Prevalence Of Eating Disorders Among School- Attending Adolescents In Benin City, Nigeria

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Abstract: Eating Disorders are considered problems of the more affluent and developed societies but recent evidence suggests otherwise. Population-based data in Nigeria on the prevalence of these disorders are at best sparse. This study aim to determine the prevalence of eating disorders (EDs) among school-attending adolescents, employing a two-stage cross- sectional and descriptive design. The participants are senior secondary school (SSS) students in Benin City, Nigeria.

The results showed that 84 (14.3%) out of the 583 participants were at risk for eating disorders while 51(8.7%) had eating disorders. The prevalence rate of the typical forms of EDs was low in comparison to pica and the atypical forms. This has clinical implication for the evaluation of subjects for eating disorders in the developing societies.

Keywords: Prevalence, Eating Disorders, Adolescents, Nigeria

I. INTRODUCTION

Epidemiological surveys reveal a wide variation in the prevalence rates of both abnormal eating attitude (AEA) - a risk for developing eating disorder, and eating disorders (EDs).These variations could be a reflection of the existing conditions in the different cultural settings, or the effects of methodological differences in the studies.

II. LITERATURE REVIEW

A. PREVALENCE OF EATING DISORDERS IN DEVELOPED AND DEVELOPING COUNTRIES

A study of the prevalence and correlates of EDs in the United States of America among US males, females and adolescents reported rates of 0.3%, 0.9% and 0.3% for AN and 0.5, 1.5 and 0.9 for BN respectively. (Hudson, Hiripi, Pope Jr, and Kessler, 2007, Swanson, Le Grange, Swendsen and Merikangas 2011). A study among respondents in six European countries -Belgium, France, Germany, Italy, The Netherlands and Spain- showed a lifetime prevalence rates of 0.48%, 0.51%, and 1.12% for AN, BN, and BED respectively. (Preti, Girolamo, Vilagut, Alonso, Graaf, Bruffaerts, et al. 2009). From the U.S study, females were three times more affected than males. A high prevalence rate of 2% for AN was reported among adolescent girls in the United Arab Emirates (Eapen, Mabrouk, and Bin-Othman, S, 2006). The girls were screened using EAT– 40 questionnaire and positive scorers were further subjected to semi-structured clinical interview by a psychiatrist. This high prevalence rate for AN could be a real representation of the magnitude of the problem in the culture, or be due to methodological bias. Prevalence rates comparable to those in Western societies have been reported by some developing countries: a lifetime prevalence of 0.9% and 3.2% for AN and BN respectively were reported among 15–18 year old adolescent school girls in Tehran where the researchers employed a two-stage design. In stage one, EAT–26 was used as the screening tool and those who screened positive were further evaluated with the Eating Disorders Inventory (EDI) and a supplementary clinical interview. (Nobakht and Dezhkam, 2000) The additional clinical interview for subjects

that screened positive may have helped to validate the EDs reported.

In China, 1.8% and 1.2% of males and females respectively were reported to have met the criteria for BN. No respondent met the criteria for AN and Binge Eating Disorder. (Chun, Mitchell, and Li, 1991). This finding is peculiar because it indicates slight male preponderance in EDs among the study subjects.

B. PREVALENCE REPORTS ON EATING DISORDERS IN AFRICA

Nasser (1994) screened for AEAs in a population of Egyptian secondary school girls (n=351) in Cairo and reported the risk of eating disorders among them to be 11.4%; those at risk were further subjected to semi-structured clinical interview and an estimated prevalence of 1.2% and 3.4% for BN and partial syndrome of BN respectively were reported. In a similar vein, in a study amongst 214 young Tanzanian females (mean age = 19), the researchers reported that 0.9%, 0.5%, and 4.7% met the modified diagnostic criteria for AN (i.e. AN minus amenorrhea), BN and EDNOS respectively (Eddy, Tanofsky-Kraff, Thompson-Brenner, Herzog, Brown and Ludwig, 2007). Combining EDI measures with clinical interview may have improved the validity of these studies. Except the Egypt and Tanzania studies, the rest of the reported studies from the continent have either been on abnormal eating attitude or case reports of eating disorders from large treatment centers. With the increasing influence of technology, free movement of people across erstwhile divides and globalization, cultures have become more dynamic with resultant changes in lifestyles. These are expectedly impacting on disease epidemiology. A study of adolescent female South Africans using the EAT–26 questionnaire reported prevalence rates of AEA of 20.7% and 37.5% for white and black subjects respectively (Szabo and Allwood, 2004). Anecdotal report includes a case of BN in a black Kenyan (Peltzer, 1991).

C. PREVALENCE REPORTS OF EATING DISORDERS IN NIGERIA

Studies of eating disorders in Nigeria are lacking, except for a few case reports. Famuyiwa (1988) in Lagos reported two cases of AN in Nigerian females; he opined that the general trend in prevalence was increasing, and called for more diagnostic vigilance among doctors. Similarly, Binitie, Osaghae and Akenzua, (2000) and Uhunu et al (2009) reported on a case each of AN in Nigerian female patients in Benin City and Kaduna respectively. Cases of pica associated with lead toxicity in Jos have also been reported. (Wright, Thacher and Pfitzner, 2005). All these reports were from large treatment centres and point to a need for community based studies. Research reports on the prevalence of AEA far out-number those for EDs in Nigeria. Probable reasons for this disparity may include the perceived rarity of eating disorders in developing nations and lack of resources for large scale community-based studies. Oyewumi and Kazarian (1992) surveyed 644 female Nigerian college and university undergraduate students for AEA using EAT-26 and reported a prevalence rate of 14.1%. The report by Owie and Izevbigie

(2006) of a survey conducted among a sample of 1761 female adolescent students aged 13-17 years from both public and private senior secondary schools in Benin metropolis at best highlight the confusion in the use of the term "eating disorders" in the literature: the medical consensus is that people do not practice eating disorder but suffer from it! It is difficult to compare the reported findings with existing literature since the study title, research instruments and objectives of the work appear disconnected. Dike (2009) studied 1,171 young females aged 13–21 years in Ogun State, Nigeria using EAT–26 and reported a prevalence of 58%. The study involved both adolescent and early adult females known to constitute a 'high risk' group for EDs. The conclusions appear to be over-arching as no diagnosis for anorexia nervosa or bulimia could have been established with the use of a screening tool. These Nigerian studies screened the subjects for abnormal eating attitude which is at best a measure of the risk of developing an eating disorder (Pelaez-Fernandez, Labrador and Raich, 2008) and not prevalence of eating disorders.

For the determination of the prevalence of eating disorders, a two-stage study design is a universal procedure adopted in order to first screen out those individuals who indulge in abnormal eating attitude; these are subsequently subjected to a standardized clinical interview for diagnostic purposes. Studies of EDs are needed because they are often associated with high mortality, potentially serious medical complications, mental health problems, low quality of life and role impairment (Hudson, Hiripi, Pope Jr, and Kessler, 2007). Early detection and follow up management are important in order to prevent these associated problems. In addition, little population-based data exist on the prevalence of eating disorders in Nigeria. Population based studies as this are needed to ascertain the prevalence of the disorders in our locale as most people with eating disorders unfortunately do not seek treatment; also, this study findings would add to the existing knowledge about eating disorders in the developing world in general, and Nigeria in particular.

III. METHOD

This was a two-stage descriptive cross sectional study conducted among senior secondary school students in Ikpoba-Okha Local Government Area (LGA) of Benin City from January 20th to 7th March 2014. The detailed description of the study method used is as provided in a previous study. (Otakpor and Ehimigbai, 2016).

The study instruments were a self-report questionnaire and an interviewer- administered structured clinical interview schedule. The questionnaire consisted of two sections: (i) Socio-demographic data collection sheet and (ii) The 26-item version of the Eating Attitude Test (EAT-26).

The EAT-26 is a self-report measure used to screen for risk of developing an eating disorder. It has comparable psychometric properties as the longer 40-item version, is widely used and has good internal consistency (19). To complete the EAT-26, participants rated their agreement with statements about weight and food consumption on a six– point scale with responses for each item rated from zero to three.

The sum of scores on each of the 26-items gives the respondent's test score. A score of 20 or more is the normative cut-off that is suggestive of eating related psychopathology (Garner, Olmsted and Bohr, 1982).

The Mini International Neuropsychiatric Interview (M. I. N. I.) is a short structured diagnostic interview for making diagnoses of psychiatric disorders according to DSM- IV and ICD-10 criteria (Sheehan, Lecrubier, Janavs,1988). It is short, simple, clear and easy to administer and has been widely used in Nigeria. It is divided into modules identified by letters corresponding to the diagnostic categories. Diagnostic modules for Anorexia and Bulimia Nervosa were used in this study.

Following approval from the University of Benin Teaching Hospital ethics and research committee, all relevant authorities of the participating schools and obtaining informed consent/assent from the participants or parents, the study was conducted in two stages. The first stage involved administration of the questionnaire beginning with the data collection sheet and the screening of the participants with the EAT-26; the questionnaires were coded using serial numbers to ease tracking of those to be interviewed. Two trained research assistants were used to execute this exercise which took place during the 30 minutes break time in the students' respective classrooms. The weight in kilograms (Kg) and height in metres (M) of each student were measured, and the body mass index (BMI) was subsequently calculated by dividing the weight by the square of the height.

In the second stage, those students who scored 20 or more on the EAT-26 questionnaire were subjected to structured clinical interview by means of the MINI. The prevalence of eating disorders was determined from those who met the diagnostic criteria as specified in the MINI.

The data were coded and analysed using the Statistical Package for Social Sciences (SPSS version 16.0 for windows); and frequency tables generated and used to present the distribution of the variables.

IV. FINDINGS

A total of 600 students comprising 240 and 360 from the public and private schools respectively were recruited for the study, and the questionnaires administered to them. All questionnaires were returned but 13 had many missing data and were therefore excluded from the analysis- giving a response rate of 97.8% (587).

	No of Respondents	Percentage (%)
Gender		
Male	333	56.7
Female	254	43.3
Family type		
Monogamous	382	65.1
Polygamous	196	33.4
Others	9	1.5
School		
Public	232	39.5
Private	355	60.5
BMI status		
Underweight (BMI < 17.5)	93	15.3
Normal weight (BMI 17.5-24.9)	450	76.7
Overweight (BMI 25-29.9)	35	6.0
Mild obesity (30-34.9)	9	1.6
Moderate obesity (35-39.9)	0	0

Table 1: Socio-demographic characteristics of the respondents (n=587)

The age of the respondents ranged from 14-19 with a mean age of 15.3 years (SD = 1.2) and a modal age of 14years (32.7%). There were 333 (56.7%) males and 254 (43.3%) females, giving a male to female ratio of approximately 1.3:1. About two-thirds (65.1%) were from monogamous families (Table1). Two hundred and thirty two respondents (39.5%) were in public schools while 355 (60.5%) were in private schools, giving a public to private school ratio of approximately 1:1.5 (Table 1). The number of respondents decreased with increasing class level from SS1-SS3. The majority of the respondents, 450 (76.7%) were in the normal range of BMI while 9 (1.6%) were obese.

	Frequency	Percentage
Eat-26		
Negative	503	85.69
Positive	84	14.31
Total	587	100.0
Pica		
Negative	558	95.06
Positive	29	4.94
Total	587	100.0
AN		
Negative	84	100.0
Positive	0.0	0.0
Total	84	100.0
BN		
Negative	82	99.66
Positive	2	0.34
Total	84	100.0
AAN		
Negative	66	96.94
Positive	18	3.06
Total	84	100.0
ABN		
Negative	75	98.47
Positive	9	1.53
Total	84	100.0
ED (sum)		
Negative	529	90.12
Positive	58	9.88
Total	587	100.0
Comorbidity	7	1.19
ED prevalence	51 (58 minus 7)	8.69

AN = Anorexia nervosa; BN = Bulimia nervosa; AAN = Atypical Anorexia nervosa;
ABN= Atypical Bulimia nervosa; ED = Eating Disorders.
Note: ≈1.2% of respondents were co-morbid for Pica and one other EDs, hence the Prevalence of EDs is ≈8.7%

Table 2: Risk and prevalence of eating disorders (EDs)

Eighty four respondents (14.3%) scored positive (scored ≥ 20) on the EAT-26 thus representing the prevalence rate of abnormal eating attitude, while 8.7% met the diagnostic criteria for eating disorders, including pica (Table 2). The identified eating disorder types were: pica 29 (4.94%), Atypical Anorexia Nervosa 18 (3.06%), Atypical Bulimia Nervosa 9 (1.53%) and Bulimia Nervosa 2(0.34%). None was positive (met the diagnostic criteria) for Anorexia Nervosa. Pica was found to be co-morbid with another eating disorder in 1.19% of the cases.

V. DISCUSSION

This study found a prevalence rate of 8.7% for eating disorders among Nigerian adolescents studied, yet only sporadic cases had previously been identified and reported among the teaming crowd that throng the treatment centres across the nation's health facilities. This state of affairs may not entirely be blamed on poor index of suspicion occasioned by the belief and teaching that eating disorders are predominantly problems of the western world, but also as has been found in this study, the predominance of the atypical subtypes in those with the disorders. The findings of this study is a clarion call for all to awaken to the impact of globalization occasioned by humanity's technological advances and increasing respect for freedom of movement among other fundamental rights of man. The result is that every culture is thrown into a constant state of flux which invariably impacts on disease epidemiology. Eating disorders have therefore ceased to be diseases of the west or civilized societies. The myriad of physical health complications which are often life-threatening and other co-morbid conditions with eating disorders make it essential that practitioners be aware of the various forms of presentation to facilitate early identification and management.

The prevalence of the typical forms of eating disorders in this study was relatively low in comparison to reported rates for population based studies in other non-Western countries. (Eapen, Mabrouk and Bin-Othman, 2006, Nobakht and Dezhkam, 2000, Shisslak, Crago and Estes, 1995). Explanations for these differences may be partly due to inherent cultural differences in the study populations, differences in research methods, or no difference at all given the time lag between these studies. The absence of AN in this study is noteworthy. Similar finding was noted in an Italian study involving adolescent school girls (Santonastaso, Zanetti, and Sala, 1996). The quest for western concept of beauty typified by thinness would seem not to have been imbibed by the study subjects despite the frequent media bombardment. This may mean that despite the influence of western culture as regularly portrayed by the electronic media in most homes, there is still some reservation in buying into these ideas. The 'African cultural ideal' that plumpness equals beauty would seem not to have totally become extinct.

Partial syndromes of eating disorders have been reported to be relatively more common (Shisslak, Crago and Estes, 1995, Eddy, Celio and Hoste, 2008), a finding that was replicated in this study. Partial syndromes are however not the least harmful because, apart from frequent transition of patients from atypical (partial) syndromes to full blown typical forms, considerable psychological and physiological morbidity have been associated with the atypical forms (Thomas, Vartanian and Brownell, 2009). Also worthy of note is the relatively high prevalence of Pica of 4.9%; this raises some concerns as it is not commonly diagnosed despite the associated grave physical health implications.

Although the focus of this study was on eating disorders, the abnormal eating attitude (AEA) prevalence of 14.3% found is worth commenting on. Screening people for possible risk of eating disorders was what most other studies in Africa were about, since they were never followed up with standardized clinical interview (Oyewumi and Kazarian,1992, Szabo and Allwood, 2004, Dike, 2009). Of significance is that 60.8% of the subjects that screened positive on the EAT-26 were diagnosed as cases of eating disorders; routine screening with this instrument both in the community and clinic consultations should therefore be encouraged. Abnormal eating attitude of 14.3% in this study is comparable to 14.1% earlier reported by Oyewumi and Kazarian (1992); 13.4% reported in Spain (Mateos-Padorno, Scoffier and Polifrone, 2010); and not significantly different from the 17.1% reported among female high school students in Taiwan. (Chang, Lin, and Wong, 2011)

In Conclusion, the prevalence of the typical forms of eating disorders among the subjects was low compared to the atypical forms. Pica was relatively more prevalent, and sometimes coexisted with other forms of EDs. This has clinical implication for the evaluation of subjects for eating disorders in the developing societies.

It is recommend that large scale community-based studies across Nigeria's geopolitical zones be undertaken to help establish the magnitude and pattern of the problem because of the growing influence of Western culture.

Routine screening of adolescents at regular intervals for eating disorders in the community and schools, as well as institution of educational programs for school health staffs and counselors are recommended as students with eating disorders may present under the guise of physical illnesses. This will enhance early detection and appropriate referrals to specialized centers.

It is hoped that these measures will complement other efforts at improving the health of adolescents generally.

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