PATTERN OF BODY MASS INDEX AMONG WOMEN WITH PELVIC ORGAN PROLAPSE

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ABSTRACT

BACKGROUND: Overweight and obesity are usually regarded as risk factors for pelvic organ prolapse. This may not be the case in Sub-Saharan Africa where there is chronic malnutrition, physical stress and underweight.

OBJECTIVE: To determine the pattern of body mass index in women with pelvic organ prolapse.

METHODS: This was a retrospective study which involved the review of medical records of patients between June 2012 and May 2016. Data of 917 women who presented for management of pelvic organ prolapse met the inclusion criteria. Ethical clearance for the study was obtained from Research and Ethics committee of the National Obstetric Fistula Centre, Abakaliki.

RESULTS: The mean age was 49.46±13.2 years. The mean weight was 52.04±11.96 kg. The mean body mass index was 21.37±4.73kg/m^2. Two hundred and thirty four (25.5%) were underweight and 540 (58.9%) had normal weight. Overall, 15.7% of the study population had obesity and overweight. In women that had first degree uterovaginal prolapse, 20% had obesity and overweight. For women that had second and third degree uterovaginal prolapse, obesity and overweight occurred in 17.7% and 10.6% respectively.

CONCLUSION: Most women with pelvic organ prolapse in our setting tend to have normal body mass index or are underweight. Increasing severity of prolapse does not appear to correspond with increasing body mass index in our setting.

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KEYWORDS: Pelvic organ prolapse; uterovaginal prolapse; overweight; obesity; body mass index.

INTRODUCTION

Pelvic organ prolapse has continued to be a source of concern to clinicians in middle and low income countries. The cause of pelvic organ prolapse may be regarded as multifactorial, resulting from a defect in the complex interaction between the levator ani, vagina and connective tissues as well as neurologic injury from stretching of the pudendal nerves that may occur during childbirth.[1] The risk factors for the disease include increasing age, multiparity, previous delivery of a macrosomic foetus, increasing body mass index, menopause, low socioeconomic status, previous prolonged labour and instrumental delivery.[1]

The prevalence of pelvic organ prolapse varies in different settings. Suffering from prolapse is worse in areas of high parity and little or no access to health care. In developing countries, with so much value place on childbirth combined with poor access to modern contraceptives and quality obstetric care, occurrence of pelvic organ prolapse is likely to continue.

Overweight and obesity are usually regarded as risk factors for pelvic organ prolapse hence weight reduction may be advocated in the management of such women.[2] This may not be the case in Sub-Saharan Africa where there is chronic malnutrition and underweight. If obesity and overweight are not important contributors to pelvic organ prolapse in developing countries, weight reduction programmes may not be of priority in the management of pelvic organ prolapse in such settings. The interactions between the determinants of pelvic organ prolapse in developed and developing countries may

however be more complex.

Women with obesity present with a range of pelvic floor disorders including uterovaginal prolapse.[2] Obese women appear more prone to uterovaginal prolapse when compared with non-obese women.[2] When surgical intervention is required for pelvic organ prolapse, obese women are also more prone to complications.[2] Being overweight or obese is highly associated with progression of pelvic organ prolapse but regression or improvement of symptoms does not appear to be significantly associated with weight loss.[2,3,4]

The aim of this study was to determine the pattern of body mass index in women with pelvic organ prolapse.

METHODS

This retrospective study was conducted at the National Obstetric Fistula Centre, Abakaliki South-East Nigeria. The study facility offers free surgical services to women with genital fistula. The centre is also involved in other gynaecological procedures including management of pelvic organ prolapse, family planning services and infertility treatment. It has a bed space capacity of 96 and the clients are mainly from Southern part of Nigeria and neighbouring states of the middle belt region of the country. This study involved the review of medical records of patients who presented for management of pelvic organ prolapse between June 2012 and May 2016. The data of 917 women who presented for management of pelvic organ prolapse met the inclusion criteria and were available for review. Women whose weight and or height were not recorded were excluded from this study. Some required conservative management, while those that required surgery were offered same and others defaulted to follow up. At presentation, their weight, height, body mass index and type of prolapse were recorded. Body mass index from 18.5 to 24.9 was regarded as normal, below that was regarded as underweight, 25 to 29.9 was regarded as overweight, while a body mass index of 30 or more was regarded as obesity. Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 21. Ethical clearance for the study was obtained from the Research and Ethics committee of the National Obstetric Fistula Centre, Abakaliki.

RESULT

Data of 917 patients were analysed. The mean age was 49.46±13.2 years and the age range was from 18 to 90 years. The age range with the highest frequency of prolapse was 60 to 69 years (24.9%) as shown in table 1. They were mostly multiparous and grandmultiparous (Table 2). The mean parity was 6.38±2.7. Farming, as seen in 695 (75.8%) of women was the most commonly observed occupation and 573 (62.5%) were married. Their height ranged from 1 to 1.9 meters with a mean height of 1.56±0.08 meters. The mean weight was 52.04±11.96 kg and the weight ranged from 30 to 114kg. The mean body mass index was 21.37±4.73kg per squared meters. The body mass index ranged from 12.34 to 49 kg per squared meters. Two hundred and thirty four (25.5%) were underweight, 540 (58.9%) had normal weight while 143 (15.6%) were in the range of overweight and obesity (Table 3). The incidence of obesity and overweight in women that had first degree uterovaginal prolapse was 20%. For women that had second degree uterovaginal prolapse, the incidence of obesity and overweight was 17.7% while in those that had third degree uterovaginal prolapse, it was 10.6% (Table 4).

DISCUSSION

The mean age of women in this study was 49.46 years. This is similar to a study on pelvic organ prolapse that was previously done in the same setting.[5] This is slightly lower than the mean age of women with pelvic organ prolapse in a study done in India in which the mean age was 57.5 years.[6] It is not surprising that the average age of women with pelvic organ prolapse in the index study was reduced presumably because of the presence of other risk factors that have

TABLE 1: SOCIODEMOGRAPHIC CHARACTERISTICS OF THE STUDY POPULATION.

Variable	Frequency (%)
Age	
10 – 19	2 (0.2)
20 – 29	60 (6.5)
30 – 39	151 (16.5)
40 – 49	193 (21)
50 – 59	225 (24.5)
60 – 69	228 (24.9)
70 – 79	56 (6.1)
80 – 89	2 (0.2)
Tribe	
Igbo	909 (99.1)
Hausa	1 (0.1)
Others	7 (0.8)
Religion	
Christian	888 (96.8)
Islam	1 (0.1)
African Traditional Religion	28 (3.1)
Occupation	
Trading	122 (13.3)
Farming	695 (75.8)
Teaching	16 (1.7)
Artisan	31 (3.4)
Unemployed	24 (2.6)
Others	29 (3.1)
Marital Status	
Married	573 (62.5)
Single	16 (1.7)
Widow	322 (35.1)
Divorced	6 (0.6)

TABLE 2: PARITY OF THE STUDY POPULATION

Parity	Frequency (%)
Nullipara	8 (0.9)
Primipara	41 (4.5)
Multipara	167 (18.2)
Grandmultipara	701 (76.4)

TABLE 3: DIFFERENT CATEGORIES OF BODY MASS INDEX IN THE STUDY POPULATION

Body mass index	Frequency (%)
Underweight	234 (25.5)
Normal weight	540 (58.9)
Overweight	87 (9.5)
Obese	50 (5.5)
Morbidly obese	6 (0.7)

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TABLE 4: BMI PATTERN OF THE VARIOUS FORMS OF PELVIC ORGAN PROLAPSE.

	Cystocele/Rectocele	1st degree UV prolapse	2nd degree UV prolapse	3rd degree UV prolapse
Underweight	26	24	71	113
Normal weight	62	60	176	242
Overweight	16	12	34	25
Obese	10	8	17	15
Morbidly obese	1	1	2	2
Total	115	105	300	397

contributed to the formation of pelvic organ prolapse. These include farming and multiparity which were very common in this study. Increasing maternal age with the effect of menopause is a risk factor for pelvic organ prolapse.[7]

The women in this study were mostly multiparous and grandmultiparous. Increasing parity is a known risk factor for pelvic organ prolapse.[5,8] Repeated childbearing causes disruption in the function of the pelvic floor and subsequent prolapse of the genital organs. Infact, in Sub-Saharan Africa, multiparity in which women are repeatedly exposed to difficult and unsupervised labour appear to be the most important risk factor for pelvic organ prolapse.

The mean body mass index of women with pelvic organ prolapse in this study was 21 kg/m^2. Whereas overweight and obesity are associated with uterovaginal prolapse, women with prolapse in our setting do not appear obese or overweight in most cases. This may not be unrelated to the chronic malnutrition encountered in middle and low income countries. About 80% of women in Nigeria are either normal or underweight.[9] In a study done in another setting, the mean body mass index in women with pelvic organ prolapse was 26.6kg per squared meter.[10] In that same study, body mass index had no impact on pelvic organ prolapse quantification system measurements. Majority of women with pelvic organ

prolapse had a normal body mass index or were underweight as shown in this study. This is in contrast with a study done in Nagpur where more women with prolapse had overweight and obesity.[8] An implication for this finding is that in the management of pelvic organ prolapse in our setting, weight reduction programmes may not be very important.

There was a decline in the incidence of overweight and obesity from first to third degree uterovaginal prolapse. Some elderly women in our setting are abandoned by their children and relatives which make them prone to malnutrition. This may be a cause of reduced body mass index in such women resulting from chronic malnutrition. This finding may have also resulted because of the difference in sample size in each of the types of prolapse. A high percentage of women with first degree uterovaginal prolapse were overweight and obese compared to those with other forms of prolapse. This may be because such women are younger unlike the older age groups with more severe forms of prolapse.

This study will serve as a useful guide in managing women with pelvic organ prolapse. However, it is limited by the fact that body mass index of normal women was not compared with that of women who had pelvic organ prolapse. Also, since it is a hospital based study, its findings may not be generalizable

CONCLUSION:

Pelvic organ prolapse is a major challenge in middle and low income countries. Majority of women with pelvic organ prolapse in our setting tend to have normal body mass index or are underweight. Increasing severity of prolapse does not appear to correspond with increasing body mass index in our setting. Weight reduction may not be an important factor when counselling women with pelvic organ prolapse in middle and low income country since only a few women with the disease are obese.

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