**Psychodermatology U.K. Orals**

**PS01**
**The psychological burden of vitiligo: a systematic review and meta-analysis**

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Vitiligo is an acquired chronic disorder causing depigmentation in up to 1% of people globally. The British Association of Dermatologists recommends assessment of psychological state and quality of life during clinical evaluation of patients with vitiligo. Despite this, the overall psychological burden of vitiligo has not yet been fully synthesized by systematic review. The aim of this study was to describe the prevalence of different psychological disorders in people with vitiligo and to describe the different psychological outcome measures used. In December 2016, a comprehensive search of MEDLINE, Embase, CINAHL and PsycINFO was conducted. Cross-sectional, case-control or cohort studies that assessed the prevalence of depression among patients were included.

DerSimonian and Laird random-effects models were utilized to calculate (i) the overall pooled prevalence and (ii) the relative risks of depression and anxiety in those with vitiligo compared with those with psoriasis. In total 29 studies with 2204 people with vitiligo were included. All studies were hospital based. The most commonly diagnosed psychological disorders were depression (n = 25) and anxiety (n = 13). Nine studies provided the prevalence of 11 other psychological disorders: social phobia, sleep disturbances, panic disorder, specific phobia, schizophrenia, adjustment disorder, substance abuse, sexual dysfunction and obsessive-compulsive disorder. All studies were hospital based. The Hospital Anxiety and Depression Scale and Centre for Epidemiology Studies Depression Screening Index were the most commonly used tools to diagnose psychological comorbidity. The overall pooled prevalence of depression was 0.26 [95% confidence interval (CI) 0.20–0.32] when measured by depression-specific questionnaires, 0.29 (95% CI 0.06–0.52) when measured by general health questionnaires and 0.29 (95% CI 0.13–0.45) when clinically examined by a psychiatrist. Compared with people with psoriasis, the relative risk of depression was 0.69 (95% CI 0.52–0.90; \( P < 0.01 \)) in people with vitiligo. The overall pooled prevalence of anxiety was 0.26 (95% CI 0.15–0.37) for anxiety-specific questionnaires, 0.21 (95% CI 0.05–0.36) for general health questionnaires and 0.57 (95% CI 0.49–0.65) when clinically examined by a psychiatrist. Compared with people with psoriasis, the relative risk of anxiety was 1.29 (95% CI 0.84–1.98; \( P = 0.25 \)) in people with vitiligo. Moderate-to-high heterogeneity was observed between the studies. People living with vitiligo experience a range of psychological disorders. The prevalence of depression did not vary substantially by screening tool, whereas the prevalence of anxiety did, suggesting the need for more robust screening tools in this group of patients. Population-based studies are required in this area to provide more generalizable results.

**PS02**
**Depression and the dermatologist: isotretinoin prescribing practices survey**

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The management of patients with current or previous psychiatric disease who require isotretinoin treatment for acne remains a challenging area. Current opinion favours the view that isotretinoin-induced depression is a rare, idiosyncratic reaction, not reliably related to the presence of pre-existing depression. Anecdotal evidence suggests there is wide variation among dermatologists in seeking a psychiatric opinion for such patients prior to commencing isotretinoin. While they are sometimes justified, unnecessary referrals can lead to delay, expense and patient distress. This study was designed to assess current prescribing practices among dermatologists when managing patients in this situation. A series of hypothetical low-, medium- and higher-risk clinical scenarios was created with the input of a psychiatrist. These were combined with more general questions on isotretinoin prescribing, and then distributed as an online survey. In total 178 responses were collected between 1 November and 4 December 2016; 162 (91%) respondents were U.K.-based dermatologists. Responses were recorded both as free text and using Likert scales. Overall 31 of 178 (17%) respondents were unwilling to commence isotretinoin for a patient with a prior history of treated mild reactive depression, without first obtaining a psychiatric opinion. Seventy-nine (44%) were unwilling to do so for a patient taking an antidepressant prescribed by their general practitioner, with no current symptoms of depression, and no history of suicidality or self-harm. Twenty-five (14%) would not prescribe isotretinoin under any circumstances for a patient under the care of a psychiatric team still experiencing occasional suicidal thoughts. Eighty-eight (49%) would prescribe isotretinoin for a patient with a history of behaviour suggesting impaired impulse control, but without any history of depression. For patients not exhibiting symptoms of active depression (including those taking antidepressant medication),
a psychiatric referral is rarely necessary. Appropriate screening and more frequent monitoring of symptoms could instead be recommended. This does not require specialist training, and could be accomplished using the Patient Health Questionnaire-9. Few dermatologists appear to appreciate the significance of impaired impulse control. Such behaviour may manifest as a reduced ability to delay gratification, such as through recreational drug overdose, without any history of depressive symptoms. Caution should be exercised in prescribing isotretinoin for such patients, as they are more likely to act on impulses to self-harm in the event of an idiosyncratic mood disturbance. We hope the results of this survey may help to refine guidance for dermatologists prescribing isotretinoin, both to maximize safety and to ensure that deserving patients do not miss out on appropriate treatment.

**PS03**

Sectioning psychodermatology patients under the Mental Health Act may occasionally be necessary, but this requires the input of the psychodermatology multidisciplinary team

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A minority of psychodermatology patients may become so unwell that they require admission to hospital for their psychiatric comorbidities. It is preferable that such patients are admitted under their own volition, but occasionally a forced admission under the Mental Health Act (MHA, 2007) is necessary. We present two cases in which patients from a psychodermatology clinic experienced a deterioration in their mental health after attempts were made to admit them to mental health services involuntarily. In the first case, a 36-year-old woman with mild rosacea was referred to the psychodermatology service. Her negative view of her skin was severely out of proportion to its clinical appearance and others’ perceptions of her, and she had become socially isolated. The woman was diagnosed with body dysmorphic disorder and depression. Over a period of 3 years, she was offered a range of psychiatric treatments and referred for cognitive behavioural therapy but failed to engage with these treatments, although she did accept some treatments for rosacea. The woman had suicidal ideation and after a referral from the psychiatrist in our department, her community mental health team attempted to admit her to hospital for further management. However, the patient refused admission, and attempts to detain her involuntarily under the MHA were unsuccessful. She disengaged from the psychodermatology team and her condition deteriorated. She has since been referred to several other dermatologists, but has been unable to engage with their services, and several years later she remains severely affected by her disorder. In the second case, an elderly woman with delusional infestation was referred to the psychodermatology service. She was offered antipsychotics but did not comply with treatment. Her condition worsened and she was considered to be a suicide risk, so the psychodermatology team liaised with her general practitioner to admit her to hospital. However, the patient refused admission and her general practitioner felt that involuntary detention in hospital under the MHA was not indicated, so she remained at home. Sadly, the patient completed suicide several weeks later. These cases illustrate that, although it is rare, some patients who attend a psychodermatology service may need to be detained in hospital involuntarily. However, such admissions are difficult and must be managed by a psychodermatology multidisciplinary team.

**PS04**

Our psychodermatology clinic: the unseen stories of dermatology patients

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We studied the outcome of referrals made to our psychodermatology clinic between 2009 and 2016. Patients were identified through our departmental database and that of the clinical psychologist, and through review of referral and discharge letters. In total, 70 patients were referred to the psychodermatology clinic between 2009 and the present day; 25 (36%) were male and the mean age was 48.7 years (range 17–77). Engagement with psychology was assessed by the clinical psychologist; 19 patients (32%) did not engage. Eight patients (13%) were referred on to more appropriate services. Examining the 19 who did not engage, 13 (68%) were female and their mean age was 40 years (range 18–68). Seven patients did not attend for an initial appointment, while eight initially attended but did not continue. One patient attended another mental health service in the interim. In three cases, the patients’ condition had improved and they did not need to be seen. Therefore, the true rate of nonengagement was 25%. Psychological concerns most frequently seen in the remaining 51 cases were distress associated with an underlying dermatological condition, body-focused repetitive behaviours and grief. Each patient underwent an initial psychological assessment. Thereafter, the average number of sessions per patient was 4.3 (range 1–16). One-half (49%) of patients engaged in intervention, largely within a cognitive behavioural therapy framework, for example development of coping strategies and habit reversal training. Eleven patients were referred on to other mental health services for follow-up with more complex needs. Psychological assessment uncovered issues including past physical and emotional abuse, past psychological trauma, grief and suicidal ideation. Symptom improvements were observed, particularly in body dysmorphic disorder and compulsive skin picking. All patients were encouraged to recontact the service if required, and five patients subsequently did so. We conclude that there are significant benefits of hosting a psychology service within dermatology. Awareness of psychological issues arises within a dermatology consultation, but clarification through a psychological assessment allows more complete appraisal, which is especially helpful in conditions such as dermatitis artefacta. Input from a psychodermatology clinic provides an important
support system for patients living with challenging skin conditions, as well as facilitating engagement with community-based mental health services for those more vulnerable patients with complex needs. The inclusion of a ‘quiet room’ in our new department provides a suitable therapeutic space for this ongoing work.

PS05
The impact of disease duration on psychological consequences of psoriasis
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It is well recognized that psoriasis, a common immune-mediated skin disease, is associated with psychological comorbidity. We have shown with functional magnetic resonance imaging (fMRI) that patients with psoriasis (disease duration ≥ 10 years) demonstrate attenuated insula signal, responsible for disgust processing, and hypothesized that ‘blocking out’ facial expressions of disgust represents a coping mechanism. This fMRI study aims to compare patients with ‘recent-onset’ disease (ROD; < 6 years), patients with ‘chronic disease’ (CD; ≥ 10 years) and healthy controls to assess disease duration impact and the effect of facial expressions of disgust and disgust-inducing images. We recruited 20 patients with CD (10 female, mean age 34.7 ± 8.6 years, mean disease duration 22.1 ± 9.1 years), 17 patients with ROD (11 female, mean age 27.1 ± 8.2 years, mean disease duration 2.7 ± 2 years) and 21 healthy controls (10 female, mean age 33.5 ± 8.3 years). All participants completed validated psychometric questionnaires to assess anxiety, depression and personality traits. Two neuropsychological fMRI tasks were undertaken: (i) covert facial expression recognition task (FERT: external emotional processing; 100% disgust, 100% fear, neutral) and (ii) International Affective Picture Series (IAPS) task (internal emotional processing; neutral, disgust-inducing and fear-inducing pictures). Blood oxygen-level-dependent (BOLD) images were acquired (Philips 3Tesla MR scanner) and analysed (Statistical Parametric Mapping toolkit). Patients with ROD, compared with healthy controls, demonstrated increased social anxiety [t(34) = 2.28, P < 0.05], depression [t(35) = 3.12, P < 0.01], neuroticism [t(35) = 3.99, P < 0.001] and trait anxiety [t(35) = 2.95, P < 0.01]. However, patients with CD, compared with controls, showed increased depression [t(39) = 2.70, P < 0.01]. Importantly, patients with ROD had significantly greater social anxiety than patients with CD [t(34) = -2.10, P < 0.05] and a trend of neuroticism [t(34) = -2.02, P = 0.051]. In the FERT, patients with ROD showed a significantly attenuated BOLD signal in the middle temporal gyrus for disgust, compared with patients with CD [t(34) = 2.38, P = 0.023] and healthy controls [t(33) = -2.20, P = 0.035]. For the IAPS task, patients with ROD showed increased BOLD signal in the left amygdala for disgust [t(33) = 2.49, P = 0.02] compared with healthy controls. However, in response to disgust, patients with CD demonstrated an attenuated BOLD signal compared with healthy controls in a cluster of bilateral amygdala and anterior insula [left: t(38) = -2.96, P = 0.01; right: t(38) = -2.16, P = 0.04]. These data demonstrate the impact of disease duration on psychological sequelae of psoriasis: patients with ROD have increased social anxiety and a trend of neuroticism coupled with an attenuated BOLD signal in the middle temporal gyrus, and an increased signal in the left amygdala in response to disgust. Consistently with previous work, patients with CD show an attenuated signal in the amygdala and anterior insula in the IAPS task. These data support our hypothesis that impaired disgust processing represents a coping mechanism. Moreover, disease duration may be an important factor to consider when offering appropriate psoriasis management.

PS06
Medication adherence among patients with psoriasis on systemic and biological treatment
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Medication adherence is ‘the extent to which a patient’s behaviour in taking their medication corresponds to agreed recommendations by their healthcare provider’. Patients with high adherence to medications have better outcomes. Systemic treatments for psoriasis are expensive and knowledge on adherence would be beneficial. The aim of our study was to assess adherence to systemic agents in psoriasis and to identify predictors of adherence. Following ethical approval, validated self-report questionnaires were completed by patients with moderate-to-severe psoriasis on systemic therapy, including Patient’s Global Assessment, Hospital Anxiety and Depression Scale (HADS), Dermatology Life Quality Index (DLQI) and the eight-item Morisky Medication Adherence Scale (MMAS). There were 66 participants, 48% were female and the mean age was 46.2 years (range 18–80). Twenty-seven percent had psoriatic arthritis. Eighteen percent were smokers and the mean disease duration was 23.5 years (range 3–51). In total 11% reported that psoriasis was clear, 39% almost clear, 26% mild, 20% moderate and 5% severe. The mean DLQI was 3.4 (range 0–27). The medications were adalimumab (30%), etanercept (21%), fumaric acid esters (20%), methotrexate (18%) and others (11%). Fifty-three percent of participants reported never missing a dose for any reason. The reasons for missing doses included forgetting (45%), unwell (29%), too busy (16%), running out of medication (16%), psoriasis under control (13%), medication too expensive (10%) and side-effects (10%). Eighty-nine percent had taken the most recent dose of their psoriasis medication, while 27% reported not taking their medication on one or more occasions over the previous 3 months. Sixty-two percent reported never forgetting to take medication, 23% reported forgetting ‘once in a while’ and 15% reported forgetting ‘sometimes’. No participants reported forgetting to take their medication ‘usually’ or
'always'. Using the MMAS, 74% of participants were classified as high adherers, 18% medium and 8% low adherers. In a study of 1367 patients with hypertension using the MMAS, 16% were high adherers, 52% medium and 32% low. There was no significant difference in adherence based on sex ($P = 0.3$) or age ($P = 0.5$). The mean anxiety score on the HADS was 7 (range 0–18) and the mean depression score was 4 (range 0–16). There was a significant difference in adherence based on anxiety scores ($P = 0.04$). Adherence to systemic medication among patients with psoriasis appears higher than for other chronic conditions. High levels of anxiety may be a negative predictor of adherence to these medications.

**PS07**

*Living with acne in a digital age: a qualitative exploration of young women’s experiences of acne and digital media use*

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Acne is often associated with a range of psychosocial impacts, including appearance dissatisfaction and stigmatization. Existing research demonstrates that media exposure can have an effect on distress. However, there is a lack of research examining how engagement with digital media is experienced by people living with acne. The aim was to explore young women’s experiences of acne in relation to their experiences of contemporary media culture. In-depth semistructured interviews were conducted with 15 women (age 21–33 years) with a diagnosis of acne. Interviews explored experiences of living with acne and experiences of media, including social media. Participants also completed the Dermatology Life Quality Index. Additionally, participants were asked to provide examples of material that had had an effect on them. Thirteen participants provided 72 multimedia items capturing elements of their experiences (e.g. YouTube videos, screenshots, advertisements). Interviews and media items were analysed using a dual deductive–inductive approach to thematic analysis, which enables themes to be identified from theoretical knowledge, but also allows for novel themes to emerge from the data. An overarching theme emerged from the analysis of the interviews: digital media as a supplementary source of information. Such information was used to research acne treatments and medications. For instance, several participants reported having used online information to inform their decision on whether to take isotretinoin. The internet was also used to ask questions that participants felt unable to ask their general practitioner, to seek emotional support, and to find alternative treatments, including camouflaging techniques. However, participants highlighted concerns about the trustworthiness of online advice, with some participants feeling that it reinforced stigmatizing assumptions about acne and endorsed dangerous practices. Furthermore, participants expressed frustration that media images of women presented flawless skin as the norm and that acne advertisements rarely used images of women with acne. Participants recognized that many of these images had been digitally manipulated. Nevertheless, participants reported engaging in skin-related comparisons, judging themselves as deviating from this norm, resulting in feelings of inadequacy and appearance dissatisfaction. Participants with low levels of acceptance and high levels of appearance comparisons presented with higher levels of skin-related distress. These interviews highlight the influences that digital and social media can have on young women with acne: providing a tool for information seeking, support and active decision making, and communicating societal ideals. Dermatologists should be aware of patients’ use of online information and signpost to reliable sources.

**PS08**

*Delivering appearance-related psychosocial support within paediatric dermatology services: an evaluation of Changing Faces practitioner services*

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Changing Faces is the U.K.’s leading charity supporting people who have a visible difference affecting their face and body. This evaluation is the first to examine the effectiveness of Changing Faces practitioner (CFP) services in two paediatric dermatology departments (Great Ormond Street Hospital and Sheffield Children’s Hospital). CFPs are trained to deliver a Changing Faces support package (FACES), a psychosocial intervention to address appearance-related distress. The evaluation examined the work of CFPs using the FACES package with children living with skin conditions, and their parents. A case study approach was taken that involved systematic recording of all activity undertaken, and preparation of illustrative case studies by CFPs. Effectiveness of the CFP service was established by examining session-by-session outcome measures (Child Outcome Rating Scale, Client Outcome Evaluation). Data were analysed using the Reliable Change Index, and clinically significant change was established using the scale criteria. In addition, satisfaction and impact on service provision were evaluated by conducting interviews with referring clinicians, children and parents. Referrals to CFPS were made following appearance concerns reported during dermatology appointments. Referrals concerned helping children and parents to manage comments, bullying and questions from others regarding the skin condition. Parents of children were referred for support around helping their child manage distress and adjust to their skin condition, while also learning techniques for themselves to manage intrusive reactions to their child’s skin condition. Children and parents attending two or more one-to-one sessions with the CFP reported clinical and/or reliable change in psychosocial distress. Feedback questionnaires and interviews suggest that CFP services meet the needs of children and parents moderately to extremely well. Dermatologists and nursing staff reported that CFPS played a valuable role in supporting patients with psychosocial distress as a result of living with a skin condition, and all referrers reported a desire to see the service continue. CFPS play a
valuable role in the dermatology multidisciplinary team, providing care to people living with skin conditions, and the FACES package addressed the needs of patients, helping them to manage appearance-related distress.

**PS09**

**Acute psychosocial stress downregulates N-methyl-D-aspartate receptors in healthy human skin**


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Psychosocial stress is well recognized to have a significant impact on both healthy and diseased skin; moreover, it has been shown to impair wound healing in humans and animals. The 'brain–skin axis', a complex relationship between neuro-endocrine pathways, the immune system and the skin, is pivotal to these responses. We hypothesized that healthy human volunteers who underwent the modified Trier social stress test, a well-validated acute experimental stressor, would demonstrate differential expression of cutaneous genes. A pilot microarray study of healthy volunteers (n = 4: two stressed and two nonstressed controls) indicated 50 genes worthy of further investigation, which, combined with genes highlighted from a literature review, completed our candidate list. Healthy volunteers (n = 24) were randomized to the stressor (n = 12; mean age 25.8 ± 7.9 years, range 20–45) or to sit quietly in a room for an equivalent time period (n = 12; mean age 24.7 ± 7.0 years, range 18–44). All volunteers underwent psychometric evaluation prior to randomization. The stress response was assessed by the following measures: perceived stress immediately postsessor (visual analogue scale), change in heart rate, blood pressure (BP), and salivary cortisol and cortisone in response to the stressor or equivalent. Punch biopsies (6 mm) were taken from sun-protected buttock skin immediately prior to and 4 h after the stressor or equivalent. Candidate gene expression was analysed using the nCounter® Analysis System. Stressor effect was evidenced by significant differences between the stressed and control groups in visual analogue scale scores (P = 0.01) and change in systolic BP (P = 0.02), and change in diastolic BP trending (P = 0.05) towards a significant difference. There were no significant changes in salivary cortisol and cortisone between the groups. Two genes coding for N-Methyl-D-aspartate receptors (NMDARs) were differentially expressed, with significant downregulation of expression of GRIN1A (P = 0.024) and GRIN2D (P = 0.018) in the stressed cohort. In contrast, no such downregulation was noted in the nonstressed controls, findings consistent with the pilot data. It has been shown that antagonism of NMDARs in murine models accelerates cutaneous barrier homeostasis following injury; however, a relationship between acute psychosocial stress and cutaneous NMDAR expression has not been reported in humans. We postulate that NMDAR downregulation in response to acute stress acts as a homeostatic mechanism promoting barrier repair and wound healing. This represents a plausible hypothesis from an evolutionary perspective – enhanced wound healing following the stress of evading a predator – and highlights an intriguing area for future research that might influence the management of stress-associated dermatoses and cutaneous wound healing in humans.

**Posters**

**PS10**

**The effectiveness of a psychodermatology multidisciplinary approach for patients with rosacea**

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Rosacea is a common chronic inflammatory dermatosis, which can cause considerable psychosocial impact on patients’ lives [Bewley A, Fowler J, Schöfer H et al. Erythema of rosacea impairs health-related quality of life: results of a meta-analysis. Dermatol Ther (Heidelb) 2016; 6: 237–47]. We investigated the psychosocial comorbidity of rosacea in our patient cohort and the effectiveness of dermatological and psychological management strategies used in our regional psychodermatology clinic. We conducted a telephone survey for 12 patients with rosacea treated in our psychodermatology clinic. Survey questions enquired into the impact of rosacea on their lifestyle and whether the treatments provided (dermatological or psychological) were perceived as helpful. Hospital Anxiety and Depression Scale (HADS) scores were used to compare psychological burden before and after treatments given in our psychodermatology clinic. A large proportion of patients had depression (50%), anxiety (42%) and body dysmorphic disorder (33%). One patient (8%) reported current suicidal ideations. Rosacea affected their social activities (92%), working lives (83%), diet (67%) and exercise (58%). Dermatological treatments that were commented on as helpful included oral antibiotics, isotretinoin and topical brimonidine gel. Ten patients underwent treatments for their psychological comorbidity. Citalopram (n = 5) was the most commonly prescribed antidepressant; however, only 40% found it helpful. Usefulness was reported for paroxetine (n = 2), amitriptyline (n = 1) and mirtazapine (n = 1). One-half (50%) of patients who underwent cognitive behavioural therapy found it helpful. There was an overall improvement in HADS scores for all patients after treatment in the psychodermatology clinic. Our study showed that treatment of patients in a psychodermatology clinic reduces the psychological burden in patients with rosacea, and we recommend this to enable holistic management of affected patients.
PS11
A delusional infestation in a patient with lymphocytic hypophysitis
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Delusional infestation is a rare psychiatric disorder characterized by a fixed, false belief of pathogenic infestation of the skin or body without objective medical evidence. The psychiatric disease causes cutaneous pathology. We present a case of delusional infestation in a patient with panhypopituitarism secondary to lymphocytic hypophysitis, an inflammatory pituitary tumour. A 53-year-old white woman presented with a 6-month history of feeling and seeing insects crawling on her skin. This was preceded by a family holiday in a caravan where the family sustained multiple insect bites. During this time, the patient felt insects crawling up her back. However, this sensation persisted after the holiday, along with the feeling of pins and needles on her body. She saw insects on her skin, particularly on her groin, buttocks and hair and in her urine during micturition without dysuria. In addition, she could hear insects pop when she underwent sunbeds. She noticed hair thinning and half a stone weight loss in this time. In an attempt to eradicate the insects, she fumigated her house four times and used Lyclear once or twice a month within that 6-month period. Her past medical history included lymphocytic hypophysitis, which has led to panhypopituitarism, notably hypothyroidism and hypoparathyroidism. She had no prior psychiatric diagnosis. Drug history included hydrocortisone, levothyroxine, vitamin D and growth hormone injections. She smoked five cigarettes per day and used recreational cannabis. On examination, there were visible excoriations on the scalp. There were no further cutaneous findings and no insects found. Blood tests, including full blood count, renal profile, liver function tests, thyroid function tests, prolactin level, protein electrophoresis and haematinics (vitamin B12, folate, ferritin), were within normal limits. Hepatitis B, hepatitis C and HIV were negative. Urine toxicology screen was positive for cannabis. She was given Dermo 500 and advised to bring a specimen sample. We have commenced her on risperidone after psychological assessment. Management of delusional infestation involves a multidisciplinary approach with a dermatologist and a psychiatrist, ideally in a specialized psychodermatology clinic. Medical treatment includes soothing emollients and atypical antipsychotics such as risperidone. Atypical antipsychotics can be challenging in patients with pituitary disease, such as in our patient, due to the risk of hyperprolactinaemia. In these cases, it is vital to measure and monitor prolactin levels before and during treatment, and to liaise with an experienced endocrinologist.

PS12
Evaluation of a regional psychodermatology service
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Patients with psychodermatological problems can be challenging to manage in time-limited general dermatology clinics. However, sadly, dedicated psychodermatology service provision in the U.K. remains incredibly scarce, both understaffed and under-resourced. A psychodermatology service was established at our institution in December 2012, the only clinic of its kind in our region. We sought to evaluate our service and to provide a comprehensive overview of the demographics of patients seen, as well as to assess the quality and effectiveness of care provided. We have documented a steady increase in referrals since the service was introduced, manifested by a move from monthly to fortnightly clinics in the last year. This was facilitated by securing permanent funding for colleagues in clinical psychology, who can contribute to assessment of patients in clinic, and provide further bespoke in-house psychological assessment and intervention where indicated. Over a 3-year period, 121 new patient referrals were received, of which 93 (77%) were seen in clinic, reflecting a high ‘did not attend’ rate. The follow-up-to-new patient ratio in this time was 0.84, remarkably low for such a resource-intensive patient group, and likely to reassure those seeking to commission similar services. A 70% majority of new patients seen had primary psychiatric problems, with most having either delusional infestation or skin picking disorder. The remaining 30% had a range of primary skin disorders. Patients in both groups had a very high prevalence of multiple secondary psychiatric comorbidities. High-level psychological distress (Dermatology Life Quality Index > 17 or Generalized Anxiety Disorder-7 scale ≥ 10 or Patient Health Questionnaire-9 scale ≥ 10) was diagnosed in 56 of 75 (75%) of our patients who completed at least one of these questionnaires. This indicates the complexity and severity of problems encountered in our patient population. Post-treatment severity scores were collected far less frequently, but where present we can demonstrate evidence for strongly positive treatment outcomes. A satisfaction survey sent to all referring clinicians (n = 40; response rate 16 of 40, 40%) yielded highly enthusiastic feedback. Fifteen of 16 (94%) would recommend other colleagues to use the service. Limited patient feedback data were also extremely positive, with 19 of 19 (100%) rating the overall service provided by the clinic as ‘very good’ or ‘excellent’. Data from this evaluation have recently enabled us to secure funding for a sessional consultant liaison psychiatrist, which now allows us to offer a truly integrated multidisciplinary service. It is hoped that by describing our journey we can encourage others to follow a similar path.

PS13
Hyperhidrosis quality-of-life measures: review and patient perspective
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The symptoms of hyperhidrosis can significantly affect quality of life, and can lead to social embarrassment, loneliness, anxiety and depression. We reviewed hyperhidrosis studies to identify the tools that have been used to measure quality of life in patients with hyperhidrosis. Patient advisors commented on four of the quality-of-life tools and provided insight and perspective. Twelve databases were searched in January 2016 to identify studies of hyperhidrosis. The search strategies combined topic terms for hyperhidrosis with a recognized search filter for ‘quality of life’. All studies that reported measuring quality of life or described a quality-of-life measure or tool in the context of primary hyperhidrosis were included. The review included 184 studies, many of which used multiple tools to assess quality of life. Twenty-two individual tools were identified. The review identified disease-specific, dermatology-specific and general health and utility tools. The quality-of-life tools used most commonly in hyperhidrosis research were the Dermatology Life Quality Index (DLQI), the Hyperhidrosis Disease Severity Scale (HDSS) and the Hyperhidrosis Quality of Life Questionnaire (HQLQ). The Hyperhidrosis Quality of Life Index (HidroQoL) is recently designed and validated and therefore was used only in its validation study. These quality-of-life tools were sent to four patient advisors prior to a workshop held at a district hospital, along with a short list of questions about the tools. At the workshop all patient advisors agreed that it is essential to assess quality of life and that measuring the actual amount of sweat produced should be considered only as a secondary outcome. They also agreed that the HidroQoL tool covered disease-specific quality-of-life dimensions relevant to them most comprehensively and was easy to complete. The DLQI was considered to be too general and too focused on the skin. The HDSS was considered to be too basic and not sufficiently discriminating. In conclusion, the most commonly used tools for assessing quality of life in hyperhidrosis research were the DLQI, the HDSS and the HQLQ. However, all patients agreed that the HidroQoL tool was superior to the other commonly used tools. The results of this research indicate that quality of life measured using the HidroQoL tool should be the primary outcome in future hyperhidrosis research. This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment (HTA) Programme (project number 14/211/02). The views and opinions expressed are those of the authors and do not necessarily reflect those of the NIHR HTA Programme or the Department of Health.
in the Republic of Ireland and completing > 50% of the survey). In total 55% of respondents believed that 20–39% of their patient population would benefit from addressing psychological issues, with 48% agreeing that the most common psychological distress they see in their patients is secondary to their skin condition. While 48% of dermatologists reported feeling 'somewhat comfortable' in assessing these patient's psychological issues, 90% reported having no training in mental health issues relevant to dermatology, and only 19% of dermatologists had facilities to assess their patients in a multi-disciplinary team setting with psychology or psychiatry. Overall, 94% of dermatologists in Ireland expressed interest in attending further educational courses on psychodermatology. The majority of respondents felt dissatisfied with the current levels of psychological support available for their patients. These results demonstrate a perceived significant patient population in Ireland that may benefit from having their psychological issues addressed, with a lack of dedicated resources and training to do so. There is also dissatisfaction among dermatologists in Ireland about the current level of formal support pathways for this patient population, and interest in further educational courses. We recommend increased training in psychodermatology for dermatologists, dermatology nurses and psychiatrists, and highlight a need for this patient population to be better supported. Dermatology–psychiatry–psychology multidisciplinary teams and/or psychodermatology clinics may prove to be best management for these patients.

**PS16**

**How does quality of life compare in people with vitiligo compared with those without vitiligo? A systematic review and meta-analysis**

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Vitiligo is an acquired and usually progressive disorder of the skin resulting in hypopigmented macules, most commonly found on exposed areas of the body. While typically asymptomatic, it is cosmetically disfiguring and has profound psychosocial effects. Previous studies suggest a reduction in quality of life (QoL), but there is no up-to-date review quantifying this against a comparator. The aim of this study were to compare QoL scores in people with and without vitiligo, and to describe and summarize QoL tools used in observational studies in cases of vitiligo. In October 2016, a comprehensive search of MEDLINE, PsycINFO, Embase and CINAHL was conducted, identifying comparative observational studies assessing QoL scores in people with vitiligo and comparators. Titles, abstracts and full texts were screened according to pre-specified inclusion and exclusion criteria. Eligible studies underwent data extraction and quality assessment. For studies with the same comparator group, a meta-analysis was performed using a random effects model to calculate standardized mean differences (SMDs) with 95% confidence intervals (CIs) and P-values (statistical significance set at P < 0.05). Heterogeneity was assessed using I²-statistics and explored using subgroup analyses by age of participants, region and quality score. Thirteen studies were included, with 12 studies in the meta-analysis. All of the studies recruited participants from hospitals. Sample size of the studies ranged from six to 1010, with five studies recruiting more than 100 patients with vitiligo. In total 1842 patients with vitiligo were included. Vitiligo QoL scores were compared with scores in four comparators: healthy controls (n = 6) and patients with psoriasis (n = 6), atopic dermatitis (n = 4) and acne (n = 2). Patients with vitiligo had greater QoL impairment than healthy controls (SMD 1.98, 95% CI 1.08–2.88, P < 0.001) but not patients with acne (SMD 0.70, 95% CI −0.94–2.25, P = 0.42). Patients with vitiligo had less QoL impairment than patients with psoriasis (SMD −0.93, 95% CI −1.36 to −0.49, P < 0.001) but not atopic dermatitis (SMD −1.25, 95% CI −3.31–0.82, P = 0.24). Heterogeneity was high across the meta-analyses (I² ranged from 92.7% to 98.2%); subgroup analyses could not explain this. Twelve studies used dermatology-specific QoL tools: nine studies used the Dermatology Life Quality Index (DLQI), two used the Children’s DLQI and one used Skindex–29. One study used a general health-related QoL tool: the Pediatric Quality of Life Inventory. No studies used a vitiligo-specific tool. While more research is necessary to improve statistical power and external validity, this review found that people with vitiligo experience greater QoL impairment than healthy controls, but less QoL impairment than those with psoriasis.

**PS17**

**Quality of life before and after iontophoresis for palmoplantar hyperhidrosis**

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Primary focal hyperhidrosis is a common condition, which may impact on psychosocial well-being. Various treatment modalities are available, of which iontophoresis is an established treatment for palmoplantar hyperhidrosis. The aim of this retrospective audit was to look at the psychological impact of hyperhidrosis on patients before and after completing a course of iontophoresis. The primary aim was to see whether iontophoresis treatment helps to improve the quality of life in patients with palmoplantar hyperhidrosis. The secondary aim was to see whether iontophoresis treatment helps to improve symptoms. This was a retrospective audit looking at all patients who had received iontophoresis between January 2011 and July 2013 for palmoplantar hyperhidrosis. The Dermatology Life Quality Index (DLQI) score and the Hyperhidrosis Disease Severity Scale (HDSS) score prior to and at the end of treatment were recorded [Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI) – a simple practical measure for routine clinical use. *Clin Exp Dermatol* 1994; 19: 210–16]. In total we saw 49 patients with a mean age of 28.7 years. Fourteen patients had involvement of their hands, while others had involvement of the axilla and/or feet. Previous treatment for hyperhidrosis in these patients included
topical aluminium chloride (11), Botox for the axilla (seven), propantheline (three) and glycopyrrolate (two). Four patients had undergone previous iontophoresis. The pretreatment mean HDQI score was 3.95 (range 2–4) and the post-treatment mean was 2.19. The DLQI pretreatment mean was 11.5 (range 0–19) with improvement to a mean value of 5.45 (range 0–19). Out of all patients only two had documented side-effects from treatment (dry skin). Hyperhidrosis has a significant impact on social, professional and daily activities. Previous studies have demonstrated that these patients do frequently report a reduction in their quality of life. It can cause social anxiety and an impact on individual career choices (Hamm H, Naumann MK, Kowalski JW et al. Primary focal hyperhidrosis: disease characteristics and functional impairment. Dermatology 2006; 212: 343–53). This study showed that the HDQI score dropped, as did the DLQI, suggesting that iontophoresis is an effective method for treating both the physical and psychological aspects related to hand hyperhidrosis. A starting DLQI of 11.5 suggests that these patients experience a significant impact on their daily living. This DLQI is higher than in some reported studies looking at other dermatological conditions including pruritus (DLQI 9.2) and psoriasis (DLQI 8.9). Clinicians should bear this in mind as often palmoplantar hyperhidrosis may be a trivialized condition, but it clearly has a huge psychological impact for which iontophoresis can improve the level of distress.

PS18
A short course of low-dose risperidone makes the bugs go away
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Delusional infestation (previously delusional parasitosis) is a rare disorder characterized by a patient’s fixed, false belief that parasites or other small living creatures infest them and/or their immediate environment (Lepping P, Russell I, Freudemann RW. Antipsychotic treatment of delusional parasitosis: systematic review. Br J Psychiatry 2007; 191: 198–205). For persistent cases with no underlying cause, antipsychotics are often recommended, although evidence is limited and these medications can have significant adverse effects. Risperidone is an atypical antipsychotic increasingly used for delusional infestation. Small case series have described full remission in 67–70% of patients treated, at doses of 1–8 mg per day (Huber M, Lepping P, Pycha R et al. Delusional infestation: treatment outcome with antipsychotics in 17 consecutive patients. Gen Hosp Psychiatry 2011; 33: 604–11). We report a case of delusional infestation that responded completely to a short course of just 0.5 mg per day of risperidone. A 55-year-old woman presented in April 2009 describing small insects burrowing into her skin, for which she was bathing in hydrogen peroxide. She also had anxiety and depression. On examination, multiple excoriations were present but there was no clinical evidence of an infestation. Blood tests including a full pruritus screen and microscopy of skin samples brought to clinic by the patient were all negative. The patient was diagnosed with delusional infestation and referred to psychiatry, with little progress made. In August 2012 a further referral to dermatology was made but she declined antipsychotic medication. Following re-referral in February 2016, new approaches were taken to consultations; it was explained that antipsychotics appear to work for people with similar symptoms although the underlying mechanism is unclear, and that often in medicine one drug can be used for multiple different causes. In July the patient agreed to try risperidone at a dose of 0.5 mg per day. Within 6–8 weeks she had recovered completely and stopped her risperidone, with no recurrence of her symptoms. She has offered to write a poem for the British Association of Dermatologists, to provide dermatologists with some insight into a patient’s experience. Given the significant side-effect profiles of antipsychotics, it is essential to use the minimum dose that is clinically effective. This case demonstrates that it may be possible to treat patients effectively with a lower dose of risperidone than previously reported, but importantly that a short course may be sufficient. We also highlight different approaches that can be used in order to encourage patients with delusional infestation to try an antipsychotic.

PS19
The association between trichotillomania and schizophrenia: a case report
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To have schizophrenia with trichotillomania as a comorbid condition is unusual. Previous research has shown that hair pulling can be due to psychotic symptoms. Here we would like to present a case of a paranoid schizophrenic woman with trichotillomania, of which not much information is available.

On examination she had minimal hair on both sides of her scalp, which was of varying lengths with vellus-type hair on both sides of her head. Both eyebrows lacked a geometric shape, with patches of alopecia on both eyebrows. On closer inspection of the scalp there were black dots and broken hair shafts on a background of a nonscarring alopecia. She denied itching or pain. Hair pulling in this case was secondary to auditory command hallucinations, which told her to harm herself. She also attempted to peel her face and had burnt herself secondarily to these hallucinations. The patient required an informal admission as these voices became intolerable. She is currently on treatment (aripiprazole and clozapine); despite this she still gets command auditory hallucinations; however, she has stopped hair pulling. This case shows the relationship between schizophrenia and trichotillomania, as well as the response of this to treatment.