

Psychological factors in psoriasis management

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ABSTRACT

Psoriasis is chronic, immune-mediated disease of the skin and joints, which typically follows a relapsing and remitting course. Clinical manifestations of the disease most commonly involve the development of well-demarcated, erythematous, scaly plaques on the scalp, knees, back, and extensor surfaces of the elbows. Psoriasis can have a significant detrimental impact on the psychological health of patients, and similarly, the experience of psychosocial stress plays an important role in exacerbations of the disease. This review explores the significance of psychological factors in the context of psoriasis and discusses the efficacy of psychological and stress-reduction interventions in improving outcomes. The resulting implications for management of psoriasis will also be highlighted.

INTRODUCTION

Psoriasis is a chronic, inflammatory skin condition affecting approximately 3% of the adult population.¹ It is characterised by the development of scaly, erythematous plaques which are raised and well-demarcated. Lesions commonly occur on the elbows, knees and scalp. The severity of the disease ranges from mild psoriasis involving localisation of plaques on a single body part, to severe psoriasis where there is extensive coverage of the body and involvement of regions such as the hands, face, and genital regions, causing significant functional disruption. Furthermore, the severity of the disease is likely to vary considerably over the individual's life course, with the experience of exacerbations commonplace.^{2,3}

Psychosocial Stress and Psoriasis

In addition to physical symptoms of psoriasis, psychosocial stress is inherently associated with the disease process. It is widely accepted that there is a positive temporal association between the experience of stress and the onset of psoriasis, and psoriatic exacerbations.⁴ Evidence suggests that psoriasis can have a significant psychological burden on patients,⁵ accordingly, the assessment of psoriasis severity not only includes the physical manifestations of the disease but also the degree to which the individual is psychosocially disabled by their condition.⁶

Evidence shows that both low-grade chronic stress and major stressful events can have a detrimental effect on the prognosis of immune-mediated conditions such as psoriasis.⁷ Numerous studies have reported an association between stress and psoriasis, both with regard to the onset of psoriasis and disease exacerbations.^{8,9} Between 39% and 72% of patients report the occurrence of a stressful life experience in the one month prior to their first episode of psoriasis.^{10,11} A significant proportion (~60%) of individuals with psoriasis also cite stress as a precipitating factor in exacerbations of their condition.¹² When compared to individuals with other dermatological conditions, such as urticaria, acne, and basal cell carcinoma, people with psoriasis are more likely to report a stressful event as preceding the onset of disease exacerbations, demonstrating the significant role of stress exposure for the onset, and progression of psoriasis.^{13,14}

It is important to note that while psychosocial stressors can result in the manifestation of psoriasis symptoms, the disease itself can have a considerable detrimental impact on a person's psychological wellbeing. Psoriasis can be disfiguring and elicit stigmatisation. The condition requires adherence to recommended treatment and necessitates increased engagement with healthcare services, all of which can impair a person's quality of life and increase their likelihood of psychosocial comorbidity.^{15,16} Both depression and anxiety are more prevalent among patients with psoriasis when compared to healthy controls and patients with other dermatological conditions such as vitiligo, lichen planus, and leprosy. A vicious cycle can eventuate for the psoriasis patient, whereby psychosocial stress can trigger physical symptoms. In turn the disease-associated stress is amplified, causing further exacerbation of psoriasis symptoms and perpetuation of the disease.^{5,17}

Despite the well-recognised link between psychosocial stress and heightened disease manifestation in psoriasis, the pathophysiological mechanisms underlying this relationship are not yet fully understood.² An important aspect appears to be downregulation of the hypothalamic-pituitary-adrenal (HPA) axis, as a consequence of chronic activation due

to constant stress exposure. Richards et al. found that, compared to healthy controls, patients with psoriasis exhibited lower baseline levels of salivary cortisol and a reduced serum cortisol response to a stress task.¹⁸ Unlike the control group, psoriasis patients demonstrated no correlation between serum cortisol and pulse rate before, during, or after the stress task, which suggests a degree of dysregulation between the HPA axis and the sympathetic-adrenal-medullary pathway.¹⁸

Comparing HPA axis activation between healthy controls and patients with psoriasis is complex, given the large degree of heterogeneity between groups. Thus, some researchers have focussed solely on patients with psoriasis and have attempted to identify differences within the patient group that have associations with stress.¹⁹ Individuals with psoriasis who report exposure to high levels of stressors exhibit greater clinical severity of the disease and lower mean cortisol levels, when compared to their less stressed counterparts.^{18,20} Similarly, Gupta et al observed that people with psoriasis who had increased exposure to stress and considered themselves 'stress reactive' had a reduced cortisol response after exposure to a stressful event in an experimental paradigm.⁶ While there may be considerable individual variation between people with psoriasis in terms of physiological responses to psychosocial stress, the role of stress in facilitating the onset of the disease and eliciting exacerbations is widely accepted in the literature.²¹

PSYCHOLOGICAL AND STRESS-REDUCTION INTERVENTIONS

Given the importance of psychosocial stress, it follows that psychological interventions may be beneficial to people with psoriasis. In particular, stress management techniques such as mindfulness, relaxation, and biofeedback, which aim to reduce physiological arousal and augment psychological adaptation to adverse situations, have been shown improve the symptoms of psoriasis.^{21,22}

A study by Kabat-Zinn et al. highlighted the efficacy of mindfulness-based stress-reduction (MBSR) in increasing the healing rate of psoriatic lesions. MBSR utilises a combination of mindfulness meditation and body awareness, with the aim of helping an individual to self-regulate in an adaptive manner, and consequently achieve stress-reduction and relaxation.²³ Individuals with psoriasis who were undergoing UV treatment were randomised into a control group that received only UV treatment or an experimental group that listened to a guided MBSR audio-recording during their treatments. The intervention was effective in changing individuals' perceptions surrounding their illness and treatment, namely,

- a) increasing positivity about their treatment,
- b) increasing belief in the extent to which they thought treatment was helping their condition, and
- c) eliciting a greater degree of relaxation.

What was most significant was how these changes facilitated an improved clinical outcome, whereby individuals in the experimental group exhibited an increased rate of healing of psoriatic lesions.²³ The positive effect of MBSR on both psychological and physical indicators of disease severity suggest that it would be a useful adjunct to standard treatment.

Similarly, Zachariae et al. found that the addition of psychotherapy incorporating stress management, guided imagery, and relaxation training to standard treatment was effective in reducing psoriasis symptoms.¹⁹ Specifically, individuals who received the 12 week psychotherapy intervention displayed significant reductions in Psoriasis Area Severity Index (PASI) scores and Total Sign Scores, and exhibited decreased blood flow to plaques relative to patients who received standard treatment.¹⁹ The combination of relaxation training and biofeedback has also been shown to augment disease outcomes, with psoriasis patients receiving such an intervention reporting significant symptom improvement relative to those who were only given pharmacological treatment and phototherapy.²⁴

The addition of cognitive behavioural therapy (CBT) to standard pharmacologic treatment has been shown to elicit reductions in clinical disease severity, psychological distress, and overall disability in patients with psoriasis.²⁵ The aim of CBT is to explore the relationship between an individual's cognitions, behaviours, and emotions. Evidence shows that elucidating such associations will encourage the individual to develop more adaptive coping strategies that are less physiologically and psychologically taxing. Fortune et al conducted a randomised controlled trial to evaluate the efficacy of a six-week CBT programme that incorporated relaxation techniques.²⁶ The intervention also placed emphasis on maladaptive cognitions about psoriasis and provided support to patients on how best to manage such beliefs in their daily life. Participants who received this intervention as an adjunct to their normal clinical care showed a significant reduction in PASI scores at six weeks and at six months follow-up, whereas individuals who received only standard care exhibited no significant reductions at either time point. Furthermore, 64% of patients exposed to the intervention achieved greater than 75% clearance of their psoriasis at six months, compared with 23% of standard care group. Improvements with regard to anxiety, depression, and self-reported disability were also obtained in the experimental group, with maintenance at six months follow-up.²⁶

While the efficacy of stress-reduction interventions highlights their use as adjunctive treatments for psoriasis, it is important to take a considered approach when analysing findings. One must take into account the influence of expectancy when interpreting observed differences in psychosocial distress and symptom manifestation between experimental and control groups. Specifically, a patient's expectation that the intervention will have a positive effect may reduce psychological distress and elicit reductions in disease severity, rather than the relaxation and stress-reducing components of the intervention.²³ In addition, the long-term use of stress-reduction as a means to reduce the symptoms of psoriasis is unknown. Given that psoriasis is a lifelong condition, it would be useful to know whether such interventions need to be delivered on a regular basis to maintain any gains in clinical outcome.²¹

Although current experimental evidence only highlights the clinical benefits of short-term stress-reduction, it is hoped that employment of such strategies will also be advantageous for psoriasis management in the long-term. Phototherapy and pharmacologic treatments can bring about significant clinical benefit, but they are by no means a cure for the disease. Stress-reduction interventions have the potential to benefit patients greatly, as they have the capacity to reduce the clinical symptoms of psoriasis and to lower the degree of psychosocial stress associated with the disease, both of which are likely to have a significant bearing on the overall level of disability experienced by patients.^{15,27} The literature suggests that the addition of arousal reduction strategies, such as de-stressing and relaxation, to standard treatment is likely to augment improvements in clinical severity and overall disability.³

Engagement in arousal reduction strategies would likely have most clinical benefit for patients with psoriasis who considered themselves to be 'stress-reactive' and clearly able to identify associations between stressful experiences, and psoriatic exacerbations. Similarly, if a patient reports increased exposure to stress, either due to stressful life events or low-grade chronic daily stressors, it is very likely that these techniques will help reduce the severity of his or her psoriasis.^{18,20} However, while stress-reduction can aid significantly in managing psoriasis, the clinician has a responsibility to emphasise to the patient that de-stressing and relaxation are not a replacement for conventional pharmacologic treatment or phototherapy. Rather, attempts to reduce psychosocial stress should be framed as an adjunctive treatment, which can assist in achieving optimal clinical outcomes.³² Another important factor to consider is if the patient is experiencing clinically significant level of psychosocial stress. If this is the case, and the patient is also considered to be at high risk of developing a psychiatric co-morbidity such as anxiety or depression, it would be appropriate to recommend a more intensive intervention, such as tailored psychological therapy from a health psychologist or psychoactive medications from their general practitioner.⁶

Therefore, when considering the clinical management of people with psoriasis and making treatment recommendations, it is imperative that clinicians employ a holistic perspective, incorporating the biopsychosocial model of illness.²⁷ To ensure optimal care is provided to patients, it would be pertinent to encourage management of psychological stress through means such as stress-reduction and relaxation.²⁸ In particular, using de-stressing and relaxation techniques to cope with psoriasis-associated stress such as reduced self-confidence, the experience of stigma due to visible plaques, and exacerbation-related disruptions to normal routine, would be advised. Referring patients to web-based resources (e.g. www.mypsoriasis.co.nz²⁹) and psoriasis support organisations (e.g. Psoriasis Association³⁰) would also be useful in helping integrate stress-reduction and relaxation into their lives.

CONCLUSION

Psychosocial stress is inherently linked to the clinical manifestations of psoriasis. Accumulating evidence suggests that stressful experiences can have a considerable detrimental impact on disease severity and increase the overall level of disability experienced by patients.⁶ While the exact underlying physiological mechanisms are still unclear, it is thought that psychological stress facilitates the onset of psoriasis and elicits disease exacerbations through down-regulation of the HPA axis.^{2,18} Accordingly, interventions such as MBSR and CBT, which incorporate stress-reduction and relaxation, are effective in improving the clinical parameters of psoriasis as well as reducing psychological distress.^{21,23,26} Evidently, effective management of psoriasis necessitates consideration of the psychosocial health of the patient in addition to standard pharmacologic treatment and phototherapy. It is strongly advised that people with psoriasis make attempts to reduce stress and integrate relaxation into their daily routines. Employment of such strategies are likely to help patients greatly in managing psoriasis, through limiting progression and recurrences of the disease, and preventing the development of complications.^{13,28}

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