E.M. Yakunova, O.V. Sazonova, M.M. Ginzburg, A.V. Galitskaya

Determination of Control Locus Form as a Diagnostic Criterion For Successful Treatment of Obesity

ABSTRACT

In order to define a control locus form in obese patients and a degree of its influence on effectiveness of weight loss 58 people aged 25-56 years with body mass index of more than 27, 0 kg/m2 were studied. The nutrient mixture «Slim» (FF specialized dry food mixed composition «Slim») was applied. The evaluation of the control locus form at first revealed that some patients being externals at baseline, moved into the group of internals at the end of treatment; no people underwent the reverse transition . In a group of patients who were externalities in the early treatment and at the end changing form of control locus, potency in the weight loss is of intermediate value, but the highest degree of commitment is revealed. It was found that the best compliance with the program for short-term weight loss was typical for patients with predominant externality. In the long term there is a trend towards greater commitment to the recommendations of the internals.

Keywords: locus of control, externality, internality, obesity.

INTRODUCTION

Effective methods of obesity treatment are known: adequate diet therapy and physical activity. All other methods of excess weight correction are auxiliary. Surgical operations, in fact, can radically change the course of the pathological process, but does not affect the behavioral characteristics of a person who just lead to overeating and subsequent sets of overweight. Considering the high frequency rate of obesity, clinicians and scientists from different countries, in turn, are actively looking for ways to increase the commitment of proven conservative procedures to obese patients , however, no reliable methods for predicting have not been worked out [7].

The degree of compliance can influence the shape of control locus – concept in psychology characterizing property of the person to attribute their successes or failures of internal or external factors. The tendency to attribute the results of external factors is called "external locus of control" (externality), internal factors – the "internal locus of control" (internality). Internal factors here are those of the individual properties of the individual as their own efforts, their own positive and negative qualities, the presence or absence of the necessary knowledge, skills, etc. To determine the locus of control questionnaire used J. Rotter [8].

In this regard, we do not exclude, but rather emphasize the fact that the control locus of a patient may affect the dietotherapy to a greater degree, defining externality or internality for better characteristics. In fact, if internality patient himself takes responsibility for their actions in the process of weight loss and the results and follows a policy of constructive cooperation, then the externality patient would rather wait for a dominant part in his fate of others – your doctor, family, and most agree that favorable changes in his life for himself can't afford [3]. On the other hand externalities are easy-going and led by a bright new idea. They are interested in something and try to learn. Their success in any case can't be sustained, but rapid and pronounced. Internals, standing defined goals, go

to them gradually, without obvious ups and downs; they are more interested in long-term. Hence internal people should, in our opinion, better diet, to work with your doctor to find out the circumstances on which the effect of the treatment and gradually accept all the changes within their lives, while the "externalities" patients will soon enjoy instant results against the background of close cooperation with the medical program, and then search for the reasons why they fail to adhere to certain recommendations at the end of such, in unison, their psychological orientation are increasingly allowing externalities feeding behavior [4]. Because of the current relevance of nutrition-related diseases is high [6], and the question of the effect of diet therapy, depending on the locus control shape has not been yet studied, we have attempted to study it.

The aim of our research is to determine the shape of locus of control in obese patients and the degree of its influence on the effectiveness of weight loss.

MATERIALS AND METHODS

In this study, we analyzed the results of compliance programs, we reduce the weight of 58 people – 13 men and 45 women aged 25-56 years who are overweight and obesity (BMI> 27.0 kg / m 2). Among them there were 25 internals, 33 externalities.

The study used the nutrient mixture of "Slim" (FRR dry specialize Rowan-food mixed composition "Slim"). Specifications TC 9197-005-54050164-13 [5].

Patients comply with the combined program of the application of the nutrient mixture FRR "Slim": two days a week for free choice, they held a series of rules that allow them reduce the daily caloric intake [1], in particular:

- Make food less fat compared to baseline;
- Make meals less sweet compared to baseline;
- It is reasonable to treat wounds, use them after meals and not instead of;
- Use techniques that help to slow down the act of eating;
- Eating fractional with moderate portions at frequent intervals;
- Eat smaller portions than in the previous period;
- To develop food dietary fiber;
- Reduce alcohol consumption compared with baseline.

Nutrient mixture patients these days are produced in a total amount of 4 servings per day, 1 serving before lunch and dinner, and other portions are instead of a snack during the day and another – as a light snack before bedtime.

For the other five days a week, patients comply with the discharge mode, which was an afternoon handling and set as follows: patients were allowed one meal a day of their choice, which is recommended in building mainly of low-fat products. Instead other meals, as well as for snack overnight patients received 5 portions nutrient mixture, vegetable-conductive weighing about 800 g bran and 2-3 slices of bread to 30 grams each.

Patients are encouraged to make daily walks briskly pro-duration 30-40 minutes a day. This target heart rate were at the height of the load does not exceed 110-115 beats per 1 minute, subjective-controlled absence Corollary discomfort, shortness of breath and palpitations.

As a self-observation, patients kept a diary, where they mentioned the nature of actual nutrition and physical activity.

The patients adhere the above diet and lifestyle to 12 weeks. In the process of adherence to once every 4 weeks, patients were examined, measured their weight, waist and hip circumference, analyzed diaries nutrition and physical activity.

In addition, all patients were asked to visit the "School of obese patients", which consisted of 5 sessions including theoretical material, practical exercises, interactive communication and discussion with the lecturer unclear point, answers to questions. These schools have a great success in treatment of obesity [2].

In order to assess the form of locus of control questionnaire used test level of the subject-foot control (ACC) J. Rotter [8].

The quantitative characteristics of the studied parameters were subjected to statistical analysis, is to calculate the arithmetic mean value. In order to determine the differences of arithmetic values used t-test Student. It evaluates the significance of differences of arithmetic values between groups of surveyed people at a significance level ($p<0,05$).

RESULTS AND DISCUSSION

Table 1 shows data characterizing the severity of the effect of reducing the body weight, in the observed group of men and women and the correlation dependence of the effect of weight loss on the sex, age and initial body weight of the patient.

As it can be seen from the data, if the effect is to provide absolute Dig-Arts (the difference between the initial and final weight in kilograms), the more pronounced results are observed at men. However, in presenting the result as a percentage of the original weight, this difference is leveled, and therefore, we believe, does not look at-all credible allegations, occurring in a number of studies that the effect of losing weight in men is usually higher than that of women. It has to be noted that the expression of results in the percentage of the original weight is mentioned more frequently in literature. It is believed that it reflects the situation rather better than the effect in kilograms. Specifically, on the representation of the effect of a percentage of the original, you can build a qualitative classification of weight loss results (poor, fair, good).

Accurate correlation effect of initial body weight is observed in both men and women, but only if the result is expressed in kilograms. When expressing the result as a percentage of initial body weight for this lost-dependence (males $r=0,09$; $p>0,05$, women $r=0,11$; $p>0,05$).

When evaluating the locus control forms at the beginning and end of the survey we revealed that some patients being externalities at the initial stage, after moved into the internal group; no people revealed who committed the reverse transition. Data on the number of lower weight and percent reduction in body weight are presented in Table 2.

As can be seen from the data of incidence rate of weight loss the good results were noted in patients with externality direction than with internal one: 70.0% and 64.0%, respectively. The percentage of weight loss was also greater in the subjects with external locus of control form of 4.9% and 3.3%, respectively. In our opinion it is caused by externalities within the framework of close cooperation with the doctor in the classroom at the "School of obese patients" were better motivated and got interest in success.

In addition, a new subgroup has been distinquished: the patients who had been externalities at the beginning of treatment, at the end changed it into the internal locus of control orientation. Their effectiveness concerning the weight reduction took an intermediate value (4.0%), and the degree of commitment to the highest degree (76.9%). This indicates that the externality is considered to be more advantageous in terms of compliance to

the proposed treatment inheriting some features of Internalities: such patients get more readiness and eagerly start therapy and are likely to follow longer observation and wider medical advices that requires further study, prolonged without close medical escort.

The Internality type of reaction in the long term may play a key role for successful weight loss, a problem faced by many doctors. People with a dominant of internal type are subject to take responsibility for their weight on, to work with a doctor to find out the methods and techniques that will help them to rebel-twist metabolism. People with predominance of externalities would rather wait for more activity from the doctor will look for help in tablets, conspiracy coding. They are more likely to abandon any action that decided "that all the demon-useful", "that they nothing can help," but in the early stages of therapy, this type of reactions, of more interested in healing activities and requires reasonable control.

CONCLUSION

It was found that better compliance to the program for short-term weight loss phase is in patients who have higher externality. In the process of working closely with physicians the effectiveness of treat is more clearly. In the long term, there is a trend towards greater commitment to the recommendations in patients with a form of internal locus control. This form (external-internal) specifies that patients with primary internality rather associate their health problems with their own actions, they are responsible for taking the decision to change them, to a greater degree of consistency and are ready for a long time to implement the recommendations.

The latter circumstance makes the actual development program, including a lengthy briefing of the patient, built on a series of studies on the type of school, involving not only the message to the patient specific knowledge, but also the cooperation with them aimed at developing skills (persistent habits) to comply with the norms of a healthy diet and healthy life. Along with the direct medical recommendation is important to convince the person slimming discuss everything strange and difficult moments with your doctor. If there is a situation of failure (and it certainly occurs), the patient should not "hide" and stop treatment, but together with physician must analyze causes of it – his body's adaptation to new conditions of supply or refusal of secret assignments.

In accordance with the results of this study at the beginning of nutritional correction of excess weight is necessary to determine the locus control form, and with patient of external orientation build communion in a trusted, but at the same time demanding way. On the one hand externals often offer encouragement from the outside on the others, but it is also necessary for such patients let them understand that the success in the weight reduction greatly depends on their own efforts.

Table 1

Dependence of efficiency of weight loss programs on gender, age and initial body weight of patients

Dependence Sex	Lose weight effect (кг)	By comparison with the initial weight (%)	The correlation coefficient of the effect of weight reduction with age	The correlation coefficient of the effect of weight reduction from the initial body weight*
Men (n=5)	9,6±1,82	9,1±1,78	-0,67	0,76
Women (n=43)	7,2±1,73**	10,3±1,27	-0,54	0,54

* Expressed effect of reducing weight in kilograms

** Differences between the groups are reliable ($p<0,05$)

Table 2

Dependence of the effect of weight reduction in obese patients
on the locus control shape in dynamics

а) Indicators / б) Locus control shape	в) Total		г) Lose weight		д) Weight reduction, %
	е) Абс.	ж) %	з) Абс.	и) %	
к) Internal – internal	л) 25	м) 43,1	н) 16	о) 64,0	п) 3,3*±1,8
р) External – external	с) 20	т) 34,5	у) 14	ф) 70,0	х) 4,9*±2,1
ц) External – internal	ч) 13	ш) 22,4	щ) 10	ы) 76,9*	э) 4,0±1,2
ю) Total/ average	я) 58	аа) 100	бб) 40	вв) 69,0	гг) 3,9±1,8

* Difference between the confidence index (p<0,05)

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Authors:

Scientific Institute of Hygiene and Human Ecology SamSMU: **YAKUNOVA Elena Mihajlovna** – cand. med. sciences, chief resarcher, lena.my@mail.ru, **SAZONOVA Olga Viktorovna** - Director, doct. med. sciences, senior lecturer, ov_2004@mail.ru, **GINZBURG Michail Moiseevich** – doct. med. sciences, assistant of the Department of Internal Illnesses, mik131@yandex.ru <mailto:mik131@yandex.ru>, **GALITSKAYA Anna Vladimirovna** – associate researcher, annagalitskaya@inbox.ru.