



Recent Advances In Management Of The Psychosocial Impact Of Disfigurement In Individuals With Vitiligo

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Abstract

Background: Vitiligo is an acquired chronic depigmentation disorder characterized by sporadic loss of skin color. This can be physically disfiguring, psychologically devastating, and socially stigmatizing. However, Vitiligo is too often dismissed as a cosmetic condition with trivialization of the patients' distress. While there has been considerable research focused on dermatological approaches to managing Vitiligo, there is notable dearth of studies examining the psychological and emotional challenges associated with the treatment of patients with Vitiligo.

Objective: This paper reviews the recent advances that have been made in the management of coping with the psychological impact of disfigurement in individuals with Vitiligo using different psychotherapeutic modalities.

Methods: PubMed, Medline and Google Scholar databases were reviewed for studies investigating the effect of various psychotherapeutic techniques for the management of the psychosocial impact on individuals with Vitiligo. A total of 62 articles were obtained out of which 13 titles fit the study criteria and were selected for the purpose of this study.

Results: Several studies including RCTS, review papers and semi-experimental studies support the effect of CBT, ACT, MBCT and Support Groups in the management of psychosocial impact of disfigurement cause by Vitiligo.

Limitations: Larger prospective studies, especially RCTs are needed with larger sample sizes and a control group. Additionally, most of the participants in these studies were female. Prospective studies that include an equal distribution of male and female participants are required.

Conclusion: Several studies have proven the benefits of adjuvant care in the form of CBT, MBCT, ACT and Support Groups for this population. These results potentially suggest that incorporating psychosocial care to the medical management of Vitiligo can exhibit greater results for the patient's general well-being and management of the disease.

Index Terms- Vitiligo, Disfigurement, Psychosocial impact, Psychological management, Quality of Life.

I. INTRODUCTION

Vitiligo is an acquired chronic depigmentation disorder characterized by advancing white skin patches. These patches are a result of a loss of melanin producing cells, resulting in non-scaly, chalky-white discoloration or macules. Achromic macules and patches are side effects of this multifaceted disease which is, defined as the absence of epidermal pigmentation (1). The prevalence of Vitiligo ranges from 0.5% to 1%. Its highest incidence and prevalence have been reported in the Indian subcontinent at about 8.8% while Mexico and Japan have also reported high prevalence rates (2).

For people with a positive family history of the disease, the prevalence is reported to be high ranging from 7.7% to more than 50% while the mean age of onset is also earlier compared to those with a negative family history. The gender-wise distribution of the disease is equal affecting adults and children of both sexes equally. In nearly 50% of the patients Vitiligo develops before the age of 20 years and in almost 70-80% patients before the age of 30 (3). Most of the Vitiligo cases report beginning of the disease during the period of active growth.

Vitiligo is an active and progressive disease. Unlike most internal illnesses, skin diseases are often immediately visible to others, and therefore people suffering from them may suffer social and emotional consequences. Because of the sporadic loss of color, Vitiligo can be physically disfiguring. The disfigurement can be psychologically devastating and socially stigmatizing which can affect a patient's quality of life profusely. While disfigurement, particularly facial disfigurement, may have an impact on psychosocial functioning, little attention has been paid to the psychosocial impact experienced by people as a result of this disfigurement.

Psychodermatology, also known as psychocutaneous medicine, concentrates on exploring the interplay between the mind, the brain, and the skin. Psychopathological factors can play an etiological role in the development of skin disorders or exacerbate pre-existing skin disorders (4). Vitiligo as a progressive skin condition results in the appearance of irregular white patches over the skin's surface. Although the general appearance of the Vitiligo sufferer can change considerably, the health of the individual is not affected in any way, nor do patients generally report pain or discomfort (5). It is because of this visible disfigurement that many people view Vitiligo as a 'cosmetic problem' rather than a medical condition. Both the psychological impact of the condition and the experience of the sufferer may be concomitantly minimized (6).

Unlike disfigurement resulting from accidents, such as burns, scars or limb amputations, those caused by cutaneous disease can be ongoing. Across the range of causes, individuals report being dissatisfied with their appearance, and some face stigmatising behaviours such as staring, unsolicited remarks or questions, and avoidance from others (8). The way individuals respond to such body image stressors influences facets of psychological distress, such as social anxiety and low self-esteem (9). Patients must not only learn to adapt to the bodily changes they are facing at present, but also be prepared for the possibility that their condition may spread or deteriorate. This is particularly relevant in the case of Vitiligo, where the course of the illness is both progressive and episodic. The fact that there is no common trend regarding the progression of the condition means that patients may feel uncertain and unprepared with regard to how they will cope. Another variable which may compound the uncertainty and helplessness faced by a Vitiligo sufferer is the fact that there is no known cause for the condition and thus the sufferer will not be able to attribute the onset of the illness to any particular incident or circumstance (10,11). Consequently, the Vitiligo patient may live in fear that unspecified behaviours may lead to the appearance of new lesions.

Patients presenting with these lesions in sensitive areas and easily visible body regions may experience high levels of emotional distress. Therefore, the importance of having awareness for the prevalence of psychological comorbidities in dermatological conditions is clear (12). Mental health conditions and dermatological diseases are intricately connected. Some studies implicate the involvement of the psychoneuro-immuno-endocrine pathway, highlighting the importance of treating underlying pathophysiologies related to stress in dermatology patients (13).

From the patient's perspective, the social and emotional impact of a skin condition can be considerable. The feeling of being stigmatized or being different from those is a common reaction and may affect that person's interpersonal and social behaviour. People with cutaneous illnesses which are visible to others tend to be perceived as different from those whose appearance is unremarkable. Indeed, due to the social significance of the skin (14), the stigmatization experienced by persons with skin diseases may be the same as or even more severe than that experienced by people with other body afflictions.

One of the central studies of understanding individual experience and accounts of living with Vitiligo was carried out by Andrew Thompson and colleagues in the UK in which they show that Vitiligo is more than just a physical disease (15,16). Thompson et al. (2002) carried out a qualitative study examining the experience, impact and ways that patients with Vitiligo cope with this condition. Seven white female participants with Vitiligo were interviewed for the purpose of gathering qualitative data about their experiences. Findings suggest that there are on-going struggles with living with this condition, namely the initial reactions to the disfigurement, remarks and intrusive comments made, and the individual's feeling of being different.

I.H. Ginsberg and B. G. Link (1989) explored these feelings of stigmatization in patients with skin diseases with visible differences, and a factor analysis of their data implied that belief about stigmatization might be grouped into six dimensions: anticipation of rejection (e.g., "I feel physically and sexually unattractive"); sensitivity to opinions of others (e.g., "Sometimes I feel outcasted"); feeling of being flawed (e.g., "I believe other people think that I am dirty"); guilt and shame (e.g., "My patches are a source of deep humiliation and embarrassment for me and my family"); secretiveness (e.g., "I try not to share with family members away from me, that I have this disease"); and a more positive attitude which is unaffected by negative reactions of others (e.g., "If my child has to develop patches, he could develop his potential as though he did not have it").

The psychosocial impact caused by the disfiguring effects of Vitiligo is comparable to that of other common skin diseases such as psoriasis and eczema. Within the clinical guidelines, one of the main impacts of Vitiligo is the psychological effect of the disease (18). As studied, Ongena et al. (2005) in a similar review indicated that individuals with Vitiligo report increased psychosocial distress, such as increased self-consciousness, lower self-esteem, higher levels of perceived stigma and disability, increased anger, poorer overall Quality Of Life and negative impact on sexual/social relationships.

Although an extensive amount of research has been directed towards the dermatologic treatment of Vitiligo, an overall dearth of studies exists investigating the management of psychosocial burden on patients. The development in recent years of Vitiligo-specific tools for assessing QOL (VitiQoL) and psychological burden (Vitiligo impact scale) is encouraging (20). However, despite of VitQoL scores correlating strongly with self-reported disease severity, an overall dearth of literature exists on the study of contribution and management of these factors in this condition. As a result, Vitiligo is too often dismissed as a cosmetic condition with trivialization of the patients' distress, which only further exacerbates the intensity of negative feelings that can be associated with the disease. Assessments of disease severity by doctor and patients are often inconsistent, which probably reflects the significant contribution of psychological factors to overall morbidity.

This paper reviews the recent advances that have been made in the management of coping with the psychosocial impact of disfigurement in individuals with Vitiligo using different psychotherapeutic modalities. Despite being limited in quantity, several studies have proven the benefits of adjuvant care in the form of group therapy, cognitive behavior therapy, and self-help programs. Although preliminary evidence is promising, no prospective studies have reviewed the advancements made in using these adjunct treatments and their associated results.

The aim of this study is to bridge this gap, highlight the importance of screening for psychosocial impact in this population and the advancements made in their effective management. This paper also aims to substantially define the role of these psychosocial interventions before integrating them in a more official capacity into the standard of care for patients with Vitiligo.

II. METHODOLOGY

A review of the databases of PubMed, Medline and Google Scholar was performed for studies investigating the effect of psychotherapeutic techniques for the management of the psychosocial impact on individuals with Vitiligo. Search of literature was carried out to obtain research papers in the said subject. The search was primarily carried out using the keywords "Vitiligo," "Psychotherapy," "Disfigurement", "Quality of Life", "Psychological well-being" and "Social anxiety". A total of 62 articles were obtained by the end of this search process. Of the titles obtained, 13 titles fit the study criteria and were selected for the purpose of this study. Figure 1 shows the flow chart for the literature search strategy.

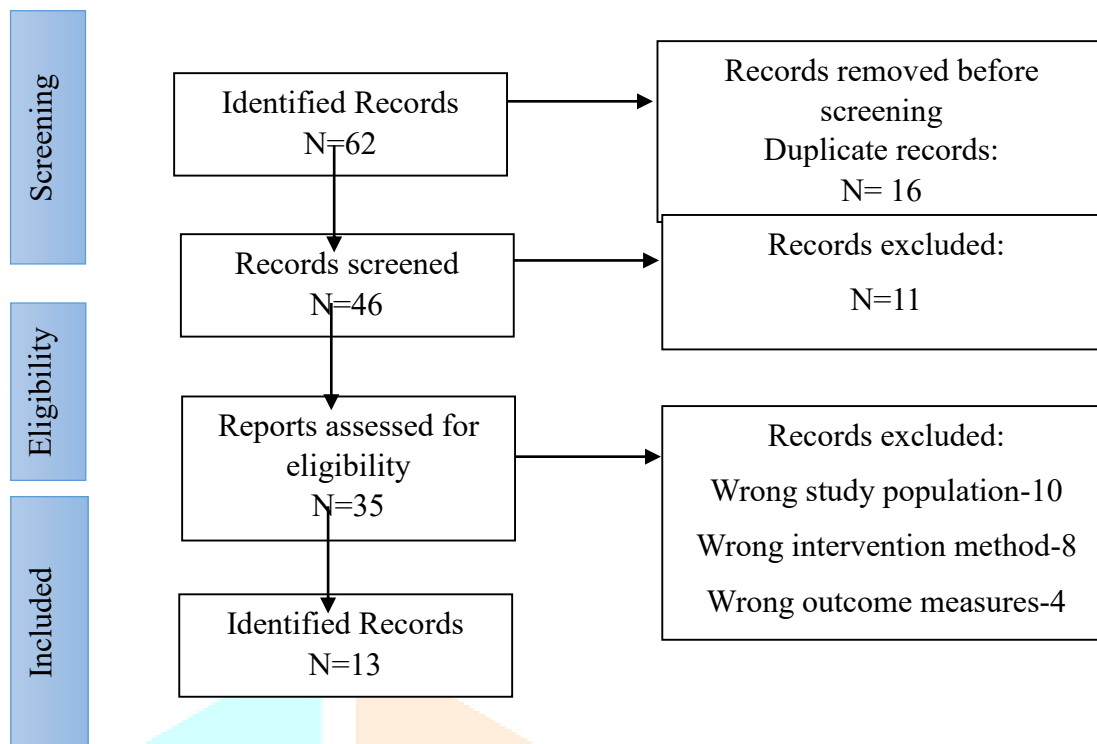


Fig 1: flowchart outlining paper selection process for the review.

Inclusion And Exclusion Criteria

The studies that fall under the category of inclusion criteria are those that have studied the impact of a psychotherapeutic approach on the psychosocial impact in individuals with Vitiligo. The studies that included the wrong population, used wrong intervention methods or didn't measure the outcomes of Quality of Life, Psychological well-being and appearance related concerns of internalized shame and social anxiety primarily were excluded.

III. RESULTS

13 studies were investigated to review the recent advances that have been made in this topic. The review was done individually for different psychotherapeutic modalities to facilitate for specific change mechanisms of these therapeutic approaches.

The paper reviews Cognitive Behaviour therapy, Acceptance and Commitment therapy, Mindfulness based Cognitive Behaviour therapy and Support Groups for their role on the psychosocial impact of the disfiguring effects of Vitiligo. These therapeutic modalities were specifically chosen after doing a preliminary review of the available literature on the various therapeutic modalities that have been used for this population-out of which these were the ones with the most published results.

Cognitive-Behaviour Therapy (CBT)

Cognitive-Behavior Therapy (CBT) is a widely used evidence-based psychotherapeutic approach that focuses on identifying and modifying negative thought patterns and behaviors that contribute to emotional distress. CBT is defined as a method of treatment directed to recognizing problematic dysfunctions in thinking and to developing strategies to change these patterns in response to stressors (21). Central to cognitive-behavioural therapy (CBT) is stimulating and modifying any obstructive cognitive falsifications, ideas, beliefs or attitudes. CBT for dermatological conditions involves addressing the psychological and emotional aspects of the disease by helping individuals recognize and challenge negative thoughts and behaviors related to their appearance

and self-esteem (22). However, due to a lack of access to adequate psychological resources, there is a paucity of CBT-trained dermatologists to be able to provide adequate support for dermatological patients.

Following are the researches (Table 1) that have studied the effect of CBT for individuals with Vitiligo on the primary outcomes of Quality of Life or Social Anxiety.

Table 1: exploring the effect of cognitive behaviour therapy (CBT) on primary measures of quality of life and social anxiety in individuals with vitiligo

Author	Treatment	Design	Participants (N)	Outcomes Measures	Effect Measures	Results reported
Alkhutaba (2023)	Cognitive-Behavior therapy	Semi-experimental trial	24	Social anxiety	MANCOVA	Results report statistically significant difference in the post-test social anxiety scores indicating significant impact of CBT intervention in the experimental group.
Revankar et al., (2022)	Cognitive-Behavior therapy	Narrative Review	-	Quality of Life, Self-esteem, Body-image, Perceived Stress	Difference measures (e.g. mean difference, risk difference)	Several studies, including randomized controlled trials support the effectiveness of CBT and Internet CBT. Participants who successfully completed CBT programs demonstrated reduced dependence on dermatological healthcare in the subsequent follow-up period
Cadmus et al., (2018)	Cognitive-Behavior therapy	Review Paper	104	Quality of Life	Difference measures (e.g. mean difference, risk difference)	Significant reduction in the psychosocial impact on individuals with Vitiligo.

Jha et al., (2016)	Cognitive-Behavior therapy	Interventional study	13	Dermatology Life Quality	Pre-test, Post-test difference measures	Results reported significant difference in the post-test scores of individuals who completed treatment.
Shah et al., (2014)	Cognitive behavioral self-help	Randomized Controlled Trial	75	Social anxiety, anxiety & depression, and appearance-related concern.	ANOVA	Results report statistically significant difference in the post-test social anxiety scores indicating significant impact of CBT-self-help intervention.

MANCOVA=Multivariate analysis of covariance, ANOVA-Analysis of variance

Acceptance-Commitment Therapy (ACT)

An alternative approach to addressing distressing cognitive content is to modify one's context or relationship with those cognitions. In the case of individuals who are visibly different from the established societal norms, such cognitions may not always be irrational, such as the belief that "people think I look strange." This alternative approach focuses on cultivating psychological flexibility, which is the overarching mechanism of change in Acceptance and Commitment Therapy (ACT), a third-wave behavioural therapy. This entails the capacity to mindfully observe and accept presently arising thoughts and emotions, regardless of their emotional quality, all while sustaining an open and receptive stance and responding with flexibility to the specific needs of the situation in a way that aligns to one's valued goals (27). ACT offers a conceptually suitable approach for this specific group due to (a) its compatibility with adopting an open and mindful attitude toward the aforementioned valid thoughts, and (b) its utilization of personal values to guide individuals towards intrinsic goals and beyond appearance concerns (28).

Two components of psychological flexibility- cognitive fusion and experiential avoidance, might present unique theoretical mechanisms that explain how individuals perceive their appearance to the adoption of unhelpful behavioral coping strategies, specifically behavioral avoidance and appearance-fixing. In the sole published study thus far, that has assessed these variables in a population sample of burn-patients, Shepherd, Reynolds, Turner, O'Boyle, and Thompson (2019) observed a positive correlation between appearance anxiety and both cognitive fusion and experiential avoidance.

Following are the researches (Table 2) that have studied the effect of ACT for individuals with Vitiligo on the primary outcomes of Psychological Well-being and Internalized shame.

Table 2: exploring the effect of acceptance commitment therapy (ACT) on primary measures of psychological well-being and internalized shame in individuals with vitiligo

Author	Treatment	Design	Participants (N)	Outcomes Measures	Effect Measures	Results reported
Abkhooy et al., (2023)	Acceptance Commitment therapy vs. Compassion-focussed therapy	Semi-experimental study	45	Psychological well-being and internalized shame	Repeated measures ANOVA and Bonferoni post-hoc test.	Significant increase in psychological flexibility and decrease in internalized shame of both treatment groups as compared to the control group.
Daneshi et al., (2021)	Acceptance Commitment Therapy and Schema Therapy	Pilot Study	45	Psychological well-being	Pre-test, Post-test difference measures	Significant increase in the psychological well-being of the group who received ACT and Schema Therapy
Soleymanpour et al., (2021)	Acceptance Commitment therapy (ACT) vs. Compassion-focussed therapy (CFT)	Quasi-experimental study	45	Internalized shame	Repeated measures analysis of variance	Both ACT and CFT were effective in reducing internalized shame for the participants in the experimental group.
Zucchelli et al., (2018)	Acceptance Commitment therapy	Rationale and Review of Relevant Research	-	Appearance-Related Distress Associated With a Visible Difference	Difference measures (e.g. mean difference, risk	The article synthesizes the relevant literature and present the theoretical rationale for the

						difference)	application of Acceptance and Commitment Therapy to those experiencing distress relating to an unusual or altered appearance.
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ANOVA-Analysis of variance

Mindfulness based Cognitive Therapy (MBCT)

Mindfulness is defined as intentionally paying attention to present moment experiences in a non-judgemental way (34). Neuroscientific studies showed that in healthy subjects, mindfulness-based interventions can result in improved attentional regulation, enhanced brain activity and altered attention-related brain areas such as greater cortical thickness and enhanced white-matter integrity in the anterior cingulate cortex (35). Mindfulness-based cognitive therapy (MBCT) combines mindfulness practice with elements of CBT (36). MBCT is an alternative group-based psychological 8-week intervention, consisting of meditation exercises combined with cognitive behavioural techniques. Mindfulness-based approaches have been successfully applied to a broad range of health and stress-related problems (34, 38).

Psychological and emotional stress have been consistently implicated by patients as a potential trigger in the onset and exacerbation of and as a causative or maintaining factor in dermatological disease expression (40). Studies suggest that teaching patients how to relate differently to and reduce stress through Mindfulness-based programs (MBPs), such as Mindfulness Based cognitive therapy (MBCT), may help to dampen this cycle and the body’s inflammatory response (41,42). Meta Analyses have found that mindfulness-based programs such as MBCT have positive effects on mental health issues such as anxiety, depression and wellbeing with a range of clinical and non-clinical samples across age groups (42, 38, 43).

MBCT is taught within a cognitive framework of understanding, which includes exercises and techniques such as meditation, breathing exercises and mindful movement practices, that aim to teach participants how to become aware of and increase flexibility to switch between different cognitive modes of mind.

Following are the researches (Table 3) that have studied the effect of MBCT for individuals with Vitiligo on the primary outcomes of Psychological Well-being and Internalized shame.

Table 3: exploring the effect of mindfulness-based cognitive therapy (MBCT) on primary measures of psychological well-being and internalized shame in individuals with vitiligo

Author	Treatment	Design	Participants (N) Gender Distribution	Outcomes Measures	Effect Measures	Results reported
Varjovi et al., (2023)	Mindfulness-based cognitive therapy vs. Compassion-focussed therapy	Semi-experimental study: pre-test, post-test and follow-up design	45	Internalized shame and self-esteem	Repeated measures ANOVA and Bonferroni post-hoc test.	Significant decrease in internalized shame and increase in self-esteem among participants of both treatment groups. In the follow-up phase, the effect of these two treatments was lasting
Shahmoradi et al., (2019)	Mindfulness-based cognitive therapy vs. Schema Therapy	Semi-experimental study	24	Psychological well-being, Maladaptive Schemas and General Health	Covariance analysis	Both MBCT and Schema Therapy were effective in reducing maladaptive schemas and improving general health for the participants in the experimental group

ANOVA-Analysis of variance

Support Groups

Support groups are groups in which individuals with similar life experiences can come together and gather strength from one other. They also give members a sense of belongingness to a community and reduce feelings of isolation and despair (46). Many patients with Vitiligo experience discrimination from others and feel that they do not receive adequate support from their doctors, friends, and family. In a case-control study with an objective to investigate the role of stressful events and other risk factors in triggering or exacerbating Vitiligo, results showed a statistically significant difference between cases and controls, with controls reporting greater perceived support and decreased psychological distress (47).

As indicated in a study conducted by Thompson et al. (2002), it was identified, social support was another theme raised by the sufferers of Vitiligo. They suggest that social support is important because, firstly, it can act as a buffer to mental health difficulties (i.e., depression and anxiety), and secondly it can reduce the feared consequence of social rejection or negative impressions when patients are exposed to interactions in social contexts. This finding suggests that a person's social system can have an enormous impact on their management of Vitiligo, as it has the strength to facilitate coping with appropriate support in the same way that it can hinder it with stigmatisation. Due to the previously established effects of support groups, it's important to draw out the importance of building a community for those suffering from this condition to feel supported and understood.

Following are the researches (Table 4) that have studied the effect of Support Groups for individuals with Vitiligo on the primary outcomes of Quality of Life and Social Anxiety

Table 4: exploring the effect of support groups on primary measures of quality of life and social anxiety in individuals with vitiligo

Author	Treatment	Design	Participants (N)	Outcomes Measures	Effect Measures	Results reported
Zoe L. et al., (2021)	Support groups	Multi-Centered Case-Control Study	264	Quality of Life	Difference measures (mean difference, risk difference)	Support group memberships is associated with better QoL.
S Zabetian et al., (2017)	Support groups	Comparative study between support group members and non-members post-test design	17	Quality of Life	Difference measures (mean difference, risk difference)	Vitiligo support group membership is associated with better QoL. Support group participation is suggested to have a protective effect for the participants and their QOL.

QOL-Quality of Life.

DISCUSSION:

In this literature review, thirteen different studies were reviewed to understand the recent advances that have been made in the management of coping with the psychosocial impact of disfigurement in individuals with Vitiligo using different psychotherapeutic modalities.

In contrast to internal illnesses, skin disorders are immediately noticeable to others, potentially leading to social and emotional distress for individuals dealing with these conditions. Given the intermittent loss of pigmentation, Vitiligo can result in physical disfigurement, psychological distress, and societal stigma, frequently exerting a profound impact on the quality of life of affected patients. Although an extensive amount of research has been directed towards the dermatologic treatment of Vitiligo, an overall lack of data exists investigating management of psychosocial burden on patients with Vitiligo. As a result, Vitiligo is too often dismissed as a cosmetic condition with trivialization of the patients' distress, which only further exacerbates the intensity of negative feelings that can be associated with the disease (5). Despite being limited in quantity, several studies have proven the benefits of adjuvant care in the form of group therapy, cognitive behavioral therapy, and self-help programs. Although preliminary evidence is promising, no prospective studies have reviewed the advancements made in using these adjunct treatments and their associated results.

The aim of this study was to bridge this gap, highlight the importance of screening for psychosocial impact in this population and the advancements made in their effective management. This paper also aims to substantially define the role of these psychosocial interventions before integrating them in a more official capacity into the standard of care for patients with Vitiligo.

13 studies were investigated to review the recent advances that have been made in this topic. The review was done individually for different psychotherapeutic modalities to facilitate for specific change mechanisms of these therapeutic approaches

Cognitive Behaviour therapy was the first to be reviewed. Over the years several studies, including randomized controlled trials with large study samples have supported the effectiveness of CBT and Internet CBT for a number of dermatological conditions. Individuals who received either CBT or Internet-based CBT in conjunction with standard skin care exhibited enhancements in their quality of life and the severity of their skin condition when compared to the control group, which solely received standard of care treatment (22).

Cognitive therapy is based on the cognitive model, which has been widely studied and has received substantial empirical support (21). The cognitive model posits that it is not situations that directly impact one's reaction (emotional, behavioral, and physiological). Instead, it's the automatic perception of the situation that is more strongly linked to the response. This psychotherapeutic approach is rooted in the understanding that an individual's thoughts, feelings, and behaviors are interconnected and can significantly influence their mental well-being (22). This structured and evidence-based therapeutic technique is designed to help individuals identify and challenge negative or irrational thought patterns and beliefs, replacing them with more adaptive and rational cognitions.

Out of the 5 reviewed studies that included semi-experimental studies, review papers, interventional studies and RCTs, all the studies measured one of the primary measures of quality of life or social anxiety. The results of the studies as shown in Table 1 indicate the effectiveness of CBT while showing significant results in the improvement of skin status and quality of life in participants. These studies have posited the effect of CBT techniques such as psychoeducation, identifying negative thoughts, behaviour modification and cognitive restructuring to improve quality of life by reducing negative thought patterns that impact mood, social relationships and one's body image in Vitiligo. Despite the studies pointing to a significant impact on the primary measures, there might be a requirement for more RCTs to measure the effectiveness of the therapy with a control group in order to establish its significance with more external validity.

The next therapeutic modality to be reviewed was Acceptance and Commitment Therapy.

Acceptance and Commitment Therapy (ACT) is a third-wave cognitive-behavioral psychotherapeutic approach that emphasizes fostering psychological flexibility and resilience. In ACT, individuals are encouraged to accept their thoughts and emotions, even when distressing, rather than trying to control or eliminate them. The therapy promotes the development of mindfulness and awareness to better understand one's inner experiences (27).

Out of the 4 reviewed studies that included semi-experimental studies and review papers, all studies measured one of the primary measures of psychological well-being or internalized shame. The results of the studies as shown in Table 2 indicate the effectiveness of ACT by showing a significant increase in psychological flexibility, psychological well-being and a significant decrease in internalized shame. The studies show the use of processes such as defusion and mindfulness to learn to detach from unhelpful thoughts and develop a more flexible relationship with them. The ultimate goal of ACT is to enable individuals to clarify their values and commit to actions aligned with these values, even in the presence of difficult thoughts and feelings (29).

The next to be reviewed was Mindfulness based Cognitive Behaviour Therapy.

Mindfulness-Based Cognitive Therapy (MBCT) is an evidence-based therapeutic approach that integrates principles of cognitive therapy with mindfulness practices. MBCT techniques focus on cultivating mindfulness, which involves non-judgmental awareness of the present moment. This therapeutic technique helps individuals recognize and disengage from automatic, negative thought patterns. By fostering mindfulness, MBCT aims to enable individuals to observe their thoughts, emotions, and bodily sensations without becoming entangled in them. Psychological and emotional stress have been consistently implicated by patients as a potential trigger in the onset and exacerbation of and as a causative or maintaining factor in different dermatological conditions (40).

Out of the 2 reviewed studies that included semi-experimental studies, both studies measured one of the primary measures of psychological well-being or internalized shame. The results of the studies as shown in Table 3 indicate the effectiveness of MBCT by showing a significant increase in psychological well-being and self-esteem and a significant decrease in internalized shame. The studies show the use of techniques such as mindful meditation, breathwork and body scan to learn to develop greater self and present-moment awareness that helps to build acceptance and resilience while reducing rumination of negative thoughts.

The last to be reviewed was the effect of support groups amongst individuals who have Vitiligo. Many of these individuals experience discrimination from others and feel a lack of adequate support from their doctors, friends, and family. Support groups give members a sense of belongingness to a community and reduce feelings of isolation and despair (48). Out of the two reviewed studies, one of which is a multi-centre case control study, the primary measure of quality of life was assessed for individuals with Vitiligo in support groups. The results of the studies as shown in Table 4 indicate that Vitiligo support group membership is associated with better Quality of Life. Peer sharing, community building and emotional validation were some important aspects of having a support group that as reported by participants could have had a positive impact on their quality of life. This supports previous research data that indicates that having a support group can act as a protective factor for individuals with Vitiligo.

The results of the review indicate the effectiveness of psychotherapeutic care in individuals with Vitiligo. Body concerns are common in individuals with an atypical appearance, or visible difference (7). Across the range of causes, individuals report being dissatisfied with their appearance, and facing discrimination (50, 51). These have been known to impact the individual's quality of life, body image, social relationships and psychological well-being. However, Jowett & Ryan (1985) point out that skin disease is not generally recognized as a handicap and that people with skin conditions often face trivialization for their distress, which can exacerbate the intensity or seriousness of feelings associated with their illness.

Vitiligo has also been associated with high psychiatric comorbidity. Studies conducted in India have shown that 1 in 4 patients with Vitiligo have psychiatric morbidity [53]. Major depression, anxiety and adjustment disorder are among the most common conditions experienced by patients. The results of this review suggest that incorporating CBT, ACT, MBCT or Support Groups in the management and care of Vitiligo may prove to adequately address these psychological comorbidities and the psychosocial impact on self-esteem, body image, and social anxiety. This can help reduce the psychosocial distress and increase quality of life associated with the condition.

The studies reviewed has several limitations.

Although preliminary evidence is promising pointing to significant increase of quality of life and psychological well-being of the individuals, larger prospective studies, especially RCTs are needed with larger sample sizes and a control group. Additionally, most of the participants in these studies were female. Even though, there are no gender differences noted in the clinicoepidemiological analysis of Vitiligo, most of the participants in the research studies are females. This could be because of greater amount of body image

dissatisfaction reported by women in comparison to men due to perceived and implied social standards (54). Studies have pointed to men with Vitiligo experiencing significant psychosocial burden due to their illness (55), prospective studies that include an equal distribution of male and female participants are required.

In addition, though a significant number of Vitiligo patients had psychosocial issues, only some chose to undergo the full experimental treatment program thus demonstrating relatively high attrition rates. This could be due to the study design, method of intervention, or simply lack of patient adherence. Intervention plans that include short-duration sessions and are less frequent may ensure better patient compliance.

CONCLUSION

Psychotherapeutic and psychosocial management techniques such as CBT, ACT, MBCT and Support Groups could play a useful role in the management of psychosocial impact of disfigurement in individuals with Vitiligo. The studies reviewed which include RCTs, review papers and semi-experimental studies indicate a significant increase in the psychological well-being and quality of life of the patients. Overall, these results potentially suggest that incorporating psychosocial care to the medical management of the disease can exhibit greater results for the patient's general well-being and management of the disease.

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