

The Prevention of Alopecia Induced by Chemotherapy by Enhancing Self-Esteem and Reducing Distress. Observational Study between the Level of Distress from Chemo-Induced Alopecia and Self-Esteem in Patients Belonging to the Oncology Department of the Bat Health Authority, Italy

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ABSTRACT

The general goal we have set ourselves is to statistically determine the degree of correlation between chemo-induced alopecia distress and self-esteem as the different degree of alopecia varies. To obtain a representative sample, we decided to perform a cluster sampling, in which the clusters of units were the women affected by the neoplastic disease.

50 female patients who belonged to the oncology day-hospital department of the Local Health Authority Barletta, Italy.

The Nurse has a particularly important role in the patient's care path, as he remains in close contact with him in the various moments of the diagnostic-therapeutic process. For many patients it may be easier to relate to the nurse rather than to other health professionals. For this reason, in the assistance, the nurse is placed at the center of the humanization process, entrusting him with many of the planned interventions.

Keywords

Alopecia, Distress, Prevention, Self-esteem.

Introduction

Alopecia is the total or partial loss of hair; it can be due to various causes, but in patients with neoplastic pathology, it is usually a side effect of the chemotherapy or radiotherapy used for the tumor. Alopecia is due to the mechanism of action of antineoplastic drugs, which act by damaging highly vascularized cells with a rapid

reproductive cycle, whether they are healthy or diseased; for this reason, the cells that, in the hair follicles, ensure the continuous growth of hair and hair can be damaged [1].

This explains why anticancer drugs cause hair changes (often just a thinning that can go unnoticed) and sometimes even their accelerated hair loss. The degree, time of onset and impact are subject to many variables, including the agent itself, its half-life, dose and schedule, method and frequency of administration, and

whether the drug is administered alone or in combination with other chemotherapy drugs. For example, low-dose taxanes administered weekly cause less severe alopecia than high-dose administration every three weeks; liposomal doxorubicin causes less hair loss than the conventional formulation of anthracycline. In addition, the newer cytotoxic agents, including vinorelbine, capecitabine and gemcitabine, as well as oral cytostatic and new target agents, less easily cause hair loss, however when these are combined with other chemotherapeutics, significant alopecia can appear.

Chemotherapy alopecia is commonly reversible, but from a psychological point of view there is an association between hair loss and decreased beauty and sensuality, interference with one's individuality and personality, change in the body image and therefore in the concept that the person has of itself [2].

These psychosocial implications can sometimes lead to the patient refusing treatment. In the male subject, the problem may appear less serious as total head shaving is a usual trend for individuals with any other type of baldness even in young subjects and without any hair loss problem, just for simple convenience. In this case, another aspect that must be taken into account is the possible loss of hair, as a result of which the face may become hairless, even without eyebrows and eyelashes. From the female point of view, the impact can be stronger; the hair in women has always been a strong point and the care of the hairstyle, cut and color is common even for older women. Undergoing a drastic change in one's appearance can lead to a woman not accepting herself, not recognizing herself, up to the loss of self-esteem. This is why the nurse plays an important role in alleviating this discomfort, for example by paying particular attention to giving information to the patient and making himself available to her by responding competently to any questions she may have [3,4].

Women consider this problem more significant than men do; for example, women with early stage breast cancer often consider alopecia the heaviest aspect of perioperative chemotherapy (neo adjuvant or adjuvant). In fact, the impact due to hair loss can be enormous and sometimes even harder than a mastectomy. For many women, the eventuality of losing their hair may be considered unacceptable to the point of choosing less effective therapies (which do not cause alopecia) or refusing treatment altogether.

It must also be considered that the patient who is offered chemotherapy treatment may have recently learned that he has cancer, or is living with the disease, and with all the discomfort it can cause, for some time now. It is difficult to establish a priori how much the two factors that is the knowledge and awareness of having cancer and the hair loss caused by the treatment of the disease itself, add up and amplify [5].

It is not always easy to discriminate how much hair loss affects the quality of life regardless of the disease itself and the other effects produced by the toxicity of drug treatment.

Self-esteem, of which one of the components is body image, has not been studied in relation to alopecia, however it has been seen

that the latter can vary in patients with chemotherapy experience, and given that body image changes can affect self-esteem, it can be reasonably concluded that alopecia can affect self-esteem [6].

One of the best-known side effects of anticancer chemotherapy is hair loss (alopecia); antineoplastic drugs act by damaging highly vascularized cells with a rapid reproductive cycle, without discriminating between healthy and diseased, and therefore The cells of the hair follicles, which have a high replication frequency, can also be damaged.

Due to alopecia, the patient may experience discomfort due to the strong impact on the quality of life, especially due to the change in their body image. The changes in appearance undergone due to hair loss can lead the patient himself to have difficulties with himself and with others, especially family members and friends; the discomfort can be enormous and interfere in the psychosocial and sexual sphere [7].

Self-esteem is essential to get the best out of life. Since one's level of self-esteem arises from a comparison between oneself and the surrounding world, if the comparison is wrong, the conclusions are wrong. Self-esteem is the idea that everyone has of themselves.

Three fundamental elements constantly recur in all definitions of self-esteem [8]: the presence in the individual of a system that allows self-observation and therefore self-knowledge, the evaluative aspect that allows a general judgment of oneself, the affective aspect that allows evaluating and considering the descriptive elements in a positive or negative way.

In fact, a person's self-esteem does not arise exclusively from individual internal factors, but the so-called comparisons that the individual makes, consciously or not, with the environment in which they live have a certain influence. There are two components to make up the self-esteem formation process: the real self and the ideal self.

Having high self-esteem is the result of a limited difference between the real self and the ideal self. It means knowing how to recognize in a realistic way that you have both strengths and weaknesses, striving to improve your weaknesses, appreciating your strengths. All this emphasizes greater openness to the environment, greater autonomy and greater confidence in their abilities. People with high self-esteem demonstrate greater perseverance in succeeding in an activity they are passionate about or in achieving a goal, they care about and are less determined in an area in which they have invested little. These are people more likely to relativize a failure and to engage in new ventures that help them forget. On the contrary, low self-esteem can lead to reduced participation and low enthusiasm, which materialize in situations of demotivation in which disengagement and disinterest predominate.

Aim

The general goal we have set ourselves is to statistically determine the degree of correlation between chemo-induced alopecia distress

and self-esteem as the different degree of alopecia varies. In addition, this research project aims to seek care strategies to reduce distress and increase the self-esteem of women suffering from cancer highlight the use of the cooling helmet in the personalized nursing plan, educate women to self-care for hair, by strengthening self-esteem.

Materials and Methods

To make the research project concrete, we adopted a correlational research design as the operating method, in which we wanted to highlight the correlation between the distress caused by alopecia and the self-esteem of the cancer woman.

By identifying the accessible reference population for women undergoing chemotherapy cycles in the Oncology day hospital of the Local Health Authority BAT, in the period from January 2019 to June 2019, we requested authorizations from the authorities on data processing and privacy.

To obtain a representative sample, we decided to perform a cluster sampling, in which the clusters of units were the women affected by the neoplastic disease.

While the exclusion criteria were the presence of cognitive deficits or psychiatric pathology, as these dysfunctions could interfere with the completion of the self-administered questionnaire.

As far as data collection is concerned, it required the presence of the interviewer at the operating unit; before the administration of the questionnaires and the start of the study, the required consents were filled in and signed, and the methods of delivery of the survey tool were defined with the director of the operating unit and the nursing coordinator.

The questionnaires were placed in a sealed envelope, thanks to the collaboration of the nurses of the operating unit. The questionnaires are completely anonymous.

In fact, the first part concerned the characteristics of the reference sample: gender and school level. In the second part, we assessed the degree of distress with the Italian version of the chemotherapy-induced Alopecia Distress Scale (I-CADS). Which to date is the only specific tool to assess this distress.

The I-CADS consists of 17 items, and measures four different domains, as physical perception, self-perception, emotionality and social engagement.

The internal consistency of the items within the relative domains of belonging indicates that the tool is reliable; I-CADS could be used to support clinicians' decision-making, as it is able to intercept distressing situations related to the interaction of self-perception, emotionality and social engagement.

Its clear psychometric priorities also indicate its use in research projects where it is necessary to measure the distress secondary to chemotherapy for the treatment of cancer.

In the third part of the questionnaire, the level of self-esteem was assessed using the Rosenberg Self-Esteem Self-Assessment Scale, which collects 10 statements that revolve around how much the person is valued, as well as how satisfied they are with themselves.

The first 5 statements are formulated in positive form, the remaining 5 in negative form.

Each positive statement has a score ranging from 0 (totally disagree) to 3 (totally agree), while negative statements have an inverse score, 3 implies total disagreement and 0 total consent. In this sense, a score below 15 would indicate very low self-esteem, suggesting it as an aspect to work on. Between 15 and 25 points, we would find ourselves in front of a healthy self-esteem that is within the parameters of what is considered "balanced". A score greater than 25 would tell us about a strong and solid person. In this sense, such a high score could also indicate problems in the analysis of reality or of people who are too complacent with themselves. The ideal score should be between 14 and 25 points.

Results

Taking into account the errors resulting from the random data collection and the validity of the tool, we moved on to the analysis of the resulting macrodata, through graphical representations and statistical processing. Thanks to the use of Excel software, we have processed and synthesized the data. Starting from the characteristics of the reference sample, we recruited 50 female patients who belonged to the oncology day-hospital department of the Local Health Authority BAT, Italy (Table 1 and 2).

Table 1: Sampling characteristics (n=50).

Characteristics	Frequencies (n;%)
Age:	
under 25 years	n=1; 2%
26-39 years	n=8; 16%
40-49 years	n=17; 34%
50-59 years	n=18; 36%
>60 years	n=6; 12%
Instruction levels:	
Elementary / Middle school	n=26; 52%
Diploma	n=6; 12%
Graduation	n=18; 36%
Degree of alopecia:	
Degree 0	n=4; 8%
Degree 1	n=5; 10%
Degree 2	n=5; 10%
Degree 3	n=20; 40%
Degree 4	n=16; 32%

Table 2: Distress and self-esteem in the different degrees of alopecia.

Alopecia Degree	Distress level ($\mu \pm$ s.d.)	Self-esteem value ($\mu \pm$ s.d.)
Degree 0	1 \pm 0	24 \pm 1.41
Degree 1	1.6 \pm 0.45	21.5 \pm 1.29
Degree 2	2.4 \pm 0.55	18.2 \pm 0.84
Degree 3	10.47 \pm 5.50	13.45 \pm 2.16
Degree 4	28.25 \pm 3.70	4.31 \pm 2.98

Discussion

Permanent chemotherapy-induced alopecia is rare after a standard dose, but has occasionally been observed after the administration of high doses of cyclophosphamide, thiotepa and carboplatin, for example. In a study in which 24 patients received 2 or 3 courses of high-dose cyclophosphamide, 8 of the patients developed permanent alopecia, 7 had normal regrowth and 9 had incomplete regrowth and / or thinning hair. The results suggested that this drug combination given at high doses could lead to permanent alopecia. In the case of doxorubicin, pharmacology has managed to develop a modified form that is able to mitigate the side effects.

In addition to being one of the drugs that most cause alopecia, it also has a low therapeutic index that severely limits its use. There are two major problems: acute bone marrow toxicity and both acute and chronic cardiac toxicity.

Despite significant advances made over the past twenty years in cancer treatment with chemotherapy, the conditions of chemotherapy remain unchanged.

Several surveys conducted in the 1980s and 1990s have shown that the patient with cancer considers hair loss to be among the first side effects in order of importance. Similar results were obtained from a more recent survey of 100 patients treated with chemotherapy in the day hospital regimen, most of them women with breast cancer. Biological hair preservation measures are focused on promoting hair regrowth or protecting the follicle.

Consulting the academic literature, we note that this fear of losing hair due to cancer treatments leads 8% of women to refuse therapies or to choose fewer effective ones. For 47% of women who suffer from it, alopecia is the heaviest aspect of chemotherapy, with an even greater impact than mastectomy. The toxicity of oncological therapies in fact causes an extreme variety of physical symptoms but also have 'aesthetic' manifestations that are a prelude to serious repercussions on social life and relationships, as well as on the self-esteem of patients. This study aims to highlight the correlation between the distress caused by chemo-induced alopecia and self-esteem as the different degree of alopecia varies.

Certainly, the best-known effect that frightens the cancer patient is alopecia induced by chemotherapy whose incidence and extent varies according to the drug taken, with higher frequencies especially for taxanes, anthracyclines and alkylating agents [9].

Acute alopecia of the scalp arises from 1 to 8 weeks after the start of chemotherapy and is usually reversible. The person who is experiencing an important event such as that of an anticancer treatment needs help to deal with it better, to find the greatest benefits from the treatment and to limit the inconvenience as much as possible.

The patient always needs to be informed, not to be and not to feel alone, to have the right technical and emotional supports so that this strong and important experience is as positive as possible. The nurse who assists the cancer patient undergoing chemotherapy

must ensure, as a primary objective, the best possible quality of life; Often the news of having to undertake a course of pharmacological treatments causes anxiety and discomfort in the cancer patient, the patient experiences the experience in a subjective way, but this is almost always seen as a debilitating factor [10].

It was thus shown that temporarily inducing the expression of the gene in the affected areas could be the right way to understand the mechanisms underlying alopecia in various pathological conditions and to help patients undergoing chemotherapy. Other studies have instead made it possible to identify some pathways responsible for the serious side effects due to cell apoptosis in some particularly sensitive tissues.

Since alopecia is inevitable in many patients, who undergo chemotherapy, nurses and doctors must try to help them prepare for hair loss, thus minimizing the negative impact of the patients themselves with their image. Especially the nurse, by personalizing the therapeutic and educational intervention, can use various forms of approach with the cancer patient to obtain and give more information in the best possible way; each person gives their hair and looks a different meaning and a different level of importance.

Therapeutic education consists in helping the patient and his family to understand the disease and the treatment, to collaborate in the treatment, to take charge of their health and to preserve and improve their quality of life. The cancer patient suffers from a "multisystem" disease: he gets sick in the cells and in the soul, in thoughts, affections and relationships, losing its true dimension, the relational one.

The reactions of the family play a fundamental role in hindering or facilitating the patient's psychosocial adaptation process. Already in 1950, the importance of relational-psychological support for cancer patients was perceived. In the 1970s, psycho-oncology spread to the United States to help the patient maintain and / or restore the best possible quality of life. Nurses set themselves the goal of supporting the patient and their family members through the therapeutic relationship. The nurses provide the cancer patient with useful advice for the management of home therapies and the possible side effects of drugs, to improve the quality of life and encourage the restoration of the person's habits. To implement individualized care and in keeping with the real needs of each individual patient, it is necessary, for example through interviews, to understand what their expectations are and the need to receive specific and accurate information. In particular, many women have reported wanting more accurate information about physical changes due to hair loss.

Providing written and oral information about side effects, in this case alopecia, to cancer patients, has been shown to increase knowledge, acceptance and compliance of chemotherapy treatment, and decrease emotionality, anxiety and depression [11].

Emotional support can help improve the patient's quality of life and help them accept chemotherapy; in this regard, some patients find comfort from an interview with others who have the same

problem, with those who have already experienced hair loss and managed to find strategies that have allowed them to live with it and accept it, and especially with those who have suffered previously undergoing chemotherapy treatment with subsequent chemotherapy and regrowth after ending the therapy; they can be reassured by these comparisons, especially with those who previously had the same anxieties and fears, but managed to overcome such a difficult moment, until finally arriving at the moment of hair regrowth. For this purpose, in some situations there is the possibility of participating in meetings with support and self-help groups. As far as the Italian reality is concerned, we have not found a bibliography about this type of approach regarding the patient with cancer, while meetings of this type have already been successfully launched for several years for some problems such as smoking, and more recently for pathologies chronic such as diabetes. American literature reports that these techniques have been used for some time in the United States also for problems related to body image and sexuality in cancer patients.

For the patient to learn to take care of himself in the right measure, it is important that he is shown different ways of self-care, so that he can choose the intervention that seems most appropriate for himself. For this purpose, the nurse can be of great use, because with her knowledge she is able to advise him on how to treat hair during chemotherapy and possibly on what means to use in case of hair loss [12,13].

Communication between the client and the patient is a fundamental aspect in cancer treatment. The aspects of communication most appreciated by patients are those that help them and their families to feel guided, building a relationship of trust by supporting the feeling of hope. An optimal relationship established with the patient must be based on listening and negotiation. The use of short and simple language, based on the patient's level of education, allows the client to understand and understand the problem. Detect non-verbal responses such as facial expression, touch and change in posture. Recognizing and respecting emotions is a very important step in showing empathy [14,15].

Conclusions

The Nurse has a particularly important role in the patient's care path, as he remains in close contact with him in the various moments of the diagnostic-therapeutic process. For many patients it may be easier to relate to the nurse rather than to other health professionals. For this reason, in the assistance, the nurse is placed at the center of the humanization process, entrusting him with many of the planned interventions.

Usually, the nurse finds herself managing anxiety and psychological distress due to concerns about the oncological disease. Today, these topics have become the subject of specific teachings in the Degree Courses, therefore the skills learned during the studies allow to manage these problems independently or in multidisciplinary.

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