Annals of
Clinical Case Studies and Medical Images

Psychiatry ACCSMI-1006 Case Report

Hereditary Palm Thickening and Psychosocial Impacts in a School-Aged Child: A Community Case Observation from Ifakara, Tanzania (2026)

Khani KK*, Kamana PK, Kazula SF, Tumaini NJ and Kifaru CC

Department of Public Health, St. Francis University College of Health and Allied Sciences (SFUCHAS), Morogoro, Tanzania

***Corresponding author:** *Khani KK, Department of Public Health, St. Francis University College of Health and Allied Sciences (SFUCHAS), P.O. Box 75, Ifakara, Tanzania; Tel: +255 618 838 191; Email: Kuwaitikarim060@gmail.com*

Received Date : *07 May, 2026*
Accepted Date : *01 June,, 2026*
Published Date : *05 June, 2026*

Citation: *Khani KK, Kamana PK, Kazula SF, Tumaini NJ, Kifaru CC. Hereditary Palm Thickening and Psychosocial Impacts in a School-Aged Child: A Community Case Observation from Ifakara, Tanzania (2026). Ann Clin Case Stud Med Images. 2026; 1(2): 1006.*

Abstract

Visible skin disorders in children can lead to significant psychosocial distress, particularly in low-resource settings where diagnostic capacity is limited and community health literacy is low. This community case observation describes a 5-year-old boy from Ifakara, Tanzania, presenting with chronic palm thickening, yellowish peeling, and dark linear markings since early childhood. The condition is asymptomatic and does not impair daily functioning. A strong family history of similar palm changes among paternal relatives suggests a hereditary keratinization disorder, likely within the spectrum of palmoplantar hyperkeratoses. Although leprosy was appropriately ruled out at a local health facility, clinicians were unable to provide an alternative diagnosis or management plan, leaving the family without reassurance or guidance.

The absence of a clear diagnosis contributed to fear, uncertainty, and stigma within the child's social environment. At school, the child experienced teasing, shame, and reduced participation, reflecting the well-documented link between visible skin conditions and psychosocial harm in children. This case highlights several systemic gaps, including limited diagnostic capacity for rare dermatological conditions, inadequate communication and counseling at primary care level, lack of psychosocial support within schools, and low community health literacy leading to misinterpretation of non-infectious conditions as contagious.

Addressing these gaps requires a coordinated approach that integrates clinical care, community education, and school-based interventions. Simple supportive measures such as emollient use, combined with referral to dermatology services, can improve clinical management. Teacher sensitization, peer education, and community health worker engagement are essential to reduce stigma and promote understanding. This case underscores the need for strengthened dermatology referral pathways and improved health literacy to protect the wellbeing of children with visible but benign hereditary conditions.

Keywords: Hereditary keratinization disorder; Palmoplantar hyperkeratosis; Child stigma; Dermatology gaps; Community health literacy

Introduction

Visible skin disorders in children often carry a disproportionate psychosocial burden, particularly in low-resource settings where diagnostic capacity is limited and community understanding of non-infectious skin conditions is low. Chronic palm changes such as thickening, discoloration, and peeling are frequently misinterpreted

as signs of infectious diseases, especially leprosy, which remain historically and socially stigmatized in many parts of sub-Saharan Africa [1]. Misinterpretation of visible skin changes can lead to fear, exclusion, and bullying, even when the underlying condition is benign and non-contagious. Recent evidence from JAMA Dermatology shows that children with chronic visible skin disorders experience higher levels of stigma, reduced self-esteem, and increased risk of anxiety and depression, with the severity of psychosocial impact strongly linked to the visibility of the condition and reactions from peers and caregivers [2].

Hereditary palm disorders, including forms of palmoplantar keratoderma, typically present in early childhood and may involve yellowish thickening, peeling, and linear markings on the palms or soles. These conditions are often familial and may follow autosomal dominant inheritance patterns, with multiple affected individuals across generations [3]. Although medically benign in many cases, hereditary palm keratinization disorders are frequently under-recognized in primary care settings, where clinicians are more familiar with infectious or inflammatory causes of skin changes [4]. This diagnostic gap is well-documented, hereditary palmoplantar disorders are clinically heterogeneous, require specialized assessment, and are often missed in facilities without dermatology services.

In Tanzania, primary health facilities prioritize common infectious, nutritional, and parasitic conditions. As a result, rare or hereditary dermatological disorders often remain undiagnosed, leaving families without explanations or management plans. The World Health Organization notes that visible skin conditions in low-resource settings frequently lead to stigma, exclusion, and psychosocial distress, especially when communities associate skin changes with infectious diseases such as leprosy or other neglected tropical diseases [5]. Children are particularly vulnerable, and stigma at school can undermine self-esteem, social development, and academic participation.

This community case observation describes a 5-year-old boy from Ifakara, Tanzania, presenting with chronic palm thickening, yellowish peeling, and dark linear markings, with no pain or functional limitation. Despite ruling out leprosy at a health facility, clinicians were unable to identify the condition, and no treatment or follow-up was provided. The child experiences self-stigma, shame, and peer-related discrimination, illustrating how a benign hereditary condition can become a significant psychosocial burden in the absence of diagnosis, community awareness, and school-based support.

This case highlights the intersection of clinical uncertainty, hereditary dermatological conditions, and psychosocial harm, underscoring the need for improved dermatology referral pathways, community education, and school-based stigma reduction strategies in rural Tanzania.

Case Presentation

Patient Profile

The case involves a 5-year-old boy from Ifakara Town in Kilombero District, Morogoro Region, who was identified during a routine community engagement activity. At the time of observation, he appeared physically active, developmentally appropriate for his age, and in general good health, with no signs of systemic illness.

History of the Condition and Family History

His father reported that the child has lived with chronic palm changes since early childhood, characterized by diffuse thickening of the palms, yellowish discoloration, peeling, and distinct dark linear markings. Despite these visible changes, the child experiences no pain, itching, numbness, or functional limitation, and he continues to perform daily activities such as writing, playing, and carrying objects without difficulty. There is no history of trauma, burns, chemical exposure, or recent illness that could explain the condition.

The father further explained that the child had previously been evaluated at a local health facility, where leprosy was ruled out due to the absence of sensory loss, nerve enlargement, hypopigmented anesthetic patches, or ulceration. However, clinicians were unable to determine the underlying cause of the palm changes, and no treatment or follow-up plan was provided. This left the family without clarity or guidance, contributing to ongoing uncertainty.

A notable aspect of the case is the strong family history. Several paternal relatives reportedly exhibit similar palm changes, including thickening, discoloration, and peeling. None of these individuals have ever received a formal diagnosis, suggesting a possible hereditary keratinization disorder that may have been present across generations (Figure 1, 2).

Psychosocial Impact

Although the condition is physically asymptomatic, it has resulted in significant psychosocial consequences for the child. According to the

Figure 1: Physical appearance of both palms of the 5-year-old child.

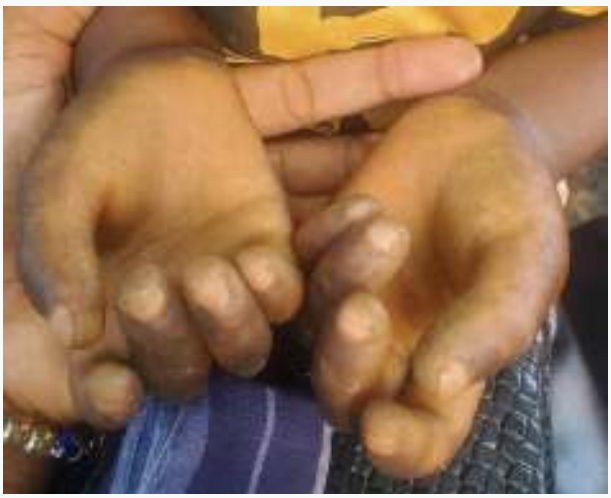

Figure 2: Palms of the 5-year-old child showing diffuse thickening, yellowish peeling, and dark linear markings consistent with a hereditary keratinization disorder.

father, the boy has experienced teasing and stigma from peers at school, leading to feelings of shame, embarrassment, and inferiority. He often attempts to hide his hands during class and play, and he has become less willing to participate in group activities. These experiences align with evidence showing that visible skin disorders in children are strongly associated with bullying, social exclusion, and reduced self-esteem, even when the condition is medically mild.

Environmental and Social Context

The child's social environment further compounds the problem. He lives in a low-income neighborhood in Ifakara where health literacy regarding non-infectious skin conditions is limited. Visible skin changes are commonly associated with infectious diseases, particularly leprosy, which heighten fear and misunderstanding within the community. Schools in the area have limited capacity for health education or stigma-reduction initiatives, leaving children like him vulnerable to discrimination and social exclusion.

Discussion

This case illustrates how a benign hereditary palm condition can evolve into a significant psychosocial burden when diagnostic limitations, low community health literacy, and inadequate support systems intersect. The child's clinical features palm thickening, yellowish peeling, and dark linear markings without pain or functional impairment strongly suggest a non-infectious hereditary keratinization disorder [3]. The presence of similar findings among paternal relatives reinforces the likelihood of a familial condition. However, despite ruling out leprosy, the primary health facility was unable to provide an alternative diagnosis or management plan, leaving the family without clarity or reassurance. This uncertainty created space for fear, stigma, and misinterpretation within the community.

A major gap highlighted by this case is the diagnostic gap in primary health care settings. Rural facilities in Tanzania are well equipped to identify common infectious and inflammatory skin diseases but lack the capacity to diagnose rare hereditary dermatological conditions. Without dermatology specialists or diagnostic tools, benign hereditary disorders remain unrecognized, leading to unnecessary anxiety and prolonged uncertainty for families. This diagnostic limitation also contributes to mislabeling visible skin changes as infectious, reinforcing stigma and avoidance behaviors.

A second gap is the communication and counseling gap. Although clinicians appropriately ruled out leprosy, the family received no explanation of what the condition might be, no reassurance regarding its non-infectious nature, and no guidance on supportive care or referral options. This absence of communication left the family confused and fearful, and it allowed community misconceptions to persist. Effective counseling is essential in cases involving visible conditions, as clear explanations can reduce stigma, promote understanding, and empower families to manage the condition confidently.

A third gap is the psychosocial support gap, particularly within the school environment. The child's experiences of teasing, shame, and reduced participation reflect the absence of structured mechanisms to address stigma or support emotional wellbeing. Schools often lack health education resources, and teachers may not be trained to manage stigma related to misunderstood health conditions. As a result, children with visible but harmless conditions may experience social isolation, reduced self-esteem, and academic disengagement. Evidence consistently shows that visibility, rather than clinical severity, is the strongest predictor of psychosocial impact in pediatric skin disorders.

The final gap is the community health literacy gap, where visible skin changes are commonly assumed to be infectious. In settings where leprosy and other skin-related neglected tropical diseases are historically feared, any unusual skin appearance may trigger avoidance, discrimination, or gossip. This misunderstanding intensifies stigma and places children at risk of social exclusion. Improving community understanding of hereditary and non-infectious skin conditions is therefore essential to reducing fear and promoting acceptance.

Addressing these gaps requires a coordinated set of actions that integrate clinical care, psychosocial support, and community education. Clinically, the child would benefit from simple, accessible measures such as regular use of emollients to soften the thickened palms, reduce peeling, and improve comfort. Although the condition is likely hereditary and benign, referral to a dermatologist either through St. Francis Referral Hospital or tele-dermatology networks would help confirm the diagnosis and guide long-term management. Documenting similar cases within the family can also support recognition of the hereditary pattern and reduce unnecessary concern about contagion.

Psychosocial and school-based interventions are equally important. Teachers should be sensitized to understand that the condition is non-infectious and does not limit the child's ability to participate in school activities. A brief, age-appropriate explanation for classmates can dispel misconceptions and reduce teasing. The child may benefit from supportive conversations that build confidence and encourage participation in group activities. Schools should monitor bullying and ensure that the child is included in both academic and social settings.

At the community level, health education is critical to reducing fear and misunderstanding. Community health workers can provide household-level counseling to explain the hereditary nature of the condition and reassure neighbors that it is not contagious. Broader community awareness efforts can challenge the common assumption that visible skin changes indicate infectious disease. Strengthening referral pathways and advocating for periodic dermatology outreach in Kilombero District would further support early identification and management of similar cases. Together, these actions can reduce stigma, improve the child's wellbeing, and enhance community understanding of non-infectious skin conditions.

Conclusion

This case demonstrates how a benign hereditary palm condition can become a significant source of psychosocial distress when diagnostic uncertainty, low health literacy, and limited dermatological capacity intersect. Although the child's symptoms are non-infectious and do not impair physical functioning, the absence of a clear diagnosis contributed to fear, stigma, and emotional harm within both the school and community environments. The strong family history suggests a hereditary keratinization disorder, yet the lack of specialist services at primary care level prevented appropriate identification and counseling. This situation reflects broader systemic gaps in rural Tanzania, where rare dermatological conditions often go unrecognized and psychosocial impacts remain unaddressed. Strengthening referral pathways, improving community and school-based health education, and integrating psychosocial support into child health services are essential steps to ensure that children with visible but harmless conditions receive both clinical reassurance and social protection.

Ethical Consideration

Institutional and international research regulations were observed during interactions with the patient and throughout the preparation of this manuscript. Both verbal and written informed consent were obtained from the patient's parent for the publication of this case report and the accompanying clinical images. Confidentiality and anonymity were strictly maintained.

Patient Perspective

The child's father stated: "I wish we had known what was wrong earlier. It has been difficult watching my child feel ashamed because of his hands. I hope sharing our experience helps other families get answers sooner."

Conflict of Interest

The authors declare no potential conflicts of interest related to this study.

Authors' Contributions

All authors contributed equally to this work, including the conception and design of the study, literature review and analysis, drafting of the manuscript, critical revision, editing, and final approval of the submitted version.

Acknowledgements

The authors thank the patient and family for their cooperation and consent, and for contributing valuable insights that enhance understanding of hereditary dermatological conditions in low-resource settings.

Artificial Intelligence (AI) Statement

The authors confirm that no artificial intelligence (AI) or AI-assisted tools were used in the conception, design, analysis, interpretation, writing, editing, or revision of this manuscript. All intellectual content, data interpretation, and manuscript preparation were conducted solely by the authors, who take full responsibility for the accuracy, integrity, and originality of the work.

References

1. Urgesa K, De Bruijne ND, Bobosha K, et al. Prolonged delays in leprosy case detection in a leprosy hot spot setting in Eastern Ethiopia. PLoS Negl Trop Dis. 2022; 16: e0010695.
2. Paller AS, Rangel SM, Chamlin SL, et al. Stigmatization and Mental Health Impact of Chronic Pediatric Skin Disorders. JAMA Dermatol. 2024; 160: 621.
3. Shchagina O, Fedotov V, Markova T, et al. Palmoplantar Keratoderma: A Molecular Genetic Analysis of Family Cases. Int J Mol Sci. 2022; 23: 9576.
4. Kabashima K, Sakabe J, Yamada Y, et al. "Nagashima-Type" Keratosis as a Novel Entity in the Palmoplantar Keratoderma Category. Arch Dermatol. 2008; 144: 375-379.
5. WHO. Skin diseases as a global public health priority. 2025.