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Case Series

Management of Fattiness with a Lifestyle Educational Program Designed Based on Traditional Persian Medicine: A Case Series

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Introduction

As a major problem of the health, obesity leads to the development of metabolic syndrome and comorbidities, including type 2 diabetes mellitus, non-alcoholic fatty liver disease, hypertension, hyperlipidaemia, chronic kidney disease, cardiovascular disease, obstructive sleep apnea, osteoarthritis, and malignancies (e.g., breast, colon, and prostate). Furthermore, increased mortality has been observed in obese individuals [1]. It has been estimated that approximately 1.5 billion adults worldwide are overweight, among them about 200 million men and 300 million women are obese [2]. The prevalence of obesity is increasing in the world. Its predicted that by 2030 nearly 40% of the world's population will be overweight, and estimating one in five people will be obese [3].

In Traditional Persian Medicine (TPM), obesity, especially morbid obesity has considered as a serious problem of the health. Accordingly, this condition makes obese people prone to various diseases such as stroke, cardiovascular diseases, respiratory, infectious and gastrointestinal disorders, and infertility [4]. The first step to manage disorders, including fattiness in TPM is to modify lifestyle and improvement of living condition, eating, physical activity, sleep, evacuation status and mental status of the patients [5].

According to current evidence, bad lifestyle habits such as overeating, eating quickly, excessive eating, consuming high-calorie foods, low intake of healthy foods, and low physical activity are associated with development of obesity [6,7]. Also, recent studies demonstrated the effectiveness of healthy life style educational programs on decreasing overweight and obesity [8,9].

Due to the importance of healthy lifestyle on management of obesity, this study was aimed to investigate the impacts of a lifestyle educational program based on Traditional Persian Medicine on the reduction of fattiness.

Keywords: Persian medicine; Fattiness; Diet; Casw series; Life style

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Methods

Study profile

This is a case series which included 12 patients referred to traditional persian medicine clinic of *Rasool-e Akram*, Iran university of medical sciences, Tehran, Iran from 2019 Sep 21 to 2019 Dec 21.

Study design

After providing a brief explanation of the goals of the research, and obtaining informed consent, all eligible patients entered the study. Then, the participants were trained in 3-person groups to learn a healthy lifestyle educational program including four rules and 16 tips. It should be mentioned that the content of this educational program was adapted from TPM resources (6-9), along with current healthy life style recommendations for reducing the weight.

The participants were trained by a physician (MD-Ph.D. of TPM). The method of teaching was lecture in form of 1.5-hour classes, and the trainees were free to ask their questions. Also, the educational content of the class was provided to the participants in written. The participants were asked to follow healthy life style program for 12 weeks. Besides, the participants referred to the physician every three weeks, and they were evaluated for the level of corporation. Also, they were asked to share their difficulties and problems with the healthy lifestyle instruction. After that, the physician gave recommendations and motivated them to follow instruction. Before and after intervention, the participants of this case series were evaluated for outcomes.

Population study

The adult patient with complaint of fattiness with BMI > 34, and waist to hip ratio > 0.9 were considered as the main inclusion criteria of this study. Convenience sampling was applied and all patients who did not exclusion criteria including acute disease, and IBD were recruited. Also, the participants who broke the rules three times or more within three weeks were excluded from study.

Content of healthy lifestyle instruction

The instruction of healthy life style focused on five domains of changing bad eating habits, enhancing physical activities, limitation of high calorie foods, increasing consumption of healthy foods, and modifying night sleep (Figure 1). The instruction consisted of four rules and 16 tips.

The rules

The first rule

The patients are allowed to eat something every three hours. If they are thirsty they can drink water. If the patient was nervous about this rule, she was allowed to eat a pot of slice salary, apple, carrot and quince.

The second rule

All sweets are forbidden except 15 dried white berries a day.

The third rule

They should be active for 45 minutes daily. It is

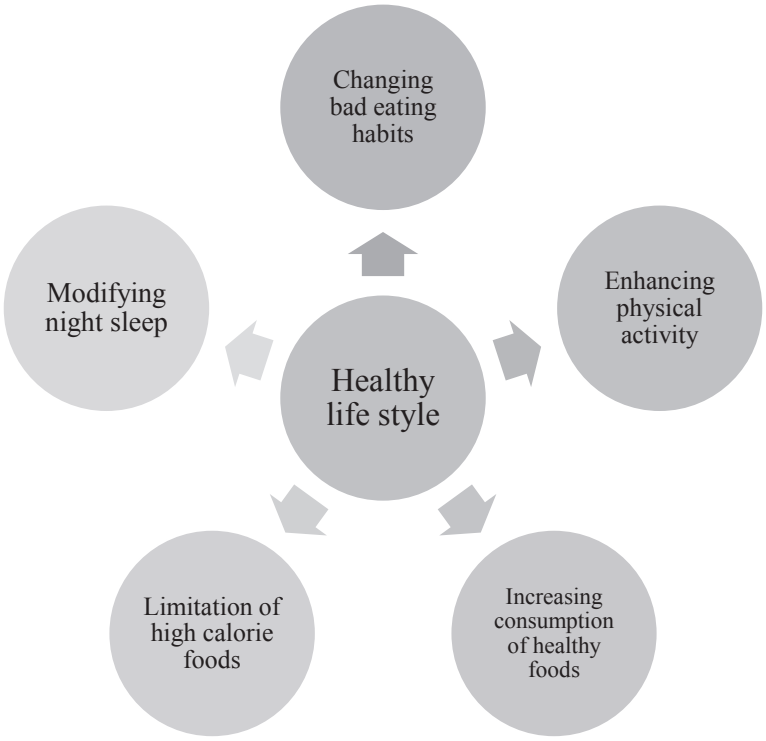

Figure 1. Domains of healthy life style program for reducing body weight

their choice from dancing to hiking or Pilates.

The fourth rule

From 5:00 PM onwards, any carbohydrates are forbidden. The patients can eat the following:

- A large bowel of chopped lettuce, broccoli, grated carrots and mung bean sprouts with fresh sour lemon juice and a full tablespoon of olive oil with a teaspoon of thyme powder.
- A plate of cooked vegetables like zucchini, green beans, okra, carrots, tomatoes, spinach, etc. with a little salt and saffron. You can eat chicken breast, lean lamb and fish if you like.
- A glass of drink like black tea or green tea with 2-3 dried berries.
- Two sweet ripe apples.

The tips

1) Eating just at the time of being hungry makes them healthy.
2) Leave their spoon and folk on the table between their morsel.
3) It is necessary to chew well, so more than 20 times till 25 times is so good.
4) Do not drink carbonated and sweet drinks among the meal.
5) If they are thirsty among their meal 2-3 sip of water with moderate temperature is enough, so drink it slowly.
6) They cannot eat with their food something like yogurt and pickles, salty and spicy sauces.
7) They must avoid from spicy foods so as not to stimulate their appetite.
8) They must use saffron, turmeric and a little salt in cooking.
9) They must eat Olive, Basil and Parsley with

their meal.
10) They must cook with Olive oil.
11) They must cook with poaching simmering, boiling, braising, stewing, pot roasting and steaming.
12) There should be at least two hours between dinner and bedtime.
13) It is necessary to have enough night sleep (sleeping time at 22:30 in winter).
14) It is necessary to start daily activities from 7:00 AM.
15) Use a small plate to eat.
16) They can eat 10 tablespoons of rice at lunch three days a week (rice is popular in Iran).

Instrument for evaluation

For evaluating of the participants, The researcher measured waist and hip circumstance, height and weight to calculate waist to hip ratio (W/H) and body math index (BMI).

Statistical analysis

Statistical analysis was performed by SPSS software (Ver. 16) using one-sample Kolmogorov-Smirnov test for checking normality assumption, and paired samples test for comparison of W/H and BMI before and after intervention. Also, level of 0.05 was considered as statistically significant.

Results

In this case series 12 patients were recruited. One patient was missed to fallow up. Also, two patients were withdrawn from study because of adverse events. The mean of participants' age was 41.5 years (range, 38-51). All the participants were female. Five of them were housewife and the others were employed. Most of patients (N=10) had university education, and the financial status of participants was mainly moderate. Mean BMI of participants before intervention was 36.85 ± 0.9467. After 12 weeks of intervention, the mean BMI was decreased to 34.05 ± 1.0910 (Figure 2). This decrease became significant statistically (P-Value < 0.001). Also, the mean decrease of body weight of the participants during this study was 6.79 ± 1.34 Kg ranged from 4.5 to 9 (P-Value < 0.001). On the other hand, mean W/H ratio of the subjects was 0.9652 ± .0474 at the beginning of study. After intervention, W/H ratio was decreased to 0.8719 ± .0537 (P-Value < 0.001) (Figure 3).

Adverse events

Two adverse events were reported by two patients during intervention. One patient had to withdraw from the study due to GI upset, and the other participant was withdrawn because of moderate headache.

Problems of participants

The healthy lifestyle program was generally feasible and applicable for the participants. However, the employed women had problem with the forth rule. When they arrived home, they were so hungry and they had not enough patience to prepare vegetables to eat. So, we recommended to prepare vegetables early morning or the night before to save the fourth rule. At the other side, about housewives, it was so hard not to eat less than three hours' interval (the first rule); we encouraged them to start a new language course or art class same as draw-

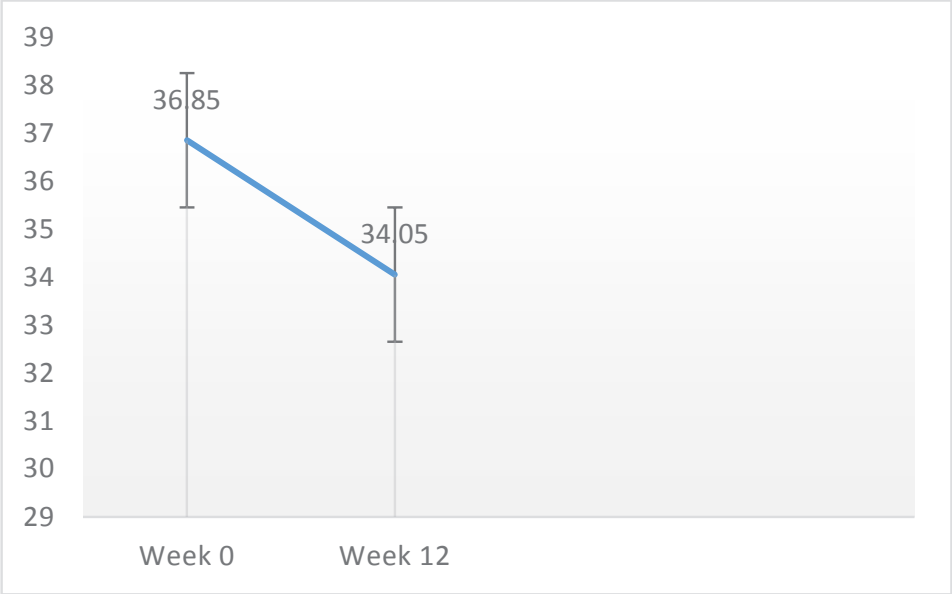

Figure 2. The mean BMI change of the subjects of study

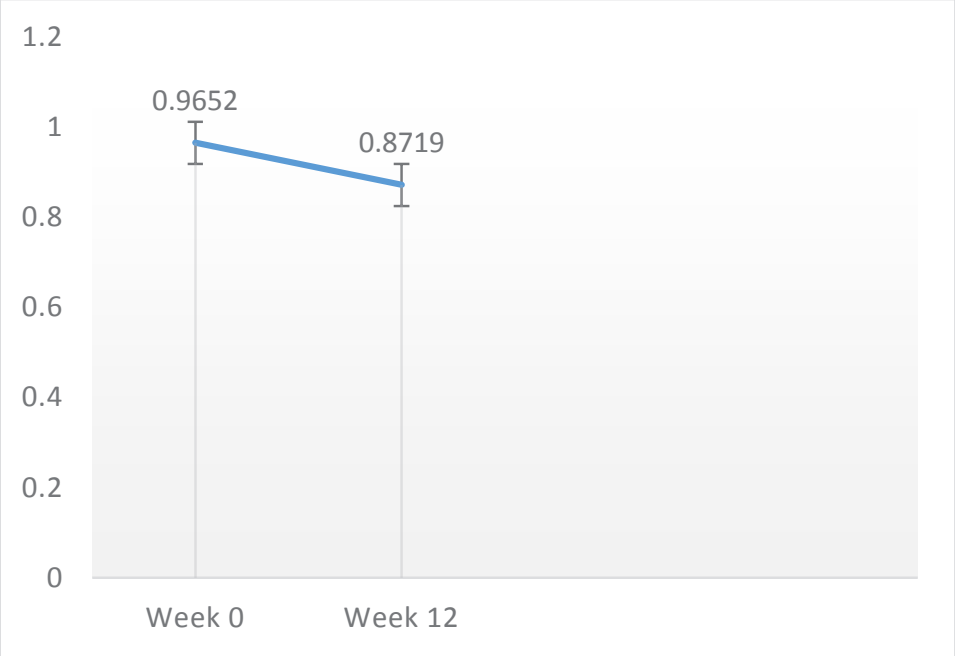

Figure 3. Changes in the mean W/H ratio of the subjects of study

Discussion

Losing weight have lots of health benefits for obese people. The obese individuals would have lower risk of metabolic disorders, cancer, chronic conditions, cardiovascular disorders, if they lose even a modest amount of weight [10-12]. Recently, in studies of weight loss, combined therapy (including diet, physical activity and behaviour change) have been attracted a lot of attention due to key rule of life style modifications in management of obesity [13,14].

In this study, impacts of life style modification program designed based on TPM on BMI and W/H ratio of obese women has been shown. Recently, in a 12 weeks study conducted by Hamidnia et.al, the efficacy of a package designed based on Persian Medicine (diet and herbal medicines) in overweight patients was compared with classical diet and orlistat. The results showed that those who allocated in Persian Medicine group obtained more reduction in body weight and fat mass, and achieve to better lipid profile and fasting blood glucose compared to classical diet [15]. Comparing to our study, we observed better effects of our intervention in reducing of mean BMI (2.8 kg/m^2 versus 1.61 kg/m^2) [15].

The great advantage of our study was to design a multidimensional healthy lifestyle program that covered eating habits, foods, physical activity and sleep of obese patients. In addition to food intake and physical activity, the importance of some traditional recommendations such as having a good night sleep and chewing well were supported by recent studies in terms of management of obesity [16-18]. However, restriction of water consumption with meal as a recommendation of TPM the positive results of these interventions in obesity [21] and the importance of psychological status from the perspective of TPM, it seems reasonable to add psychological interventions to the future programs. Finally, its recommended to design standard randomized clinical trial to determine detailed effects of this life style program in obesity.

Conclusion

Healthy life style program designed based on Iranian Traditional Medicine and current recommendation, could decrease BMI and W/H ratio of obese women. Clinical trials are recommended to confirm the efficacy and feasibility of this program.

Conflict of Interest

None.

Acknowledgments

None.

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