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Original Article

Eating Disorders Among Pregnant Women Attending the Antenatal Clinic of Ahmadu Bello University Teaching Hospital, Zaria.

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Abstract

Background: In developing countries, there has been an upsurge of eating disorders necessitating conscious efforts to diagnose it in pregnancy due to its impact on the mother and the developing fetus. Eating disorders are extreme departures from normal eating behaviour such as restricting food, binge eating, and purging, as well as disturbances in body weight and shape. Women are motivated to make positive changes for their unborn child during pregnancy therefore the antenatal period is an opportunity to utilize. **Method:** This was a cross-sectional study conducted to determine the prevalence of eating disorders in pregnant women using the SCOFF questionnaire. The respondents were recruited from the antenatal clinic of Ahmadu Bello University Teaching Hospital, Zaria, Nigeria between August and October 2018. The data was analyzed using IBM SPSS version 20. **Result:** The prevalence of eating disorders in pregnancy was 25.2%. Thirty-two (84.2%) of the respondents with eating disorders felt they had lost control over how much they eat. This study showed that 30 (78.9%) out of the respondents disclosed that food dominates their life. The ages of the respondents with eating disorders in pregnancy ranged between 15-39 years with a mean age of 28.2 years (SD: ± 5 years). Over 80% of the respondents were below the age of 35 years. Sixty percent of the respondents were aware of eating disorders in pregnancy. **Conclusion:** There is a high prevalence eating disorders among pregnant women in our environment, and the antenatal period is an opportunity to identify such women for prompt referral to the mental health physicians to ensure continuity of care.

Keywords: Eating disorders, Pregnancy, Screening.

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INTRODUCTION

Eating disorders (ED) have increasingly entered public awareness especially among young women due to the heightened emphasis on physical appearance making them particularly vulnerable to experiencing negative body image.[1] Eating disorders are problems that are closely related to the lifestyle and culture of the community and the overwhelming desire for beauty, slimming, and fitness, often forces women to adopt strict, overwhelming diets.[2] It is attributable to peer pressure about body shape stereotypes and the impact of beauty shows in social programs or mass media.[3] Pregnancy and the transition to motherhood can be an extremely challenging time for women with eating disorders both psychologically and physically.[4] During pregnancy, women experience changes in body shape, weight, and body image which heightens the assessment of their body to fit into the society.[2] The worldwide prevalence of eating disorders has shown a substantial proportion among young people. Overall, 5.5-17.9% of young women have experienced eating disorder by early adulthood.[5] In the UK, the weighted prevalence of lifetime ED is as high as 15.35%.[6] The prevalence of ED in pregnancy ranges between 0.5 and 10.6%.[7] There are 4

specified eating disorders outlined by the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders): Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorders (BED) and Otherwise Specified Feeding or Eating Disorders (OSFED), published in 2013 and in the 11th revision of the World Health Organization's International Statistical Classification of Diseases and Related Health Problems published in 2019.[8,9] Although the exact cause is unknown, it is believed that a combination of genetic, psychological, sociological and/or environmental factors are associated with eating disorders.[8,10]

AN is characterized by an excessive restriction of food intake with a pathological fear of weight gain, which leads to severe weight loss and a distorted body image. BN is described by regular episodes of binge eating followed by inappropriate compensatory behaviors such as self-induced vomiting, abuse of laxatives, fasting or excessive exercise to avoid weight gain. BED is associated with recurring episodes of eating significantly more food in a short period of time than most people would eat under comparable conditions, accompanied by feelings of lack of control, guilt, embarrassment or disgust. OSFED refers to heterogeneous symptoms of feeding or ED resulting in a clinically significant problem that does not meet the full criteria of other disorders.[8] Eating disorders occur commonly in young women while they are still in adolescence or early adulthood, a time that coincides with the beginning of the reproductive period in women.[11] Pregnancy is associated with a greater susceptibility to negative self-perception which contributes to low self-esteem and for women diagnosed to have eating disorders, the period of pregnancy is particularly challenging.[3,6] Therefore, the effect of pregnancy on the course of ED on both maternal and fetal well-being should be considered an issue of great significance.[12]

Pregnant women with ED can be categorized into three groups: those who improve during pregnancy and after childbirth, those that improve only during pregnancy with secondary deterioration during the puerperium, and those with active eating disorder symptoms throughout pregnancy.[4] Women who experience symptom reduction in pregnancy have great concerns for the developing fetus and this constitutes a protective factor.[3] Women with ED in pregnancy are predisposed to miscarriage, anemia, hypothermia, pregnancy induced hypertension and pre-eclampsia, gestational diabetes, preterm birth. They are also at risk of cesarean delivery, induction of labor, prolonged labor and maternal death.[13-16] Adverse fetal and neonatal outcomes of ED in pregnancy include intrauterine growth restriction, fetal death, lower APGAR scores, low birth weight and microcephaly.[13,16]

There are various screening tools for eating disorders however, none is specific to the perinatal period. The most recommended is known as the SCOFF questionnaire which was developed by Morgan and associates. It consists of five key questions that addresses the core features of eating disorders. The questionnaire provides 100% sensitivity and 87.5% specificity thus allowing a quick technique in the diagnosis of eating disorders.[17-19] The management of eating disorders in pregnancy requires a multidisciplinary approach involving the obstetrician, eating disorders specialist, perinatal mental health physician, neonatologist, nutritionist, psychologist and midwife to address not only their medical and obstetric needs but also their nutritional, physical and psychological wellbeing.[18,19] The NICE guideline highlights the importance of early intervention and treatment by specialist, community-based services and the involvement of family and caregivers in supporting recovery of ED.[20] Therefore, the antenatal period is an opportunity to explore the experiences of women due to more frequent contact with healthcare providers in order to reduce disordered eating behaviors, improve access to appropriate community, medical and psychological support during pregnancy.[21] The universal screening for EDs in pregnancy has not been well established and healthcare providers lack appropriate knowledge and access to psychometrically sound screening tools which is considered an important barrier in clinical management strategies.[22-24] The aim of this study is to determine the prevalence of eating disorders in pregnant women attending the antenatal clinic of Ahmadu Bello University Teaching Hospital, Zaria.

METHODOLOGY

The study was conducted on clients attending the antenatal clinic of the Department of Obstetrics and Gynaecology, Ahmadu Bello University Teaching Hospital, Zaria, between August to October 2018. It was a cross-sectional study enrolling all pregnant women attending the antenatal clinic of Ahmadu Bello University Teaching Hospital, Zaria that met the inclusion criteria below and it was only those who gave consent that were recruited into the study. The sample size of 138 was calculated using the formula $n = Z^2pq/d^2$ and using a prevalence rate of 10%[7]. With possible attrition rate of 10%, the sample size was adjusted to 151. A pretested, structured questionnaire was administered to a cross-section of 151 pregnant women in the antenatal clinic of Ahmadu Bello University Teaching Hospital, Zaria. A convenience sampling method was used. The SCOFF questionnaire which is a screening tool consisting of five key questions that addresses the core features of eating disorders was used. A yes or no answer is required to answer the questions and each yes answer equals 1 point: a score of 2 indicates a likely diagnosis of anorexia or bulimia.[17] The other items on the questionnaire included socio-demographic characteristics, reproductive profile and awareness of eating disorders in pregnancy.

RESULTS

There were 151 participants recruited for this study and all the participants were included in the final analysis as shown in the tables below. The SCOFF questions were used to determine the prevalence of eating disorders in pregnancy where a yes or no answer is required to answer the questions and each yes answer equals 1 point: a score of 2 indicates the diagnosis of

eating disorders. Of the 151 respondents, 25.2% (n =38) scored 2 or more points while 74.8% (n = 113) of the respondents scored 1 or 0 point.

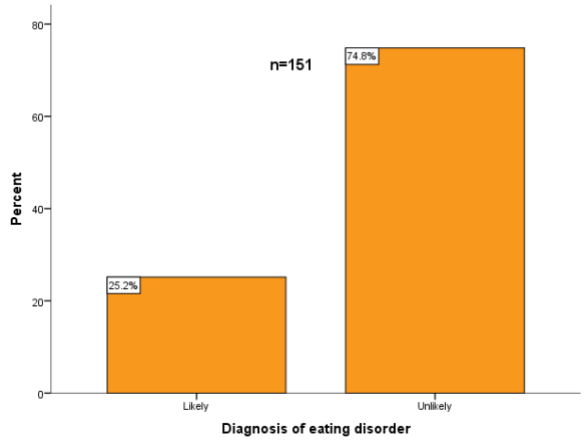

Figure 1: describes the prevalence of eating disorders in pregnancy

Table 1: Description of the prevalence of eating disorders in pregnancy of the respondents

Variable	Response	Frequency	%
Do you make yourself sick beca you feel uncomfortably ful	No	21	55.3
	Yes	17	44.7
Do you think you have lost control over how much y eat?	No	6	15.8
	Yes	32	84.2
Have you recently lost more than on stone (6.35kg) in a three-month perio	No	37	97.4
	Yes	1	2.6
Do you believe yourself to be fat when others say y too thin?	No	26	68.4
	Yes	12	31.6
Would you say tha food dominates y life?	No	8	21.1
	Yes	30	78.9

Table 1 describes prevalence of eating disorders in pregnancy from responses based on the Scoff questions. Thirty-two (84.2%) of the respondents with eating disorders felt they have lost control over how much they eat accounting for the highest response. Additionally, 78.9% (n=30) of the respondents said food dominates their life. Other variables are as shown on the table above.

Table 2A: Socio-demographic characteristics of respondents with eating disorders

Variables	Number Examined	Number Positive	Prevalence (%)	*P-value*
Age group				
15-19	4	1	25.0	0.389
20-24	36	12	33.3	
25-29	47	14	29.8	
30-34	40	6	15.0	
35-39	23	5	21.7	
Ethnic grou				
Hausa	85	27	31.8	0.289
Fulani	13	3	23.1	
Yoruba	14	3	21.4	
Igbo	8	1	12.5	
Others	30	4	13.3	
Marital statu				
Single	2	1	50.0	0.419
Married	148	37	25.0	
Marriage typ				
Monogamy	123	27	22.0	0.030
Polygamy	26	11	42.3	

Table 2B: Socio-demographic characteristics of respondents with eating disorders

Variables	Number Examined	Number Positive	Prevalence (%)	*P-valu*
Order of marriage				
First	142	33	23.2	0.013
Second	8	5	62.5	
Religion				
Islam	113	34	30.1	0.021
Christianity	36	4	11.1	
Educational status of client				
Informal	4	3	75.0	0.004
Primary	13	3	23.1	
Secondary	43	17	39.5	
Tertiary	89	15	16.9	
Occupation of clients				
Housewife	81	23	28.4	0.409
Businessperso	15	5	33.3	
Civil servant	36	6	16.7	
Student	17	3	17.6	

Table 2A describes the prevalence of eating disorder in relation to socio-demographic characteristics. When P<0.05, it implies significant relationship. Therefore, there is a statistical relationship between the prevalence of eating

disorders and the type of marriage but with no significant relationship between prevalence of eating disorders with age, ethnic group and marital status.

Table 2B describes a continuation of the socio-demographic characteristics in relation to the prevalence of eating disorders. When P<0.05, it implies significant relationship. There is a statistical relationship between the prevalence of eating disorders with the order of marriage, religion and educational status of the respondents but no significant relationship with the occupation of the respondents.

Table 3: Reproductive profile of respondents.

Parity	N	Diagnosis of eating disorder		*P*-value
		Likely [%]	Unlikely [%	
Nulliparity	43	10 [23.3]	33 [26.7]	*0.903*
Primiparity	28	8 [28.6]	20 [71.4]	
Multiparity	56	13 [23.2]	43 [76.8]	
Grand multiparity	24	7 [29.2]	17 [70.8]	
Total	151	38 [25.2]	113 [74.8]	

Table 4 shows the relation between parity and eating disorders in pregnancy**.** When P<0.05, it implies significant relationship. A *p*-value of 0.903 means that there is no statistical relationship between parity and eating disorders.

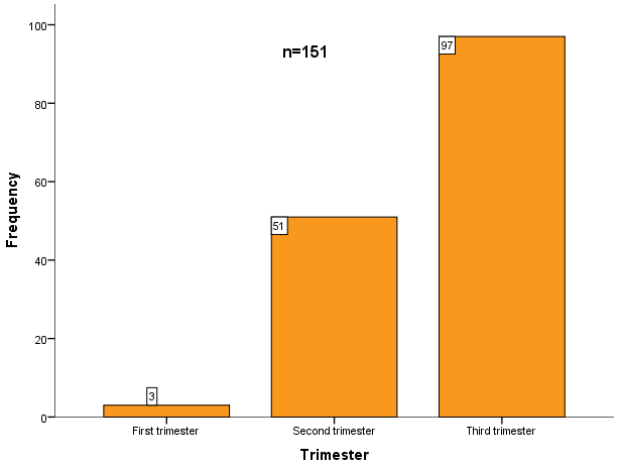

Figure 2: shows the distribution of respondents based on trimester

Majority of the respondents were in their third trimester, 64.2% (n=97), 33.8% (n=51) were in their second trimester and 2% (n=3) were in their first trimester.

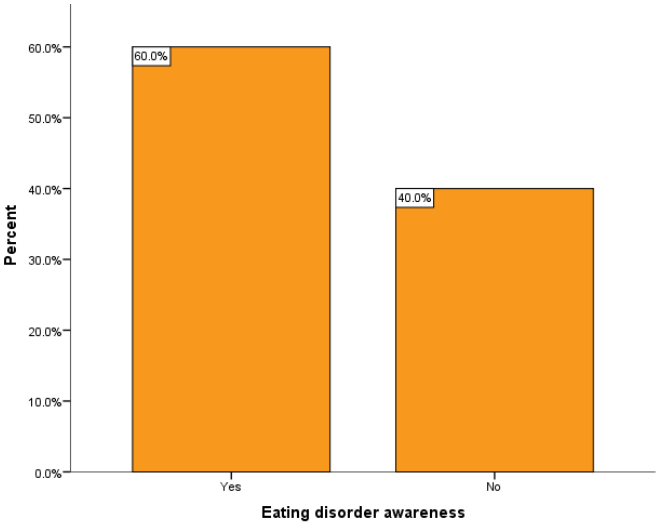

Figure 2: shows the eating disorder awareness.

Sixty percent (n = 90) of the respondents were aware that one can intentionally lose weight and become sick by indulging in self-induced vomiting, extreme exercise, food restriction, use and abuse of laxatives and purging while 40% (n = 60) of the respondents were not aware.

DISCUSSION

This study focused on the application of a screening tool to determine prevalence of eating disorders in pregnancy, the socio-demographic characteristics and reproductive profile of pregnant women with eating disorders and the awareness of eating disorders in pregnancy.

The result of this study shows a prevalence of eating disorders in pregnancy of 25.2%. This finding is lower than a prevalence of 43.5% reported by Mnif et al[25] and much higher than the prevalence of 5.3% by Petterson et al[26] and 1.47% by Bye et al.[6] These studies mentioned above have similar cross-sectional design with this current study. The high prevalence of 25.5% in this current study and in the study by Mnif et al[25] in Tunisia which is also a developing country like Nigeria could be related to the fact that women with eating disorders often experience a sense of shame relating to their condition or fail to acknowledge its severity and, as a result, do not seek treatment.[3] Additionally, Mnif et al[25] used the SCOFF questions to screen pregnant women with eating disorders as was used in this current study.

When compared to the findings in this current study, the studies by Petterson et al[26] and Bye et al[6] with much lower prevalence of eating disorder in pregnancy were conducted among the European pregnant women. This conflicting result may be due to the application of other screening tools to diagnose eating disorders in pregnancy. Furthermore, this disparity could be due to the robust health care system and effective referral services available in the developed countries than in the developing countries so that women with eating disorders are treated and cured of the disease thereby decreasing the prevalence rate in developed countries.

Several tools to screen for eating disorders in pregnancy have been proposed including EDE-Q, EDE-QS, EAT-8, EAT-13, EAT-26, EDI-2, SCOFF, ORTO-11, PEBS and DEAPS. Although, insufficient evidence precluded a thorough psychometric evaluation of each instrument thereby limiting recommendations regarding their suitability in identifying ED in pregnancy.[27,28] However, Lima et al in Brazil demonstrated that the SCOFF questions yielded a sensitivity of 88.2% and specificity of 67.4% for screening EDs, with an area under the curve of 83.4%.[29] Therefore, it is presumed that the SCOFF questionnaire is reliable for screening ED in pregnant women.[18,19,29] Despite the strengths of the SCOFF questionnaire such as its simplicity and efficiency, meaning that it can be administered by non-ED specialists[17] it demonstrates lower sensitivity to those with diagnoses of BED.[30] This could lead to false negatives especially in the overweight or obese women.[19]

In this study, based on the SCOFF questions, 84.2% of the respondents with eating disorders felt they have lost control over how much they eat accounting for the highest response while 78.9% of them said food dominates their life. Similarly, Mnif et al[25] found that the most cited items on the SCOFF questions were getting sick when feeling full and loss of control over the amount of food consumed.[25] The findings of this current study, together with those of previous studies suggest a considerable number of pregnant women with eating disorders are vulnerable to adverse pregnancy and birth outcomes and likely to have increased healthcare needs during pregnancy.

The result of this study shows a mean age of 28.2 ± 5 years in the study participants with over 80% of the respondents below the age of 35 years. This is comparable to studies that found an average age of 29.7 years by Mnif et al[25], a mean age of 31.9 ± 4.1 years by Chan et al[14] and a mean age of 31.9 ± 4.1 years by Bye et al.[6] This corroborates the fact that eating disorders most commonly occur in the young women.[11]
Majority of the respondents in this study (56.3%) belonged to the Hausa ethnic group, 98% of them are married and 59% had tertiary level of education. In a similar study, Bye et al found that ED occurred more commonly in whites who are well-educated, and in a relationship.[6] These are the types of socio-demographics that are often associated with a low risk profile so clinicians may not consider these women to have a psychiatric history.[6]

In this study, majority of the respondents were in their third trimester, 64.2% (n=97), 33.8% (n=51) were in their second trimester and 2% (n=3) were in their first trimester. Ecob et al. has highlighted the importance of early detection of ED in pregnancy.[19] In a prospective longitudinal study, Chan et al. found that the prevalence of disordered eating was 1.2% in the first trimester, it dropped to 1.0% in the second trimester and increased to 1.3% in the third trimester.[14] It is therefore recommended to screen for ED during the initial antenatal visit to allow for early intervention, although screening for EDs can take place during other perinatal appointments such as fetal ultrasounds, the hospital admissions or the third trimester check-up.[18]

The result of this study showed no statistically significant difference between parity and eating disorders in pregnancy (p= 0.903). Although literatures to support this finding are lacking, Baskin et al. in a prospective cohort study observed that primiparous and multiparous women do not differ on the associations between psychosocial factors, anxiety symptoms, and disordered eating.[31]

In this current study, 60% of the respondents are aware that one can intentionally lose weight and become sick by indulging in self-induced vomiting, extreme exercise, food restriction, use and abuse of laxatives and purging. The reason could be linked to the fact that recently and especially over the last decade, eating disorders have increasingly entered public awareness through social programs or mass media. Eating disorders in pregnancy warrants serious consideration because of the associated physical and psychological consequences. Their effects are potentially life-threatening and can persist for several years, ruining the individuals' long-term health, their personal and social functioning.

CONCLUSION

There is a high prevalence eating disorders among pregnant women in our environment, and the antenatal period is an opportunity to identify such women for prompt referral to the mental health physicians to ensure continuity of care.

Limitations: The peculiarity of the SCOFF questionnaire in this environment has not been studied. Adverse maternal and fetal outcomes cannot be determined by this study. This research work is hospital based and client are unselected and do not reflect the different categories of people in the community therefore, may not be representative of the larger society.

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