



Exploring the Psychological Profile of Patients with Delusional Infestation

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Delusional infestation (DI) is an uncommon psychiatric disorder in which patients present with the false and fixed belief (i.e. a delusion) that their skin and/or their environment is infested despite objective evidence to the contrary. Within psychodermatology specialist clinics there is a high rate of DI referrals. What is not known is the level of psychiatric and psychological co-morbidities associated with DI and whether psychiatric or psychological assessment would be warranted. One-hundred and thirty-eight adult patients with DI attending an outpatient psychodermatology clinic were given 3 standardised questionnaires. The results showed that 81% had a poor quality of life; 52% with anxiety, 41.6% with depression and 49% with appearance-related concerns. This study indicates high levels of psychiatric and psychological disorders in DI which require assessment and appropriate intervention.

Key words: delusional infestation; psychological distress; impact; psychological assessment; management.

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Patients with delusional infestation (DI) have the fixed belief of pathogenic infestation of the skin or body (and rarely their close personal environment) although there is no objective medical evidence for this (1). Patients experience tactile hallucinations of biting, stinging and crawling sensations. They can inflict considerable damage to the skin by scratching and using various methods to pick out or destroy the presumed infesting agent. Some also believe that their immediate environment is infested and will employ methods to eradicate this. The first line of treatment for people with DI is to treat the patient holistically with appropriate treatment of the skin together with consideration of psychotropic medication. Current medication is often second generation antipsychotics such as risperidone (2, 3) or olanzapine but amisulpiride and quetiapine are also used (4–6). Antidepressants have been used to manage symptoms of depression associated with living with DI. Adherence to antipsychotic medication in specialist psychodermatology clinics is reportedly up to 66% of patients, but specialist psychodermatology

clinics are rare and so this reported adherence is unlikely to be replicated in general dermatology clinics where many patients with DI are routinely managed (7).

Studies on DI have concentrated on the administration of antipsychotic medications and have not considered relevant psychological factors in the development and maintenance of the disorder. Psychological therapy for DI has not been researched or developed. DI is a psychotic disorder with one fixed delusion that the sufferer or less commonly their environment is infested. When treating patients with psychosis, psychiatric medication used concurrently with psychological assessment and treatment is recommended (8). Whilst the current first line treatment for DI is antipsychotic medication focused on treating the delusional belief and tactile hallucinations, psychological assessment and treatment could offer another avenue for these patients both to treat the delusional belief and to treat psychiatric and psycho-social co-morbidities. However, to date, there has been no study evaluating the psychological impact of living with DI. The aim of this study was to capture the extent of psychiatric disorder (e.g. clinical anxiety and depression) and psychological distress (e.g. appearance concern) and other types of difficulties associated with DI. Knowledge of these associated co-morbidities could aid the development of appropriate psychological treatment interventions and indicate directions for further research into treatment.

METHODS

This retrospective study included 138 patients' who had a diagnosis of DI (30 male and 108 females; mean age 58 years, range 22–87 years old) who had been seen in the specialist tertiary psychodermatology service at the Royal London Hospital between September 2012 and September 2013. The mean age of onset of DI was 52 years old (standard deviation 14.6). Patients with co-morbid dermatological or medical conditions were excluded.

The questionnaire collected data on sociodemographic variables (age, gender, marital status and employment), the Hospital Anxiety and Depression Scale (HADS) (9), The Derriford Appearance Scale (DAS-24) (10) which has been used previously to study dermatological conditions (11) and The Dermatology Quality of Life Index (DLQI) (12). To reach clinical caseness the scores used were: HADS anxiety and depression – clinical range: ≥ 11 , borderline range: ≥ 8 ; DAS-24 – severe level: ≥ 45 , moderate level: ≥ 30 (interpretation governed by the range within the group and based on previous experience within dermatology (11)); DLQI moderate effect on patients' life suggesting a 'poor quality of life': ≥ 6 . These measures are not diagnostic and are used to ascertain the degree of symptoms the patient exhibits.

All patients attending the clinic are asked to complete the questionnaires as standard part of clinical assessment but they gave written informed consent for the data to be analysed and used in research. They returned the questionnaires to the dermatologist during the appointment and the dermatologist checked the clinical diagnosis. Data was retrospectively entered into an electronic database. Approximately 50% of the data was randomly selected and checked for quality control (that data had been entered correctly). Data were analysed using SPSS version 11 for Windows. Ethical approval was not required as the data was collected as part of the standard clinic.

RESULTS

Characteristics of the sample

The socio demographic profile of the 138 patients, 30 men and 108 women is shown in Table S1¹. The majority of the sample was Caucasian, aged between 50–69 years old, retired or employed and living with partners. In both genders the age of onset showed a small peak between the age of 30–39 years, for women there is a larger peak between the age of 50–59 years and in men between the age of 60–69 years.

Psychological impact

The percentage of patients whose scores fell above the borderline, moderate, or clinical range (i.e. described as 'clinical caseness') on the outcome measures was computed (Fig. 1). Fifty-two percent of patients scored in the clinical range for anxiety, 41.6% scored in the clinical range for depression, 49% had moderate to severe

levels of appearance-related concerns and 81% had a poor quality of life (QoL), with women being more psychologically distressed than the men in general (DAS-24: $t(136)=3.42, p=0.001$; HADS – anxiety: $t(136)=1.47, p=0.001$; HADS – depression: $t(136)=3.43, p=0.001$; DLQI: $t(136)=2.55, p=0.012$).

The percentages of the outcome scores in relation to the demographic data are shown in Fig. S1¹.

In relation to those who were clinical anxious, the majority were unemployed, retired, married and/or single and aged between 40–59 years with the age of onset being between 40–49 years old. The majority of patients aged below 30 years and between 40–49 years self-reported symptoms of depression and they were either unemployed, with partners being employed, or they were single. Their age of onset was 30–39 years, as were those who reported severe level of appearance concern. For those who had severe level of appearance concern they were single and were below the age of 30 years or aged between 40–49 years, with the age of onset being below age of 39 years. In relation to QoL the majority were single and aged between 40–49 years old, with an age of onset being below 30 years. The majority were unemployed, with partners being unemployed too. With regards to ethnicity the majority of those who were African/black reported severe level of appearance concern and poor QoL.

Analysis of results

Pearson's correlation was conducted to ascertain the relationship between the continuous variables. Age correlated positively with age of onset ($r=0.90, p=0.01$), and negatively with appearance-related concern scores

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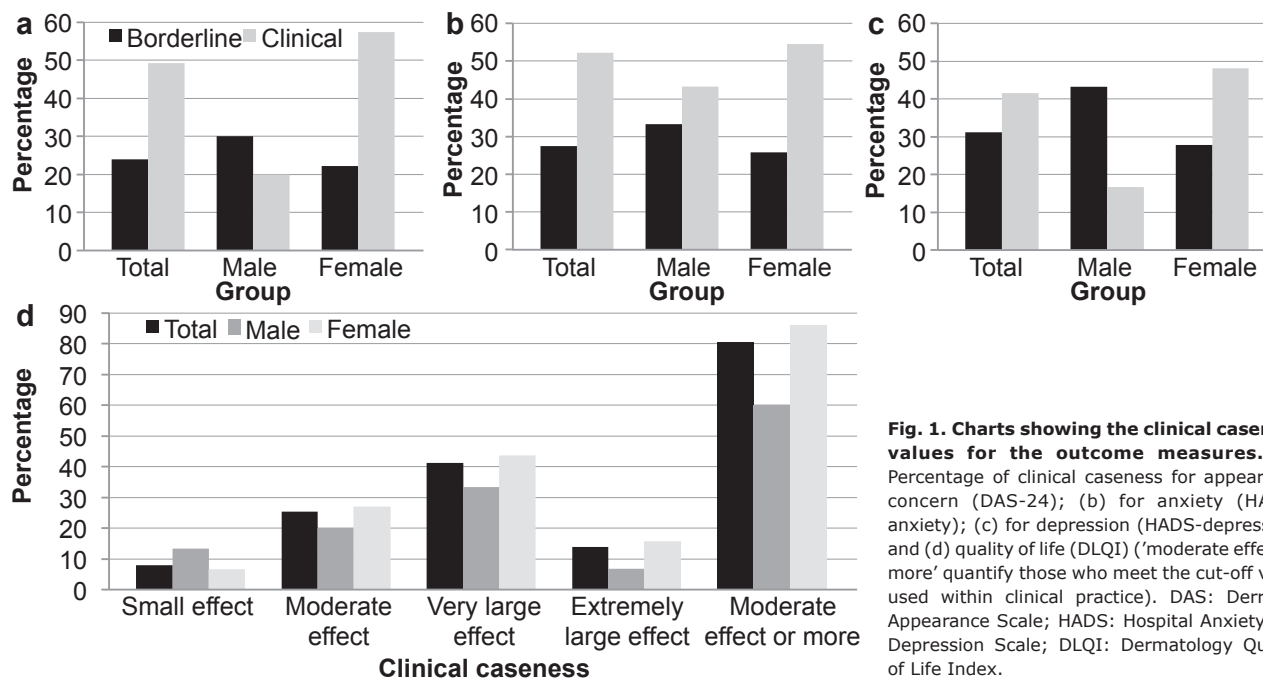


Fig. 1. Charts showing the clinical caseness values for the outcome measures. (a) Percentage of clinical caseness for appearance concern (DAS-24); (b) for anxiety (HADS-anxiety); (c) for depression (HADS-depression) and (d) quality of life (DLQI) ('moderate effect or more' quantify those who meet the cut-off value used within clinical practice). DAS: Derriford Appearance Scale; HADS: Hospital Anxiety and Depression Scale; DLQI: Dermatology Quality of Life Index.

($r=-0.30, p=0.01$) and QoL scores ($r=-0.30, p=0.01$) indicating that the older the patient the age of onset and they have less appearance-related concerns and a better QoL. However age was also positively correlated with anxiety ($r=0.18, p=0.05$) and negatively with depression ($r=-0.21, p=0.05$) indicating that the older the patient the higher their anxiety scores and lower their depression scores.

Kendall's tau was conducted with the categorical variables to establish possible associations. There were significant associations between gender and the outcome variables appearance concern ($r=0.31, p=0.01$), depression ($r=0.23, p=0.01$) and QoL ($r=0.21, p=0.01$) and further analysis indicated that women were more psychologically distressed than men. The partner's occupation and family status correlated with appearance concern scores ($r=0.25, p=0.01$; $r=-0.18, p=0.05$) and family status also correlated with depression scores ($r=-0.18, p=0.05$). With women in particular, significant associations were ascertained between appearance concern scores and partner's occupation ($r=0.29, p=0.01$) and between levels of anxiety and occupation ($r=0.17, p=0.05$). Further analysis that single women had higher appearance-related concerns than those who were in a relationship, and unemployed women were more anxious than those employed or retired.

Further analysis was conducted to analyse the data in more detail and to look for factors which predicted anxiety, depression, appearance related concern and low QoL (see Appendix S1¹).

DISCUSSION

The patient group were typically female, Caucasian, aged between 50–69 years old, and were married, retired, with partners who were employed. The results indicated that patients had high self-reported clinical levels of anxiety (52%) and depression (42%), severe levels of appearance related concern (49%) and a poor QoL (81%). The statistical analyses showed that clinicians could predict that unemployed and older patients are more likely to be clinically anxious and in particular unemployed women. However, in general, for both genders the levels of anxiety and depression are very high. The rates of psychiatric comorbidity and psychological problems like appearance concern are very high and should be addressed. In particular, women are more likely to be clinically depressed and have appearance-related concerns, with single women having more self-image issues than those in a relationship. Those who are unemployed may have higher appearance related concerns and the single patients may have a poorer QoL.

We acknowledge that the study has limitations. The sample size was small, especially for men which may indicate a higher prevalence in women. Therefore at this stage concrete conclusions cannot be made in relation

to male patients. Also as this is the first study to analyse the psychological profile of patients with DI, it warrants further investigation. There was no control group and it was not possible to control for all treatment or external factors that might have influenced the outcomes. However we were aiming to elucidate the absolute levels of depression, anxiety and psychological co-morbidities in patients with DI rather than trying to compare this to other patient groups or controls. When comparing this data, the results indicate that the levels of distress were higher for this study's population than those in general out-patients dermatology clinics (13, 14). The tools which we used have normative values which have been extensively validated and are well utilised within mental health (research and clinical practice).

Assessing and addressing patients' psychological distress is important, but currently this is often being missed by clinicians. This study establishes that patients with DI will co-operate with filling in standardised measures of psychological distress and useful data can be gathered. It may be easier initially for them to acknowledge such distress in a questionnaire and this could then be used to raise the issue in the consultation with the patient. Patients will often be fearful of acknowledging psychological distress, afraid this will cause the clinician to dismiss their symptoms as imaginary or "all in the mind". Use of these questionnaires can be helpful to highlight those patients who would most benefit from a psychiatric assessment (conducted by a psychiatrist) and psychological assessment and potential psychological therapy input (conducted by a psychologist). The high rates of anxiety and depression indicate that there may be more of a role for the use of antidepressant medication either instead of or together with an antipsychotic. It is a matter for psychiatric diagnostic assessment completed by a psychiatrist whether the delusion may be arising secondary to a treatable mood disorder or if the low mood and anxiety may be secondary or may result from the difficulties of living with DI symptoms. However, often patients refuse medication hence psychological assessment and therapy may be warranted if the patient agreed. In light of the results, a previous study has also shown that depression is an associated factor for those living with DI (secondary DI in the context of depression and depression as a consequence of living with DI) (15). It has been suggested that it often develops with the course of the delusional disorder. Hence it is recommended that patients with DI with signs of manifest depression should be assessed for suicidal ideation and a risk assessment should be conducted (15). Using effective therapies that have been shown to challenge delusions such as cognitive behaviour therapy, could be helpful to shift the belief and using Mindfulness to manage anxiety and depression for example. Given that some patients with DI have over-valued beliefs (rather than a delusion), in this situation psychological therapy may be equally or more effective

in helping people cope with living with the DI as well as manage their anxious and depressive symptoms. This work would be best facilitated by a specialist clinical psychologist with experience of working in dermatology.

In general, a more holistic approach should be offered to these patients with DI. Although initially for patients with DI there may be a high level of denial of the psychological disease, understanding patients' level of distress may help to open new avenues of conversation once a therapeutic relationship has been established. Within clinical practice, discussing the stress related to living with the condition and having therapy for stress has been helpful. It is often accepted that patients with DI should be treated within a psychodermatology service (consisting of a dermatologist, psychiatrist and a psychologist). Successful treatment of patients with DI in a psychodermatology clinic is reported to be in excess of 75% of patients, but recurrence of symptoms is found in 33% of patients who stop treatment (16). This study further supports the idea that this is the optimal setting in which to treat these patients as it highlights the very high clinical levels of psychiatric and psychological co-morbidities which patients experience. It is usually impossible to refer patients directly to external psychological services as they have no insight into the origin of the condition, and they are frequently hostile about suggestions of mental ill health. This fear is sometimes driven (quite reasonably) by the fear that their skin complaint will not be taken seriously and adequately investigated and treatment, hence it is important to have a dedicated psychologist in dermatology.

The psychodermatology setting is appropriate as it is important to engage the patient and adequately assess any possible organic causes of their condition as well as pursue physical treatments of their skin. Once a therapeutic relationship has developed between the patient and the dermatologist (17), a psychiatric evaluation and if appropriate a psychological assessment and intervention (for stress rather than the DI directly) should be considered when treating patients with DI. Discussing the stress related to living with the condition can be useful to engage a patient in consenting to a referral to psychological or even psychiatric services.

Although antipsychotic medication has been shown to reduce the symptoms of DI, we have shown using standardised measures that psychological (such as appearance concern) and psychiatric (such as anxiety and depression) co-morbidities exist for patients' with delusional symptoms. Hence, we plan further research to elucidate whether the distress associated with DI decreases following conventional (antipsychotic and cuta-

neous) treatment; to examine the role of antidepressants either alone or in conjunction with antipsychotics, and to elucidate whether psychological interventions have a role to play in the management of patients with DI.

The authors declare no conflict of interest.

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