

The Influence of Filling Treatments Using Cross-Linked Hyaluronic Acid on Women In the context of their professional functioning

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Abstract

Introduction: Fillers are substances that are injected in a specific volume either subcutaneously or deeply to the bone. Lifting the superficial layers of the skin they help to fill tissue deficits and correct the shape of different parts of face. Thanks to it the firmness and volume is restored and when the treatment is properly carried, the patient looks younger and better.

Aim of the Study: The survey aimed to analyze the impact of filler treatments with cross-linked hyaluronic acid on the professional performance of women benefiting from them.

Materials and Methods: In the poll there participated 232 women aged from 25 to 61 years, benefiting from filling treatments with cross-linked hyaluronic acid for the aesthetic purposes, in the aesthetic medicine practices in Poland. The women were selected to test at random.

Results: Women between 35 and 49 years of age represent 66% of all the women benefiting from this kind of treatment. Not a single person assessed their financial status as bad. For the vast majority (82%) of women benefiting from the filling treatments, the effects of these treatments did not provide the inspiration to gain additional skills or qualifications with a hope for better earnings. Also, 80% of women who have invested in their appearance through facial fillers have not accepted better paid or additional work. Thanks to the use of DLQI it was possible to demonstrate that the quality of those women's lives, in dermatological terms, is high and the treatments have significantly enhanced their perception regarding the quality of their skin.

Conclusion: Women benefiting from filling treatments assessed their material status as good- cumulatively 71% of the polled ones; 18% of the women after filling treatments won additional skills or qualifications with a hope for better earnings; 20% of the women after the filling treatments accepted a better paid or additional work.

Keywords: Aesthetic medicine; Cosmetic medicine; Fillers; Women's professional functioning; Quality of life.

Introduction

Fillers are substances that are injected in a specific volume either subcutaneously or deeply to the bone. Lifting the superficial layers of the skin they fill the tissue deficits (furrows, folds) and also correct the shape of the different parts of the face, for example: the shape of the nose and mouth, the chin, the temporal area, the zygomatic area, etc. Consequently it leads to recovery of firmness and volume and younger and better look of the properly treated patient [1-3]. There are many non-biodegradable and biodegradable filling substances on the market, which work permanently or temporarily. Biodegradable fillers are those which are absorbed and removed from the body. Their safety profile is high; however they are unsustainable and they should be used regularly every few months. The most commonly used filler in the aesthetic medicine is hyaluronic acid, which is biodegradable [1].

Cosmetic medicine is a branch of medicine that deals with the construction and reconstruction of human psycho-physical balance. It is a branch of medicine that values the quality of life, and health is regarded here as a sign of good mental and physical condition. This is a branch of medicine which primarily has preventive character and secondly reconstructive, or corrective. Cosmetic medicine is a branch of medicine that deals with patients' health in the aspect of: well-being, appearance, image, aesthetics, noticeable changes to the skin, and sensible discomfort in the quality of patient's life [1,2,4].

The following work presents the impact of fillers treatments on the professional functioning of women using fillers treatments with cross-linked hyaluronic acid for aesthetic purposes. It was examined whether there is a correlation between the use of filler treatments and acquiring new skills or skills that give perspective for better earnings, or starting a better paid or additional job.

Materials and Methods

In the poll there participated 232 women aged from 25 to 61 years, benefiting from filling treatments with cross-linked hyaluronic acid for the aesthetic purposes, in the aesthetic medicine practices in Poland. The women were selected to the test at random. The study also used the standardized questionnaire called Dermatology Life Quality Index (DLQI), accepted by the author A.Y. Finlay [5,6]. For multiple comparisons the experts system and the Bonferroni and Scheffeg's methods were used [7].

Dermatology Life Quality Index (DLQI) was developed in 1994 and was the first tool dedicated to testing the quality of life in the case of dermatological problems and diseases. DLQI consists of 10 questions related to self-assessment on impact of skin diseases on the various aspects of the patient's health related to quality of life in the preceding week. DLQI is a simple questionnaire used to measure health and quality of life in adults suffering from skin conditions. It should be noted that DLQI questions deal with the quality of life in terms of the actual dermatological problem. Therefore, patients using treatments in aesthetic medicine do not have a significant skin condition, we can assume that they will not be able to point to specific symptoms or behavior resulting from their condition, hence the answer they provide will be negative. Nevertheless, DLQI is a very popular test of quality of life and should be done, even after assuming that it will not show a clear change in the quality of life and assess it as such from the beginning to be high. In this study, the official translation of DLQI form was used, as approved by the tools developer Professor A Y Finlay, published on the official website of the project also described and used by Professor J Szepietowski, Adamski and other co-authors in clinical dermatology in 2004 [4,5,8].

The test parameters of the general population are estimated using confidence intervals at a predetermined level of assurance (confidence). Typically, the confidence level is set at 95%. This means 95 percent probability that the confidence interval will cover the unknown value of the estimated parameter [9]. In social studies the fraction of error is estimated (confidence interval $\frac{1}{2}$) to be at a level below 4% and in this study this is 3.99%.

The formula for the minimum sample size for dichotomous variables (and such a study is the vast majority) is given by [10]:

$$n = \frac{Z(p(1-p))}{d^2}$$

where:

n - sample size;

Z - statistics for the desired level of confidence;

p - an estimate of the expected proportion of the variable of interest in the population;

d - half the width of the desired interval.

Only participants who expressed consent were included in this study. Participation in the survey was voluntary and anonymous. The subjects completed the surveys anonymously. They were informed of the purpose of conducting the investigations and that the resulting data would be used: for scientific research.

The following considerations regarding the patients benefiting from filling treatments with cross-linked hyaluronic acid were examined:

- Age distribution of women;
- The material status and the level of happiness of patients;
- The influence of filler treatments on gaining new skills or skills that give perspective for better earnings;
- The influence of treatments on starting a better paid or additional work.

Results

Age distribution of women benefiting from filling treatments using crosslinked hyaluronic acid for aesthetic purposes. (Figure 1).

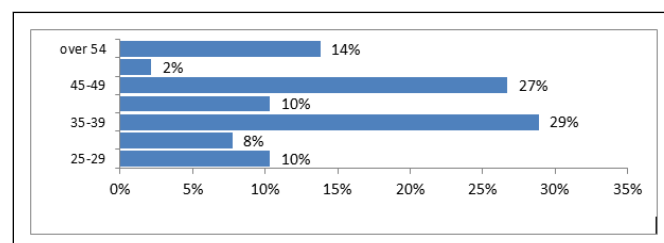


Figure 1: Age distribution of women benefiting from filling treatments using crosslinked hyaluronic acid for aesthetic purposes. n = 232.

As it is seen in the diagram the filling treatments using cross-linked hyaluronic acid for aesthetic purposes are mostly used by women aged 35 to 39 years (32%) and 45 to 49 years (27%). Women who are 35 to 49 years old represent 66% of all patients benefiting from this kind of treatment.

- The material status and the level of happiness of patients – how do you assess your present material status (Figure 2)?

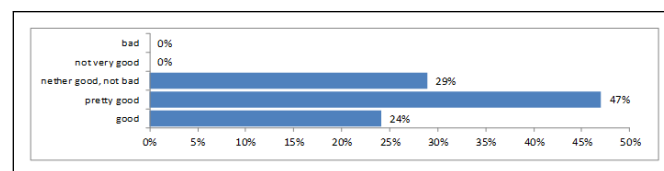


Figure 2: How do you assess your present material status? n = 232.

The material status clearly translates to a life satisfaction and an overall "happiness" of people. However, it is worth noting that this is not about the nominal amount of income or assets. The material level satisfaction entirely depends on self-esteem. As it is seen, the women benefiting from filling treatments for

the aesthetic purposes assess their material level as good – a total of 71% of the indications were good or fairly good. It is also worth noting that not a single person assessed their financial status as bad.

- Have you, thanks to the fact that you invested in your appearance (by benefiting from filling treatments), acquired some new skills or qualifications with a perspective of better earnings (Figure 3)?

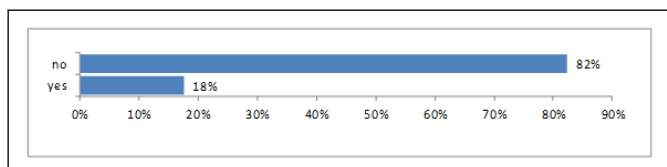


Figure 3: Have you, thanks to the fact that you invested in your appearance (by benefiting from filling treatments), acquired some new skills or qualifications with a perspective of better earnings? n = 232.

- Have you, thanks to the fact that you invested in your appearance (by benefiting from filling treatments) started a better paid or an additional job (Figure 4)?

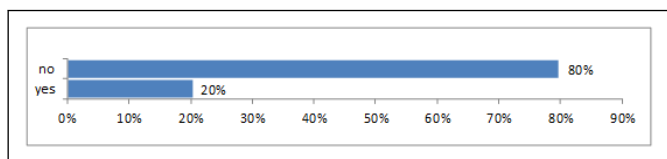


Figure 4: Have you, thanks to the fact that you invested in your appearance (by benefiting from filling treatments) started a better paid or an additional job? n = 232.

One of many factors influencing the life standard is a carrier satisfaction. Filling treatments, and particularly the effects one gets after such treatments, can have an impact on the professional lives, in the incidents when the external appearance and self-confidence could make a difference. However, with all this in mind it is important to remember that the patients benefiting from the treatments highly assess their material level, so it is difficult to perceive the filling treatments as a source of improved standard of life through, for example finding a new job. The filling treatments can be a kind of investment that expands the career prospects thanks to an increased self-esteem and improved image of the patient.

Therefore, the women were asked whether they have gained new skills or qualifications for potential improved earnings thanks to the fact that they invested in their appearance. For the vast majority (82%) of women benefiting from the treatments, the effects of these treatments did not provide the inspiration for gaining additional skills or qualifications leading to better earnings. Only 18% of respondents noted the dependency. Women were also asked whether thanks to the fact that they invested in their appearance (through the use of filling treatments) they have started a better paid or an additional job. The results are similar 81% of women have not noted such dependency, however 1/5 of the respondents (20%) noted the dependency.

DLQI

Women benefiting from filling treatments with cross-linked hyaluronic acid for aesthetic purposes were asked to complete the survey by providing answers to the following questions:

- To what extent, in the last week, did you experience itching, pain, burning or tingling of the skin (Figure 5)?

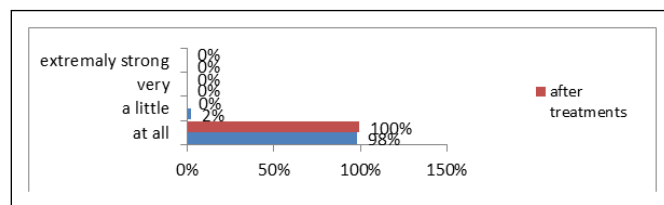


Figure 5: To what extent, in the last week, did you experience itching, pain, burning or tingling of the skin? n = 232.

Before the aesthetic treatments using fillers, 5 women indicated minor skin aches and after the treatment this number decreased to 1 person (0,431%).

- To what extent in the last week did you feel embarrassed or uneasy because of the condition of your skin (Figure 6)?

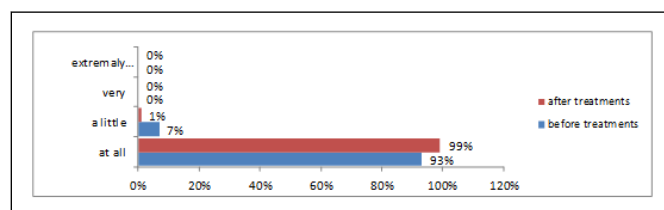


Figure 6: To what extent in the last week did you feel embarrassed or uneasy because of the condition of your skin? n = 232.

Embarrassment caused by the skin condition before the filling treatments appeared among 16 women, while after treatments only among 2. Both indications were regarding light embarrassment. The DLQI survey does not however indicate what the reason of such embarrassment was. In this case we notice a distinct difference in the frequency of showing light embarrassment with the skin condition before and after treatments. With this, one can draw the conclusion that filling treatments significantly improve the assessment of the patients' skin.

- To what extent did the skin ailments affect your social life or leisure time last week (Figure 7)?

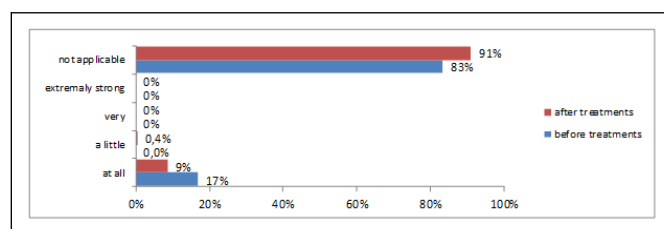


Figure 7: To what extent did the skin ailments affect your social life or leisure time last week? n = 232.

There was 1 indication that skin diseases affected the social life of women. After the treatments these indications dropped to zero which places both readings below error allowed in the study. Nevertheless, DLQI does not penetrate in the cause of the small impact of the diseases on the social life of patients and in the very nature of these problems. This could have been for example: cold sores, blackhead, or some minor reddening of the skin, which caused some embarrassment.

Analyzing the responses to the remaining questions,

- To what extent in the last week did the condition of your skin bother you while shopping, doing housework or gardening?
- To what extent in the last week did the skin problems influence the way you dressed?
- To what extent in the last week did the skin problems disturb you in doing sport?
- To what extent in the last week did the skin problems disturb you in relations with your partner, friends and family?
- To what extent in the last week did the skin problems disturb you in your sexual life?
- To what extent in the last week was the condition of your skin problematic for you, for example, in maintaining order in the house or because it excessively preoccupied your time?

Did your skin problems, in the last week, disenable you from working and studying?

We can note that the skin problems did not appear and did not cause any everyday life problems among women benefiting from filling treatments using cross-linked hyaluronic acid for the aesthetic purposes. Did not interfere with contacts with friends and the surroundings, had no impact on doing housework or gardening, did not disturb sexual life, did not affect the clothes the women put on, did not prevent from working, learning, or playing sports.

The women who benefit from the beauty treatments are healthy people that come to the aesthetic medicine doctor in order to improve their appearance and/or slow down the ageing process of the skin. They do not have any significant skin ailments, rather minor imperfections that result from using new or not the right cosmetics (redness of the skin), the appearance of a cold sore or single acne lesions. Aesthetic medicine patients care about their appearance very thoroughly, often these minor skin imperfections make patients feel temporarily embarrassed and avoid social events at that time. Thanks to the DLQI it was possible to show that the dermatological quality of life of the patients is high and that the filling treatments with cross-linked hyaluronic acid significantly improved the self-assessment of the quality of their skin.

Discussion

Clifford and Walster noticed, that teachers, who were supposed to give an opinion about students, based on their grades and extracurricular achievements, evaluated higher the students who were prettier and looked more attractive than the students with the same grades and achievements but less attractive, concluding that they are more intelligent and have better educational potential. Francis and Glen in their study also

demonstrated similar cannon, claiming that the pretty people receive higher evaluation and in addition demonstrated that such people are promoted more quickly. Riniolo et al. in their studies noticed that the students evaluating level of knowledge of their professors in the 5-degree scale scored by 0.8 points higher those who had a nice appearance [11-13].

Since teachers - educated individuals who are prepared to look at people in an objective manner cannot do this without being influenced by the beauty of man, then we can also expect that in ordinary social interactions the beauty plays even greater role than we think, and thanks to it, a person has a greater chance of getting a new, better paid or additional job.

Physically attractive candidates to work with education and qualifications at the same level as the less attractive ones have a better chance of employment [14]. Even the experienced human resources managers are not immune to the beauty of the people striving for a position. They claim that the more attractive person has higher qualification and will be a better employee. It also has been noted that human resources managers pay different attention to beauty depending on whether the person is supposed to work directly with him or not. If 'yes' then the choice falls on the more attractive person, if no the less attractive (in any case manager takes skills of the candidate under consideration), however the level of attractiveness of the person receiving the position is always higher than the one that did not receive it, regardless the same education and skills [15].

In the study carried out by Gałęba at 603 patients of both sexes, benefiting from aesthetic treatments (fillers, botulinum toxin type A, medical peels, mesotherapy injections) it has been shown that 20% of patients receiving treatments in aesthetic medicine have been promoted [1]. This percentage may not be high, however, it is related to the fact that as many as 51% of the aesthetic medicine patients are representatives of the liberal professions and have their own business or work not by choice, with the result that their career path is not associated with the acquisition of subsequent promotions [1]. In the above study, 20% of women benefiting from filling treatments started a better paid or additional job and 18% gained some additional skills or qualifications with a perspective for better earnings.

Physical attractiveness has also an impact on earnings. The more attractive employees earn about 10-15% more in comparison to the less attractive individuals [16]. This phenomenon is more marked for men than for women. The amount of the bonuses for the beauty in the United States is economically significant on the labor market and comparable to the differences related to race and gender [17]. In the study carried out by Gałęba A [1]. 44% of patients admitted that after aesthetic medicine treatments their material situation improved, including 20% which improved significantly. 79% of respondents assessed their material level as good or fairly good. Only 19% of the aesthetic medicine patients live below their financial expectations. This does not mean poor material conditions, but increasing needs and ambitions. In the tests presented in this work 71% of women benefiting from filling treatments assess their financial status as good.

Conclusion

Women benefiting from filling treatments assess their financial status as good 71% of the polled women; 20% women after the treatment found a better paid or an additional job; 18% of the tested individuals after filling treatments gained additional skills or qualifications with a perspective for better earnings.

Acknowledgment

The authors declare that they have no conflicts of interest to disclose.

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