

Post-COVID-19 resurgence of scabies in Campania, Italy: the hidden burden and challenges in surveillance

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Abstract

Scabies, a contagious parasitic skin disease caused by *Sarcoptes scabiei*, has shown a marked resurgence in several European regions following the COVID-19 pandemic. In Campania (Italy), reported cases increased from 42 in 2020 to 748 in 2024, according to the regional surveillance system (*Sistema Regionale Premal - Prevenzione e Igiene Sanitaria*). However, the true burden of disease is likely underestimated due to widespread underreporting, delayed diagnosis, and a hidden reservoir of undetected or self-treated cases. This study analyzes epidemiological trends in Campania, highlights limitations in surveillance, and examines the role of pseudo-resistance in treatment failures. The findings underscore the need for robust monitoring, accurate diagnostics, and public health interventions to reduce the ongoing spread of scabies in the region.

Key words: scabies; epidemiology; under-reporting; Italy; public health; COVID-19; pseudo-resistance; infectious diseases.

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Introduction

Scabies has long been considered a neglected tropical disease, but in recent years, it has re-emerged as a significant public health concern in high-income countries. In Italy, epidemiological data suggest a dramatic increase in scabies cases following the COVID-19 pandemic, particularly in densely populated urban areas and socio-economically disadvantaged communities. Campania, one of the most populous and economically diverse regions in Italy, presents a unique epidemiological challenge, as official reports likely underestimate the true prevalence of the disease due to underdiagnosis and underreporting.¹

In Italy, scabies is not part of the mandatory national notification system, and case documentation remains at the discretion of individual physicians. In Campania, the regional surveillance authority (*Sistema Regionale Premal - Prevenzione e Igiene Sanitaria*) manages reporting at the local level but lacks integration with national epidemiological databases. This regulatory fragmentation hinders timely public health interventions and contributes to the underestimation of the disease. The COVID-19 pandemic temporarily suppressed scabies transmission due to strict lockdown measures, reduced social interactions, and the prioritization of COVID-19-related healthcare. However, as restrictions were lifted, a sharp increase in cases was observed.

Materials and Methods

According to data from the *Sistema Regionale Premal*, the reported incidence in Campania rose from 42 cases in 2020 to 74 in 2021, followed by an exponential surge to 153 in 2022, 398 in 2023, and 748 in 2024 (Figure 1 and Table 1).² These data confirm the increasing burden of scabies, though the actual number of cases is likely significantly higher. The discrepancy between reported cases and true incidence stems from several factors, including diagnostic delays, asymptomatic carriers, self-treatment, and the lack of a standardized reporting system. Data were retrospectively collected from dermatological consultations and institutional records reported to the *Sistema Regionale Premal*. Only clinically confirmed diagnoses were included. The dataset is subject to selection bias, underreporting, and incomplete documentation. No imputation techniques were applied for missing data. These limitations are discussed further below.

Results

The resurgence of scabies in Campania mirrors trends observed across Italy, yet the region's socio-economic and demographic characteristics exacerbate disease transmission. The *Sistema Regionale Premal* has recorded a substantial increase in reported cases, with the highest concentrations observed in Naples and Caserta, areas characterized by overcrowding, migration, and

economic instability.³ A significant proportion of cases remains undetected due to mild or atypical clinical presentations, particularly among immunocompromised individuals and the elderly. Scabies-related stigma further discourages individuals from seeking medical care, leading to a growing reservoir of undiagnosed and untreated infections. Self-medication with over-the-counter scabicides is common, allowing patients to temporarily alleviate symptoms without eradicating the infestation, thereby sustaining transmission within households and institutional settings. The lack of mandatory notification of scabies cases in Italy further complicates disease surveillance. While certain infectious diseases require systematic reporting, scabies remains underreported, as general practitioners and dermatologists are not required to document cases in national epidemiological databases. This fragmented reporting system results in an incomplete understanding of disease prevalence and timely public health interventions.⁴

Discussion

The post-pandemic resurgence of scabies observed in Campania aligns with epidemiological trends reported in other Italian regions and internationally. According to Spaziante *et al.* (2025),¹ the Lazio region has experienced a substantial increase in scabies cases following the COVID-19 pandemic, reflecting a pattern observed in densely populated areas and institutional settings. The study highlights that the incidence of scabies has grown significantly across multiple regions in Italy, emphasizing the role of socio-demographic factors and healthcare accessibility in disease transmission. Beyond Italy, Spaziante *et al.*¹ report that global scabies prevalence remains high, with an estimated 565 million new cases in 2020 and a disease burden contributing to 4.84 million disability-adjusted life years. The resurgence is not confined to Italy but has been documented in various European countries, including France, where a significant increase in cases was observed during COVID-19 lockdowns due to prolonged household exposure and limited access to healthcare services. Other reports indicate that scabies disproportionately affects vulnerable populations such as refugees, migrants, and individuals living in overcrowded environments, further exacerbating the transmission dynamics.⁵ Recent clinical observations suggest that the increasing number of scabies cases in Campania is associated with a rise in treatment failures. While the term “scabies resistance” remains controversial, a phenomenon known as pseudo-resistance has been documented, wherein treatment failures occur not due to true drug resistance but as a result of incorrect dosing, poor adherence, and incomplete eradication of mites. According to data from the *Sistema Regionale Premal*, an increase in cases of treatment failure has been reported, particularly in institutional settings such as long-term care facilities.⁵ While pharmacological resistance to permethrin or ivermectin has not been definitively demonstrated in Europe, clinical pseudo-resistance is increasingly reported and may result from improper dosing, missed treatments, or poor education on application methods. Distinguishing between true resistance and failure due to non-adherence is crucial for developing appropriate therapeutic strategies. Several factors contribute to pseudo-resistance. Patients frequently discontinue treatment prematurely, apply scabidical creams incorrectly, or fail to treat household contacts, leading to reinfestation. In institutional settings, inadequate adherence to hygiene protocols and insufficient staff training contribute to the persistence of outbreaks. Additionally, the bioavailability of oral ivermectin varies among individuals, raising concerns about the

potential need for precise dosing regimens. Addressing the scabies epidemic in Campania requires a multifaceted approach that includes improved surveillance, better diagnostic protocols, and targeted public health interventions. Data from the *Sistema Regionale Premal* highlight an increase in reported cases over recent years, emphasizing the need for a more accurate epidemiological assessment. Establishing a mandatory notification system for scabies would provide a clearer picture of the actual disease burden, allowing for early outbreak detection and more effective containment strategies. Systematic screening programs in high-risk populations, such as nursing homes, prisons, and shelters, could facilitate earlier case identification and intervention. In France, targeted screening and mass drug administration have been used successfully during institutional outbreaks. The UK National Health Service recommends combined oral and topical therapies in resistant institutional settings. These examples support the adoption of flexible, context-adapted approaches.⁶ Healthcare providers must be trained to recognize atypical presentations of scabies and to educate patients on the importance of completing treatment regimens. Household-wide treatment strategies should be reinforced to prevent reinfestation, particularly in multi-generational households and communal living environments. Public awareness campaigns aimed at reducing stigma and promoting early medical consultation could also play a crucial role in improving disease management. From a therapeutic perspective, treatment guidelines should be revised to account for pseudo-resistance, potentially incorporating combination therapy for persistent cases. While data indicate an increase in cases over recent years, further research is needed to determine whether emerging resistance patterns are developing in *Sarcoptes scabiei* populations or if treatment failures are primarily due to poor adherence.

Table 1. Yearly trend of scabies cases in Campania, Italy.

Year	Reported cases in Campania
2020	42
2021	74
2022	153
2023	398
2024	748

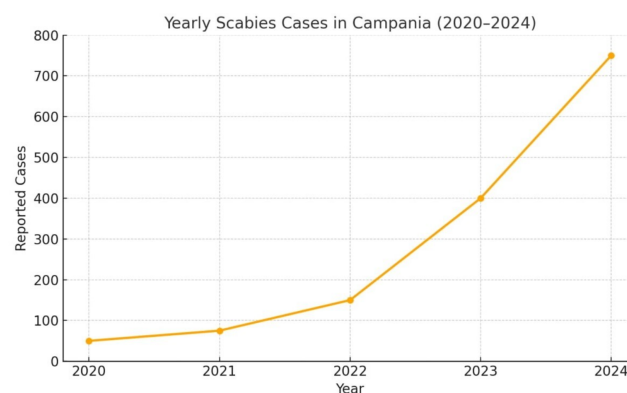


Figure 1. Line chart showing the increase in reported scabies cases in Campania from 2020 to 2024. There is a clear and alarming upward trend, with cases rising from 50 in 2020 to 750 in 2024.

Conclusions

The post-COVID resurgence of scabies in Campania represents a growing public health challenge exacerbated by underreporting, diagnostic limitations, and therapeutic failures. According to the *Sistema Regionale Premal*, the number of reported cases increased from 42 in 2020 to 748 in 2024. However, this likely represents only a fraction of the true disease burden, as many cases go undetected or unreported. Without systematic surveillance, improved case detection, and enhanced public health measures, scabies will continue to pose a silent but significant threat. A coordinated response that integrates healthcare providers, public health authorities, and community-based interventions is essential to contain the spread of scabies and mitigate its long-term impact on vulnerable populations. Addressing this challenge requires mandatory case notification, coordinated training programs for healthcare workers, and the implementation of validated outbreak control strategies drawn from international experience.

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