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Research Article

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Impact of Acceptance and Mindfulness-Based Intervention as an Add-on Treatment for Skin Diseases-Acne, Eczema and Psoriasis

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ABSTRACT

Background: According to the Global Burden of diseases, there are approximately 15 different types of skin diseases, such as acne, eczema, psoriasis, impetigo, abscess, etc. It was also noticed that acne, eczema and psoriasis are the topmost skin diseases prevalent worldwide. Although it is just the physical aspect mostly affected by skin conditions, the sufferer's psychological well-being is also affected. Various psychotherapies have been adopted to tackle the psychological aspects related to skin diseases. Acceptance and Mindfulness-Based interventions have proven to be effective for various conditions. The present study was planned to see the effect of Acceptance and Mindfulness on the treatment of psychological aspects related to the skin condition of adolescence.

Methods: According to inclusion and exclusion criteria, 45 patients referred from Dermatology and Radiotherapy OPD was selected for psychosocial management. Different psychological tools were used for assessment purpose. Patients were divided into 2 groups: experimental and waitlist group. The experimental group was given therapy for 1 ½ month (6 sessions; weekly) and waitlist group was only on the prescribed medication by Dermatology OPD. Waitlist group was given therapy after the experimental group's therapy was terminated. Pre and post assessment was done to see the effect of acceptance and mindfulness intervention.

Results: After 6 sessions of mindfulness, the experiment group improved significantly in all psychosocial dimensions in comparison to the waitlist group. The significant difference in the level of mindfulness was also found among both experimental and waitlist group.

Conclusion: Acceptance and mindfulness-based therapy is an effective, non-pharmacological approach towards treatment of psychosocial aspects related to skin conditions.

Key-words: Acne, Eczema, Acceptance and mindfulness, Adolescents, Skin condition

INTRODUCTION

According to the Global Burden of Diseases (GBD), there are approximately 15 different types of skin diseases, such as acne, eczema, psoriasis, impetigo, abscess, etc.

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It was also noticed that acne, eczema and psoriasis are the topmost skin diseases prevalent worldwide [1]. About 30-70% of individuals at present are suffering from skin diseases [2-4].

According to Frost and Sullivan's report of 2015, about 10-12% of the Indian population suffers from skin diseases like eczema and psoriasis, are majorly caused by pollution, global warming, ultraviolet rays, etc [5]. Although it is just the physical aspect mostly affected by skin conditions, the sufferer's psychological well-being is also affected. Psychodermatology is an emerging discipline that addresses the importance of psychological

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intervention in the treatment of dermatological conditions. The non-pharmacological treatment along with medication has proven to be quite effective [6,7]. Various psychotherapies have been adopted to tackle the psychological aspects related to skin diseases.

Skin diseases cause a great amount of stress, anxiety, depression, etc. reducing the quality of life [8]. Along with hormonal changes encountered during puberty, skin conditions are also a part of that phase. The reduced level of confidence, increased negative self-image, anxiety, etc. could hinder in their proper psychological well-being. To address the impact of skin diseases on an individual's psychology, Acceptance and Mindfulness-Based Interventions (AMBI) has been adopted.

Various studies have been conducted on acceptance and mindfulness-based intervention, which was later termed as "third wave" or generation of cognitive behaviour therapy (CBT) [9-11]. Therefore, to overcome the challenges faced by adolescents, this study focuses its attention on the impact of acceptance and mindfulness-based intervention for the treatment of skin conditions of adolescents.

MATERIALS AND METHODS

Sample Collection- The study was undertaken from September 2018 to November 2018 in the Department of Psychiatry, Dermatology and Radiotherapy, Jawaharlal Nehru Medical College & Hospital, Aligarh Muslim University, Aligarh, UP, India.

Referred patients diagnosed with acne, eczema and psoriasis were taken for the study. Total of 45 patients meeting the inclusion and exclusion criteria of the study were retained.

Inclusion Criteria

- Adolescents of 13-19 years of age
- Both literate and illiterates were taken
- Both genders were considered
- Diagnosed skin disease-acne, eczema and psoriasis
- Adolescents having reduced level of hopelessness, optimism, self-esteem, self-efficacy
- Adolescents having a reduced level of mindfulness
- Only the referred cases were taken
- Guardians of adolescents, who gave written informed consent for the study

Exclusion Criteria

- Adolescents not falling under the age range
- Adolescents having severe forms of psychiatric and medical conditions
- Adolescents with high hopefulness, optimism, self-esteem, self-efficacy
- Adolescents having an increased level of mindfulness
- Those, who was not referred
- Who, did not give written informed consent

Tools used

1) **Socio-Demographic and Clinical Data Sheet-** Participant's details concerning their clinical and personal information was collected using semi-structured clinical and personal datasheet.
2) **General Health Questionnaire-12-** It was used to assess the general mental health of individuals [12].
3) **Beck Hopelessness Scale:** It was developed by Aaron Beck and was a 20 items scale. Scores 0-3 was none or minimal hopelessness, 4-8 was Mild, 9-14 was Moderate and 15+ was severe [13].
4) **Life Orientation Test-Revised (LOT-R)-** A 10-item measure of optimism versus pessimism. Of the 10 items, 3 items measure optimism, 3 items measure pessimism, and 4 items serve as fillers. Respondents rate each item on a 4-point scale: 0= strongly disagree, 1 = disagree, 2 = neutral, 3 = agree, and 4 = strongly agree. LOT-R is a revised version of the original LOT. The original LOT had 12 items: 4 worded positively, 4 worded negatively, and 4 fillers [14].
5) **General Self-Efficacy (GSE)-** This scale was developed by Jerusalem and Schwarzer. He first developed originally the German version of this scale as 20-items and later he translated this scale into German to English and reduced 10-items. After a short period, Sud (2002) also translated this scale from English to Hindi version. Therefore, general self-efficacy scale (Hindi version) consists of 10-items rated on a four-point rating scale with the response categories i.e. (1) Not at all true, (2) Hardly true, (3) Moderately true, and (4) Exactly true. For scoring, all the ten items are added to yield the final composite score with a range from 10-40. The reliability coefficient of the scale was found to be ranging from 0.76 to 0.90 [15].
6) **Rosenberg Self-Esteem Scale-** It was a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional.

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All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree [16].

7) **Adolescent Psychological Resilience Scale-** This scale consists of 29 items, to be rated on 4 point rating. It assesses 6-factors, i.e. family support, confidant-friend support, school support, adjustment, sense of struggle and empathy [17].
8) **Five Facet Mindfulness Questionnaire (FFMQ)**- It was a 15 items scale, with the 5-point rating. The higher the score, the higher is the mindfulness [18].

Procedure- Total of 45 patients suffering from acne, eczema and psoriasis were referred from Dermatology OPD for psychological management (therefore, no ethics committee was held for this specifically). Patients with severe eczema and psoriasis were also referred from the Department of the Radiotherapy after ruling out cancer. Since the participants were minors, their written informed consent was obtained from their parents or guardians. After obtaining permission, detailed assessment was done using above mentioned tools; they were also explained about the purpose of the study and the amount of time it will require, i.e. 6 weeks (weekly session). These 45 participants were then randomly divided into an experimental group and waitlist group. The experimental group consisted of 23 participants and waitlist group consisted of 22 participants. The experimental group was given acceptance and mindfulness-based intervention along with medication, whereas the waitlist group was the one who did not receive any kind of psychological intervention; they were only on medication prescribed by the Dermatology OPD. The waitlist group was informed that they will be given psychological intervention after 1½ months.

The intervention was given in Psychological research lab of the psychiatry department, JNMC&H, AMU, up to 6 sessions for the next $1^{1/2}$ months, asking them to visit weekly.

For patients in the waitlist group, only pre and post-assessment were done for the next $1^{1/2}$ months. They were given TAU. After completion of therapy, the above-mentioned scales were reassessed to see the effect of acceptance and mindfulness-based intervention (Experimental and Waitlist). The level of mindfulness was assessed immediately after every session (only the experimental group). Patients in the waitlist group were given psychological intervention after the termination of the experimental group's therapy.

Statistical Analysis- The statistical analysis was done using the Jeffreys's Amazing Statistics Program (JASP) [19]. Percentage (%) is used to see the proportionate part of the total sample (socio-demographic and clinical data). the t-test is used to compare between both the groups to see the effect of acceptance and mindfulness intervention on psychosocial factors after pre and post-intervention.

Ethical approval details- The patients were referred from the Department of Dermatology and Radiotherapy for Psychosocial Management to Psychiatry OPD. The intervention was carried out in the Departmental of the research lab.

RESULTS

Fig. 1 shows the socio-demographic as well as clinical details of experimental and waitlist group. Most of the adolescents in both groups were females (Experimental= 69%; Waitlist= 72%), falling under the age range of 13-17. Maximum adolescents were high-school students (Experimental= 56%; Waitlist= 54%). Maximum patients were from middle class (Experimental= 52%; Waitlist= 50%), residing in urban area (Experimental= 69%; Waitlist= 64%). Most of the patients were receiving treatment for the past for more than 6 months (Experimental= 56%; Waitlist= 54%).

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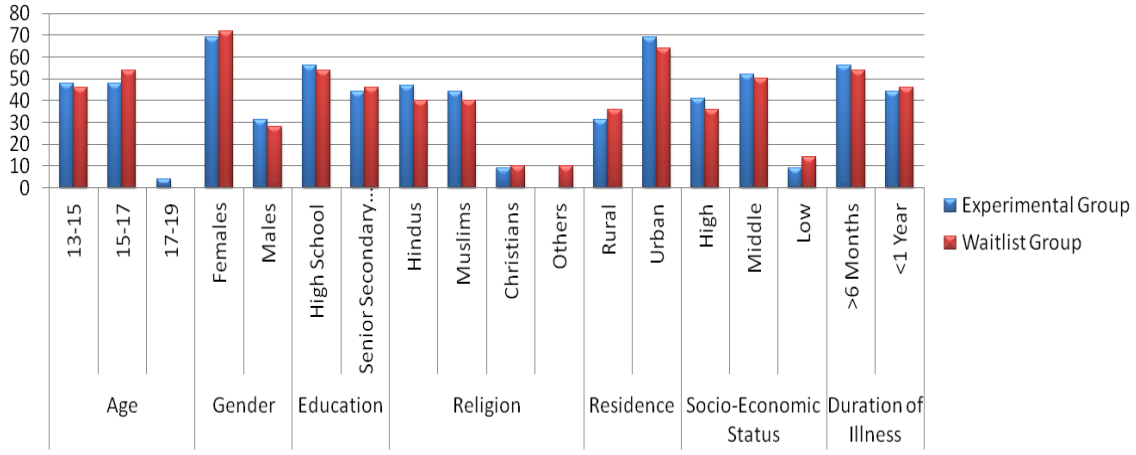

Fig. 1: shows socio-demographic and clinical details of all the participants

Table 1 shows the difference between scores of experimental group post-intervention on hopelessness, optimism, self-efficacy, self-esteem and resilience. Transformation of hopelessness scores from pre-intervention (M=10.82) to post-intervention (M=2.91) was indicative of how AMBI has increased patients hope. Similarly, changed scores of optimism pre-intervention (M=4.04) to post-intervention (M=18.73) was also indicative of the result of AMBI as a treatment was effective enough for changing patients pessimism into optimism. Significant t-values of self-efficacy (t=13.87) and self-esteem (t=24.61) also indicated a similar effect i.e. uplifting patients self-efficacy and self-esteem. Pre-intervention scores (M=30.13) and post-intervention score (M=90.21) of resilience also indicates that AMBI not only improves hampered psychosocial factors of patients with skin conditions but also helps in restoring their fighting spirit (resilience).

Table 1: The M, SD and t-values of the experimental group

Variables	Intervention	M	SD	t-value	p-value
Hopelessness	**Pre**	10.82	1.61	35.02	<0.001*
	Post	2.91	0.9		
Optimism	**Pre**	4.04	1.75	24.71	<0.001*
	Post	18.73	2.32		
Self-Efficacy	**Pre**	13.52	1.99	13.87	<0.001*
	Post	29.95	5.21		
Self-Esteem	**Pre**	14.43	5.21	24.61	<0.001*
	Post	38.78	2.39		
Resilience	**Pre**	30.13	2.68	21.63	<0.001*
	Post	90.21	13.6		

***sig. at 0.05 level**

Table 2 shows that there was no significant difference was found between pre-intervention and post-intervention scores of waitlist group on hopelessness, optimism, self-efficacy, self-esteem and resilience.

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Table 2: The M, SD and t-values of waitlist group

Variables	Intervention	M	SD	t-value	p-value
Hopelessness	**Pre**	10.86	1.32	2.66	0.01
	Post	10.4	1.29		
Optimism	**Pre**	4.04	2.05	0	1
	Post	4.04	1.73		
Self-Efficacy	**Pre**	13.36	2.15	0.43	0.66
	Post	13.59	1.81		
Self-Esteem	**Pre**	13.22	2.7	2.18	0.04
	Post	12.09	1.63		
Resilience	**Pre**	30.59	2.88	2.97	0.007
	Post	29.95	2.68		

***sig. at 0.05 level**

Table 3 and Fig. 2 show a significant difference between groups (Experimental and Waitlist) post-intervention. Difference between experimental and waitlist group on hopelessness was M=2.91 and M=10.4 respectively, indicating that AMBI was effective enough to improve patients hopelessness level and converting it into hopefulness. A similar result was found on optimism variable, i.e. M=18.73 (experimental) and M=4.04 (waitlist). Significant t-values of self-efficacy (14.43) and self-esteem (26.43) variables of the experimental group also indicate a similar result of the effectiveness of AMBI. The difference in resilience of the experimental group (M=90.21) and waitlist group (M=29.95) is also indicative of the efficacy of AMBI. The overall improvement is suggestive of how AMBI helps in the improvement of various psychological factors affected by different skin conditions when the comparison is made between waitlist and experimental groups.

Table 3: Post-intervention difference between the experimental group and waitlist group on various psychosocial domains

Variables	Group	M	SD	t-value	p-value
Hopelessness	**Experimental**	2.91	0.9	35.01	<0.001*
	Waitlist	10.4	1.29		
Optimism	**Experimental**	18.73	2.32	24.43	<0.001*
	Waitlist	4.04	1.73		
Self-Efficacy	**Experimental**	29.95	5.21	14.43	<0.001*
	Waitlist	13.59	1.81		
Self-Esteem	**Experimental**	38.78	2.39	26.43	<0.001*
	Waitlist	12.09	1.63		
Resilience	**Experimental**	90.21	13.6	20.29	<0.001*
	Waitlist	29.95	2.68		

***sig. at 0.05 level**

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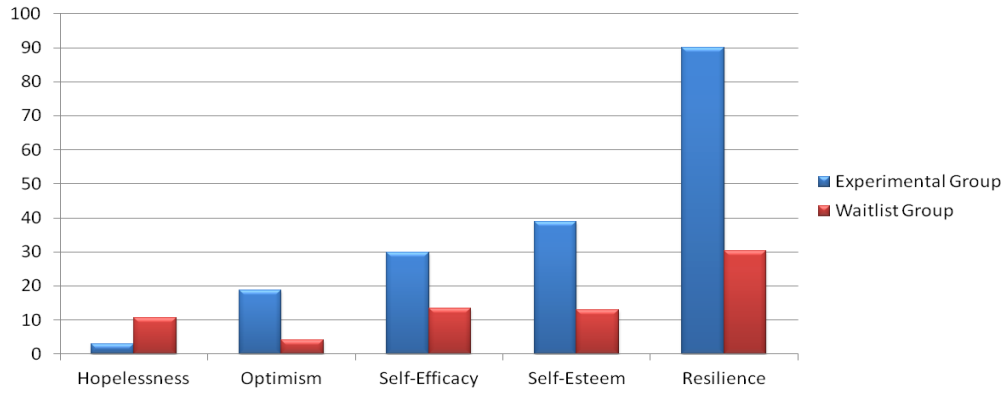

Fig. 2: The comparison and effect of acceptance and mindfulness-based intervention on experimental and waitlist group

Table 4 and Fig. 3 shows the level of mindfulness has increased for both the groups from pre-intervention to post-intervention. Pre-intervention of AMBI, mindfulness level of the experimental group was M=30.34 and waitlist group was M=30.31. But after mindfulness intervention (only to the experimental group), it was found that for the experimental group it increased (M=92.17) while for waitlist group mindfulness level remain static (M=30.13). The statistical analysis indicates mindfulness is an effective technique that improves psychosocial factors associated with skin conditions as well as increases the patient's mindfulness level.

Table 4: shows the level of mindfulness (mean values) of the experimental and waitlist group (pre and post-intervention)

Intervention	Experimental Group	Waitlist Group	t-value	p-value
Pre-Intervention	30.34	30.31	0.38	0.7
Post-Intervention	92.17	30.13	20.27	<0.001*

***sig. at 0.05**

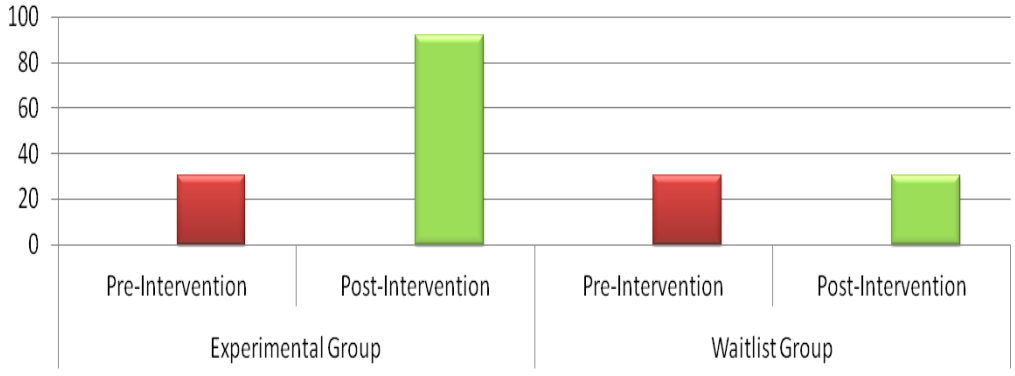

Fig. 3: The level of mindfulness of experimental and waitlist group

DISCUSSION

Psychosocial factors significantly affect the skin of the human being. Adolescents are more prone to skin problems as there have been changes in their hormones resulted in acne. High levels of psychological problems were documented in studies.

Studies have indicated that 30-70% of people suffer from skin conditions [2-4]. Over the years, various researches have been done to see the effect of mindfulness-based interventions on physical conditions [20]. P D'Alton *et al.* [21] have explored the association between the mindfulness-based intervention and skin diseases and

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has found significant improvement among the patients. Our present study supported the previously done study. In our study, it was seen that patients with different skin disorders gradually showed improvement in all aspects of psychological factors.

The present study assesses the level of hopelessness, optimism, self-efficacy, self-esteem and resilience among adolescents suffering from dermatological problems (acne, eczema and psoriasis). Having skin problems increase distress in adolescents. Our pre-intervention assessment data indicates that before giving intervention, psychosocial problems were high. Fordham *et al.* [22] found in their study that eight–week mindfulness was an effective treatment for people with psoriasis. The present study supports the previous study and found acceptance and mindfulness therapy significantly improve self-efficacy and self-esteem and also improved quality of life. Our study further explores the effect of acceptance and mindfulness-based intervention (AMBI) on the level of mindfulness. After every session mindfulness was assessed and found gradually improvement (mindfulness) in experimental group patients.

There's a lack of studies that assess the level of hopelessness, optimism, self-efficacy, self-esteem and resilience among people suffering from skin conditions. In the present study, it was found that the level of hopelessness was more before the intervention but as the AMBI took place their hopelessness changed into hopefulness. Likewise, pessimism changed into optimism when the intervention was given. Self-efficacy, self-esteem and resilience have been reported to be restored after the successful intervention, which was on the lowest side [23,24]. Various studies addressed that AMBI provides relief from various psychological distresses. One other study was done by Montgomery *et al.* [25] it was found that mindfulness helps reduce psychological distress. This study was conducted on adult dermatology patients. The present study shows significant improvement in making patients self-efficient, increase their self-esteem and improve mindfulness and quality of life, help them maintain their mental hygiene with skin conditions.

The result explains how mindfulness level increased as the intervention took place, hence supporting previously conducted study by where they conducted a meta-analysis to prove how mindfulness-based therapies are effective in the treatment of various conditions and psychosocial factors associated with it [26].

CONCLUSIONS

Acceptance and mindfulness-based therapy is an effective, non-pharmacological approach towards treatment of psychosocial aspects related to skin conditions in adolescents and this therapy has also been very helpful in increasing the level of mindfulness in them. The present therapy is proved itself that it increased positive behaviours while feeling low due to negative thoughts. This therapy is easy to understand, can be regularly practised at home without the constant guidance of the therapist and as the patient learns the therapy during the session it can also help to reduce future relapse. The present therapy is cost-effective and the therapy itself has no side-effects.

In psycho-education, detail explanation was given that this therapy is not only limited to negative psychosocial aspects to skin diseases but would also prove to be beneficial in future to all aspects related to mental health.

CONTRIBUTION OF AUTHORS

Research concept- Dr. Deoshree Akhouri
Research design- Dr. Deoshree Akhouri
Supervision- Dr. Deoshree Akhouri
Materials- Dr. Mohammad Akram, Dr. Deoshree Akhouri
Data collection- Dr. Deoshree Akhouri, Maria Madiha
Data analysis and Interpretation- Dr. Deoshree Akhouri, Maria Madiha, Dr. Mohammad Akram
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Article editing- Dr. Deoshree Akhouri, Dr. Mohammad Akram
Final approval- Dr. Deoshree Akhouri, Maria Madiha, Dr. Mohammad Akram

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