

Lipodystrophy as dietary and cosmetic problem

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ABSTRACT

Introduction: Lipodystrophy is a skin composition disorder. One of the kinds of lipodystrophy is cellulite. Differences in fat tissue composition between woman and man are the cause that lipodystrophy affects women more often. It affects women of different ages - from maturation to menopause. It is estimated that this problem affects 85% of women above the age of 20.

Purpose: To analyse the impact of cosmetic procedures and diets on skin affected by cellulite.

Materials and methods: The study was conducted based on a survey using a proprietary questionnaire filled by 57 clients of beauty salon Health and Beauty Center "Anamed", located in Lomza. The study was conducted between 12.2014 and 01.2015.

Results: The diet and treatments performed by the respondents were analyzed and their subjective effectiveness assessed. After analyzing the data, it was observed that one-way actions do not bring the expected results. In order to reduce cellulite, it is necessary to undertake multidirectional activities.

Conclusions: Cosmetic treatments minimize cellulite changes and improve the overall condition of the skin. Proper healthy eating habits should be promoted because they help to act in the treatment and more importantly preventive in the formation of cellulite.

Keywords: Cellulite, diet, cosmetology

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INTRODUCTION

Skin is the largest organ of the human body. The physiological balance of each layer weights on skin's good condition and keeping it functioning. Lipodystrophy is a skin composition disorder. One of the kinds of lipodystrophy is cellulite. Differences in fat tissue composition between woman and man are the cause that lipodystrophy affects women more often. It affects women of different ages - from maturation to menopause. Is estimated that this problem affects 85% of women above the age of 20. On affected skin tuberosity, fissures and depressions can be observed - in colloquial language, it is compared to orange's skin [1].

Formation process of cellulite relies on uneven distribution of fat issue. As a result of abnormal arrangement swelling appears, which interferes with proper functioning of nearby connective tissue. Elastic fibres begin to limp, while collagen fibres, depending on the stage, either reduce their volume or disappear completely. Cellulite is primarily localised on the abdomen, buttock and upper legs. Usually connected with overweight or obesity, but it can also affect people with correct body mass [2-4].

There are many contributing factors for cellulite, and there are: genetic predispositions, hormonal imbalances, high body mass index, sedentary lifestyle, smoking, inadequate diet, metabolic disorders (e.g., diabetes, obesity), cardiovascular diseases (e.g., hypertension, cardiac insufficiency), impaired lymphatic system, locomotor system diseases, kidneys diseases, hot baths, high heels, tight clothes, defects of posture, emotional disorders [5-7].

Clinical picture depends on the level of advancement. Changes are appearing gradually. In the basic classification of woman's lipodystrophy there are the following stages [5,6,8]:

- I^o skin smooth, less elastic, furrows visible after folding;
- II^o skin soft when in standing or laying, position tuberosity visible after folding;
- III^o tuberosity visible on the skin when in the standing position; IV^o skin changes are visible in every position, with pain.

Cellulite can lead to self-perception disorders, lack of acceptance of own body, feeling of shame and even depression. Women suffering from lipodystrophy most often avoid public places like pools and gyms, where affected body parts are uncovered [9].

The aim of this study was an analysis of the impact of cosmetic procedures and diets on skin affected by cellulite.

MATERIALS AND METHODS

The study was conducted based on a survey using a proprietary questionnaire filled by 57 clients of beauty salon Health and Beauty Center "Anamed", located in Lomza.

The study was conducted between 5.12.2014 and 05.01.2015. Participation in the study was voluntary and anonymous.

The obtained information was only used for scientific aims and with complete confidentiality in accordance with the Personal Data Protection Act (Journal of Laws No. 133, item 833, of 29th August 1997).

The study obtained permission nr 4/2013 from Senate Research Ethics Commission of Lomza State University of Applied Sciences. In the study group 88% were struggling with lipodystrophy. There were 38% of respondents with higher education and 62% with secondary education. Respondents were divided into five age groups. Lipodystrophy most often affected woman of ages 20-25 (52% respondents), ages 26-30 - 22%, and ages 31-35 - 6%. At ages, 36-45 changes were noticed by 12% of the surveyed woman. Below age of 20, only 8% pointed to a problem of cellulite.

RESULTS

For further analysis only questionnaires of women with lipodystrophy were selected (50 questionnaires). Body mass index of 74% of respondents was proper, 18% was overweight and 4% has first-degree obesity, and second-degree obesity or underweight - by 2% each. 24% observed changes during pregnancy, while the other 76% observed changes during maturation.

Most common place of cellulite changes was on upper legs only (72%), abdomen, thighs and buttock - 20%, abdomen only - 6%, and buttock only by 2% of respondents.

Intensity of cellulite was varied. With the first degree - 40% of respondents, with the II^o - 44%, the III^o - 12% and 4% with the highest, IV^o of advancement.

Therapeutical solutions were varied. Most, 52% of respondents, sought specialists care. 19% didn't used any treatment, and 29% used treatments at home. Among respondents that sought specialists care, 31% had only one session treatment, 50% from two to five, 11% from six to seven and 8% declared ten and more treatments. In the group with multiple treatments, regularity has varied. 31% of respondents took treatment less often than every 4 months, 19% once a month, and 12% few times a month. 19% of respondents took treatment once a week, and 19%

a few times a week. 10% of a group didn't notice any improvement of skin condition after treatment. Softer skin was reported by 29%, 18% noticed improvement of hydration, and 43% notice improvements in skin's firmness.

Respondents estimated from 1 to 5 an effectiveness of cellulite reducing procedures, where 1 was treatment not giving any results, and 5 - treatment had a very good effect.

From all applied treatments, most respondents picked manual massage. It was chosen by 23 women. And scored an average of 3.22. Second most popular was peeling. It was applied by 19 women, with a 2.95 average scores, and lymphatic drainage was chosen by 18 women, with an average score of 3.83.

Least popular, at the same time being highest graded, was liposuction - chosen by one woman, a score of 5. Least effective according to respondents were ultrasounds - 9 women with 2.0 average. Treatments like SPA capsule were rated low (7 person).

Supporting element of a daily care of cellulite are cosmetics preparations. Their application was declared by 72% of respondents, of which 48% use them daily.

Anti-cellulite cosmetics were applied once a day by 45% of respondents, 3% applied them a few times a day, 33% every few days, and 19% once per week. 53% of respondents didn't see any effects of applications.

An active lifestyle is led by 54% of women, while 46% had a sedentary lifestyle, and 10% of the group suffers from abnormal metabolism.

Diets of respondents were analysed. In most cases, nourishments is improper, using an unbalanced and irregular diet. 54% of surveyed does not intake appropriate amount of liquids. 16% of respondents drink alcohol at least two times a week. Only 50% eat fruits and vegetables daily, 30% of respondents do it few times a week, 14% once a week and 6% do it occasionally. Salt-based spices are used by 65% of respondents. Coffee, as an everyday drink is consumed by 58% of respondents, and dairy is consumed by 56% of respondents - but they eat it daily. High-calorie products (fast-food, cheap meats) are consumed daily by 8% of respondents. 52% eat this type of foods a few times a week, 22% eliminate it completely from the diet. Food with high sugar content is present in 44% cases, but 56% of respondents eat them occasionally or try to avoid them.

In 52% of the group, diet is high in animal fats. Foods containing unsaturated vegetable fats are a majority in diets of 48% of respondents. 74% like to use hot spices.

DISCUSSION

To this day there is no precise definition of what exactly woman lipodystrophy, commonly known as cellulite, is: an illness or just cosmetic defect? Some authors describe cellulite as a disease with degenerative changes in fat tissue [6,10]. Others say it is a cosmetic defect resulting from overgrowing and hardening of fat tissue [3,11].

Studies have shown, that lipodystrophy is a common problem with which over 80% of woman are struggling. It is confirmed in the study results of Friedmann et al, de la Casa Almeida et al, Braun et al, and de Godoy&de Godoy [1,2,9,12,13]. Thirty years ago the problem of cellulite was less common. Surveys reported cellulite in every other woman over the age of 30. Now it affects a higher percentage of women and in much younger populace [13]. Braun et al and de Godoy&de Godoy point to the fact that most woman affected by cellulite are over 25 years of age [9,13]. Obtained results show that this defect is observed by younger women, below the age of 25. Maybe today these are the result of greater care for the look [12].

Cellulite may occur in both overweight and obese women where it is more frequently observed and in those with normal body weight [4,14,15]. We divide the changes in the course of cellulite into four stages. The first three do not pose a greater threat to the body. 84% of the respondents with lipodystrophy were in the first and the second stage and 12% in the third stage. The fourth, the most advanced can be the reason for m.in. the formation of varicose veins, as well as a symptom suggesting type II diabetes or atherosclerosis [6,9]. As mentioned above, lipodystrophy is a multifactorial disorder. One of the main ones is overweight, which is caused by a poorly balanced diet. Another factor may be hyperestrogenism, and some of the authors indicate collagen production disorders

Diet is also an important factor that is responsible for both the formation and reduction of changes in the course of cellulite [4]. A properly balanced diet in the initial stage of cellulite development can effectively eliminate them as mentioned by de Godoy&de Godoy or de la Casa Almeida et al [12,13]. de la Casa Almeida et al emphasizes that excessive consumption of salt, or spices based on it in excess, leads to the retention of water in the body, and impaired circulation. Dietary components that supplement energy needs in too large quantities also do not work in our favour, because energy surpluses are accumulated in adipocytes [12]. The obtained results indicate that respondents struggling with the problem of cellulite in the majority do not apply generally propagated dietary recommendations. Only 36% say they have a balanced diet. Vegetables and fruits that are the basis of every

diet are consumed daily by 50% of respondents. It is building that fast food is eliminated from their diets by 22% of respondents, while simple sugars are avoided by 44%. The amount of salt consumed in over 64% of cases is excessive.

Szostak, in her research, also draws attention to the fact that we give up fruit and vegetables in favour of sweets. The consumption of vegetables falls from year to year. And scientists agree that vegetables and fruits containing micro and macroelements, vitamins, complex sugars and vegetable fats should be consumed at least five times a day. Giving up only them for sweets can cause the development of metabolic disorders, worsening health and accelerating the ageing of our body's cells [16]. More than half of the respondents do not drink the recommended amount of water or other liquids and this is one of the foundations of proper nutrition, allowing for the removal of redundant metabolic products [3,16].

A very important role in combating cellulite, apart from the diet, are also cosmetic procedures. Own research reveals that 52% of women with lipodystrophy apply anti-cellulite treatments on average from one to several times a month. These ladies see a significant improvement in their skin condition. de Godoy&de Godoy indicates that beauty salon procedures should be based on lymphatic drainage, body-wrapping and massage, e.g. with a Chinese bubble. In each of these treatments, we should support the final effect with cosmetics [13]. Our own research results also indicate the positive effects of these treatments. Care treatments themselves, as well as the diet, will not completely eliminate the problem. They can help him only minimize it. To make the effects of beauty salon treatments better, we should also use cosmetics in-home care. Therefore, better results of such treatments were noticed by respondents using anti-cellulite supplements, at least once a day, at home. However, 53% of respondents do not see any effects of their application. This may be due to the lack of regularity in their application. Treatment of female lipodystrophy is difficult and long-term. There are many factors that cause cellulite, which is why we should take an approach from multiple angles to reduce it. You should use the right diet, actively spend your free time (preferably in the open air), use treatments, both professional in the beauty salon and home. Only such persistent, multi-month action can bring positive results [2].

CONCLUSIONS

Cosmetic treatments minimize cellulite changes and improve the overall condition of the skin. Proper healthy eating habits should be promoted because they help to act in the treatment and more

importantly preventive in the formation of cellulite. Multi-directional actions should be taken to reduce cellulite.

Conflicts of Interest

The authors declare that there are no conflicts of interests regarding the publication of this study.

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