

## Choosing Drugs to Alter Weight: an Informed Choice or Not?

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### Abstract

With the growing drug industry all over the globe and the drastic inclination of people specifically the youth towards healthier lifestyle, there has been a sudden upsurge of the usage of weight altering drugs. Previous studies have been conducted concentrating on the obesity rate and consciousness about associated diseases among the rural people of Bangladesh. There had also been reports on the adverse effects and lasting hazards on health due to the uncontrolled use of medication for correcting weight worldwide. This study focused on the majority of the urban youth of Bangladesh with a view to gather information regarding their current knowledge about the adverse effects of the misuse or over dosage of these medications. Resulting in 13 % of the total sample being aware vaguely and only 2 % of the respondents to be clearly informed about the side effects; the revelations of the conducted survey demands for further investigation and definitive effort to spread awareness to seek proper professional opinion before being exposed to any drugs responsible for weight alteration.

**Keywords:** Urban youth; Weight alteration; Obesity; Awareness; Adverse effects; Side effects; Overuse

### Introduction

The prevalence of overweight and obesity is increasing in Bangladesh. Various studies and surveys have been run focusing on both the rural and urban women of Bangladesh, showing significant weight gain in the recent years<sup>[1]</sup>. There is also evidential prevalence of borderline high cholesterol and diabetes in the adult population of Bangladesh warrants population-based interventions to tackle this problem<sup>[2]</sup>. Other studies show that prevalence of central obesity was more in female than male. Study shows middle age, medium socioeconomic status, low education levels, physical inactivity, high consumption of unhealthy food, were significant risk indicators for general and central obesity<sup>[4]</sup>. However, the awareness about maintaining a good health overall has increased drastically<sup>[4]</sup>. This has in turn led to the consumption of many weight altering drugs or supplements available in market. The pharmaceutical industry worldwide is also concentrating on marketing these kinds of products more on consumers' demand<sup>[5,6]</sup>. The misuse or overuse of these weight altering medications may lead to several side effects of the medications, leaving long-lasting impact on our health.

Additionally, there are some scenarios where the patients are being administered medications for some entirely different condition, but subsequently facing the weight alteration resulted by the side effects of the said drugs<sup>[7]</sup>. For instance, different classes of psychotropic drugs have been reported frequently considering their weight gain effect which might be unknown to the patients without proper medical counselling<sup>[8]</sup>. On the other hand, anti-diabetic drugs are now being reported and frequently used for rapid weight loss (e.g., GLP-1 agonists and SGLT-2 inhibitors)<sup>[9]</sup>. Currently, newer strategies are being practised in order to incorporate awareness among patients about undesired weight effects due to clinical therapy, adverse effects, comorbidities and other treatment burdens<sup>[10]</sup>.

The rationale of this work is to identify the fraction of people who has minimum to full awareness regarding reason, current side effects, and future impacts the medications they are taking presently; to alter their body weight willingly or unwillingly. To choose a newer demography compared to the past studies; a younger, educated and exclusively urban population has been chosen to

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be the sample that should be more prone to be acquainted with the aforementioned knowledge about the medications and supplements. The survey targeted to reveal two-fold information; firstly the overuse of weight-altering drugs and the misuse of prescription drugs for an entirely different condition in order to alter weight.

## Materials and Methods

A survey was conducted targeting the people from varied income range but a considerable strict window on age for the respondents (20 years to 40 years old). Among the total of 656 respondents 360 responses were obtained through field work via one-on-one conversations and the remaining 296 responses were obtained via online filling-out and submissions. The Survey started from August, 2016 until June, 2017 lasting for duration of eleven months.

The questionnaire focused on acquiring information about the respondents' current height and weight to calculate the BMI, their monthly income, present medical condition, diet and extent of physical activities, name of the weight altering drugs or supplements and frequency of usage, and finally on the patients' knowledge about side effects and over dosage *etc.*

A section of the questionnaire was based upon drugs taken for lowering sugar or cholesterol level since many respondents might not be able to distinguish their weight altering effects. In this cross sectional study, people from different areas, professions, places and ages (from 20 to 40 years) have been interviewed. The BMI of the respondents were calculated according to the Institute of Medicine<sup>[11]</sup>.

## Results

From the survey conducted, there are some findings which may have vital implication which indicate the lack of awareness of the participants on the side effects of using weight altering drugs. The concept of the harmful impact of the medications with a view to alter weight due to over dosage or caused by the absence of continuous monitoring by a professional practitioner is also unknown to most of the participants.

Among the respondents, male participants comprises of 60.47 % and female are of 39.52 %. Most of the participants of the respondent group are in the range of 20 year to 24 years old (65 %) representing the undergraduate students of urban region with minimum to no income. The second largest group is of 26 % falling under the 25-30 years old age group. Very few of the respondents (4 %) are in the 35-40 years old age window which mainly represents the high incoming fraction. (Figure 1)

Hence this survey is mainly based on the young generation's perception of their need on altering body weight and knowledge regarding its associated medical hazards.

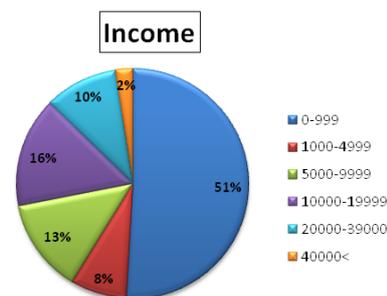


Figure 1: The monthly income of the respondents in Taka

The BMI (Body Mass Index) was calculated from the obtained age, height and weight data provided by the respondents, among which 19 % fell into the category of obesity. Patients of diabetes and cholesterol are of 11 % each. There are also participants, who are patients of diabetes, elevated cholesterol, abnormal blood pressure or cardiac problems, thyroid problems, depression or psychiatric problems, *etc.* Significantly, 26 % of the total respondents complained about back pain which could be a result of over-weight or obesity.

In the section asked specifically about medications, 15 % of the total respondents agreed on taking medications solely on the purpose for altering weight, whether increasing or decreasing. A considerable amount of people was aware of their medication taken for other medical conditions to be responsible for weight alteration as well; for example 9 % and 8 % of the respondents suffering from diabetes and high cholesterol, respectively. Some other drugs were also reported such as antidepressants, steroidal drugs, *etc.* No report was obtained on using prescription drugs recommended for other medical conditions for the purpose losing or gaining weight, intentionally.

With the growing drug industry, there are many kinds of supplements out there for proper or unauthorised use for weight alteration. The highest usage was shown to be of protein supplements (29 %) followed by herbal supplements (20 %). Steroid supplements were reported to be used by 6 % of the respondents. Among other products there were some reports on mass gainer and vitamins *etc.* (Figure 2)

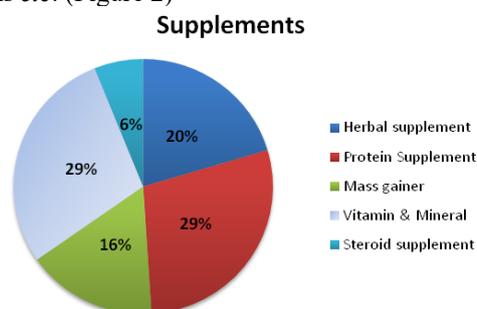
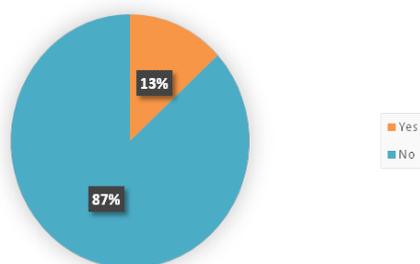


Figure 2: The ratio of commonly used various supplements ingested by the respondents

Participants are educated and majority are young people. Majority of the participants do diet or physical exercise regularly and some take medicines and / or food supplements to alter their weight. The majority of persons (27 %) believed that dieticians are to be the most qualified to give dietary advice, followed by weight consultants and lifestyle coaches. General practitioners and practice nurses shared fourth place which

should raise a general concern regarding the respondents' choice regarding seeking professional help.

Knowledge on Side Effects



**Figure 3:** The ratio of respondents with and without the awareness of the side effects of weight altering medications

Even though the majority of the study group is consisting of educated young people exclusively the habitants of Dhaka, the capital of Bangladesh, it is a matter of great concern that a huge number of people (87 % of the total number) are still unaware of the side effects of the aforementioned medications or supplements taken for weight alteration. (Figure 3)

Among the total number of the respondents only 2 % of the questionnaires showed uniformly listed and correct information about the adverse effects of the medications or supplements taken by the patients, of which majority (1 % of the total respondents) belonged to the 36- 40 years old age group.

## Discussion

This survey encompasses around the youth of the central urban region of the country with a major portion being unemployed. As generally the medications or supplements tend to be costly, the respondents showing inclination to avail the products nonetheless reveals the current mind-set of the youth being conscious about health image. The specific response regarding the positive attitude towards physical activities from a moderate amount of respondents also supports this assumption.

Although the from the sample size of 656 respondents it was drawn that the incidence of obesity cannot be perceived to be very high, being 19 % of the total. Even then the intake of weight altering drugs and protein supplements were up to 15 % and 29 % respectively.

The elderly respondents largely fell into the group having diseases like diabetes, cardiac issues or thyroids problems *etc.* The prescription drugs used in these scenario seldom show weigh alteration. Proper care must be provided to make the patients aware about the side effects of these medications.

Since no remarks could have been obtained regarding the physicians' information through this survey, it would be difficult to clarify if the respondents were counselled about the side effects and over-dosage hazards about the medications or supplements by a professional.

With the report on a minimum usage of steroidal products by the respondents (6 %); it is yet to be mentioned that steroid administration can be a dangerous thing if the individual is not concerned about the appropriate dosage and possible side effects. As steroid is an immunosuppressive agent, in the long term it might cause severe harm.

The exceptional revelation of this survey is that almost 87 % of the participants of the total number of 656 people pos-

sess no knowledge of any of the side effects they are being exposed to. Hence, there is a huge possibility of severe reactions, which may lead to severe reactions and drug-drug or food-drug interactions, about which only 13 out of 100 people are aware.

Considering the demography, this outcome can be identified to be quite alarming. With further investigations appropriate measures could be taken to bring this scenario into the light and to impart proper knowledge regarding the side effects of weight altering drugs or about the misuse of prescription drugs with a view to alter weight.

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