Alopecia Areata's Psychological impact on quality of life, mental health, and work productivity: A scoping review

Abstract:

Alopecia areata is an autoimmune disorder characterised by the abrupt loss of hair in distinct patches, which can manifest on the scalp or any other place of the body with hair. Although it is essentially a dermatological condition, its psychological effects on individuals go beyond the visible symptoms. This abstract is to provide a concise overview of the current body of literature regarding the psychological ramifications of alopecia areata, with a specific emphasis on its impact on quality of life, mental well-being, and occupational efficiency. The outward manifestation of hair loss in patients with alopecia areata has a substantial impact on their overall quality of life. The modified physical appearance frequently results in sensations of self-awareness, social isolation, and a detrimental effect on self-worth. People may face difficulties in their regular routines, such as personal grooming and getting dressed, which might worsen their overall quality of life. Individuals with alopecia areata commonly experience significant mental health consequences. The psychosocial stress linked to the disease might contribute to the onset or worsening of anxiety and depression. Research has indicated a greater occurrence of anxiety and depressed symptoms in patients with alopecia areata in comparison to the general population. The persistent nature of the illness and ambiguity around the progression of hair loss can also lead to continuous psychological discomfort. The psychological impact of alopecia areata might have a negative effect on work productivity. Workers may encounter several obstacles in their professional environment, including diminished self-assurance, heightened rates of absenteeism, and issues in establishing and maintaining interpersonal connections. Stigmatization and misunderstandings about the condition might exacerbate challenges in the workplace.

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1. Introduction:

Alopecia areata is a prevalent autoimmune condition that frequently leads to unexplained hair loss. It impacts around 6.8 million individuals in the United States and 147 million individuals globally[1]. Typically, hair loss occurs in little patches that are approximately the size of a quarter. Alopecia areata can cause extensive areas of hair loss on the scalp, despite the presence of only a few patches. Alopecia totalis is the medical term used by doctors to diagnose the complete absence of hair on the scalp. A condition characterised by hair loss across the entire body is referred to as alopecia universalis. Alopecia can impact individuals of all age groups, genders, and races, however the majority of instances manifest before to reaching the age of 30[2].

Alopecia areata is an autoimmune disorder characterised by the immune system's assault on hair follicles, resulting in hair loss. Hair follicles are the anatomical components within the skin responsible for the production of hair. Alopecia areata primarily manifests on the scalp and facial regions, although hair loss can occur on any part of the body[3]. Typically, hair loss occurs in small, circular areas approximately the size of a quarter. However, in certain instances, hair loss can be more widespread. The majority of individuals afflicted with the condition exhibits a state of good health and do not manifest any additional symptoms[4]. The progression of alopecia areata differs among individuals. Certain individuals experience intermittent periods of alopecia over the course of their lives, whereas others encounter a singular occurrence. The recovery process is also characterized by unpredictability, as some individuals experience complete hair regrowth while others do not[5]. Alopecia areata cannot be cured, although there are therapies available that expedite hair regrowth. Additionally, there are available services to assist individuals in managing the condition of hair loss[6].

Alopecia areata (AA) has been linked to several etiopathogenic causes, but its exact causative relationship remains uncertain. AA was previously regarded as a psychosomatic disorder, however research conducted during that period had significant methodological flaws[7, 8]. The absence of psychiatric assessment tools, insufficient diagnostic criteria, and unsuitable categorization systems likely contributed significantly to the lack of methodological validity in

these initial research[9, 10]. Currently, research conducted with a rigorous psychiatric methodology, including globally accepted assessment tools and categorization systems, strongly supports the presence of mental comorbidity in Alcoholics Anonymous (AA). Alopecia areata (AA) is a prevalent inflammatory autoimmune disorder affecting the hair, which can significantly impair quality of life (QoL), mental well-being, and productivity. Multiple variables may lead to the onset of AA[11-13].

1.1. TYPES OF ALOPECIA AREATA

There are three main types of alopecia areata:

- **Patchy alopecia areata. It** refers to a condition characterized by hair loss in distinct areas. In this particular form, which is highly prevalent, alopecia occurs in one or more circular areas of the scalp or other regions of the body [14].
- **Alopecia totalis. This type** refers to complete hair loss. Individuals afflicted with this particular variation experience complete or near-complete hair loss on their scalp[15].
- **Alopecia universalis.** In this type, refers to a condition characterized by complete hair loss. In this atypical form, which is uncommon, there is a whole or near-total absence of hair on the scalp, face, and the rest of the body[16].

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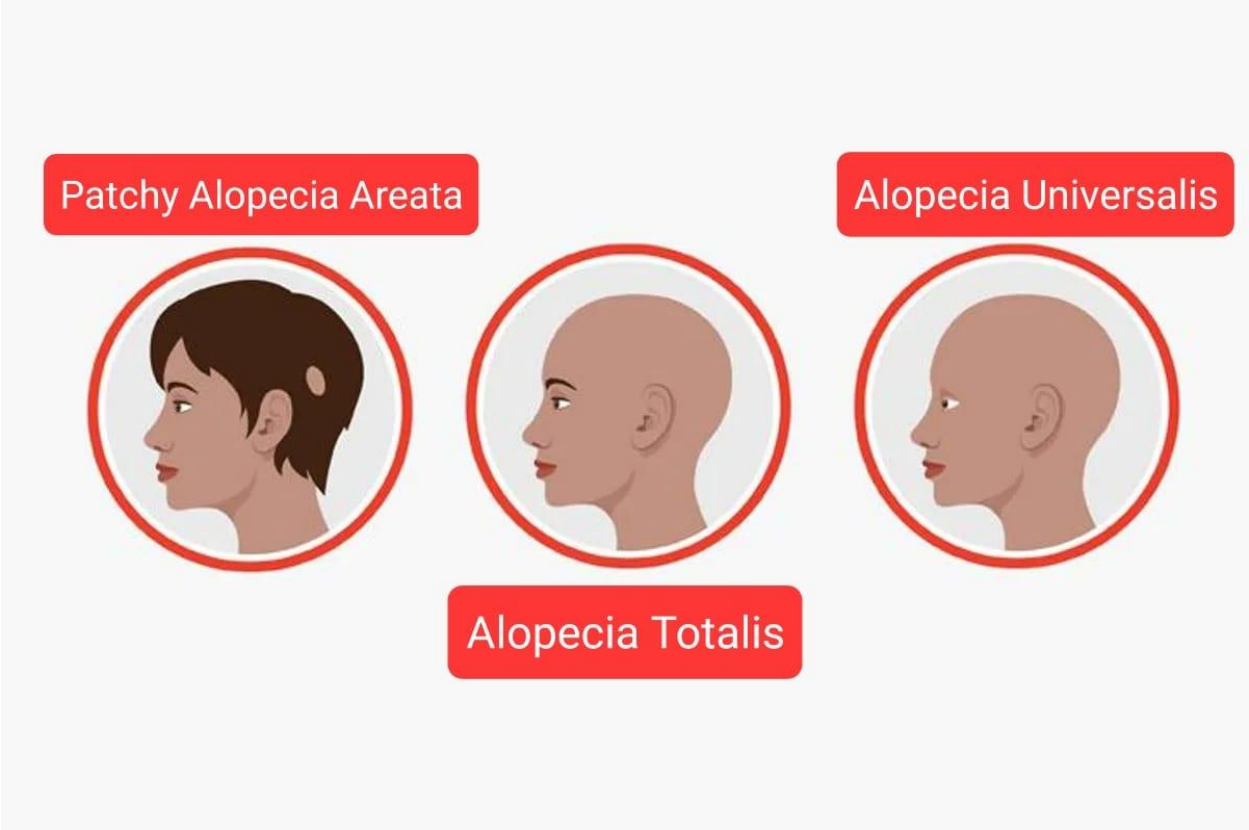

Figure 1 Types of Hair Loss

1.2. CAUSES:

The disorder arises when leukocytes target the cells within hair follicles, resulting in their contraction and a significant reduction in hair synthesis[17]. The exact cause of the immune system's targeting of hair follicles remains uncertain. Although the exact cause of these alterations is unknown, it appears that genetics have a role, as individuals with a family history of alopecia areata are more susceptible to developing the disease. 20% of individuals with the condition have a familial history of alopecia areata[18]. Additional studies have discovered a correlation between those who have a genetic predisposition to alopecia areata and a personal or familial history of various autoimmune conditions, including atopy (a condition marked by heightened allergy reactions), thyroiditis, and vitiligo. Contrary to popular belief, there is scant scientific evidence to substantiate the notion that alopecia areata is triggered by stress. The syndrome may be triggered by extreme bouts of stress, while new research primarily indicates a hereditary aetiology[19, 20].

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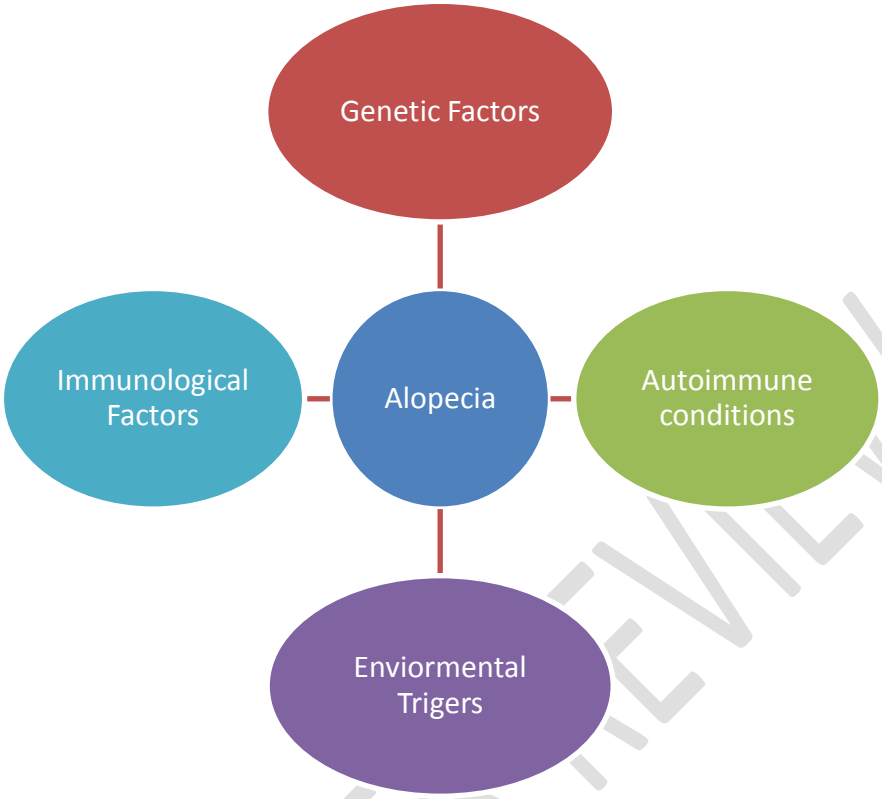

Figure 2 Causes Of alopecia

Historically, there was a prevailing belief that alopecia areata was uniformly prevalent throughout all racial groups. However, current research indicates that this assumption may not hold true. For instance, research indicates that African Americans and Hispanic females had a higher prevalence of the illness across their lifespan, in comparison to white females. Moreover, Asian individuals exhibit a reduced risk in comparison to their white counterparts. Based on a 2019 study that analysed over 11,000 cases in the National Alopecia Areata Registry from 2000 to 2016, the study found the odds ratios of being diagnosed with alopecia areata were higher for People of Colour compared to white individuals[21, 22].

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1.3. SYMPTOMS:

Alopecia areata is characterised by the predominant manifestation of patchy hair loss. Alopecia areata manifests as small, circular areas of hair loss, primarily affecting the scalp. Any area where hair grows can be impacted, including the facial hair and eyelashes. Hair loss can occur abruptly, manifesting within a few days or gradually over a span of several weeks. Prior to hair loss, individuals may experience pruritus or a sensation of burning in the affected area. If the inflammation of the hair follicles diminishes, hair can regrow as the follicles remain intact and undamaged. Individuals who encounter only a limited number of areas with hair loss frequently undergo a natural, complete restoration without requiring any type of intervention. Approximately 30 percent of persons with alopecia areata have either progressive expansion of their condition or a recurring pattern of hair loss and regrowth. Approximately 50% of individuals with alopecia areata achieve remission within a span of one year, while a significant portion will encounter recurrent episodes. Approximately 10 percent of individuals will progress to develop either alopecia totalis or alopecia universalis. Alopecia areata can also impact the fingernails and toenails, and occasionally these alterations serve as the initial indication of the condition's onset. Nails can undergo several little alterations[17, 18, 23, 24].

- Dents become visible on the surface.
- White spots and lines start to appear.
- The texture of nails becomes rough.
- Nails lose their glossy appearance.
- Nails grow thin and start to split.

Other clinical manifestations include[25-27]:

- Exclamation mark hairs: This phenomenon refers to the presence of short hairs that taper at the base and sprout within or around areas of hair loss.
- Cadaver hairs refer to hairs that fracture or break before they emerge on the skin surface.
- White hair: This might develop in places that are experiencing hair loss.

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1.4. Treatments:

If hair fails to regenerate, certain therapies can be pursued.Steroid injections can effectively treat localised areas of hair loss. A scalp injection of a steroid solution is administered multiple times. The steroid inhibits the immune system's assault on hair follicles. After around four weeks, this therapy has the potential to induce regrowth. An individual may have treatment periodically, typically every few months[28]. The process of hair growth can result in either permanent or temporary outcomes.Topical corticosteroids (creams and ointments) and systemic corticosteroids; these medications will be commonly prescribed by doctors for alopecia areata, however the long-term advantages of these medications are still uncertain. While hair has the potential to regrow, it is important to note that there are potential negative consequences such as diabetes, stomach ulcers, itching, and occasionally hair growth in unintended regions. As the duration of a treatment increases, the probability of experiencing adverse effects also increases.Immunotherapy is the most efficacious treatment for complete hair loss. The patient administers diphencyprone (DPCP) to the hairless skin on a weekly basis, progressively increasing the dosage. Among responsive patients, hair regrowth typically commences approximately three months after treatment[28]. Possible adverse effects encompass an allergic response, moderate dermatitis, or eczema, as well as a severe skin reaction. Slowing down the rate of dosage escalation may be beneficial. Occasionally, a patient may experience the development of vitiligo, which manifests as areas of depigmentation. Post-treatment, hair loss may persist.Dithranol cream is less efficacious compared to immunotherapy, and carries a higher likelihood of inducing a skin reaction and pruritus. Additionally, it has the potential to discolour both the scalp and hair.UV light therapy involves undergoing two to three sessions of light treatment each week, typically in a hospital setting. This form of therapy has the potential to yield positive results after around 12 months. Nevertheless, the rates of response are restricted.Minoxidil may confer several advantages[29-36].

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2. PSYCHOLOGICAL OUTCOMES AMONG PATIENTS WITH ALOPECIA AREATA

Alopecia areata is an autoimmune disorder characterised by the loss of hair, typically in circular patches on the scalp or other parts of the body. Alopecia areata can have a substantial psychological impact, as individuals may undergo distress, diminished self-esteem, and alterations in their quality of life due to the visual aspect of the disorder[37].

Below are few prevalent psychosocial consequences observed in individuals diagnosed with alopecia areata:

1. **Emotional distress:** Hair loss can cause significant emotional turmoil for individuals, resulting in feelings of despair, frustration, or humiliation. The abrupt and unforeseeable characteristics of alopecia areata might intensify emotional anguish[38].

2. **Diminished Self-Esteem and Self-Image:** The occurrence of hair loss can impact how someone views their physical appearance, resulting in reduced self-esteem and self-image. This might lead to social isolation and the avoidance of specific behaviours that may attract notice to the impacted regions[39].

3. Alopecia areata can have a significant impact on an individual's **quality of life**, affecting their social interactions, relationships, and general well-being. Individuals may have self-consciousness regarding their physical appearance, which can impact their engagement in social gatherings and activities[40].

4. **Depression and anxiety** can manifest in individuals with alopecia areata, particularly if they find it challenging to adapt to the alterations in their physical appearance. The persistent nature of the disease and the unpredictability of its progression can contribute to these mental health difficulties[41].

5. Hair loss can have a profound impact on an individual's **body image**, causing them to worry about their beauty and how others see them. This can exacerbate body dysmorphic ideation and behaviours[42].

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6. Alopecia areata can have a significant impact on **social relationships**, as individuals may experience difficulties in social interactions because to their fear of being judged or receiving unwanted reactions from others. Strong social connections can be vital in aiding persons in managing the psychological impacts of the disease[43].

7. **Coping techniques:** While certain individuals may successfully adjust to the alterations caused by alopecia areata, others may encounter difficulties in discovering efficient coping techniques. It can be advantageous to seek assistance from mental health specialists, support groups, or loved ones.The psychological effects of alopecia areata differ among individuals. Certain individuals may effectively manage the emotional difficulties linked to hair loss, however others may have supplementary assistance from mental health experts[44].

3. QUALITY OF LIFE:

Alopecia areata is a condition that causes hair loss in small, round patches on the scalp or other areas of the body. While it is primarily a physical health issue, it can also have significant impacts on a person's quality of life, including their emotional well-being and social interactions[45].

Here are some ways in which alopecia areata can affect quality of life[46-51]:

1. **Psychological Impact:** Hair loss can be emotionally distressing, affecting an individual's self-esteem and body image. The visible nature of alopecia areata can lead to feelings of embarrassment, self-consciousness, and anxiety.

2. **Social Impact:** Individuals with alopecia areata may experience social challenges due to their changed appearance. Fear of judgment or negative reactions from others can lead to social withdrawal and avoidance of social situations.

3. **Impact on Relationships:** Changes in appearance, especially those related to visible conditions like alopecia areata, can influence personal relationships. Individuals may feel self-conscious or worry about how others perceive them, potentially affecting their interactions with friends, family, and romantic partners.

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4. **Daily Activities:** Routine activities such as going to work, attending social events, or participating in physical activities may become more challenging for those with alopecia areata. The condition may impact their confidence to engage in these activities.

5. **Coping Strategies:** Individuals may develop various coping strategies to deal with the emotional and social aspects of alopecia areata. This could include wearing wigs, using makeup, or adopting different hairstyles to cover affected areas.

It's important to note that the impact of alopecia areata on quality of life can vary widely among individuals. Some people may adapt well and find effective coping mechanisms, while others may struggle more profoundly. Seeking support from healthcare professionals, support groups, or mental health professionals can be beneficial in managing the emotional challenges associated with alopecia areata.

4. WORK AND OCCUPATION:

Alopecia areata, a disorder marked by the loss of hair, can have diverse effects on an individual's employment and profession. These impacts can manifest in both the physical and psychological realms, exerting influence on factors such as self-esteem, social interactions, and professional endeavours. Here are several ways in which alopecia areata might affect one's employment and profession: Individuals afflicted with alopecia areata may undergo a decrease in self-esteem and confidence as a result of alterations in their physical appearance[52, 53].This decrease in confidence can influence their behaviour in professional environments and potentially hinder their capacity to assume leadership positions or assert themselves in the workplace.Hair loss can result in social anxiety, as individuals may experience self-consciousness regarding their physical appearance[54, 55].Workplace social contacts, such as meetings, conferences, or team-building exercises, might potentially cause tension or discomfort.The social emphasis on physical appearance might influence the perception of individuals with alopecia areata in a work setting[56-58].There can be apprehensions over the perception of individuals with noticeable alopecia by colleagues, superiors, or clients, which could adversely affect work relationships.Individuals with alopecia areata may be influenced in their career choices by factors such as the extent of public engagement required in a specific job. • Some individuals

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may refrain from pursuing occupations that involve great visibility or public speaking owing to worries regarding their physical appearance[59-61].

Emotional discomfort associated with alopecia areata might impair the ability to focus on job duties, potentially impacting productivity[62].Managing the disease may necessitate a significant amount of time and effort that could otherwise be allocated to work-related tasks.Individuals with alopecia areata may encounter workplace discrimination because to misconceptions or biases regarding their appearance.Biases can have an impact on job advancement by influencing employment decisions, promotions, and opportunities.A conducive work atmosphere can greatly alleviate the effects of alopecia areata. Possessing comprehension of colleagues and supervisors helps foster an environment in which persons feel at ease disclosing their condition and pursuing accommodation, if necessary[63].Companies that prioritise inclusivity and demonstrate a dedication to diversity may have established protocols to provide accommodations for those with visible differences, such as those affected by alopecia areata.It is crucial to acknowledge that the effect of alopecia areata on work and occupation can differ significantly among individuals, and some persons may effectively manage their professional lives despite the difficulties presented by the condition. Establishing a robust support system, accessing expert assistance when necessary, and cultivating a favourable self-perception can aid in surmounting these difficulties. Moreover, fostering consciousness and advocating for inclusiveness in the professional setting might contribute to the establishment of a milieu where individuals with alopecia areata experience acceptance and appreciation[64-68].

5. MANAGEMENT:

Alopecia areata is a prevalent autoimmune disorder that results in the loss of hair on the scalp, face, and occasionally other parts of the body. The treatment of alopecia areata might encompass diverse strategies, however, it is crucial to acknowledge that there is no remedy for the problem. The treatment choices have the objective of stimulating hair regeneration, effectively managing symptoms, and offering emotional support[69, 70]. Below are few prevalent management strategies. Topical corticosteroids are commonly used as the initial treatment for mild instances of alopecia areata. These drugs have the ability to decrease inflammation and inhibit the immunological response.Topical medications are directly administered to the damaged parts of

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the skin and might be in the form of creams, ointments, or solutions.Intralesional corticosteroid injections are administered directly into the bald areas to treat more widespread or persistent instances. This method is especially advantageous when there are few instances of minor hair loss.This treatment method entails the application of a chemical irritant, such as diphencyprone (DPCP) or squaric acid dibutyl ester (SADBE), directly onto the afflicted skin. This elicits an allergic reaction, which in turn prompts an immunological response that can initiate the regrowth of hair[70-72].

In instances of severe illnesses, oral corticosteroids may be administered to inhibit the immune system's reaction. Nevertheless, its prolonged usage is typically avoided due to the potential for adverse reactions. Minoxidil is a non-prescription drug that is topically applied to the scalp. Although it is primarily utilised for other forms of hair loss, individuals with alopecia areata may derive advantages from its application.JAK inhibitors, such as tofacitinib and ruxolitinib, are drugs that regulate the immune response by targeting Janus kinase (JAK). These medications have demonstrated potential in the management of alopecia areata, and current investigations are examining their efficacy. Phototherapy, utilising ultraviolet (UV) light, has been explored as a potential treatment for alopecia areata. This encompasses both exposure to natural sunlight and deliberate administration of UVB rays in clinical environments.Counselling and support groups can provide essential assistance to persons coping with the emotional consequences of hair loss. Psychological assistance is crucial in managing alopecia areata due to its potential impact on self-esteem and body image[73-75].

It is imperative to get guidance from a dermatologist or healthcare professional in order to ascertain the best suitable course of treatment for an individual's particular circumstances. Furthermore, the efficacy of therapies might differ across individuals, and certain individuals may have spontaneous hair regrowth without any intervention [76-78].

FUTURE PERSPECTIVES:

Scientists are currently studying immunotherapy methods for Alopecia areata that regulate the immune system's reaction to halt hair loss.Targeted medicines that specifically target immunological processes or cells implicated in the pathogenesis of Alopecia areata may provide more accurate and efficacious therapeutic alternatives.Genetic and molecular research aims to

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further investigate the genetic and molecular aspects that contribute to Alopecia areata. This research may result in the discovery of specific genes or pathways that have a role in the development of the disease. Acquiring this knowledge could be essential in the development of precise medicines.Stem cell research, namely the utilization of mesenchymal stem cells, is a field of study that has promise for developing treatments aimed at restoring hair growth. Scientists are investigating methods to induce hair follicle regrowth with these cells. The investigation of cytokines and their modulation in Alopecia areata is a current focus of research. Cytokines are signaling molecules that have a pivotal function in immune responses, and the act of targeting them may present novel therapy opportunities.

Combination therapies, as a potential future treatment, may entail the integration of various techniques, such as the amalgamation of immunomodulatory medicines and regenerative therapies, in order to target distinct parts of the disease.Advances in personalised medicine may result in the creation of medicines customised for each patient, taking into account their genetic composition, immunological response, and other characteristics that affect Alopecia areata.Technology can contribute to the management of Alopecia areata through advancements in digital health that enable the monitoring of hair growth, tracking of treatment progress, and provision of personalised care plans.

Alopecia areata can exert a substantial psychological influence on quality of life, mental well-being, and work efficiency. It is essential to acknowledge and deal with these factors in order to offer thorough treatment and assistance to persons impacted by this ailment. The scoping review provides a comprehensive understanding of the various aspects of the psychological effects and highlights the significance of comprehensive therapies**.**

CONCLUSIONS:

In conclusion, the psychological impact of alopecia areata is a multifaceted challenge that extends beyond the physical symptoms of hair loss. Recognizing and addressing the emotional and mental health aspects of this condition is crucial for comprehensive care. Supportive interventions, such as counseling, support groups, and educational initiatives, play a vital role in helping individuals cope with the psychological consequences of alopecia areata.

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Moreover, fostering a more inclusive and understanding societal environment can contribute to reducing the stigma associated with visible differences and promoting empathy. By acknowledging the psychological challenges faced by those with alopecia areata, healthcare professionals, employers, and communities can collectively work towards creating a more supportive and inclusive environment for individuals affected by this autoimmune condition.

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