Pattern of Body Mass Index and Common Health Problems in Women of Reproductive Age Group in a Private Clinic in Kathmandu

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ABSTRACT

Introduction: High Body Mass Index is one of the risk factors for many chronic diseases and adverse health outcomes. It is associated with an increased risk of coronary heart disease, ischemic stroke, high blood pressure and type 2 diabetes mellitus. It also have many adverse effect on reproductive health of the women like sub fertility, polycystic ovarian disease, menstrual abnormality etc. The purpose of this study is to find Basal Metabolic Rate and the diseases pattern of reproductive age woman in Nepal.

Methods: This is a descriptive study of women of reproductive age (15 to 49 years) attending a private gynaecology clinic in Kathmandu Valley from October 2016 to June 2017. Six hundred and eight women of current reproductive age group participated in this study. Women's particulars and complaints were noted down. Detailed history was taken. Height, weight and blood pressure were recorded and general examination was done. BMI was calculated as BMI is weight in kilogram divided by height in meter square, and it was interpreted as per WHO guidelines.

Results: Out of the total 608 participants, 243 (40%) were overweight, 96 (15.8%) were obese. Regarding the common health problems, 154 (25.3%) have sub fertility and 199 (32%) had genitourinary infection. Similarly, 90 (14.8%) had menstrual problems.

Conclusions: Prevalence of overweight and obesity has risen significantly comparing to the study done decade ago in same setting. Similarly, sub fertility rate has also risen whereas the prevalence of genitourinary infections has decreased

Keywords: _BMI; genitourinary infection; Nepal-reproductive age women; sub fertility._

INTRODUCTION

Overweight and obesity is abnormal or excessive accumulation of fat in a way which has adverse effects on health.[1] High Body Mass Index (BMI) is one of the major risk factors for many chronic diseases and adverse health outcomes.[2] It is associated with an increased risk of coronary heart disease[3] ischemic stroke,[4] high blood pressure[5] and type 2 diabetes mellitus[6] etc. It also has various effects on reproductive health of the women. It is one of the culprit for sub fertility,[7] polycystic ovarian disease[8] etc. Worldwide, about 39% of adults (≥18 years) were overweight in 2014, and 13% of them were obese.

This study was carried out to find out the Body Mass Index of women of reproductive age group (15 to 49 years) attending a private clinic in Kathmandu.

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METHODS

This is a prospective observational study of women of Reproductive Age (15-49 year) attending a private gynaecology clinic at Kathmandu Valley from October 2016 to June 2017 for various reasons for consultation. Ethical clearance was taken from the Institutional Review Committee of Kathmandu Medical College, Nepal. Informed verbal consent was taken from all the participants. A total of 884 consecutive cases attending the clinic during the period were included in the study. Cases who were below the age of 15 years and above 49 years of age; those who were on hormonal therapy for last three months; cases who didn't give consent for participation and pregnant women were excluded from the study. Thus, a total of 608 cases of current reproductive age group participated in this study.

Women's particulars and complaints were noted down. Detailed history was taken. Height, weight and blood pressure were recorded. General examination was done.

BMI was calculated as BMI is weight in kilogram divided by height in meter square, and it was interpreted as per WHO guidelines.

Systemic examination, per abdomen and pelvic examination were performed. Investigations on the line of findings if needed were also done and a plan of management was set out accordingly. Data analysis was done using Statistical Package for the Social Sciences (SPSS) version 20.

RESULTS

Among 608 women participants, most of them 131 (21.5%) were of age group 25 to 29 (n = 131) followed by 30-34 (n = 123). Only 25 (4.1%) women were of the age group of 15 to 19 years. Twenty four (3.9%) cases were underweight, 245 (40.3%) cases were nomal and 243 (40%) were in the pre-obesity stage (overweight). Similarly, 84 (13.8%) cases had Grade I obesity (obese) and 12 (2%) cases had Grade II obesity (obese) (Table 1).

Table 1. Age wise distribution of BMI status in 2017.						
Age Group	BMI Status Under wt.	Normal (Healthy)	Pre- Obesity	Grade I Obesity	Grade II Obesity	Total n (%)
15 -19	2	15	6	1	1	25 (4.1%)
20-24	3	53	23	2	2	83 (13.7%)
25-29	10	62	43	15	1	131 (21. 5%)
30-34	4	49	52	15	3	123 (20.2%)
35-39	2	31	50	13	1	97 (16%)
40-44	1	19	37	23	1	81 (13.3%)
45-49	2	16	32	15	3	68 (11.2%)
Total	24 (3.9%)	245 (40.3%)	243 (40%)	84 (13.8%)	12 (2%)	608 (100%)

Table 2. Health problems among women in 2017.	
Disease	n (%)
Menstrual problem	90 (14.8)
Genito- Urinary Infection	199 (32.7)
Sub-fertility	154 (25.3)
Conditions & problems	47 (7.7)
Check up/NAD	84 (13.8)
Others	34 (5.7)
Total	608 (100)

The prevalence of menstrual problem, genitor-urinary infections, and sub fertility are 90 (14.8%), 199 (32.7%) and 154 (25.3 %) respectively (Figure 1).

The study shows Overweight and Obesity have markedly risen within last decade (Figure 1).
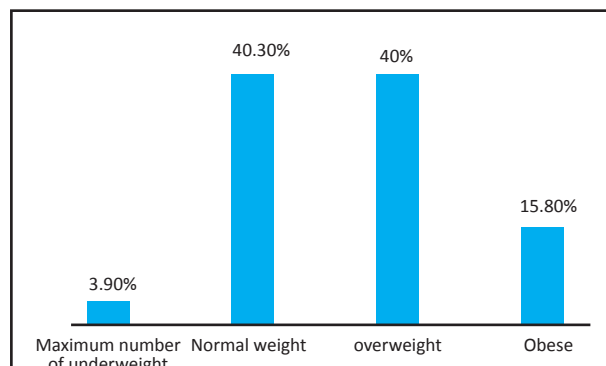
Figure 1. BMI status of the participants.

Table 3. Comparison between BMI of different age group in 2007[9] and 2017.

Age Group	BMI Status							
	Under wt.		Normal (Healthy)		Overweight		Obesity	
	2007	2017	2007	2017	2007	2017	2007	2017
15 -19	5	2	12	15	3	6	0	2
20-24	20	3	83	53	28	23	2	4
25-29	21	10	110	62	72	43	20	16
30-34	16	4	100	49	88	52	17	18
35-39	10	2	63	31	72	50	33	14
40-44	6	1	55	19	71	37	19	24
45-49	2	2	23	16	39	32	10	18
Total	80 (8%)	24 (3.9%)	446 (44.6%)	245 (40.3%)	373 (37.3%)	243 (40%)	101 (10.1%)	96 (15.8%)

The BMI status of different age group was in increasing trend than in the previous study conducted in 2007 (Table 3).

DISCUSSION

Health of reproductive aged women is of utmost importance for their own health and wellbeing as well as for the outcome of pregnancy. The current study is focused on BMI and disease pattern in general. Reproductive aged women of Nepal in the year 2017 and those findings were compared with the findings from a study conducted in the same setting by the author in 2007.[9]

Present finding shows that the prevalence of underweight, normal weight, overweight and obesity among the reproductive age women is 3.9%, 40.3%, 40% and 15.8% respectively. Compared to the findings from the study published in 2007,[9] the prevalence of overweight and obesity has increased from 37.3% to 40 % and 10.1% to 15.8% respectively (Table 3).

Similarly, the prevalence of sub fertility has increased from 10% in 2007 to 25.3% in 2017. Present study shows 15.8% women are obese. Most of them are of age group 25-29 years. It is comparable to the finding of the study done in China which shows 16.5% women are overweight or obese.[10]

The proportion of adults with a body-mass index (BMI) of 25 kg/m² or greater increased between 1980 and 2013 from 28.8% to 36.9% in men, and from 29.8% to 38.0% in women worldwide.[11]

The scenario is not different in our context. Overweight and obesity has markedly increased in a decade if we compare the study done in 2007 with the present finding.

The present study shows that overweight and obesity have markedly risen within last decade. Overweight and obesity has risen from 37.3% to 40% and 10.1% to 15.8% respectively over the same period of time. However, the percentage of underweight and normal weight has decreased from 8% to 3.9% and 44.6% to 40.3% respectively from 2007 to 2017.[9]

The trend of changing BMI is similar in context of Bangladesh from 2007 to 2017. Underweight and normal weight has decreased from 29.5% to 24.1% and 48.7% to 46.7% respectively. Overweight and obesity has increased from 10.1% to 13.5% and 1.7% to 2.9% respectively.[12]

The condition in India is not much different, according to National Family Health Survey (NFHS) overweight or obesity women has risen from 12.6% to 20.7% in NFHS-3 (2005-2006 to 2015-2016).[13]

BMI is increasing globally and it might be due to sedentary life style, low level of physical activity, changing food habit which is important factor for management of the obesity.[14]

Reproductive aged women are prone to have variety of gynaecological problems.

The present study shows genitourinary infection is the most commonly (32.7%) found problem among RA women, which is common to all group. These infections include vulvitis, vaginitis, cervicitis, pelvic inflammatory disease, urinary tract infection. Infection has reduced from 42.6% to 32.7% from 2007 to 2017. It might

be due to awareness, good hygiene and health seeking behaviour.

Prevalence of sub fertility has increased from 10% to 25.3% from 2007 to 2017. Sub fertility includes primary and secondary sub fertility. Obesity and sub fertility both have increase significantly over a decade. As several studies found that the risk of infertility is threefold higher in obese women than in non-obese women.[7] In the present finding, both obesity as well as sub fertility rate have increased in comparison to the previous study[9] which indicates a positive relation between these two. Studies have shown that pregnancy rates are decreased and spontaneous pregnancy take longer duration to achieve in obese women, including regular ovulatory obese women.[15,16]

Other conditions and problems include hormonal upset, irregular use of hormones like emergency contraception and for postponing periods etc. is 7.7% which was 3.1% in 2007. Easy availability of hormonal tablets and awareness of patient may have result increase use. The prevalence of other problems hasn't changed from 2007 to 2017. Menstrual problem was 14.7% in 2007[9] which is 14.8% in 2017 according to the present study. There is an increasing trend of overweight/obesity and sub fertility among the reproductive age women in Nepal.

As this study was conducted in a single clinical setting, the findings of this study may not be generalized in the bigger context. Hence, the author would like to recommend conducting a similar study in multiple centres in the country.

CONCLUSIONS

This study shows that overweight and obesity has significantly increased over the period amongst reproductive age group women in comparison to the similar study a decade ago. Prevalence of sub fertility and increased BMI has also risen in the same period of time. Prevalence of genitourinary infection has decreased which might be due to health education, awareness, hygiene and health seeking behaviour. The concerned authorities of Nepal have to pay attention toward increased BMI and sub fertility issues as it has several negative outcomes in the health of the women of reproductive age group.

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