Chapter 13

Psychosocial Aspects of Hair Loss

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Abstract

Hair loss (alopecia) is a common dermatological condition that affects men and women of all ages. It can be due to a wide variety of causes including scarring and non-scarring diseases. Although alopecia is not a life-threatening condition, it has significant psychological impact on the quality of life. Mental disorders such as anxiety, depression, social phobia, posttraumatic stress disorder, and suicidal thoughts are increased among alopecia patients. On the other hand, alopecia frequency increases during the course of psychological disorders. In this chapter, psychosocial aspects of hair loss and the relationship between alopecia and psychological disorders are reviewed.

Keywords: alopecia, anxiety, depression, hair loss, psychiatric disorders, psychological disorders

1. Introduction

Studies have shown dermatologic diseases to be closely associated with psychological problems. Psychological diseases have even been suggested to occasionally cause dermatologic problems, while the reverse has also been suggested. Psychological/psychiatric disorders have been detected at rates up to 60% in dermatology patients treated as inpatients and 30% in those treated as outpatients [1]. Alopecia (hair loss) is an important dermatological condition due to its common psychological effects. The current role of healthy hair as regards to perception of power, good looks, charm, and beauty is an indisputable fact. Healthy hair is an important complement of physical well-being. Therefore, hair loss causes significant psychological problems, whatever its underlying pathophysiology.

Alopecia can affect women and men of all ages and has significant social and psychological results [2]. Although the hair loss itself does not cause a functional problem, it is visually an

important part of the outer appearance in both women and men. The loss or disruption of this part can cause several psychological/psychiatric problems such as depression, anxiety, anger, fatigue, low self-esteem, embarrassment, discomfort with appearance, lower self-regard, self-consciousness, less sexual activity, decrease in school performance, social withdrawal, and suicidal ideation [3–5]. Recent studies have shown the stress level experienced by patients with alopecia to be at a level similar to many severe, chronic, and life-threatening diseases [2–6].

Several factors such as autoimmune and inflammatory diseases, infections, hormonal factors, physical or chemical factors, neoplasms, and congenital diseases can cause alopecia. Alopecia is divided into two as scarring and non-scarring alopecia [7]. The psychosocial aspect will be reviewed according to the common reasons causing hair loss in this section. The common reasons for hair loss are summarized in **Table 1**.

1. Non-scarring alopecia
• Androgenetic alopecia
• Telogen effluvium
• Anagen effluvium
• Chemotherapy-induced alopecia
• Alopecia areata
• Trichotillomania
• Psychogenic pseudoeffluvium
2. Scarring alopecia

Table 1. Common hair loss causes.

2. Psychosocial impact of non-scarring alopecia

Approximately 50% of women and men experience alopecia at some stage [8]. Most of these problems consist of (1) androgenetic alopecia (AGA), (2) telogen or anagen effluvium, and (3) alopecia areata (AA), which develop with different pathophysiologic mechanisms. Certain specific conditions (4) have also been described.

2.1. Androgenetic alopecia

Androgenetic alopecia is also known as male type hair loss and is seen more commonly in males. Genetic and hormonal factors play an important role in the development. It is most frequently observed in middle-aged white men. Roughly 30% of white men at the age of 30, 50% at the age of 50, and 80% at the age of 70 are affected by this condition [9]. Various results have been obtained in the studies conducted on the psychological effects of AGA,

which in fact is considered a part of the natural aging process by many men. Men have stated that AGA disrupts the body image and causes stress without a significant loss of psychological functionality in a study conducted by Cash some decades ago [10]. The condition has been shown to lead to higher rates of psychological problems especially in men who are young, who do not have a romantic relationship, who think physical appearance is essential for self-esteem, and who were insecure even before the development of alopecia [4, 10–13]. These symptoms increase as the severity of AGA increases [11]. AGA starting early such as the early 20s has especially been reported to cause the individual to compare himself with his peers and gradually lead to lack of self-esteem. Such people can also become obsessed with AGA and spend much time and money on its treatment [3, 12, 14]. Normal subjects asked to evaluate bald (with advanced AGA) individuals with those with normal hair found the first group older, less masculine, and physically and socially less attractive [11]. Young individuals with AGA who are aware of such notions in the community suffer increased psychological stress, as reflected in the increased demands for treatment and hair transplantation. However, the AGA usually observed in males causes less severe psychological effects than other types of alopecia [15].

The psychological stress in women is usually more severe. Hair is one of the most important components of the physical appearance in women. A study reported 52% of females and 28% of males to be very/extremely unhappy with AGA when 96 female and 60 males AGA patients were compared. When female subjects with AGA were compared with females with another dermatologic disease, the first group was found to be more stressful, suffers more social anxiety and has less self-esteem. A significant decrease was recorded in their quality of life compared to the control group [16]. However, every woman with AGA is not psychologically affected equally. Female patients with diffuse pattern AGA were observed to be less social in particular [4, 9, 16].

2.2. Telogen effluvium/Anagen effluvium

Losses due to hair cycle disorders can be as telogen effluvium (TE) or anagen effluvium (AE), depending on the stage the hair is affected [17].

2.2.1. Telogen effluvium

Telogen effluvium develops mainly due to febrile disorders, surgery, accidents, giving birth, severe diets, thyroid disorders, eating disorders, vitamin and mineral deficiencies, severe emotional stress, and certain drugs [18, 19].

The ratio of loss in telogen effluvium cases is usually under 50% [19, 20]. Hair loss needs to be more than 50% to be visible [17]. Therefore, TE is often accepted as a benign process and usually continues for <6 months. However, the potential hair loss of over 300 hair follicles per day in these patients can cause emotional distress and significantly reduce the quality of life. Acute or chronic stress can cause TE development, while TE itself can cause secondary stress, leading to a vicious cycle [21]. Although the condition is common, studies on the psychosocial effect of TE are limited in number. However, the TE-stress-TE vicious cycle is thought to lead to

anxiety and depressive symptoms, especially in women who are more concerned about their outer appearance [3, 4].

2.2.2. Anagen effluvium

The loss of hair at the anagen stage which is the growth phase is named AE. Unlike TE, intense loss is observed quickly. Since normally 80–90% of the hair on scalp is at the anagen stage, 10–20% of the hair remains [18, 22].

Alopecia developing due to chemotherapeutic agents can be TE but is commonly AE. In addition to chemotherapy, AE causes include radiotherapy, protein-energy malnutrition, heavy metal poisoning, connective tissue disease, pemphigus vulgaris, other drugs (L-dopa, cyclosporine, colchicine, bismuth), and systemic disorders causing peribulbar inflammation such as syphilis and systemic lupus erythematosus [17]. However, chemotherapy-induced alopecia (CIA) has been presented in more detail due to the significant psychosocial effect it creates.

2.2.3. Chemotherapy-induced alopecia

Chemotherapy-induced alopecia develops due to chemotherapy and has several psychosocial effects such as anxiety, depression, and low self-esteem affecting the quality of life. Although many improvements have been achieved in side effects related to chemotherapy, especially in the last three decades, CIA still appears to be an unresolved side effect. It is even possible for chemotherapy options that are less successful but do not cause CIA to be preferred to more successful treatments. Even the idea of the development of alopecia in patients after the diagnosis of cancer can cause traumatic fear and anxiety [23, 24]. CIA has been shown to be among the main three chemotherapy-related side effects causing distress and to be more significant in female patients [23–25]. Alopecia was found to be the most burdensome side effect in a study conducted on female patients with early stage breast cancer [26]. In fact, CIA was shown to cause more psychosocial effects than mastectomy in certain patients [27]. Loss of hair, which is another feminine characteristic, in females undergoing mastectomy was reported to cause more psychological effect than lung cancer chemotherapy-related alopecia [28]. Once CIA develops, 13% of patients with a gynecological malignancy feel that they are no longer wanted by their partners [29].

Chemotherapy-induced alopecia is one of the major stress resources because it is the most visible reminder of the disease, the need for treatment and death [23]. However, although generally being a major stress resource, CIA does not have the same psychosocial effect on every patient. There are also those who try to appear normal, make fun of alopecia, shave their hair without waiting for complete loss, share their baldness on social media, and try to hide the alopecia with a wig, although the number of people who choose to become asocial is considerable [23, 30]. Some patients even believe that CIA is a proof of a strong treatment and will lead to a better survival, perhaps as a defense mechanism. CIA can also cause psychosocial problems in the family in addition to the person receiving the chemotherapy. Shyness in

engaging in social environments with the family was shown to develop in school-age children of patients with CIA [23, 24].

Chemotherapeutics can cause both AE and TE based on the drug used, dose and the patient's susceptibility [17]. Many current cytotoxic agents can cause severe alopecia. However, the degree of alopecia can vary depending on the cytotoxic agents used, and the half-life, dose and administration route of the agent. For example, taxanes used at more frequent intervals and at low doses cause less CIA than those used at longer intervals and higher doses. The CIA rates are lower with the new cytotoxic agents. However, when combined with other cytotoxic agents, these new treatment modalities have been reported to also cause CIA at a certain rate [24]. Taking various psychosocial measures against the unavoidable side effect of CIA in many patients, receiving chemotherapy has been suggested to possibly contribute to the person's well-being [23, 24, 31]. It is recommended that the patient is engaged in a conversation on the importance of hair and the reaction to alopecia before chemotherapy, and the patient told that the hair will usually grow again after chemotherapy, especially for female patients. It is also recommended to talk about whether they will cover the scalp after alopecia develops and what cover they would prefer. This approach may increase compliance with the treatment as well as the effects such as emotional stress, anxiety, and depression as the patient will prepare himself/herself for the alopecia [23, 32]. The patients can also be recommended to cut their hair short as it can minimize the hair loss appearance. However, long hair can be used to cover the alopecia area when chemotherapeutics that do not cause total alopecia.

2.3. Alopecia areata

Alopecia areata is a chronic disease with a lifetime incidence of 2.1%. It starts suddenly and causes circular hair loss with sharp borders [33]. Although the etiopathogenesis is unknown, genetic, immunological, environmental, infectious, and psychological factors are known to play a role in the development. AA has a significant effect on the quality of life and is actually the type of alopecia where the relationship to psychological factors has been studied in most detail. Psychological findings and consequences of AA are summarized in the **Table 2**.

Social and family problems have been reported to affect AA patients more commonly than other individuals and their capacity to cope with events tend to be less. They can therefore encounter psychological problems such as depression, anxiety, and paranoid disorders in long term. However, variable results have been obtained in the studies. In fact, while some studies report a significant psychological/psychiatric disease in 93% of AA patients, others have reported no role of psychological factors in the development [4–6, 34]. The predominant view at present is that AA is frequently associated with psychological/psychiatric disease [34, 35].

Alopecia areata is related to many psychological/psychiatric disorders as a result of the decrease in the quality of life. AA patients were diagnosed with one or multiple psychological/psychiatric disorders at a lifelong rate of 74% in the study by Colon et al. The incidence of lifetime major depressive symptoms and anxiety disorders in AA patients was estimated as 39% in the same study [36]. Besides, antisocial personality disorder and posttraumatic stress disorder were observed at a high rate in those patients. AA patients have been reported to be depressed, anxious, hysterical, hypochondriac, introverted individuals who were unsuccessful

Findings of alopecia areata	Psychological consequences of alopecia areata
• Character and behavioral changes	• Antisocial personality disorder
• Lowered self-esteem	• Posttraumatic stress disorder
• Psychologically painful	• Generalized anxiety disorder
• Disturbed mood	• Major depression
• Self-evaluation	• Adjustment disorders
• Feels less attractive	• Obsessive-compulsive disorder
• Interpersonal sensitivity	• Panic disorder
• Talks frequently about alopecia	• Social phobia
• Compares own hair with others	
• Discomfort in front of others	
• Anger, hostility, stress	
• Obsessive, anxious, asocial, ashamed, and dependent personalities	
• Reduced social freedom and quality of life	
• Significant increased psychological distress in patient and the family	
• Suicidal intent	

Table 2. Psychological findings and consequences of alopecia areata.

in their social relationships in later studies [4–6, 34, 37–39]. The rate of suicide attempts has been reported to be higher and their characteristics to be more commonly associated with alexithymia [40, 41]. Alexithymia is a cognitive disorder of the identification and expression of emotions. Impairment of emotional awareness, social cohesion, and interpersonal relationships is among the main features. It has therefore been suggested that considering alexithymia could be useful while evaluating the psychological condition of AA patients [4]. AA was found to be less common in schizophrenia compared to other psychiatric disorders in a study conducted on 5117 patients and control group subjects. This has led to speculation on how schizophrenia provides some kind of protection against AA [42].

Alopecia areata has been shown to affect the quality of life at higher rates and also cause higher anxiety and depression scores in children, adolescents and women in evaluations conducted by age group and gender [37]. The rate of suffering from at least one psychiatric disorder was found to be 78%, the major depression rate to be 50%, and the obsessive-compulsive disorder (OCD) rate to be 35.7% in a study on the psychological/psychiatric effects of AA on children [43]. AA developing in the childhood period was observed to cause concentration difficulties and lead to a decrease in school success [35].

Although the prevalence of psychological/psychiatric disease is observed to have increased greatly in patients with AA, another point of view is that psychological/psychiatric diseases

may actually trigger AA. It was shown in a case-control study that the psychological/psychiatric disorder rates in AA patients were higher but the psychological/psychiatric disorder had started before AA in 50% of these patients. Besides, one in four patients was reported to lead a stressful life before the start of the disease. Since AA and psychologic/psychiatric diseases are interrelated and the one that starts first can vary, it may be best for psychologists and psychiatrists to treat AA patients together with dermatologists [42].

2.4. Special considerations

2.4.1. Trichotillomania

Trichotillomania is an impulse control disorder characterized by chronic hair pulling and has a negative effect on the quality of the life of both the patients and the families. In addition to pulling scalp hair, patients can also pull hair in other body areas such as the eyebrows, eyelashes, beard, mustache, arms, and groin to a smaller extent. Trichotillomania is primarily included among psychiatric disorders in the obsessive-compulsive spectrum due to its similarity to OCD [44]. It mainly starts in childhood and adolescence with a mean age of onset of 12 years although it can be seen in adults even in elderly people. It can start in childhood and become chronic with fluctuating episodes. Trichotillomania is more common in females. It can be confused with AA, especially in adult patients and in the initial phase of the disease [45–47]. It has been reported that 40% of trichotillomania patients were never diagnosed and 58% never received treatment [48].

Trichotillomania is considered to occur mainly through a learning process similar to habit development [49]. It had been suggested to emerge as a major coping behavior in response to stress and to become solidified in time [47]. The main characteristic of trichotillomania is that the person pulls the hair at a level that can cause baldness. The patients mention a feeling of stress before pulling the hair and feeling relief afterward [4, 47]. However, this "stress-relief" feeling is not described by the majority of pediatric and adolescent patients. Certain rituals such as "pulling the hair with a special gesture, symmetrical pulling, putting the hair into the mouth after pulling" are usually present in these patients. One of these rituals, hair swallowing (trichophagy), has been reported in 5–18% of the patients [47]. Trichophagy can lead to serious complications such as vomiting, weight loss and ileus by causing trichobezoar formation [47, 50]. Association with nail biting, thumb sucking, nose picking, masturbation, bad friendships, and school problems can be especially present in pediatric patients [4]. Besides, at least one more psychiatric disorder such as anxiety disorder, attention deficit-hyperactivity disorder, depression and OCD have been found in more than a third of pediatric patients with trichotillomania [47]. The incidence of other psychiatric/psychological disorders and especially mood and personality disorders, anxiety, and substance use is increased in adult patients with trichotillomania compared to normal individuals. Avoiding daily activities is more common in adult patients, and avoiding social and sexual intimacy, negative mood, and decreased professional productivity can be present. Although the cases are often sporadic, familial cases have also been reported. Higher rates of anxiety disorder, alcoholism, drug addiction, antisocial personality disorder, attention deficit-hyperactivity disorder, OCD, depression, and

suicidal behavior have also been found in the first-degree relatives of patients with trichotillomania compared to healthy individuals [45, 50, 51]. Psychological findings and disorders associated with trichotillomania are summarized in **Table 3**.

	Pediatric trichotillomania	Adult trichotillomania	First-degree relatives
Psychological findings	• Nail biting • Thumb sucking • Nose picking • Masturbation • Bad friendships • School problems	• Antisocial personality • Avoiding social and sexual intimacy • Negative mood • Substance use • Decreased professional productivity	• Antisocial personality • Alcoholism • Drug addiction • Suicidal behavior
Psychological disorders	• Anxiety disorder • Attention deficit-hyperactivity disorder • Depression • Obsessive-compulsive disorder	• Anxiety disorder • Mood and personality disorders	• Anxiety disorder • Attention deficit-hyperactivity disorder • Depression • Obsessive-compulsive disorder

Table 3. Psychological findings and disorders associated with trichotillomania.

Although the diagnosis can usually be made with the history and examination, patients may not report their problem due to shame, and fear of being mocked or being labeled as a lunatic. The physician should therefore not approach the behavior in an incriminating or condescending manner and should be careful while referring these patients to psychiatry.

2.4.2. Psychogenic pseudoeffluvium

A substantial number of patients with normal scalp hair and without any sign of alopecia complain of alopecia at dermatology outpatient departments. This condition is identified as *"imaginary hair loss"* or *"psychogenic pseudoeffluvium"* and can be a symptom of an underlying psychological disease. Depression and anxiety disorders are common in these patients. Problems about marriage and the prevalence of depression are believed to be increased in married female patients thought to be suffering from psychogenic pseudoeffluvium. One must also consider that *"body dysmorphic disorder"* or *"delusion of alopecia,"* which can be included among psychotic disorders, could be present in these patients. Obsessive-compulsive behavior such as looking at the mirror for hours to check the hair can be present in these patients [47, 52]. These patients are among the most grueling cases for dermatologists and should be directed to psychiatrists/psychologists in an appropriate manner.

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3. Psychosocial effects of scarring alopecia

Scarring alopecia is a condition characterized by loss of hair as a result of replacement of the follicular structure by fibrous tissue [53]. Scarring alopecia is more common in women. It develops mainly due to lichen planopilaris, discoid lupus erythematosus, frontal fibrosing alopecia, dissecting cellulitis, folliculitis decalvans, central centrifugal alopecia, tufted folliculitis, perifolliculitis abscedens et suffodiens, and pseudopelade (Brocq) [54]. However, non-follicular conditions (traumatic, burn-induced, inflammatory, infectious, neoplastic, and genetic conditions) can also affect the scalp and cause secondary scarring alopecia. Whatever the underlying reason, scarring alopecias usually create more psychosocial effect than non-scarring alopecias. Pradhan et al. have recently reported moderate-severe psychosocial stress in almost 75% of their patients with scarring alopecia. Although worry about the outer appearance is more prominent in female patients, the psychological effect of scarring alopecia has been reported to be equally severe in both genders. Aesthetic concerns have been found to be higher in younger patients with these patients feeling older due to scarring alopecia. The condition leads to feeling physically unattractive, loss of confidence, and embarrassment in this age group. However, the duration of the disease has been shown not to be proportional to the psychosocial effect it creates and the psychological stress not to decrease even if the disorder becomes chronic [53]. Although it was thought that individuals who were single would experience more stress with the disorder, no difference was found between married and single subjects. This could be related to the condition being more common in women and women receiving less psychological support from male spouses in a male-dominated world. Patients with more localized scarring alopecia were also found to experience less stress than patients with diffuse scarring alopecia because they can cover these areas with their normal hair [38, 53, 54].

The quality of life of female patients with scarring alopecia was shown to be more affected and consequently anxiety and depression to be more common in a study where female patients with and without scarring were compared [54].

It has also been suggested that patients spend a lot of time and effort to normalize their appearance leading to decreased success in friendship, work, and school life in scarring alopecia with a destructive and progressive course [53].

Early diagnosis with clinicopathological correlation and starting treatment at an early stage is essential to prevent irreversible hair loss in scarring alopecia. Starting psychological support from the early stage is also essential in terms of a holistic treatment approach.

4. Conclusion

Hair is the most visible and striking characteristic of the body. It is a very important component for the psychologically healthy development of the individual from childhood to adulthood and even till death. Mental disorders associated with hair loss present with many different

psychological/psychiatric symptoms. However, many psychological/psychiatric disorders can also cause hair loss. These two interconnected groups are now identified as psychotrichological disorders. The psychosomatization basis of these patients who usually present to dermatology outpatient departments should be investigated and if necessary they should be referred to a psychiatrist and/or psychologist for proper psychopharmacotherapy with behavior therapy, depth psychology, and antidepressants or anxiolytics as required.

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