

Short Communication

A SURVEY OF MARKETED AYURVEDIC/HERBAL ANTI-OBESITY PRODUCTS

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ABSTRACT

Objective: Ayurvedic/herbal medicines are easy to access and hence are becoming alternative for obesity management. The present study was done to find out the availability of herbal anti-obesity drugs in pharmacy and online website.

Methods: A cross-sectional survey on ayurvedic/herbal drugs in local pharmacies was conducted in order to obtain data for accessible marketed anti-obesity formulations. A total of 15 pharmacies and 40 online websites were selected randomly and data available with respect to the anti-obesity formulations using predefined criteria was collected.

Results: The information revealed the presence of 65 formulations on these two outlets. The study showed 20 (31%) products were available in pharmacies, 15 (23%) were available only through online shopping while 30 (46%) products were available for marketing at both the places. The study results showed that highest 41% of the herbal medicine have triphala followed by garcinia and guggul as part of the composition or used individually. As per pharmacist, 60-70% of herbal anti-obesity drugs are being purchased without a prescription. There are many online websites available, selling herbal anti-obesity drugs with titles of safety and guaranteed weight loss.

Conclusion: The study revealed the rampant availability of ayurvedic/herbal drugs in the market possibly due to the attractive names, tall claims and assumed safety about these drugs.

Keywords: Ayurveda, Herbal, Weight loss, Anti-obesity

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In the recent years, obesity has become a major health problem worldwide affecting people across all ages, sex, ethnicities, and races. Its prevalence has been increasing at an alarming rate. It is a disease involving severe metabolic disturbances affecting almost all systems in the body [1]. The current treatment modalities available to manage obesity carry either high cost or serious side effects [2]. Against this background, herbal anti-obesity products attract users with their health claims and assumed safety along with easy availability and extensive marketing. Although there are clinical studies supporting the beneficial effect of some herbal medicines in weight reduction, these medicines can have unpredictable levels of active ingredients and can, therefore, produce effects of varying degrees [3]. Further, the herbal products can sometimes cause direct toxicity or adverse interactions with concurrent medications [4].

Some previously performed pharmacoepidemiology studies have addressed some of the issues and have provided evidence-based data on the use of marketed ayurvedic drugs for diabetes [5, 6]. However, no such study has been reported so far on marketed anti-obesity products. With this background, the present study was planned to collect information on ayurvedic/herbal medicines presently available in the market as promising in the management and treatment of obesity.

Among health-care professionals, pharmacists are in a position to influence consumers as they are easily accessible to consumers [7]. The online available market is an easy way for consumers to find information about drugs from selling to the experience of users. Hence, we focused our study on local pharmacies and online marketing.

A cross-sectional study was carried out on the availability of anti-obesity ayurvedic/herbal products in 15 local pharmacies and online shopping during the month of December 2015. The local pharmacies were selected using convenient sampling. The pharmacists were asked to show the containers of ayurvedic/herbal products available with them for obesity treatment. The information available on the labels of the containers was captured without opening them. The online study was carried out using search terms viz. 'ayurvedic/herbal medicines for obesity OR weight loss.' The products with images and required information were only included in the study.

In both the cases, the following information was collected for each product.

- Name of the product
- Name of the manufacturer
- Availability (pharmacy or online or both)
- Type of product (classical or Patent and Proprietary [P and P])
- Ingredients
- Formulation type (capsules, tablets, churna/powder, syrup)
- Dosage
- Cost
- Any other recommendation provided with the product

In case of the products available in pharmacies, in addition to the above information, the pharmacists/shopkeepers were also asked about the details of the sale. The testimonials received were documented in case of products available online.

The results are expressed in numbers (percentage).

Total 65 ayurvedic/herbal anti-obesity products were available in pharmacies, online or both. Of these, 20 (31%) products were named based on the ingredients (e. g. *triphala*, *garcinia*, *shuddh guggul* etc.) and 45 (69%) products were given attractive names based on their claimed efficacy in obesity (e. g. *lofat*, *slimtrim* etc.). These products were manufactured by both top brand Pharma companies and local manufacturers.

Twenty (31%) products were available in pharmacies, 15 (23%) were available only through online shopping while 30 (46%) products were available for marketing at both the places. Of the 65 products, only 8 (12%) were described in classical texts and rest 57 (88%) were P and P products.

These products had minimum 1 to maximum 20 ingredients. Out of the formulations, triphala was found in the composition of 27(41%) of products. Following *triphala*, *garcinia*, *guggul*, and green tea were commonly seen ingredients (table 1).

Around 32 (50%) were found in capsule form, 21 (32%) found in tablets, 8 (12%) churna/powder whereas 4 (6%) were available in syrup form.

The cost of the drug showed wide variation. The calculated per day cost of 42 (65%) drugs was found to be between Rs. 1-12 while the cost of 23 (35%) drugs was between Rs. 30-70 a day. The powder form was found cheaper as compared to tablets and capsules.

In case of other recommendations, information about the dosage schedule and the adjuvant was available in most of the products. While on some products, the dosage schedule was provided with respect to morning-evening pattern, in case of some products it was given in relation with a meal. Interestingly, only 15 (8%) products mentioned that the dosage should be administered as per the recommendation of the physician. The commonly prescribed adjuvants were lukewarm water, milk, honey or normal water. Around 65% of products recommended another regimen like diet, exercise, moderate physical activity, yoga or intake of low-calorie food along with the product.

The interview of the pharmacists/shopkeepers revealed that in 70-80 % instances the products were self-medicated i.e. without prescriptions. The average usage by the patients is for a period of 30-90 d. The average sale of anti-obesity products was around 70-80

units per month and in spite of this reasonable size of the sale, the pharmacists did not receive any adverse event (table 2). In case of products available online, testimonials (by the patients narrating their experiences about the product, mostly positive) were found in 70% products.

Table 1: Frequency of ingredients in anti-obesity formulations

Name of ingredients	Present in formulations(N)
<i>Triphala</i>	27
<i>Garcinia combogia</i>	19
<i>Commiphoramukul</i>	17
<i>Shuddha Shilajit</i>	10
<i>Piper longum</i> (Pippali)	8
<i>Camellia sinensis</i> (Green tea)	7
<i>Coffea arabica</i> (Green coffee)	6
Loh bhasma	6
<i>Plumbago zeylanica</i> (Chitak)	4
<i>Cinnamon verum</i> (Dalchini)	3
<i>Apple cidar</i>	3
<i>Trigonella foenum</i> (Fenugreek)	3
Medohar	2
<i>Gymnema sylvestrae</i> (Meshshringi)	2
<i>Capsicum annum</i> (Chilli)	2

Table 2: Details of sale of marketed anti-obesity drugs

S. No.	Sale In a month? (No. of units/containers)	Average duration?	Prescribed?	Self-recommended?	Record of outcome/adverse events?
1.	170-200	15days-3months	40%	Usually (among youngsters)	No
2.	700-1000	Months-yr.	If with other complications	50%	Don't know
3.	Timely/seasonal (500)	Up to 6 mo	60%	40% (youngsters and females)	Never
4.	500-700	2 mo	If with other complications (30%)	70%	They don't need to as it is job of doctors
5.	1000-2000	3 mo to yr.	70%	20-30%	No
6.	700	3 mo	If with other complications	60%	No
7.	200-700	2-6 mo	20%	80%	No
8.	150	2-4 mo	5-10% (youngsters n females)	Usually	No
9.	100-200	15 d-1 yr.	Usually	Sometimes	No
10.	500	3 mo	Never	All	No
11.	60-100	3 mo	5-10%	90%	No
12.	200	2-3 mo	10-20%	70-80%	No
13.	70-80	2 mo	15-20%	Maximum (80%)	No
14.	65-78	3months	Not observed	Not observed	No
15.	100-120	6 mo-yr.	10%	All almost	No

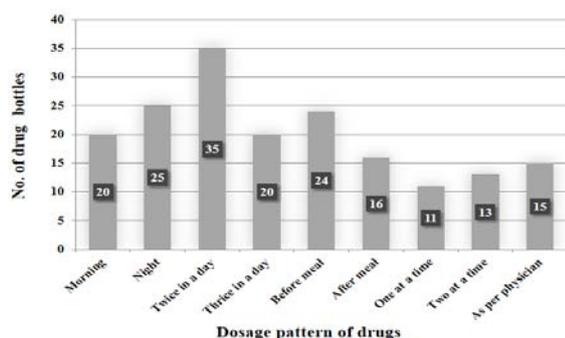


Fig. 1: Dosage schedule of anti-obesity products

The present study was carried to study the availability and various details of ayurvedic/herbal anti-obesity drugs. We observed huge availability of these drugs in local pharmacies as well as through online marketing. Our finding highlights the strong belief of Indian population in ayurveda/herbal treatments. It also reflects the

consumer's psychology viz. easy access to medicines and assumed safety of herbal drugs.

It was interesting to note that the weight reduction products were given attractive names like "Minus", "Beautiful Slim Body", "Ayu Lean Tone" and "Quick Slim" etc. to lure consumers. The terms such as "fast and quick", "best quality", "vegetarian" were also seen on the containers which fascinate the consumers further. The powder form of products was found cheaper compared to capsules or tablets. This may be because of making charges, packing or encapsulation charged by companies. Triphala was found to be the most common ingredient of these products irrespective of the dosage form. Even the individual ingredients of triphala were used in the products. Since most of these products fall in the P and P category, the rationale for selection of ingredients remains unknown. The range of cost of the products was wide and largely depended on branding and appearance. There was incontinuity with respect to the administration cycles of the medicines and the adjuvants. It is not clear how the dosage schedule can vary for a single disease entity to such an extent.

All drugs claimed benefits such as "reduce weight fast", "weight reduction formula" and "an herbal drug for weight loss", but not a

single label displayed information about the precise mechanism of the product. The mechanisms mentioned on the labels include vague terms like “promotes metabolism”, “curbs appetite”, based on “ayurvedic beliefs”, “reduces calorie intake”, “reduces fat accumulation”, “speeds up fat burning mechanism” etc. However, whether these mechanisms are backed up by any scientific evidence poses a question.

Almost all products mention the instruction for use viz. ‘as directed by a physician or a qualified health professional,’ still in 70-80% instances the products were self-medicated as revealed by the information provided by the pharmacists. There are high chances of self-diagnosis in a condition like obesity. It becomes crucial in such cases to educate the consumers about the potential adverse effects and interactions with other medicines as well as the authenticity of therapeutic claims. There is a need to create awareness among the society about the safe usage of ayurvedic/herbal medicines, which can include instructions such as always read carefully the information provided by the manufacturer of the product or leaflets prior to using any ayurvedic/herbal/nutritional products, report the physician any untoward effect observed during the course of treatment, not to rely on the testimonials available online, etc.

The medicines are being purchased without prescription or recommendation by a physician. It may lead to expose consumers to the various possible hazard. This poses further apprehension as obesity is a high-risk factor for various metabolic disorders. It has to be also noted that the selection of the medicines, dosage and the ancillary measures ideally should be done by the physician based on the clinical condition of the patient. The availability of these products ‘over the counter’ therefore should be reconsidered.

Thus, our study once again reveals various issues regarding the marketed ayurvedic/herbal drugs pointed out in earlier studies such as reliance on the information provided by the pharmacists for purchase, availability of the resource information over the internet and other informal ways like testimonials, lack of record of herbal medicines and absence of stringent regulatory system [5, 6].

Extensive Pharmaco-epidemiology studies are therefore obligatory to generate data on usage, safety, and efficacy of anti-obesity drugs.

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CONFLICT OF INTERESTS

Authors declare no conflict of interest.

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