Psychosocial morbidity in skin disease

Skin disease affects 23–33% of the UK population at any one time, rising to 54% over a 12-month period (Schofield et al, 2009). Up to 18% of consultations in primary care concern dermatological issues (Kerr et al, 2009). Despite the non-life-threatening nature of many commonly presenting skin disorders, they are often associated with substantial morbidity and can be 'life-ruining' (Koo and Lebwohl, 2001) because of their chronic or incurable nature.

The psychological effects of skin disease can not only distort the way individuals view themselves but how they relate to others as well. It can pervade many aspects of their lives including work, relationships and even influence what clothes they wear. Quality of life can be profoundly affected by skin disease and is comparable to the effects of other chronic medical conditions such as heart disease or cancer (Ahmed et al, 2013). This burden of skin disease is often inadequately recognized by health-care professionals, as it can be multi-faceted and is not always immediately apparent during a consultation. This, in combination with health-care professionals' own perceived lack of skills in exploring these issues, has led to inadequacies in the provision of psychosocial support for skin disease (Cordingley et al, 2012). As this article highlights, addressing the psychosocial aspects of skin disease is essential in order to provide holistic care for patients.

Ms Emily Foggin, Final Year Medical Student, Department of Dermatology, Salford Royal Hospital, Salford

Dr Laura Cuddy, Registrar, Department of Dermatology, Salford Royal Hospital, Salford

Dr Helen Young, Consultant Dermatologist Department of Dermatology, Salford Royal Hospital, Salford M6 8HD and Senior Lecturer in Dermatology, Centre for Dermatology Research, The University of Manchester, Manchester Academic Health Science Centre, Manchester

Correspondence to: Dr H Young (helen.s.young@manchester.ac.uk)

The psychosocial burden of skin disease has implications that reach far beyond that of the individual patient. It has both economic and non-economic effects on society as a whole (Basra and Shahrukh, 2009). Economic ramifications include days lost from work when a chronic skin condition flares or even the inability to work at all. This may be directly as a result of the skin condition itself or as a result of associated psychiatric comorbidities. Consideration must also be given as to how to address the lack of psychosocial support for patients with skin disease in a health system that is already stretched financially.

This article reviews the evidence regarding the psychosocial morbidity of common skin conditions such as psoriasis, eczema, acne and skin cancers. It will equip the reader with a better understanding of these often complex issues and help them to identify significant comorbidity in their patients with skin disease.

Challenges

Health-care practitioners struggle to recognize and acknowledge the complex physical, psychological and social challenges faced by patients with skin conditions including psoriasis (Nelson et al, 2013). This may be influenced by numerous factors including lack of appropriate training, fear of not being able to manage a patient's emotions and insufficient consultation time. In some skin conditions patients can have difficulties identifying and describing their own feelings, also known as 'alexithymia'. These factors can make it challenging to identify psychosocial morbidity in patients with skin and disease, which is where quality of life tools can be of some assistance.

Quality of life tools

Quality of life is a complex concept to define but has previously been described as 'the difference, or the gap, at a particular time between the hopes and expectations of the individual and that individual's present experiences'. A common method of understanding and quantifying psychosocial issues in skin disease is through quality of life assessment tools (Ahmed et al, 2013). These are useful tools which come in the form of questionnaires to help assess different aspects of disease but also measure progress with treatment and guide further management. Key quality of life domains for patients with dermatological conditions include the following:

- Symptoms and diagnosis
- Treatment
- Self-esteem and psychological health
- Life-changing decisions and work
- Social, sexual and leisure activities
- Physical functioning
- Family relationships
- Sleep disturbance and schooling
- Ethnic and cultural issues
- Environmental issues (Ahmed et al, 2013).

General dermatology scales such as the Dermatology Life Quality Index (Finlay and Coles, 1995) can be used for a variety of skin complaints. Other quality of life scales are more disease specific such as the Assessment of Psychological and Social Effects of Acne, used for acne sufferers. These tools provide a brief snapshot into a patient's life which can provide invaluable information for the treating clinician. For example, the Dermatology Life Quality Index looks at various aspects of the patient's life over the previous week and how the current skin condition has impacted on it. Dermatology Life Quality Index scores can help chart a patient's journey from initial presentation through to assessing response to various treatments. However, they are unable to consider the long-term implications of chronic diseases so temporal measurements which assess quality of life over time, such as quality of life years, should be calculated in order to gauge the reduction in a patient's health utility over his/her entire life.

Additional limitations are that these tools provide no scope for patients to express alternative concerns outside of the scoring framework. Individuals may encounter difficulties with the forms as a result of language barriers or illiteracy. These tools are a helpful addition to face-to-face exploration of the psychosocial effects of skin disease but are in no way a replacement. Manifestations of psychosocial morbidity can also vary according to the type of skin disease experienced and this article looks in particular at psoriasis, eczema, acne and skin cancers as common dermatological presentations.

Specific conditions

Psoriasis

Psoriasis is a chronic, incurable, inflammatory condition affecting approximately 2% of the UK population. As the onset largely occurs in people under the age of 40 years, sufferers are likely to live with the condition for the majority of their adult life. Individuals can experience severe stress and distress living with psoriasis, commonly reporting the most troubling symptoms as itching, bleeding, flaking and cosmetic disfigurement (*Figures 1* and *2*). Unfortunately the stress that these symptoms induce can act as an aggravator to the disease itself and exacerbate the problem, feeding a repetitive cycle (Griffiths and Barker, 2010). Psychological distress, in the form of excessive worrying, has a significant and negative impact on treatment outcomes in patients with psoriasis. Patients who were categorized as having high levels of worry were 1.8 times slower to clear their psoriasis with photochemotherapy compared with those considered to have low levels of worry (Fortune et al, 2003).

Health burdens for individuals affected by psoriasis can be broadly categorized into perceived quality of life, mental health, effects on relationships, financial effects, personal and societal. Five common themes of stigma have been identified in patients with psoriasis, all of which may have a bearing on a patient's mental health and social functioning. These are:

1. Anticipation of rejection
2. Feelings of being flawed
3. Sensitivity to the attitudes of society
4. Guilt and shame
5. Secretiveness.

Often these patients will attempt to hide their disease by wearing seasonally inappropriate clothing and avoiding scenarios where skin exposure is necessary, such as swimming, sports and commonly even sexual relations (All Party Parliamentary Group on Skin, 2013).

Figure 1. Psoriasis affecting the chest of a young woman.

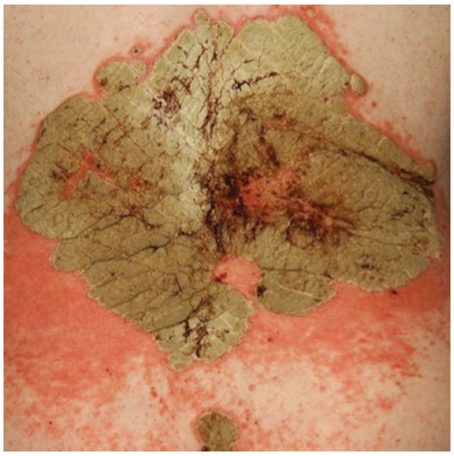

Figure 2. Hyperkeratotic psoriasis affecting the lower back and natal cleft.

These actions can be part of a maladaptive schema which is more common in individuals with psoriasis than in the general population and has been termed 'avoidance coping'. These schemas are 'ingrained cognitive and emotional patterns' that contribute to a person's self-image and are built up over time by memories and repetitive behaviours. These maladaptive schemas can be deep seated and include emotional deprivation, social isolation, defectiveness, vulnerability to harm, subjugation and emotional inhibition (Mizara et al, 2012).

Kleyn et al (2009) found that a small cohort of male patients with psoriasis had a diminished response to disgusted facial expressions in others. This was demonstrated by significantly smaller signal responses ($P<0.005$) in the bilateral insular cortex on function magnetic resonance imaging. They hypothesized that this response developed as a coping mechanism to protect those individuals from stressful emotional responses by blocking the processing of these expressions (Kleyn et al, 2009). Individuals with psoriasis can exhibit alexithymia, the inability to identify and describe their own emotions. This has been found to have little correlation to the extent of the disease (Richards et al, 2005) and can make identifying psychosocial morbidity in this cohort even more of a challenge.

The personal cost in terms of time and money can also be very significant for patients. This includes purchasing and applying emollients as well as the time taken to attend treatments such as phototherapy. Individuals commonly report inconvenience, discomfort and ineffectiveness of their treatment regimens. Frequent voiced concerns are those regarding perceived lack of control over the illness and belief that there are no effective treatments. This can result in dissatisfaction with the health service, leading to disengagement and inadequate management (Cordingley et al, 2012).

Up to 35% of patients with psoriasis have substantially altered careers as a result of their illness (Finlay and Coles, 1995) and patients most affected by their psoriasis were more likely to have lower incomes and less likely to be in full-time employment than those with milder disease (Gelfand et al, 2004). Patients with psoriasis have an increased likelihood of divorce (Nelson et al, 2013) and a much higher likelihood of smoking and drinking excess alcohol, although the direction of causation is not clear-cut (Behnam et al, 2005).

Complicating things further, there are multiple comorbidities in psoriasis: psoriatic arthritis, metabolic syndrome, heart disease and hypertension (Cordingley et al, 2012). Each may compound the effects of the disease on a patient's functioning, both physically and socially – quality of life has been found to be just as profoundly affected in psoriasis as in other chronic diseases such as cancer, arthritis, hypertension, heart disease, diabetes and depression, when measured with disease-specific and generic tools (Rapp et al, 1999).

However, it has been demonstrated that effective treatment of a patient's psoriasis can improve his/her overall psychological wellbeing. A cognitive–behavioural symptom

> “The impact of acne can extend to family relations causing emotional stress, worry and frustration, particularly the impact of the attitudes of society.”

management programme as an adjunct in psoriasis therapy has been shown to result in a greater reduction in the amount of skin involvement in addition to reduced anxiety, depression, psoriasis-related stress and disability (Fortune et al, 2002), highlighting the importance of a holistic approach to these patients.

Atopic dermatitis

Atopic dermatitis (eczema) is an inflammatory condition causing dry and sensitive skin. This is most prevalent in childhood but can persist into adulthood (*Figure 3*). It is frequently associated with other atopic disorders such as asthma and allergic rhinitis and there is often a family history (Leung et al, 2004). It is a highly prevalent condition constituting up to 3% of primary care consultations and 15% of all skin-related consultations (Kerr et al, 2009).

Childhood atopic dermatitis has a significant impact on both the patient’s and the family’s quality of life. In infancy damage to the skin alters sensation and as a result impacts on sensory perception and communication, also affecting child to parent bonding through skin to skin contact (Koblenzer, 1996). The unremitting pruritus of the disease can lead to many sleepless nights for both the child and family, consequently affecting school performance, emotional wellbeing and social functioning (Beattie and Lewis-Jones, 2006). The effects of poor sleep for the parents can extend to the whole family, causing added household tensions, with anger, guilt and frustration as commonly reported emotions (Lawson et al, 1998).

Young children who were embarrassed by their eczema were found to be at high risk of social isolation, low self esteem and depression (Lewis-Jones and Finlay, 1995). Atopic dermatitis has a greater impact on quality of life than many other chronic childhood disorders, with only cerebral palsy scoring higher on generic quality of life tools (Beattie and Lewis-Jones, 2006).

Eczema that persists to late adolescence is associated with increased likelihood of suicidal ideation and mental health problems (Halvorsen et al, 2014). Additionally, dermatitis has a financial burden in adults through loss of productivity and expenditures on emollients and treatments. Many adult patients report concerns over attractiveness and ability to form personal relationships because of the disease (Graham-Brown, 1996).

Acne vulgaris

Acne is a common inflammatory dermatosis affecting the pilosebaceous unit (*Figure 4*). It is estimated that acne affects up to 80% of young adults aged 11–30 years (Leyden, 1997). Acne has been seen as a trivial disease despite significant psychosocial effects including depression and suicidal ideation (Halvorsen et al, 2014), anxiety, obsessive tendencies, problems with self-esteem, body image and confidence, shame, embarrassment and social inhibition (Tan, 2004). The impact of acne can extend to family relations causing emotional stress, worry and frustration, particularly the impact of the attitudes of society (Basra and Finlay, 2007).

The psychosocial effects of acne are particularly profound because of its manifestation on the face, an important focus of body image, during vulnerable adolescence. During this period of life patients are trying to develop their personalities and social worlds. The effects of such a disease are alterations in self-image and assertiveness, which can have long-term effects on their social functioning. Older patients also report significant psychosocial effects of the disease, largely revolving around the consequences of cosmetic disfigurement (Lasek and Chren, 1998). The propensity for acne to scar is an important factor to consider in management of the active disease; young men with residual scarring are at high risk of depression and suicide (Cotterill and Cunliffe, 1997). Body image disorders are common in patients with acne and can lead to mental health problems even in patients with mild–moderate non-cystic acne. Therefore, care must be taken in determining the patient’s psychological wellbeing and particular attention paid if potentially mood-altering management options, such as isotretinoin (Strahan and Raimer, 2006), are used.

Skin cancer

Skin cancer is a significant and increasing cause of mortality in dermatology, with nearly 2000 deaths from malignant melanoma reported in the UK in 2005; almost 50% of all deaths from skin disease. Roughly 10%

Figure 3. Lichenified and excoriated eczema affecting the posterior neck.

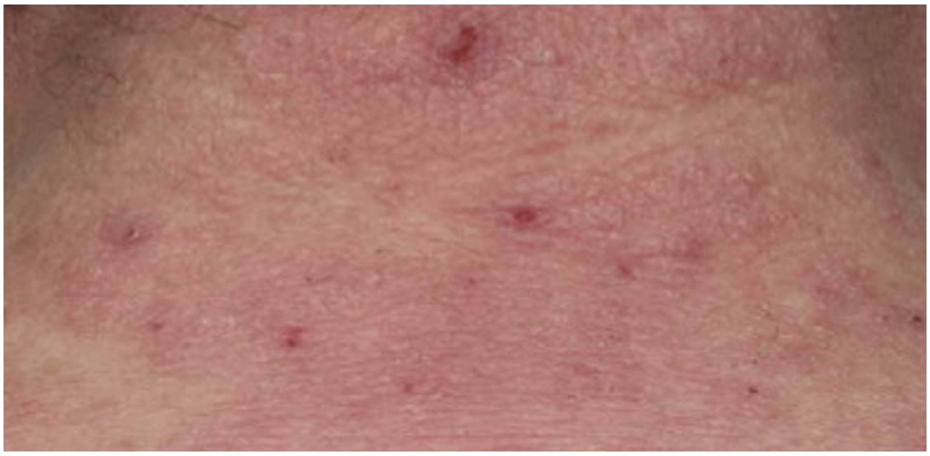

Figure 4. Facial ice pick scarring secondary to severe acne vulgaris.

Figure 5. A large basal cell carcinoma affecting the left mandibular area.

of deaths from skin cancer in 2005 were in patients under the age of 40 years (Schofield et al, 2009). The most common types of skin cancer are malignant melanoma (incidence of 21 per 100 000) and non-melanoma skin cancer which includes basal cell carcinoma (*Figure 5*) and squamous cell carcinoma. The literature has extensively reported on the psychosocial burden of cancer and the presence of distress, mental health effects and financial repercussions in both sufferers and those in remission, but the impact of skin cancers specifically has received less attention.

The life-threatening nature of malignant melanoma has been found to have a traumatic impact on patients, causing shock, panic and challenging perceptions of their future. In some cases patients develop post-traumatic stress symptoms such as avoidance and intrusive preoccupations like nightmares, even in non-metastatic disease. There is a role for post-traumatic symptom questionnaires, such as the Impact of Events Scale, alongside more generic anxiety and depression scales (Kelly et al, 1995). As well as the emotional distress and stress reported in 30% of patients, melanoma can result in multiple problems including disfigurement, treatment challenges, pain, alteration of personal role and independence as well as relationship tensions, particularly where a family member or partner takes on the role of caregiver (Tan et al, 2014). These problems can extend into survivorship and have a far-reaching grief impact on family and friends. Among caregivers 20–30% also display clinical levels of psychological distress (Tan et al, 2014).

Despite the non-life-threatening nature of non-melanoma skin cancer, the psychosocial burden and emotional impact can be substantial. The majority of these skin cancers (80%) are found on the face and other sun-exposed sites which are difficult to conceal. Scars from surgery can persist and influence body image negatively, particularly when treatments such as flaps and grafts can cause a greater disfigurement than the original lesion. Scars can result in psychological sequelae including loss of self-esteem, stigmatization, disruption to daily activity and depression (Bayat et al, 2003). Facial scars have been found to cause socially phobic and agoraphobic behaviours (Rumsey and Harcourt, 2004). It is therefore essential that patients are preoperatively counselled regarding the size of the scar that will remain after surgery and other possible complications.

Conclusions

Significant psychosocial morbidity is commonly associated with many skin diseases. It can manifest in a variety of ways depending on the individual and the diagnosis. Until recently this aspect of skin disease has been largely underestimated and ignored in favour of treating the 'visible' problem. As clinicians providing holistic care doctors should acknowledge the psychosocial impact of skin problems in their consultations whether in primary or secondary care. In order to do this effectively health-care professionals involved in the management of skin disease should have appropriate training to enable them to identify and respond to the psychological needs of patients.

Further research is also needed into the poorly understood and complex relationship between psychology and skin disease, specifically how skin disease impacts on behaviours, adherence to treatments and engagement with health services. Doctors should also be striving to develop more comprehensive and specific enquiry tools to objectively describe psychological wellbeing in patients. **BJHM**

Conflict of interest: none.

KEY POINTS

- Health-care practitioners can be poor at acknowledging the complex physical, psychological and social challenges faced by patients with skin conditions.
- Health-care practitioners should routinely assess the psychosocial function of patients with dermatological disease.
- Quality of life scales such as Dermatology Life Quality Index scores can be useful tools to help explore the psychosocial impact of some skin diseases.
- Physical treatment for skin disease should be optimized which may help minimize psychosocial effects and prevent disengagement with services.
- Physical and psychological needs should ideally be managed in parallel to improve efficacy of outcomes.

Ahmed A, Leon A, Butler DC, Reichenberg J (2013) Quality-of-life effects of common dermatological diseases. *Semin Cutan Med Surg* **32**(2): 101–109.

All Party Parliamentary Group on Skin (2013) The Psychological and Social Impact of Skin Diseases on People's Lives. www.appgs.co.uk/publication/view/the-psychological-and-social-impact-of-skin-diseases-on-peoples-lives-final-report-2013/ (accessed 16 May 2017)

Basra MK, Finlay AY (2007) The family impact of skin diseases: the Greater Patient concept. *Br J Dermatol* **156**(5): 929–937. https://doi.org/10.1111/j.1365-2133.2007.07794.x

Basra MKA, Shahrukh M (2009) Burden of skin diseases. *Expert Rev Pharmacoecon Outcomes Res* **9**(3): 271–283. https://doi.org/10.1586/erp.09.23

Bayat A, McGrouther DA, Ferguson MW (2003) Skin scarring. *BMJ* **326**(7380): 88–92. https://doi.org/10.1136/bmj.326.7380.88

Beattie PE, Lewis-Jones MS (2006) A comparative study of impairment of quality of life in children with skin disease and children with other chronic childhood diseases. *Br J Dermatol* **155**(1): 145–151. https://doi.org/10.1111/j.1365-2133.2006.07185.x

Behnam SM, Behnam SE, Koo JY (2005) Smoking and psoriasis. *Skinmed* **4**(3): 174–176.

Cordingley L, Nelson PA, Griffiths CE, Chew-Graham CA (2012) Beyond the Skin: the need for a new approach to the management of psoriasis in primary care. *Br J Gen Pract* **62**(604): 568–569. https://doi.org/10.3399/bjgp12X658133

Cotterill JA, Cunliffe WJ (1997) Suicide in dermatological patients. *Br J Dermatol* **137**: 246–250. https://doi.org/10.1046/j.1365-2133.1997.18131897.x

Finlay AY, Coles EC (1995) The effect of severe psoriasis on the quality of life of 369 patients. *Br J Dermatol* **132**: 236–244. https://doi.org/10.1111/j.1365-2133.1995.tb05019.x

Fortune DG, Richards HL, Kirby B, Bowcock S, Main CJ, Griffiths CEM (2002) A cognitive-behavioural symptom management programme as an adjunct in psoriasis therapy. *Br J Dermatol* **146**(3): 458–465. https://doi.org/10.1046/j.1365-2133.2002.04622.x

Fortune DG, Richards HL, Kirby B et al (2003) Psychological distress impairs clearance of psoriasis in patients treated with photochemotherapy. *Arch Dermatol* **139**(6): 752–756. https://doi.org/10.1001/archderm.139.6.752

Gelfand JM, Feldman SR, Stern R, Thomas J, Rolstad T, Margolis DJ (2004) Determinants of quality of life in patients with psoriases: a study from the US population. *J Am Acad Dermatol* **51**(5): 704–708. https://doi.org/10.1016/j.jaad.2004.04.014

Graham-Brown R (1996) Managing adults with atopic dermatitis. *Dermatol Clin* **14**(3): 531–537.

Griffiths CEM, Barker JNWN (2010) Psoriasis. In: Burns T, Breathnach S, Cox N, Griffiths C, eds. *Rook's Textbook of Dermatology*. 8th edn. Wiley-Blackwell, Oxford: 1–60.

Halvorsen JA, Lien L, Dalgard F, Bjertness E, Stern RS (2014) Suicidal ideation, mental health problems and social function in adolescents with eczema: a population-based study. *J Invest Dermatol* **134**(7): 1847–1854. https://doi.org/10.1038/jid.2014.70

Kelly B, Raphael B, Smithers M et al (1995) Psychological responses to malignant melanoma. An investigation of traumatic stress reactions to life-threatening illness. *Gen Hosp Psychiatry* **17**(2): 126–134. https://doi.org/10.1016/0163-8343(94)00098-X

Kerr OA, Tidman MJ, Walker JJ, Aldridge RD, Benton EC (2009) The profile of dermatological problems in primary care. *Clin Exp Dermatol* **35**(4): 380–383. https://doi.org/10.1111/j.1365-2230.2009.03586.x

Kleyn CE, McKie S, Ross AR et al (2009) Diminished neural and cognitive responses to facial expressions of disgust in patients with psoriasis: a functional magnetic resonance imaging study. *J Invest Dermatol* **129**(11): 2613–2619. https://doi.org/10.1038/jid.2009.152

Koblenzer PJ (1996) Parental issues in the treatment of chronic infantile eczema. *Dermatol Clin* **14**(3): 423–427.

Koo J, Lebwohl A (2001) Psycho dermatology: the mind and skin connection. *Am Fam Physician* **64**(11): 1873–1878.

Lasek RJ, Chren MM (1998) Acne vulgaris and the quality of life of adult dermatology patients. *Arch Dermatol* **134**(4): 454–458. https://doi.org/10.1001/archderm.134.4.454

Lawson V, Lewis-Jones MS, Finlay AY, Reid P, Owens RG (1998) The family impact of childhood atopic dermatitis: the Dermatitis Family Impact Questionnaire. *Br J Dermatol* **138**(1): 107–113. https://doi.org/10.1046/j.1365-2133.1998.02034.x

Leung DYM, Boguniewicz M, Howell MD, Nomura I, Hamid QA (2004) New insights into atopic dermatitis. *J Clin Invest* **113**(5): 651–657. https://doi.org/10.1172/JCI21060

Lewis-Jones MS, Finlay AY (1995) The children's dermatology life quality index (CDLQI): initial validation and practical use. *Br J Dermatol* **132**(6): 942–949. https://doi.org/10.1111/j.1365-2133.1995.tb16953.x

Leyden JJ (1997) Therapy for acne vulgaris. *N Engl J Med* **336**(16): 1156–1162. https://doi.org/10.1056/NEJM199704173361607

Mizara A, Papadopoulos L, McBride SR (2012) Core beliefs and psychological distress in patients with psoriasis and atopic eczema attending secondary care: the role of schemas in chronic skin disease. *Br J Dermatol* **166**(5): 986–993. https://doi.org/10.1111/j.1365-2133.2011.10799.x

Nelson PA, Chew-Graham CA, Griffiths CE, Cordingley L (2013) Recognition of need in healthcare consultations: a qualitative study of people with psoriasis. *Br J Dermatol* **168**(2): 354–361. https://doi.org/10.1111/j.1365-2133.2012.11217.x

Rapp SR, Feldman SR, Exum ML, Fleischer AB Jr, Reboussin DM (1999) Psoriasis causes as much disability as other medical diseases. *J Am Acad Dermatol* **41**(3): 401–407. https://doi.org/10.1016/S0190-9622(99)70112-X

Richards HL, Fortune DG, Griffiths CE, Main CJ (2005) Alexithymia in patients with psoriasis: clinical correlates and psychometric properties of the Toronto Alexithymia scale-20. *J Psychosom Res* **58**(1): 89–96. https://doi.org/10.1016/j.jpsychores.2004.03.009

Rumsey N, Harcourt D (2004) Body image and disfigurement: issues and interventions. *Body Image* **1**(1): 83–97. https://doi.org/10.1016/S1740-1445(03)00005-6

Schofield J, Grindlay D, Williams H (2009) *Skin Conditions in the UK: a Health Care Needs Assessment*. Centre of Evidence Based Dermatology, University of Nottingham, Nottingham

Strahan JE, Raimer S (2006) Isotretinoin and the controversy of psychiatric adverse effects. *Int J Dermatol* **45**(7): 789–799. https://doi.org/10.1111/j.1365-4632.2006.02660.x

Tan JK (2004) Psychosocial impact of acne vulgaris: evaluating the evidence. *Skin Therapy Lett* **9**(7): 1–3.

Tan JD, Butow PN, Boyle FM, Saw RPM, O'Reilly AJ (2014) A qualitative assessment of psychosocial impact, coping and adjustment in high-risk melanoma patients and caregivers. *Melanoma Res* **24**(3): 252–260. https://doi.org/10.1097/CMR.0000000000000059