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Prescription Pattern of Anti-Obesity Drug Among the Patients of Obesity: A Prospective Study

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Abstract: Despite the availability of efficacious anti-obesity drugs (AOD), very few doctors are prescribing them to the patients. To assess the anti-obesity drug (AOD) prescription pattern in obese patients. Ninety four obese patients were studied at Department of Medicine and Department of Pharmacology, L N Medical College and research Center Bhopal, Madhya Pradesh from March 2017 to February 2018. Data analysis was done using SPSS ver 20 software. During this study 47% were prescribed metformin, 59% orlistat and 5% both drugs. Orlistat was largely prescribed independently [40 out of 50 prescriptions, 90%) and metforminon specialist recommendation (10 out of 40, 27%). Orlistat was largely prescribed in those over 16 years of age without physical comorbidities. Metformin was initiated for treatment of polycystic ovarian syndrome (70%), insulin resistance (25%) and impaired glucose-control (9%). Orlistat was the most common AOD prescribed in obese patients.
Keywords: Obesity, prescription pattern, metformin, antiobesity drug.

INTRODUCTION

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight [1, 2].

Bleich *et al*., testified that only one-third of the patients undertake weight related diagnosis and treatment [3].

There are many treatment methodologies available in the present time for the treatment and management of obesity. Dietary therapy, physical activity, behaviour therapy, combined therapy, pharmacotherapy, surgery (gastric band surgery, gastric bypass surgery, sleeve gastrectomy, biliopancreatic diversion [BPD] and duodenal switch [DS]), electroconvulsive therapy (ECT), and gene therapy. In the present study, evidence-based nonsurgical treatment strategy to overcome obesity is highlighted including Indian prospect [4].

Pharmacotherapy is primarily suggested for obese patients with type 2 diabetes [5]. This is required because diabetes results in overweight, which is needed to be counteracted using anti-obesity agents.

Based on the mechanism of action anti-obesity drugs are classified under three groups: Appetite suppressants (phentermine, fluoxetine, sibutramine, rimonabant), inhibitors of fat absorption (orlistat), stimulators of energy expenditure (thyroid hormone) and thermogenesis (ephedrine with and without caffeine, terbutaline) [6, 7]. According to Ioannides-Demos *et al.,* 2-7.9 kg of weight can be reduced using pharmacotherapy [8].-There are several drugs available in the market for the treatment of obesity and overweight [9, 10].

In the present scenario orlistat, metformin and sibutramine are the widely prescribed drugs with are available in the market for the long-term treatment and management of obesity [11-14]. Hence present study was planned to observe the prescribing pattern of available anti-obesity driygs.

MATERIALS AND METHODS

For this study we have used the routinely collected data from the out patients department patients who were prescribed with AOD i.e. orlistat or metformin at Department of Medicine and Department of Pharmacology, L N Medical College and research Center Bhopal, Madhya Pradesh from March 2017 to February 2018between.

In this study we excluded the patients prescribed metformin for type 2 diabetes. For data collection a paper questionnaire was used to collect the patient data.

As part of this data collection we have received the patient details like age/date of birth, ethnicity, height and weight and calculated the BMI [15-17].

A data analysis was done using the SPSS ver. 20 software. Frequency distribution was used to prepare tables. Quantitative data is expressed as mean ± SD whereas categorical data is expressed as percentage.

RESULTS

For this study a total of 151patients were identified and the data got collected form the doctor treating them. A total of 94subjects were found eligible.

The majority came from urban (79%), and remaining from rural area (12%). A total of 90 AOD prescriptions occurred in 85 subjects (five subjects were prescribed both orlistat and metformin), consisting of 40 metformin (44% of sample) and 50 orlistat (56%) prescriptions. Table-1 records the basic demographic and comorbidities that can be caused by the prescribed drugs.

Table 1: Characteristic of study cohort

Demographics	Metformin	Orlistat
Female (n, %)	40 (91)	46 (84)
BMI (mean kg/m2, SD)	35.9 (6.1)	37.6 (6.5)
Median age (range)	15.7 (6.5–19.2)	17.3 (13.8–18.8)
Comorbidities (n,%)	Metformin	Orlistat
Hypertension	1 (2)	0 (0)
Hyperinsulinism/insulin resistance	13 (30)	0 (0)
Type 2 diabetes	0 (0)	3 (5)
Dyslipidaemia	1 (2)	3 (5)
Emotional distress	12 (27)	17 (31)
Sleep apnoea	0 (0)	1 (2)
Polycystic ovarian syndrome	32 (73)	6 (11)
Orthopaedic issues	3 (7)	3 (5)
Pervasive developmental disorder	3 (7)	0
Hypothyroidism	1 (2)	3 (5)

Data is expressed as no of patients (percentage)

80% (40/50) of orlistat and25% (10/40) metformin prescriptions were initiated. Symptoms for metformin initiation were obesity along with polycystic ovarian syndrome (70%,28/40), insulin resistance (25%, 10/40), impaired glucose tolerance/impaired fasting glucose(10%, 4/40) and obesity without known comorbidity(5%, 2/40).

DISCUSSION

Receivers of an AOD were mostly female, with two-thirds (65%) of the sample aged 16 or above. Two major prescribing patterns were seen: orlistat was mainly initiated individually and metformin was mostly prescribed by specialists to girls with either polycystic ovarian syndrome or disturbances in glucose homeostasis. Other studies reported similar results.

Truter *et al*., in 2015 reported that he majority of patients (72.19%) who were dispensed anti-obesity medication in this study were female. The average age of patients was 41.71 years, with female patients younger than male patients. These findings were similar to those of a previous South African study that was conducted on a smaller database [18, 19].

Patterson L *et al*., in 2014 concluded that the female patients received anti-obesity prescriptions at a younger age compared to male patients. In a study conducted in Northern Ireland [20].

This study findings show that the very limited existing data relating to AOD rates, of initiation and cessation14 and experiences of patients prescribed an AOD [7]. During this study we found high levels of side effects, low levels of qualified support managing these side effects and in the end families stopping the AOD due to the side effects dwarfing the supposed benefits of the AOD [7]. This distinctions from the findings of this study where no patients discussed side effect with their physician, and physicians being aware of side effects in only few patients.

CONCLUSION

Use of AOD including metformin is rare, particularly in men and those below 16 years. High rates of discontinuation are common, primarily in prescribed with orlistat. Improved teaching and support for treating physician is required to guide AOD use, both for current and future generations of drugs.

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