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Stress and more stress: The importance in skin disease of worrying about what others think

Interest in the relationship between stress and skin disease dates back many years, and research has found evidence for stress playing a contributing role in the onset, exacerbation, and reoccurrence of symptoms across a number of skin diseases [1,2]. Indeed, it is not unusual for patients to recognise that stress is contributing to their skin condition and yet they often struggle to know how best to address this issue. This is an 'old chestnut' in the dermatology clinic, where the clinician knows the patient is worrying too much, and that this worry is harmful to the course of the skin condition, yet they feel unable to do much about it other than to offer sensitive medical care.

Stress can be defined in a number of ways but one of the most popular and widely accepted definitions is proposed by Cohen et al. [3], who suggest that stress arises as a result of events exceeding an individual's perceived ability to cope. This definition places emphasis on individual variation in stress, as it is personal perception of events as overwhelming that is deemed to be significant rather than the nature of the event per se. The cutaneous stress response to psychosocial stress is certainly complex, and governed by bi-directional communication between the nervous, endocrine and immune systems[4]. The response is modulated by central and peripheral pathways, and it is the mediators produced by these pathways which shape the physiological response, which may include impairments in wound healing, barrier function and immune function[4].

Whilst we now know a significant amount about the impact of skin conditions, and how the psychosocial impact can influence physical outcomes[4], we know much less about the factors that might moderate this impact. This is a particularly important area for research, as understanding the factors that contribute to psychological and somatic impairment is a crucial step in the development of appropriately targeted psychosocial interventions. In this issue of BJD, Dixon et al.[5] report how an individual difference variable associated with responding fearfully to anxiety-related sensations (e.g., sweating, flushing)

due to perceived social consequences (e.g., rejection or humiliation), termed 'anxiety sensitivity (AS) social concerns', plays an important moderating role between stress and quality of life in skin disease. Dermatology patients with a tendency for high AS social concerns are posited as being liable to engage in catastophizing in relation to the perceived implications of the symptoms of skin disease, thus exacerbating the stress response.

Dixon et al.[5] hypothesized that high AS social concerns would moderate the impact that stress has on all three aspects of the skindex-16[6] quality of life measure, even after accounting for symptom severity. Whilst, they found that AS social concerns acted as a moderator in connection with the emotional/psychological and functioning subscales of the skindex-16[6], AS social concerns were not a significant moderator in the relationship between stress and the perceived impact of physical symptoms (as measured by the skindex-16). The study recognises its limitations, most notably the cross-sectional design; however, the findings are important as the study provides further evidence that we need to consider the patient's social concerns when providing care for people living with skin conditions. There are a number of studies that have found that people living with a range of potentially visible skin conditions can experience social anxiety, usually accompanied by lowered quality of life as a consequence of avoidant coping[7-8].

Dixon et al.[6] conclude that 'consequently, high AS contributes to a positive feedback loop wherein stress begets more stress' (p. X, this issue). This unhappy loop might thankfully be broken by relatively simple (but specific) psychological interventions and several low-intensity cognitive behavioural interventions have been reported to be effective in reducing anxiety sensitivity[9]. A number of websites also provide access to skin specific stress reduction resources (e.g. www.skinsupport.org.uk). Stress-reduction interventions may be beneficial for improving perceived impact of symptoms but Dixon et al. findings coupled with the extant studies on social anxiety indicate that such interventions may be insufficient to reduce emotional/psychological and functional quality of life impacts.

A further psychological intervention that has been shown to be effective in reducing levels of distress associated with long-term health conditions and lends itself well to a self-help format or might be added into more intense forms of psychological therapy is 'mindfulness'[10,11]. Mindfulness has been defined as "paying attention in a particular way: on purpose in the present moment and non-judgmentally"[12]. For people living with skin

conditions enhancing focus on the present moment via mindfulness training might be directly beneficial to the experience of a range of psychological and somatic symptoms because this approach has the potential to reduce symptom focused worrying. Mindfulness-based interventions have already been used in psoriasis populations with promising results[13-15]. Kabat-Zinn et al.[13] found that meditative stress reduction used during light treatment increased the rate of skin clearing, and a recent pilot of a mindfulness group intervention reported improvements in quality of life[14]. Recently, Montgomery et al.[16] examined the relationship between mindfulness and psychosocial distress associated with a range of skin conditions, and found differences between the facets of mindfulness in explaining the proportion of the variance in social anxiety, after controlling for subjective severity. In particular, 'acting with awareness' the ability to focus attention on the present moment, was found to be significantly associated with social anxiety, anxiety, depression and levels of skin shame. This finding is relevant when considering the design and development of interventions to target social distress as it suggests that increasing levels of present moment awareness could be beneficial.

Targeting variables such as AS social concerns (or/and related psychological processes implicated in social anxiety) may be required to address the full array of psychological and somatic issues associated with living with skin related stress. This suggests a need for the development of more sophisticated psychological interventions that target the processes underlying social distress. In addition, it highlights the importance of being sensitive to features, not only of stress, but also to symptoms of social anxiety or other self-conscious emotions during dermatology consultations. Finally, we would also strongly advocate for psychological treatment approaches (and further research) to consider the role that actual episodes of stigmatisation play in impact of skin conditions. This is important as an over focus on the internal psychological or individual difference variables at the exclusion of social variables such as prejudice, bullying, and exclusion risks missing an important part of the picture in understanding the 'stress' associated with living with skin conditions.

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Conflict of interest

ART is an advisor to the Katie Piper Foundation, and a Scientific Advisor to the Vitiligo Society, and has been an advisor to the All Party Parliamentary Group on Skin. He has received research funding from BSF, MRC, PaPAA, and Galderma.

KM has no conflicts of interests to declare

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