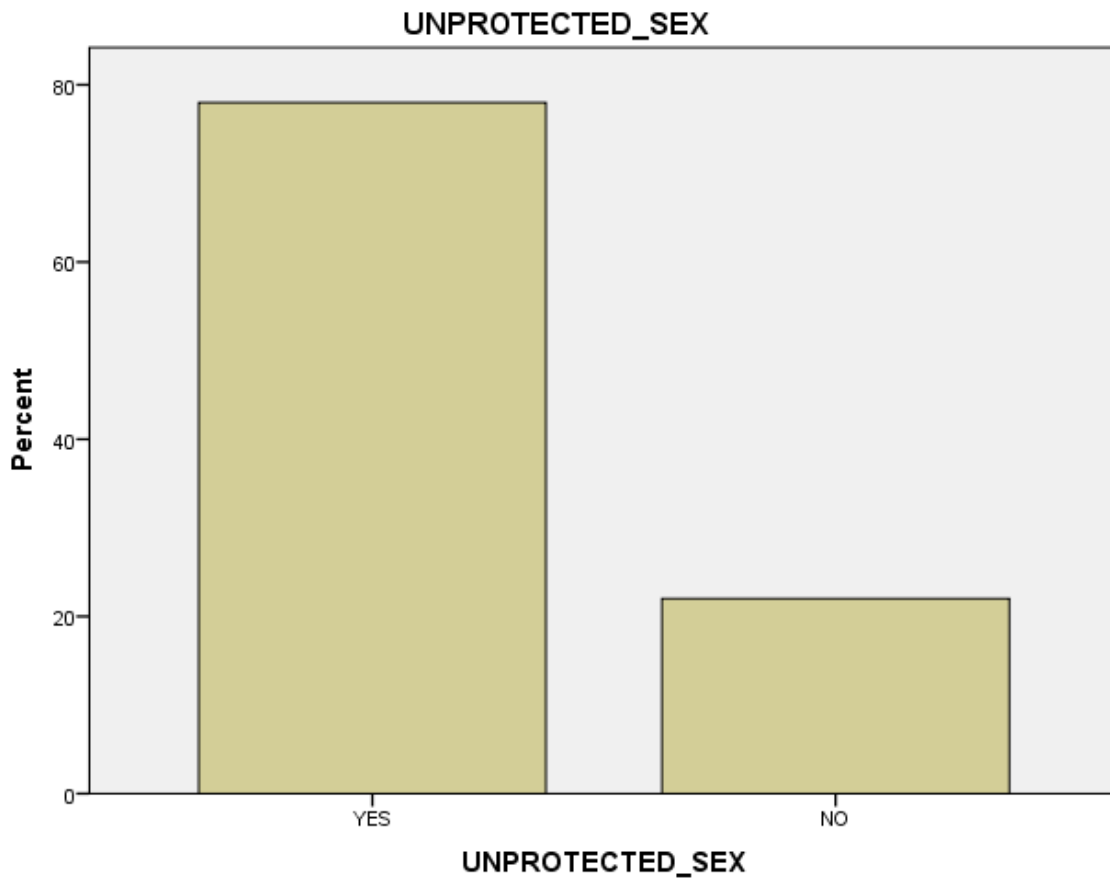

Figure 1: Respondents Response on Dating

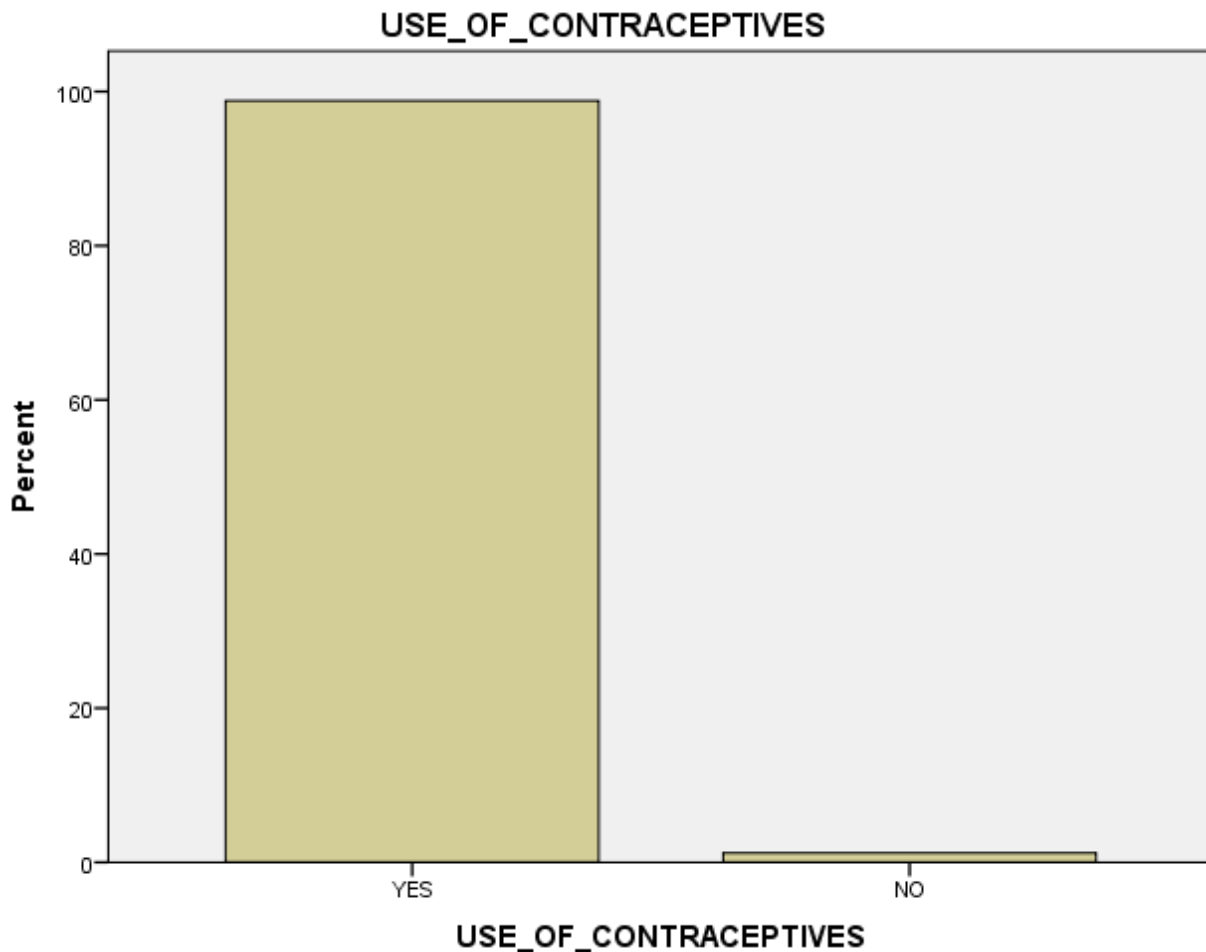Figure 2: Respondents Response on Intermittent Unprotected Sex

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USE_OF_CONTRACEPTIVES

Figure 3: Use contraceptives

DISCUSSION

Menstrual period is a natural process that occur monthly in a female after the attainment of puberty and it is the pride of a woman. This natural process is stimulated and aided by hypothamo-pituitary- gonadal axis (HPGA) and any disruption in this pathway will interfere with the normal menstrual flow and if this happened then, it becomes a problem with the lady in question. The hypothalamus produces the gonadotropin releasing hormone that function to stimulate the anterior pituitary gland to produce the gonadotropic hormones (Follicle-stimulating hormone (FSH) and Luteinizing hormone (LH) which enhance the follicular growth and then lead to ovulation. Disruption in the gonadotropic hormones may lead to anovulation and this may induce delay in menstrual period. However, students in tertiary institutions are facing delayed in their monthly menstrual period and this call for concern among them and their peers. This delayed could be attributed to certain factors that may not be known to the students unless certain radiological or laboratory investigations are carry out to ascertain the cause of the delay.

The study revealed that majority (39.2%) of the participants were within ages of 25-29 years and thus they are in their active reproductive age. Again, at this age they sensitive to sex drive and are sexually active. The research also revealed that most of the participants were in 300 and 400 levels of study and majority of them were single and because they were single, they leverage on sex to drive home their sexual satisfaction.

The research revealed that most (98.8%) of the participants engaged in dating including sexual intercourse, and 78.0% of the carried out unprotected sex, thus, this action could result to pregnancy which they may not detect early, thereby causing the delay in their menstrual period. The study found that most of the students deliberately refused to put on protective device and also do not allow their boyfriends to wear protective device, reason that they enjoy sex without protective than when putting the protective device. Majority (65.2%) of the participants got pregnant while engaging in unprotected sex and did not know on time. Several of the participants do not know when they are on ovulation and because they cherished sex with using protective device, they easily get pregnant thus resulting in amenorrhea. Also, the study shows that majority of the

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participants experienced galactorrhea (milky discharge from their breasts) and this happened due to high level of the hormone called prolactin which function to supress gonadotropic hormone. When the gonadotropic hormones are supressed; it hinders folliculogenesis and may affect regular menstrual cycle hence it could delay the period.

The findings revealed that majority (98.8%) of the participants used contraceptives as a way of preventing an unwanted pregnancy. This usage of contraceptives interferes with the natural regular monthly period and thus cause delay. They used contraceptives before or after sex because most of them deliberately refused to wear protective device during sex. From the study, majority (98.8%) of the participants agreed that they have used contraceptives for a duration of more than five years and this practice supresses ovulation and could affect menstrual flows pattern. The study shows that majority of the participants were faced with academic stress that in turn suppressed gonadotropin-releasing hormone (GnRH) thus, interfering with ovulation. These several degrees of stress that the students are passing through in order to meet up their academic activities interfere with the reproductive hormones' production and these hormones are responsible for the ovarian growth and subsequent release of the matured eggs at the end of the month. This interference in the production of the reproductive hormones could delay normal menstrual period in the students. Also, changes in body's weight lost (overweight or underweight), and extreme exercise affects menstrual cycle. Furthermore, 73.2% of the participants who had delayed in their menstrual cycle carried out hormonal profile investigation to ascertain the cause of the delayed and majority (64.4%) of them have hormonal imbalance. The gonadotropic hormones, sex hormones and thyroid hormone when in they are within the normal range enhances menstruation but if there is disruption in these hormones, it can lead to anovulation, hence may cause menstrual delay. This hormonal imbalance affects ovulation and thus cause delayed in their menstrual cycle.

Again, the research revealed that some of the students (68.4%) got infected though their rest rooms since they stayed in the hostels and make used of the same toilets. This infection indirectly could delay their menstrual period. Also, 62.4% of the participants had vaginal discharge as and this could from the unprotected sex and the use of general and unclean toilets. The study also revealed that majority (69.2%) of the students have carried out abortions for unwanted pregnancy while in school and this could be attributed to the fact that most of them are single. And because they carried out abortion, this process could be done in an unqualified environment thus serve as the entrance of the microorganisms that lead to infection, hence may cause delayed menstrual period.

CONCLUSION

Menstrual delayed is a concern in womanhood and this natural process is stimulated and aided by hypothamo-pituitary-gonadal axis (HPGA) and any disruption in this pathway will interfere with the normal menstrual flow and if this happened then, it becomes a problem with the lady in question. However, the research revealed that majority of the participants were confronted with certain factors that could directly or indirectly delayed their monthly menstrual period and such determinants of delayed menstrual period include: unprotected sexual sex, unwanted pregnancy, abortion, infection from the use of general toilets, vaginal discharge, stress, changes in body's weight, the use of contraceptives, galactorrhea, extreme exercise, and imbalance hormonal profile.

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