Delusional infestation:
an evidence-informed approach for general practice

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Introduction

Delusional infestation (DI) is a highly distressing condition for patients and challenging to manage for clinicians. Patients will present to general practice desperately seeking validation, a diagnosis, and treatment for their physical and psychological symptoms. Early recognition and sensitive management in general practice can improve patient care and optimise outcomes. This article outlines an approach for identifying, assessing, and managing DI in general practice.

What is DI?

DI is characterised by the false and fixed belief of infestation with a living (for example, parasites, mites, bacteria, worms) or inanimate (for example,'fibres') agent. Patients present with a narrow, unremitting focus on their distressing physical and psychological symptoms, determined to receive treatment directed against an infestation, and tending to reject any possible psychological or psychiatric explanation. DI is a monosymptomatic hypochondriacal psychosis, which may occur in isolation (primary DI), or secondary to an underlying organic or psychiatric condition (Table 1). Despite this focus on physical symptomatology and common rebuttal of underlying mental health difficulties, patients with DI will experience significant distress and the psychological burden of this condition must not be ignored.

The incidence of DI is likely to be underestimated, with limited evidence reporting an incidence rate of 1.9 cases per 100 000 person-years.[1] Prevalence rates range from 20 to 80 cases per million annually.[2] Although uncommon, presentation to general practice teams is likely to be memorable because of the intensity of the interactions, patient distress, and demand for investigations and consultations.

Clinical presentation

Patients often relate the onset of symptoms to a clearly remembered and frequently bizarre event, or after being told by a healthcare professional that they may have a genuine infestation. From that point onwards, persistent crawling, biting, or stinging sensations are described, commonly affecting not only the scalp, but also the eyes, mouth, or the whole body. Hyperfocus on the skin leads most to misinterpret benign lesions, specks of debris, or adherent clothing fibres, compounding their theory of infestation.[3]

Repeated eradication attempts with standard pharmacy treatments (and all manner of internet-sourced alternatives) are described, and pest control teams may be invited into the home. Some go as far as ripping up carpets or floorboards, selling vehicles and shaving heads. Many people will vacuum and wash clothes and bedding at high temperatures, sometimes daily, leading to frustration and exhaustion. The regular application of irritant substances along with frequent skin picking tends to add to the physical symptom burden.

Physical examination can reveal features of irritant contact dermatitis or non-specific excoriations, but, crucially, no signs of an active infestation. Patients will frequently proffer 'evidence' for examination (material collected from the patient's skin, and displayed under Sellotape on paper, or in a container: the so-called 'specimen sign'),[4] as well as photos or video recordings. Concomitantly, while patients may often voice their distress with the condition, some may avoid associating it with any psychosocial implications.[3]

The role of general practice clinicians

If DI is considered likely, it is important to acknowledge the complex, holistic, and multifaceted nature of such presentations, which mandates sufficient consultation time and continuity of care. The tone set in the first appointment is crucial to allow the patient to express their concerns and feel reassured and settled: actively listen – the clinician should empathise, gently defuse any hostility borne of previous unsatisfactory consultations, and focus on building trust and rapport, while exploring the distress the symptoms have had on the patient's experience.[5–7] A physical examination is reasonably

Table 1. Primary vs secondary DI causes

Primary	No underlying cause
Secondary	Psychiatric: schizophrenia, depression/anxiety. Neurological: Parkinson's, multiple sclerosis, dementia, neurovascular disease. Infectious: tuberculosis, leprosy. Endocrine: diabetes, hypothyroidism, hypoparathyroidism. Medications: L-DOPA, methylphenidate, erythromycin, clarithromycin, non-steroidal anti-inflammatories. Substance misuse: cocaine, amphetamines, cannabis, alcohol. Other: vitamin deficiency, renal failure, rheumatological conditions

DI = delusional infestation.

Table 2. Investigations to consider[6]

Pruritus screen	Full blood count, liver function, renal function, iron studies, B12, inflammatory markers, thyroid function, HbA1c, bone profile, immunoglobulins
Dementia screen	Neurological exam, cognitive assessment tools
Serological studies	HIV, syphilis
Urine	Toxicology (if available)
Microbiology	Assessment of patient specimen(s)
Imaging	Chest X-ray, CT head (if clinically relevant – for example, neurovascular disease)

CT = computed tomography. HIV = human immunodeficiency virus.

expected by all patients, and the priority is to confirm or exclude an active infestation. Covering more than this on the first visit is unrealistic, but, with the patient hopefully now on board, further inroads can be made subsequently.

A more detailed history will then help to rule out potential organic and psychiatric explanations, as well as exploring potential stressors or triggering factors for such symptoms (Table 1). Another, more detailed physical examination should be undertaken, considering differential diagnoses. Any specimens presented should be respectfully assessed and sent for analysis if appropriate. Active screening for background anxiety, depression, self-harm, suicidal ideation and intent should be sensitively undertaken and managed accordingly.[3] Reasonable common-sense skin-directed treatment should be offered to help deal with asteatosis, excoriations, and irritant dermatitis (for example, soap substitute, emollient, topical antibiotics, etc.). The clinician should not however be tempted to collude with the patient if there is no evidence of infestation — the clinician should calmly state their position and avoid prescribing oral antibiotics or ivermectin with no clear rationale.

Investigations are required in line with potential differential diagnoses, but limited to what seems appropriate, and ensuring patient expectations are realistic (Table 2).[6] Clnicians should arrange further follow-up to discuss results, assess progress, and consider further management, including active adoption of key communication skills during consultation (Table 3).

Management

Management depends on clinical judgement and the patient's trajectory. Early and repeated reassurance may suffice. If there is any doubt about active infestation, this requires treatment. If an alternative primary dermatological condition is possible, a referral to dermatology is appropriate. If substance misuse is identified, the clinician should refer first to addiction services. Where common mental health problems such as anxiety and/or depression are identified as predominant, the clinician should treat accordingly with self-help, talking therapies, and/or medication. In more severe cases (for example, florid psychosis, severe depression/anxiety, personality disorder, high suicide risk), an urgent referral to the local mental health team must be made. Safeguarding concerns should be addressed if children or vulnerable adults are involved. Referral to a specialist psychodermatology service, which is well placed to initiate treatment with low-dose antipsychotics, may be considered if available locally.

In all cases, advice is recommended to help patients address maladaptive coping strategies, such as avoidance of social interactions, excessive internet searching, disturbed sleep patterns, poor diet, limited exercise or time outdoors.

In patients with delusional infestation who decline referral to mental health services, management should focus on validating the patient's distress and maintaining a therapeutic alliance, while avoiding direct confrontation of the belief.[7] Often, a referral to dermatology is welcomed and, once accepted, supportive dermatological care helps to demonstrate that symptoms are being taken seriously. Where rapport allows, specialist psychodermatology services may offer low-dose antipsychotics (for example, risperidone, olanzapine, aripiprazole), framed as therapy for distressing cutaneous sensations rather than psychiatric illness.[8] Gentle but repeated

Table 3. Communication skills[9]

Engagement	Listen openly and acknowledge distress
Exploring	Explore the patient's belief. Evaluate associated psychological symptoms. Explore physical symptoms and impact on quality of life. Assess suicide and self-harm risk
Supporting	Discuss the rationale for/against investigations. Discuss negative results constructively. Avoid committing to one diagnosis. Address patient's concerns
Signposting	Offer ongoing support (GP/other teams). Offer dermatological care (soap substitutes, emollients, topical steroids). If confident in doing so, discuss the potential use of antipsychotics as a treatment

offers of psychiatric referral should remain open, alongside close follow-up and safety netting, given the risk of self-harm from attempts to eliminate the perceived infestation.[7]

Summary

In conclusion, DI can be a challenging condition to handle when presenting in general practice. Awareness of its common features can aid more empathetic and timely assessment, consideration of differential diagnoses, and appropriate management, in a holistic manner. The outcomes for patients with DI vary greatly according to their level of insight and willingness to engage. Long-term sympathetic care and follow-up is often required, ideally involving a wider multidisciplinary team.

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