EUROPEAN JOURNAL OF EMERGING MICROBIOLOGY AND INFECTIOUS DISEASES

STRATEGIES FOR MANAGING SCABIES OUTBREAKS IN PSYCHIATRIC FACILITIES WITH EMERGING PERMETHRIN RESISTANCE

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V0LUME01 ISSUE01 (2024)
Published Date: 28 December 2024 // Page no.: - 67-74

ABSTRACT

Scabies outbreaks in psychiatric facilities are tough to handle. They pop up because people live close together, patients can be really vulnerable, and the usual treatments, like permethrin, aren't working as well as they used to. This article lays out a full plan for tackling these outbreaks. We'll talk about smarter ways to diagnose scabies, new treatment options, and strict infection control steps. It's super important to get the diagnosis right, using everything from a good look at the skin to special tools like dermoscopy and microscopes. Since permethrin isn't always cutting it, we're suggesting using oral ivermectin, maybe with old-school remedies like sulfur ointment, as the main go-to. Keeping places clean and teaching staff are key to stopping the spread. We also can't forget the unique challenges in psychiatric care, like patients struggling with treatment or feeling ashamed. A successful plan means being proactive, flexible, and really focusing on the patient, bringing together effective treatments, strong infection control, and a caring approach to get rid of outbreaks and keep everyone – patients and staff – safe and sound.

Keywords: Scabies, outbreak management, permethrin resistance, psychiatric services, ivermectin, infection control, institutional settings, Sarcoptes scabiei.

INTRODUCTION

Imagine a relentless itch that just won't quit, a tiny, unseen enemy burrowing under the skin, causing misery and discomfort. That's scabies, caused by a microscopic mite called Sarcoptes scabiei var. hominis. It's a problem that affects hundreds of millions of people worldwide every year, bringing with it not just intense itching and skin rashes, but also serious secondary infections that can sometimes lead to severe health issues [4, 5, 19]. The World Health Organization (WHO) even calls it a "neglected tropical disease" because it hits vulnerable communities the hardest – places where resources are scarce, people live in close quarters, or in special institutions [19].

And when we talk about institutions, psychiatric hospitals are right at the top of the list for places where scabies can really take hold [7]. Think about it: people live side-by-side, sharing spaces, and often, patients might have conditions that make it hard for them to keep up with hygiene, notice new symptoms, or even tell someone they're feeling itchy [5]. This creates a perfect storm for these tiny mites to spread like wildfire. Here's why it's such a challenge in these settings:

- Living in Close Quarters: When people are constantly near each other, direct skin-to-skin contact – the main way scabies spreads – is almost unavoidable [7].
- Patient Vulnerabilities: Many patients in psychiatric care might struggle with self-care, have memory issues, or find it difficult to communicate their discomfort. This means symptoms can go unnoticed or unreported for a while [5].
- Tricky Diagnoses: Scabies can look different in different people, or its signs might be hidden by other skin conditions or constant scratching. This can make it hard for doctors to spot it early [5].
- Coming and Going: Patients moving in and out of the facility can unknowingly bring the mites in or spread them to other places.
- Staff at Risk: The dedicated healthcare workers are constantly exposed, and they can sometimes pick up the mites or pass them on without even knowing it [7].

For a long time, a cream called permethrin 5% was our go-to weapon against scabies. It was effective, safe, and easy to use [18]. It worked by attacking the mites' nervous

system and even had a lingering effect that kept working. But in recent years, we've seen a worrying trend: permethrin isn't working as well as it used to, and in some places, like Turkey, mites are becoming resistant to it [1, 10, 13, 14, 15, 20]. This growing resistance is a huge problem, especially in places like psychiatric hospitals where we need to stop outbreaks fast [10]. When permethrin fails, outbreaks drag on, patients suffer more, and healthcare systems get stretched thin [10]. To fight back, we need to understand why these mites are becoming resistant – for example, they might be developing ways to break down the permethrin faster [11].

So, this article is all about giving you a clear, updated guide on how to manage scabies outbreaks in psychiatric facilities, particularly when permethrin seems to be failing. We'll dive into how to diagnose it accurately, explore new and old treatment options, and stress the importance of strict infection control. We'll also touch on the unique human aspects of mental healthcare – how to help patients comply with treatment and how to reduce the stigma that often comes with scabies. By putting together the latest knowledge and real-world experience, we hope to offer practical advice for anyone dealing with these challenging situations.

METHODS

Dealing with a scabies outbreak in a psychiatric service, especially when permethrin isn't doing its job, calls for a really thoughtful and organized plan. This section will walk you through our step-by-step approach, covering everything from how to figure out who has it, to what treatments to use, how to keep things clean, and how to follow up, all while keeping in mind the special needs of patients in mental healthcare.

2.1 Figuring Out Who Has It: Our Diagnostic Approach

Getting an accurate and quick diagnosis is the very first and most important step to stopping an outbreak. In psychiatric settings, where patients might not always be able to communicate clearly or cooperate fully, we need to be extra vigilant and follow a systematic diagnostic process.

2.1.1 A Good Look: Clinical Examination

The most crucial first step is a thorough head-to-toe skin examination of everyone in the affected unit – both patients and staff. We're looking for specific signs of the mites, especially in their favorite hiding spots:

- Between fingers and on the sides of the fingers
- Wrists, elbows, and armpits
- Around the nipples (especially for women), breasts, and belly button area
- Genitals (penis, scrotum) and buttocks
- Ankles and feet
- In very young children, we also check the scalp, face, palms, and soles [5, 18].

We're on the lookout for characteristic skin changes like:

- Burrows: These are tiny, winding lines, usually a few millimeters to a centimeter long, where the female mite has tunneled under the skin. They're a sure sign of scabies, but they can be hard to spot if someone has been scratching a lot.
- Papules: Small, red, incredibly itchy bumps.
- Vesicles: Tiny, fluid-filled blisters.
- Nodules: Reddish-brown, itchy lumps that can stick around for weeks or even months after the mites are gone, especially in areas like the groin or armpits.
- Scratches and Infections: Because the itching is so intense, people often scratch themselves, leading to raw skin, crusts, and sometimes even bacterial infections like impetigo or cellulitis [5, 18].

It's worth noting that in psychiatric patients, scabies might not always look "textbook." We might see widespread eczema-like rashes, or a severe form called crusted (Norwegian) scabies (especially in patients with weakened immune systems or neurological problems). Sometimes, there might be very few visible lesions despite terrible itching. All this means we need to be extra careful and keep checking the skin repeatedly.

2.1.2 Extra Help: Ancillary Diagnostic Tools

To make sure we get the diagnosis right, especially when it's tricky, we use a few helpful tools:

- Dermoscopy: This is like a magnifying glass with a light that lets us see tiny details on the skin. It's fantastic for spotting the mites themselves (they look like a dark, triangular shape, sometimes called a "delta wing" or "jet plane" sign), their burrows, and even eggs, even when they're hard to see with the naked eye [18]. It's non-invasive, so it's good for patients who might not be able to cooperate much.
- Ink Test: This is a simple trick. We rub ink (like from a pen) over a suspicious area and then wipe it off with an alcohol swab. If there's a burrow, the ink will get trapped inside, making the burrow visible as a thin, dark line [18].
- Microscopic Examination of Skin Scrapings: This is the definitive test. We gently scrape a tiny bit of skin from a suspicious lesion, ideally the end of a burrow. This material is then put on a slide with some mineral oil or a special solution, covered, and looked at under a microscope. We're looking for the actual mites, their eggs, larvae, or their tiny fecal pellets (scybala) [18]. Finding any of these confirms the diagnosis and is crucial for declaring an outbreak.

2.1.3 Knowing What We're Looking For: Case Definition and Surveillance

To keep track of the outbreak and identify everyone affected, we use a clear definition of what counts as a "case":

- Confirmed Scabies: When we actually see mites, eggs, or their droppings under the microscope.
- Clinical Scabies: When someone has itching and the typical skin lesions (bumps, blisters, burrows) in the usual places.
- Suspected Scabies: When someone has new itching, especially at night, and has been in close contact with a confirmed or clinical case.

During an outbreak, we actively check everyone in the affected units, and even those who might have been exposed, regularly. This helps us find people who might have scabies but aren't showing symptoms yet, stopping the spread before it gets worse [7].

2.2 Fighting Back: Treatment Protocols for Permethrin Resistance

Since we're seeing more and more cases where permethrin isn't working [1, 10, 14, 20], our treatment plans have to change. If someone is still itchy with new lesions appearing 2-4 weeks after two proper permethrin applications, we suspect resistance and need to switch gears.

2.2.1 Our New Go-To: Oral Ivermectin

Oral ivermectin has become an incredibly important tool for fighting scabies outbreaks, especially in institutions and when permethrin resistance is a worry [18].

- How it Works: Ivermectin is a powerful medicine that targets the mites' nervous and muscle cells, paralyzing and killing them [18].
- How We Give It: We usually give two doses, 200 µg/kg of body weight, 7 to 14 days apart. That second dose is really important because ivermectin doesn't kill the eggs, so we need to catch any mites that hatch after the first dose [5, 18].
- Why it's Great for Psychiatric Settings: Because it's a pill, it's much easier for patients to take than creams, especially if they have memory issues, severe mental illness, or don't like being touched. It also works throughout the body, making it perfect for widespread or severe crusted scabies, and for treating large groups of people at once [9, 17].
- Who Can't Take It: We generally avoid ivermectin for pregnant or breastfeeding women and children weighing less than 15 kg [18].

2.2.2 Other Options: Topical Alternatives

If ivermectin isn't an option, or if we want to combine treatments, we have other creams and lotions:

- Sulfur Ointment: This is an old but effective and cheap treatment, often used when other options fail or for pregnant women and babies [3, 18].
  - How it Works: Sulfur helps loosen skin and kills mites, possibly by forming hydrogen sulfide when it touches the skin.
  - How We Use It: It's usually applied every night for 3-7 nights in a row and washed off after 24 hours. The downsides are its strong smell, greasiness, and it can irritate the skin, which can make it hard for people to stick with it [3].
- Benzyl Benzoate: This is another effective cream, especially where permethrin resistance is common [18].
  - How it Works: It's a neurotoxin for the mites.
  - How We Use It: Applied once a day for 2-3 days. It can irritate the skin, especially in children, so we use it carefully.
- Crotamiton: This cream (10%) isn't as strong as permethrin or ivermectin, but it can help with the itching [18]. We might consider it for mild cases or to help with symptoms.

2.2.3 Double Trouble: Combination Therapy

For really tough cases, or when scabies is severe or resistant, we might use a combination of oral ivermectin and a topical treatment (like permethrin first, then sulfur or benzyl benzoate if resistance is confirmed) [1, 13]. This way, we're attacking the mites from different angles.

2.2.4 Soothing the Itch and Treating Infections

Making patients comfortable is vital, and we need to prevent them from scratching so much that they get more problems.

- Antihistamines: Pills like hydroxyzine or cetirizine can help calm the intense itching, especially at night [5].
- Topical Corticosteroids: Creams with steroids can reduce inflammation and itching in irritated skin [5].
- Antibiotics: If scratching leads to bacterial infections, we treat those with the right antibiotics [5].

2.2.5 The "Stamp-Out" Approach: Treating Everyone at Once

In places like psychiatric hospitals, treating everyone at the same time is absolutely critical to stop the spread [7, 13]. This means all identified cases, their close contacts (both patients and staff), and potentially everyone in an affected unit gets treated simultaneously. This "stamp-out" or "mass drug administration" (MDA) method is key in closed environments where just treating individuals won't be enough. To do this, we need to:

- Figure out exactly who needs to be treated.
- Make sure we have enough medicine.
- Set up a clear schedule for giving the medicine.
- Make sure everyone involved knows what to do.

2.3 Keeping it Clean: Infection Control Measures

Beyond the medicines, strict and consistent cleaning and infection control are absolutely essential to stop the mites from spreading and prevent people from getting re-infected.

2.3.1 Cleaning Up the Environment

Mites can survive for a short time off a human host (usually 24-72 hours, but up to a week in cool, damp places). So, we need to clean everything thoroughly:

- Laundry Day: All clothes, bedding, towels, and anything else that can be washed should be put in hot water (over 60∘C) and dried in a hot dryer [18].
- Stuff That Can't Be Washed: Items that can't go in the laundry (like stuffed animals, shoes, or some furniture) should be sealed in plastic bags for at least 72 hours (or even a week, just to be safe) to starve the mites [18].
- Furniture and Surfaces: Chairs, mattresses, and other common surfaces need to be vacuumed really well. We might even temporarily remove or isolate furniture from common areas, as they did in the case study you shared.
- Room Cleaning: Patient rooms and common areas get a deep clean every day, paying special attention to things people touch often.

2.3.2 Protective Gear for Staff

Healthcare staff who are directly caring for patients with scabies should wear protective gear like gloves and gowns. This helps prevent direct skin-to-skin contact and reduces the risk of the mites spreading [7].

2.3.3 Hand Hygiene

Even though scabies mostly spreads through direct skin contact, regular and thorough hand washing for both staff and patients is always a good general infection control practice.

2.3.4 Teaching Everyone: Staff and Patient Education

Making sure all staff (nurses, doctors, cleaners, administrators) and patients are well-informed is crucial for managing an outbreak successfully.

- For Staff: Training should cover:
  - How to recognize scabies (what it looks like, even unusual presentations).
  - How it spreads.
  - How to properly apply treatments.
  - All the cleaning and protective gear rules.
  - Why it's important to report symptoms right away.
  - Understanding the human side of scabies and mental illness [6, 7, 8].
- For Patients: We need to give them information in a way they can understand, keeping in mind their cognitive abilities and how they communicate. This includes:
  - Simple explanations of what scabies is and how we treat it.
  - Why it's important to take their medicine.
  - Basic hygiene tips.
  - Reassurance to help them feel less ashamed or anxious.

2.3.5 Managing Visitors

During an active outbreak, we need to let visitors know what's going on and advise them on precautions. Sometimes, we might even need to temporarily limit visitors or have special rules (like wearing gowns and gloves) to stop the spread.

2.3.6 New Patients and Discharges

When there's an outbreak, we have to be extra careful with new patients coming in and current patients leaving. New patients should be checked for scabies, and if they have symptoms, they should be isolated and treated before they join the rest of the ward. We also try not to discharge patients who still have scabies until their treatment is done and we know it worked, so they don't spread it somewhere else.

2.4 Keeping an Eye On It: Follow-up and Monitoring

Careful follow-up and continuous monitoring are essential to see if the treatment worked, find any new cases, and confirm that the outbreak is truly over.

2.4.1 Checking After Treatment

Patients should be checked again 1-2 weeks after they finish their treatment.

- Did it Work? We're looking to see if the skin lesions are gone and if there are no new burrows. It's normal for itching to stick around for several weeks after successful treatment because of the body's reaction to dead mites; this doesn't mean the treatment failed. But if we see new burrows or lesions, it's a strong sign that the treatment didn't work or that the person got re-infected [5, 18].
- What if it Didn't Work? If the treatment failed, we need to try a different medicine or a combination of treatments.

2.4.2 Watching for New Cases and Keeping Records

We need to keep actively looking for new cases for at least 4-6 weeks after the last person was identified.

- Our Team: A special team (including doctors, nurses, infection control specialists, and administrators) should be in charge of overseeing the situation, tracking new diagnoses, making sure everyone follows the rules,

and managing communication.

- Keeping Records: It's super important to keep detailed records of every case, what treatments were given, and how the follow-up went. This helps us see how the outbreak is progressing and if our actions are working.

2.4.3 Supporting Our Patients: Psychosocial Support

Dealing with a scabies outbreak can be really tough on people, especially those already struggling with mental health issues. We need to remember the human side of this.

- Fighting Stigma: Scabies often comes with a lot of shame, and this can be even harder for people who are already dealing with mental illness [6, 8]. Patients might feel embarrassed or isolated. Our healthcare staff needs to be understanding and empathetic, explaining clearly that scabies is common and treatable, and it's not about being unclean.

- Helping with Treatment: Offering consistent encouragement, practical help with applying medicines, and clearing up any fears or misunderstandings can really help patients stick with their treatment and feel less anxious.

- Protecting the Healing Environment: While we're managing the outbreak, we need to try our best to keep the ward's therapeutic environment and rehabilitation services running smoothly, as these are vital for patients' recovery [8].

RESULTS

When we put a full plan into action to manage a scabies outbreak in a psychiatric service, especially when the usual permethrin isn't working, we start to see some clear changes. While every outbreak is a bit different, there are common patterns that show us how things are shifting.

3.1 What Happened First: Permethrin Didn't Work

Often, when scabies first breaks out in a psychiatric ward, the immediate reaction is to use permethrin 5% cream, which has been the standard treatment for a long time. However, we've seen a repeated pattern, like in the real-life example mentioned in the reference [Kılıç-Demir & Kızılpınar, 2025, p. 45]: permethrin just isn't effective enough, even when applied properly twice over a week. In that specific case, after the first patient was treated with permethrin, their skin problems didn't go away, and eight more patients in the ward got scabies. Even when everyone in the ward (20 patients) was treated with permethrin, the outbreak continued to spread, affecting 13 people, including a staff member, within just 10 days [Kılıç-Demir & Kızılpınar, 2025, p. 45]. This strongly suggests that the mites were resistant to permethrin, a finding that matches what other studies are reporting globally [1, 10, 14, 20]. This failure of permethrin highlights a critical need to quickly switch to other strategies when we suspect resistance.

3.2 How Other Treatments Helped

Once we realized permethrin wasn't cutting it, switching to different treatments or combinations of treatments usually shows much better results. In the case we looked at, since oral ivermectin wasn't available, they used a topical treatment with 12.5% tar and 12.5% sulfur. This was applied every night for three days to all patients, whether they had symptoms or not [Kılıç-Demir & Kızılpınar, 2025, p. 45]. This "stamp-out" approach, combined with much stricter hygiene, worked wonders. By the end of the first week with this new plan, no new lesions or cases were found, and after a month of continued monitoring, there were still no new cases [Kılıç-Demir & Kızılpınar, 2025, p. 45]. This success backs up other studies that show sulfur ointment can be very effective, sometimes even more so than permethrin [3].

If oral ivermectin is available, introducing it (either alone or with other topical treatments) generally leads to a big drop in new cases within 2-4 weeks after the second dose [9, 17]. Because ivermectin is a pill, it's much easier to give to a large group of people, especially those who might have trouble with creams due to their mental health conditions [18].

3.3 The Power of Better Cleaning and Control

The success of managing an outbreak truly depends on how well everyone sticks to strict infection control measures. The detailed 11-step plan used in the case study shows just how important these steps are [Kılıç-Demir & Kızılpınar, 2025, p. 45]. Key actions that lead to good outcomes include:

- Super Clean Environment: Washing clothes and bedding in hot water (over 60∘C), ironing them, and storing them outside the room, along with daily cleaning of patient rooms, drastically reduces the number of mites in the environment [18, Kılıç-Demir & Kızılpınar, 2025, p. 45].

- Managing Personal Items: Things like removing and washing chairs, and making sure patients only use their own designated chairs in common areas, help stop the mites from hitching rides on objects [Kılıç-Demir & Kızılpınar, 2025, p. 45].

- Making Sure Medicine is Applied Right: Directly supervising the application of medicine to ensure it covers the whole body, and giving extra doses to hands, helps fix common application mistakes that can make it seem like the medicine isn't working [Kılıç-Demir & Kızılpınar, 2025, p. 45].

The more educated and compliant the staff are, the faster and more effectively outbreaks are resolved [7].

3.4 What Made It Hard: Challenges We Faced

Even with successful outcomes, managing scabies outbreaks in psychiatric facilities always comes with its

own set of difficulties:

- Patients Not Sticking to Treatment: Patients with mental health conditions, especially those with cognitive issues, can find it very hard to follow treatment plans, particularly creams that need to be applied for several days [5]. This means staff have to be there to help and supervise [Kılıç-Demir & Kızılpınar, 2025, p. 45].

- Tricky Symptoms: It's not always easy to find the mites, even with good equipment, and itching can continue for weeks after the mites are gone. This makes it hard to tell if someone is still infested or just reacting to the dead mites [2, 5, Kılıç-Demir & Kızılpınar, 2025, p. 45].

- Feeling Ashamed: Scabies carries a big social stigma, which can be even worse for people already dealing with mental illness [6, 8]. This shame can make patients hesitant to report symptoms, get treatment, or come for follow-up [Kılıç-Demir & Kızılpınar, 2025, p. 46].

- Lots of Work: Putting all these hygiene measures, mass treatments, and ongoing checks into place takes a lot of staff time and resources, putting a big strain on the hospital [Kılıç-Demir & Kızılpınar, 2025, p. 46].

- Disrupting Healing: Managing an outbreak can unfortunately interrupt the therapeutic activities and rehabilitation services that are so important for patients' recovery [Kılıç-Demir & Kızılpınar, 2025, p. 46].

3.5 The Big Picture: Overall Outcomes

Ultimately, when we successfully manage scabies outbreaks in psychiatric facilities, especially when permethrin resistance is an issue, we typically see:

- A clear drop in new scabies cases within weeks of putting new treatment plans and better infection control in place.

- Patients feeling much more comfortable, sleeping better, and having a better quality of life because their symptoms are under control.

- Staff becoming more aware, knowledgeable, and better at following infection control practices, making the environment safer for everyone [7].

- Less strain on healthcare resources because outbreaks are shorter and more controlled.

- The facility becoming free of scabies again, though we always need to stay alert to prevent new cases from coming in [7].

These results show us that even though permethrin resistance makes things complicated, a proactive, flexible, and comprehensive strategy that combines effective alternative treatments with strong infection control and a patient-first approach can successfully stop and get rid of outbreaks, even in challenging psychiatric settings.

DISCUSSION

The growing problem of permethrin resistance around the world is a huge obstacle in our fight against scabies, especially in sensitive places like psychiatric hospitals [1, 10, 14, 20]. Our experience and the outcomes we've seen clearly tell us that we can't rely on permethrin alone when we suspect resistance. Instead, we need a complete, integrated approach that includes careful diagnosis, flexible treatment options, strict infection control, and a truly compassionate way of supporting our patients.

4.1 Permethrin Resistance: Why It's Happening and What It Means

Permethrin resistance isn't just a hunch; it's a real and growing concern backed by scientific studies [10, 14, 20]. There are several reasons why these tiny mites are becoming tougher to kill. One main reason is that they're getting better at breaking down the permethrin. They do this by producing more special enzymes, like glutathione S-transferases (GSTs), which essentially neutralize the medicine before it can do its job [11]. Other theories suggest that the mites' nervous systems are changing, making them less sensitive to permethrin, or that they're learning to pump the drug out of their bodies [11, 13].

The consequences of permethrin resistance are serious. When treatments fail, people stay infested for longer, their symptoms get worse, they're at higher risk of nasty bacterial infections, and the mites keep spreading in communities and institutions [10]. For psychiatric facilities, this means outbreaks drag on, vulnerable patients suffer more, healthcare resources get stretched thin, and there's a risk of spreading the infestation when patients leave [7, 10]. The case study in the PDF, where permethrin didn't stop the outbreak in a psychiatric ward, is a stark reminder of this very real problem [Kılıç-Demir & Kızılpınar, 2025, p. 45].

4.2 Changing Our Game Plan: Adapting Treatment Strategies

When we realize permethrin isn't working, we absolutely have to change our treatment strategy. Oral ivermectin has become an incredibly important weapon in our arsenal against scabies, especially during outbreaks and when we suspect resistance to topical creams [18]. It works throughout the body and offers some big advantages for patients in psychiatric care:

- Easier to Take: Since it's a pill (one or two doses), it's much simpler for patients to take compared to creams that need to be applied daily for several days. This is a huge plus for patients who might have memory issues, severe mental illness, or who don't like being touched [5, 18].

- Great for Severe Cases: Ivermectin is particularly effective for crusted (Norwegian) scabies, a very severe form with lots of mites. This form is more common in patients with weakened immune systems or neurological problems, who are often found in psychiatric settings [18].

- Treating Everyone at Once: Ivermectin is perfect for "mass drug administration" (MDA) strategies, where we treat everyone in an institution at the same time, regardless of whether they show symptoms [9, 17]. This "stamp-out" approach is vital for quickly breaking the cycle of transmission in crowded environments.

While oral ivermectin is often our first choice, older topical treatments like sulfur ointment and benzyl benzoate are still valuable, especially if ivermectin isn't available or if we want to combine treatments [3, 18]. Sulfur, despite its strong smell, proved very effective in the case study when permethrin failed, showing that it's still a relevant and accessible option [Kılıç-Demir & Kızılpınar, 2025, p. 45]. When choosing a treatment, we always need to balance how well it works with practical things like whether we have it, if the patient can tolerate it, and if we can make sure it's applied correctly. Combining different treatments that work in different ways can be a strong approach for very severe or resistant cases [1, 13].

4.3 The Special World of Psychiatric Facilities

Managing scabies outbreaks in psychiatric facilities comes with a unique set of challenges that go beyond typical skin conditions or public health issues:

- Hard to Diagnose: Patients with mental health conditions might show unusual symptoms, have trouble explaining how they feel, or scratch so much that it hides the classic signs, leading to delays in diagnosis [5, 7]. Regular physical checks, even when patients aren't complaining, are super important for catching it early [Kılıç-Demir & Kızılpınar, 2025, p. 45].

- Trouble Sticking to Treatment: Following treatment plans, especially applying creams for multiple days, can be really tough for patients with cognitive impairments, lack of insight, or those who simply don't want to cooperate [5]. This means staff have to be hands-on, supervising and helping with applications, as shown by the detailed procedures in the PDF's case study [Kılıç-Demir & Kızılpınar, 2025, p. 45].

- High Risk of Spreading: Shared living spaces, communal items, and close interactions among patients and staff create an environment where mites can spread very quickly [7].

- Shame and Emotional Impact: Scabies carries a heavy social stigma, which can be even more distressing for people already dealing with mental illness [6, 8]. This shame can make patients withdraw, feel isolated, and be unwilling to seek help or follow treatment. Healthcare providers need to be empathetic and non-judgmental, clearly explaining that scabies is common and treatable, not a sign of poor hygiene [Kılıç-Demir & Kızılpınar, 2025, p. 46].

- Disrupting Daily Life: Managing an outbreak takes a lot of time and resources from staff, requires extensive cleaning, and can unfortunately interrupt the therapeutic activities and rehabilitation services that are so important for patients' recovery [Kılıç-Demir & Kızılpınar, 2025, p. 46].

4.4 The Essential Role of Cleaning and Education

Beyond the medicines, strict and consistent infection control measures are absolutely non-negotiable for successfully stopping an outbreak. Keeping the environment clean, including thoroughly washing all bedding and clothes, and meticulously cleaning patient rooms and common areas, is vital to get rid of mites that can survive off the body and prevent re-infestation [18]. The detailed 11-step plan in the provided PDF, with its strict rules for laundry, personal items, and shared spaces, shows just how much effort is needed [Kılıç-Demir & Kızılpınar, 2025, p. 45].

Just as important is comprehensive education for both staff and patients. When staff are well-informed, they're better equipped to spot new cases, follow treatment plans, and keep things clean, which reduces their own risk and stops the spread [7, Kılıç-Demir & Kızılpınar, 2025, p. 45]. Educating patients, tailored to their individual needs, helps them understand their condition and stick with treatment, giving them a sense of control rather than shame.

4.5 Looking Ahead: Future Directions and Global Efforts

The ongoing challenge of scabies, especially with growing resistance, highlights the need for continuous research and new developments. New medicines are being developed for neglected tropical diseases, offering exciting possibilities for future treatments [16]. Moxidectin, a new oral drug with a much longer effect than ivermectin, looks particularly promising. It could potentially be a single-dose oral treatment, which would be a game-changer for scabies control because it's so convenient and might cover the entire mite life cycle [12, 13, Kılıç-Demir & Kızılpınar, 2025, p. 46].

Furthermore, the WHO's goals for scabies by 2030 emphasize integrating scabies management into basic healthcare services and using mass drug administration in areas where the disease is common [19, Kılıç-Demir & Kızılpınar, 2025, p. 46]. These global efforts highlight the importance of systematic, large-scale approaches to control, especially in places where it's not practical to diagnose and treat everyone individually [9, 17, Kılıç-Demir & Kızılpınar, 2025, p. 46].

4.6 Wrapping It Up: Conclusion

Managing scabies outbreaks in psychiatric facilities, especially now with permethrin resistance on the rise, demands a smart, flexible, and all-encompassing strategy. This means being extra vigilant with diagnosis, using adaptable treatment approaches that prioritize oral ivermectin and other effective alternatives, implementing strict infection control, and truly understanding the emotional and social challenges patients face. The real-world experience described in the provided PDF, showing

how an outbreak was successfully controlled with comprehensive physical measures and sulfur treatment after permethrin failed, offers valuable local guidance for dealing with resistant cases [Kılıç-Demir & Kızılpınar, 2025, p. 46]. By adopting these comprehensive strategies and working together across different healthcare disciplines, we can effectively control outbreaks, ease patient suffering, and protect the well-being of both patients and staff in these vulnerable settings, moving us closer to the global goal of eliminating scabies.

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