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## Primary Delusions of Parasitosis: Finding an Effective Clinical Approach

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# Primary Delusions of Parasitosis: Finding an Effective Clinical Approach

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## Abstract

Primary delusions of parasitosis (PDOP) is a rare psychiatric condition defined by a fixed false belief of parasitic infestation without an underlying medical explanation. Despite an estimated prevalence of 1.48 cases per million, dermatologists and primary care physicians frequently encounter affected patients. Although antipsychotics achieve remission in 60-75% of cases, treatment is often hindered by patients' refusal to accept psychiatric explanations or medications, leading to harmful behaviors such as pesticide application, employment challenges, or strained social connections.

This paper sought to address the challenge of treatment acceptance by developing a practical, clinician-friendly communication script. A literature review of PubMed articles informed the initial draft, which was iteratively revised through interviews with six dermatologists, three psychiatrists, and three primary care physicians. The resulting script emphasizes empathetic rapport, structured handling of patient "specimens," judicious medical work-up, and tactful language for introducing antipsychotic medications. Key strategies include validating distress, framing medications as treatments for itching and discomfort rather than psychiatric disease, and offering pimozide as a non-psychiatric alternative when appropriate.

Participating clinicians reported high satisfaction with the script's applicability and usefulness. Future studies should evaluate its real-world impact on treatment initiation, adherence, and patient outcomes. By equipping physicians with tailored conversation tools, this project aims to improve rapport, reduce patient isolation, and increase acceptance of evidence-based treatment. Ultimately, this communication-based approach may mitigate the burden of PDOP, restoring quality of life for patients while easing clinical frustrations in managing this challenging disorder.

## Introduction

Primary delusions of parasitosis (PDOP) is an isolated delusion of parasitic infestation, typically of the skin, that is not explainable by another medical or psychiatric condition. PDOP is rare: about 1.48 cases occur per million people, estimating that about 513 people in the US are suffering from this condition at any given moment. Despite this low estimated prevalence, most dermatologists, psychiatrists, and primary care physicians report at least one (and often more) interactions with this population. This could represent an epidemiological underestimation of prevalence, increased level of engagement with the healthcare system per person, or some combination of both.

PDOP may be seen at any age though is typically diagnosed around 57 years of age, give or take 14 years. Women are more frequently diagnosed than men. Frequently depression, isolation and loneliness co-occur. While it is difficult to parse out whether loneliness is better labeled as a cause or sequela of PDOP, it is clear that isolation is both a product and perpetuating factor of PDOP.

Although the cause of PDOP is unclear, several hypotheses exist. Given an observed majority of post-menopausal women suffering with PDOP, some have hypothesized estrogen to be protective against the condition, referencing that the natural decline of estrogen that accompanies the journey of menopause may leave one vulnerable to such a chronic, isolated delusions. More popular and timeless theories revolve around the dopaminergic pathways. Given that PDOP responds quite well to both typical and atypical antipsychotics, clinicians have theorized that dopaminergic dysregulation lies at the root of this illness.\* Others have referenced cognitive models to explain the origins of this illness, noting that PDOP may arise from meeting a normal sensation (the fleeting feeling of something brushing against the skin) with hyperfixation and misattribution (“there must be bugs on my skin”). In this cognitive model, perseveration on the sensation, thought and misattribution only serve to deepen and solidify the neural network of this belief.

Both typical and atypical antipsychotics embody the standard of treatment for PDOP. While living with PDOP is certainly abysmal, one might find comfort in a relatively high rate of remission: 60-75% of patients treated with appropriate antipsychotics experience either full or partial remission. One retrospective case-based analysis found that 69% of patients who adhered to treatment for at least 8 weeks experienced a full or partial remission, characterized by improved quality of life and return of baseline functions.

## **The Problem of Treatment Acceptance**

Despite the presence of an effective treatment, PDOP is frequently difficult to treat given patients' firm belief in the parasites, reluctance to accept a psychiatric diagnosis, and subsequent refusal to take psychiatric medicine. In a large, multidisciplinary cohort, an estimated 41.5% of patients with suspected PDOP were lost to follow up. Untreated PDOP leads to distressing outcomes: patients may hire exterminators or move homes, apply caustic pesticides to the skin, struggle to maintain employment, harm social connections, and experience the emotional isolation of feeling dismissed and uncared for by medical professionals.

In response to such poor outcomes, the authors of this paper aimed to create a simple and concise methodology for physicians to use for the highest likelihood of achieving good rapport and treatment acceptance. Through thorough literature review and a series of clinician interviews, a "script" of ready-to-use sentences and key conversation points was created so that any physician - whether they are a dermatologist, primary care, or emergency physician - feels prepared to engage with patients in a manner that maximizes the likelihood of successful treatment.

## **Methods**

A literature review was conducted of various articles accessible on PubMed to understand the epidemiology and treatment recommendations for PDOP. All articles reviewed can be found in the citations of this paper. A clinical script rough draft was created based upon the articles reviewed. A series of clinicians were subsequently interviewed: six dermatologists, three psychiatrists, and three primary care physicians. Each interviewee was asked their opinions regarding the clinical script and what could be improved. Following each interview, the treatment script was revised before being presented to the next interviewee. After the last interview, the final clinical script was edited and created.

## **Results: Clinical Script:**

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### **First Impressions**

Enter the room with enthusiasm and a smile! *They are likely struggling with feelings of dismissal and abandonment. They may have seen multiple physicians prior who disregarded them or rushed them out.*

“I will never give up on you if you do not give up on me.”

### **If a patient is scheduled in the middle of the day – how to build rapport in under 15 minutes**

Intensely listen for 5-10 minutes.

*Then:* “Your condition clearly needs more time and attention than the 15 minute visit you were scheduled for, and I unfortunately have patients waiting. If it is okay with you, I would like to re-schedule you at the end of the day to ensure we have adequate time to discuss and address your symptoms.”

### **What to do with “specimens”?**

Do not take the specimen and say: “This is very helpful, thank you! However, I will need to look at this under my microscope for maximum accuracy.”

*Then:* Give the patient multiple glass microscope slides without covers. Instruct them to place the specimens on the slides and tape clear (not opaque) tap over it. Ask them to bring this with them to their next appointment. This way, you will not touch unsettling items, maintain rapport, and get a good look at the specimen.

### **Perform medical work-up to both rule out secondary causes and keep the patient coming back**

Ideas include:

- Blood tests: tissue transglutaminase IgA antibody (Celiacs – r/o dermatitis herpetiformis), ELISA BP180 and BP230 (r/o bullous pemphigoid)
- Biopsy: Inform patient that “I will do only one biopsy, even if it does not show us anything helpful. I need you to think carefully about where you want me to biopsy and mark it so I know exactly what to take.”

### **After negative work-up, do not offer a larger work-up**

| <i>If patient accepts this:</i>                                                                                                                                         | <i>If patient wants more work-up:</i>                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| “I don’t know exactly what is causing your condition but I do know that you are suffering, miserable, and we need to get you back to your life as quickly as possible.” | “I encourage you to reach out to parasitologists, entomologists, and infectious disease specialists. However, in the meantime, you are suffering and in a |

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| <p>“In medicine, physicians treat patients all the time for conditions that we do not know the cause of. Examples include essential hypertension, or in dermatology: vitiligo.”</p> | <p>miserable situation. <u>Looking for answers can coexist with treating your suffering.</u>”</p> |
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**Introducing antipsychotic medications**

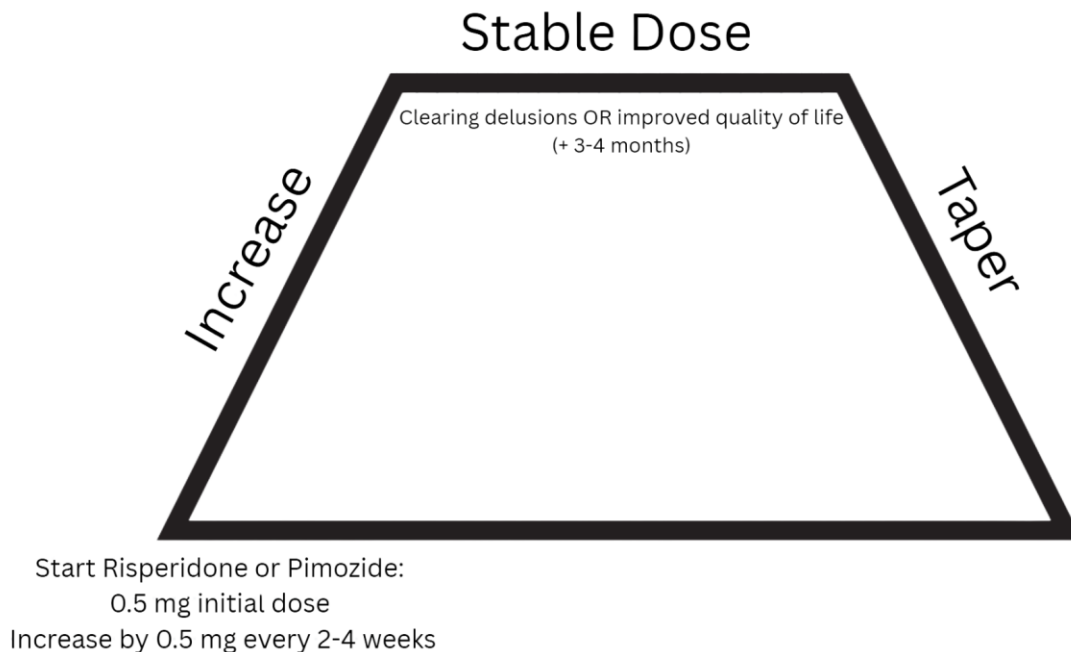
“This is a medicine for the itching and distress. This is not being used to treat schizophrenia – you do not have schizophrenia.”

“Many medicines used in psychiatry are frequently used in dermatology for an antihistaminic component (the chemical that makes you itchy).

“Medicines are so poorly named– often we use one medicine to treat multiple unrelated conditions. For example: aspirin can treat fever, pain, or prevent stroke. If I prescribe aspirin to prevent stroke, I do not automatically assume that person also has a fever. In the same way – if I prescribe you [risperidone] to treat itching and distress, I do not believe you are schizophrenic. I believe you are itching and in distress.”

**If the patient cannot accept psychiatric medication**

“There is a medicine, called pimozide, that has no FDA indication for any psychiatric illness. It is not a psychiatric medicine. Pimozide is FDA approved only for Tourette’s syndrome, a neurologic disease, which actually has nothing to do with your condition. We would be using this “off label,” because this medicine alleviates the suffering and anxiety that burdens people in very similar situations to yours.”



*Figure 1: Dosing plan for both pimozide or risperidone for the treatment of PDP. Risperidone and other second generation antipsychotics are considered “first-line,” though pimozide may be useful if the patient is hesitant to take a “psychiatric” medication.*

**Talking about what happened once functionality is regained: either delusion resolves or persists with less emotional intensity)**

“Our brains are constantly interpreting sensations from our body. Sometimes, the brain gets stuck on a sensation and it becomes a loop, almost like when a thought or song gets stuck on your head. You likely had a very real sensation and then your brain got stuck on it like a washing machine. This medicine helped your brain to break out of that cycle.”

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**Next Steps**

When presented to physicians, this clinical script was met with largely high rates of satisfaction. All physicians interviewed felt that the ideas and sentences offered by the clinical script would be clinically useful. The next step in evaluating this clinical tool would be to put it into practice. A subsequent study could evaluate the clinical script’s effectiveness in encouraging treatment initiation and adherence.

Further advancements in PDOP understanding are expected and hoped for in the future. Given prior case studies of depression management and ECT improving chronic tactile hallucinations may provide alternative treatment avenues. Furthermore, the burgeoning observation of the relationship between psychosis and inflammation may provide further information into the pathophysiology and treatment of chronic delusions.

**Conclusion:**

PDOP is a relatively rare isolated delusion that most dermatologists, primary care physicians, and psychiatrists have attempted to treat at one point. Although PDOP may be treated effectively with antipsychotics, people often decline treatment due to their fixed delusion, aversion to a psychiatric diagnosis, and subsequent refusal to take psychiatric medications. With tactful language to establish good rapport however, the likelihood of treatment acceptance and adherence may increase. Through the use of this clinical script, meticulously improved with the help of twelve thoughtful clinicians from various specialties, PDOP treatment acceptance and adherence may improve in the future.

## Citations

- Ahmad K, Ramsay B. Delusional parasitosis: lessons learnt. *Acta Derm Venereol.* 2009;89(2):165-8. doi:10.2340/00015555-0587
- Boggild AK, Nicks BA, Yen L, et al. Delusional parasitosis: six-year experience with 23 consecutive cases at an academic medical center. *Int J Infect Dis.* Apr 2010;14(4):e317-21. doi:10.1016/j.ijid.2009.05.018
- Coetzee, S., Kalis, M., & Chan, Y. H. (2023). The diagnostic workup, screening, and treatment of delusional infestation. *Dermatology and Therapy*, 13(4), 1127–1144. <https://doi.org/10.1007/s13555-023-00938-3>
- Edwin A. Don't Lie but Don't Tell the Whole Truth: The Therapeutic Privilege - Is it Ever Justified? *Ghana Med J.* Dec 2008;42(4):156-61.
- Lee CS. Delusions of parasitosis. *Dermatol Ther.* Jan-Feb 2008;21(1):2-7. doi:10.1111/j.1529-8019.2008.00163.x
- Lu, J. D., Gotesman, R. D., Varghese, S., Fleming, P., & Lynde, C. W. (2022). Treatments for primary delusional infestation: Systematic review. *JMIR Dermatology*, 5(1), e34323. <https://doi.org/10.2196/34323>
- Meehan WJ, Badreshia S, Mackley CL. Successful Treatment of Delusions of Parasitosis With Olanzapine. *Archives of Dermatology.* 2006;142(3):352-355. doi:10.1001/archderm.142.3.352
- Mendelsohn, A., Sato, T., Subedi, A., & Wurcel, A. G. (2024). Evaluation and management of delusional infestation: A state-of-the-art review. *Clinical Infectious Diseases*, 79(7), 1791–1799. <https://doi.org/10.1093/cid/ciae165>
- Patel V, Koo JY. Delusions of parasitosis; suggested dialogue between dermatologist and patient. *J Dermatolog Treat.* Oct 2015;26(5):456-60. doi:10.3109/09546634.2014.996513
- Reich A, Kwiatkowska D, Pacan P. Delusions of Parasitosis: An Update. *Dermatol Ther (Heidelb).* Dec 2019;9(4):631-638. doi:10.1007/s13555-019-00324-3
- Shenoi SD, Soman S, Munoli R, Prabhu S. Update on Pharmacotherapy in Psychodermatological Disorders. *Indian Dermatol Online J.* May-Jun 2020;11(3):307-318. doi:10.4103/idoj.IDOJ\_330\_19
- Suh K. Treatment of delusions infestation. In: Marder S, ed. *UpToDate*. 2024. Accessed August 27, 2024.

