Dermatologic Disparities in Aboriginal and Torres Strait Islander Children

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Acknowledgements: The authors are non-Aboriginal medical students with clinical experience in underserved settings. They acknowledge that they do not speak from lived experience and write from outside Aboriginal and Torres Strait Islander populations. Even so, the authors recognize a responsibility to engage with this topic to generate awareness and support equity in pediatric skin health while affirming the essential role and leadership of Aboriginal and Torres Strait Islander peoples in all matters of their healthcare. The authors' goal is to amplify evidence and support ongoing, community-led efforts toward self-determined health systems. Their perspective is grounded in a commitment to health equity, critical appraisal of the literature, and training in skin diseases, health policy, and culturally safe health practices.

This work was conducted under the supervision of Thomas Nichols, a board-certified dermatologist with over 48 years of clinical experience, with a private practice in Houston Texas Medical Center, Texas, USA. Drawing on his extensive expertise in dermatologic disease and patient education, Nichols provided supervisory oversight through critical review of dermatologic content, ensuring clinical accuracy, relevance, and clarity. His contributions strengthened the scientific rigor of the manuscript while supporting the responsible translation of dermatologic knowledge into patient-centered health promotion.

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Abstract

The wellbeing of Aboriginal and Torres Strait Islander children is threatened by a disproportionate burden of dermatologic diseases, which reflects the environmental disadvantages and systemic racism experienced by this population. Despite the improvement of healthcare accessibility and health initiatives targeted at Aboriginal and Torres Strait Islander populations in Australia, skin infections such as impetigo and scabies continue to affect nearly half of children in remote communities. Underrepresentation of darker skin tones in dermatology education and housing conditions plays a significant part in Aboriginal children's high skin disease incidence and diagnostic inequity. Aboriginal and Torres Strait Islander children often experience a delay in receiving dermatological treatment. Beyond the burden of skin conditions, severe health complications, such as post-streptococcal glomerulonephritis and rheumatic heart disease, have an alarming prevalence in the study group. This narrative review synthesizes dermatological conditions and determinants shaping the pediatric skin health among Aboriginal and Torres Strait Islander peoples. Initiatives such as the SToP trial and The Gija Healthy Skin Story are discussed, as they demonstrated promising outcomes in skin disease control in the community. Addressing pediatric dermatologic disparities is essential for improving child development, health equity, and, overall, quality of life among the population.

Key Points

1. Aboriginal and Torres Strait Islander children face a disproportionate burden of dermatologic conditions, including preventable skin infections with life-threatening sequelae, driven by structural inequity, household crowding, and systemic racism.

2. This narrative review synthesizes the epidemiological burdens and barriers to care shaping pediatric skin health in Aboriginal and Torres Strait Islander children, integrating evidence across remote and urban settings and examining culturally grounded interventions.

3. Interventions such as the SToP trial demonstrate that skin health initiatives are most effective when co-designed with Aboriginal communities, underscoring the importance of partnership alongside sustainable improvements in infrastructure and clinician training to achieve dermatologic equity.

INTRODUCTION

Skin conditions that could be avoided keep affecting Aboriginal and Torres Strait Islander children more than others.[1,2] Recurrent, often visible, and treatable skin conditions extend far beyond the skin, manifesting as systemic pathologies and having psychosocial consequences, including lower self-esteem, reduced school participation, and decreased community engagement.[2,3] Recurrent infections and inflammatory skin disorders in these children disrupt proper development, perpetuating cycles of social disadvantage and health inequity.[4,5] Despite substantial national advances in healthcare accessibility, skin health inequities persist as one of the most visible indicators of systemic disadvantage and the ongoing failure to deliver culturally safe, equitable dermatologic care.[6,7] Health disparities awareness has sparked research studies focused on the better care and prompt diagnosis of skin pathologies in Australia's Aboriginal groups.[8] This narrative review synthesizes current evidence on pediatric skin health inequities among Aboriginal and Torres Strait Islander peoples, emphasizing the contexts that shape these disparities.[9,10] Barriers to healthcare and community-driven solutions are discussed. Evidence highlights skin health as a core component of child wellbeing and an essential domain of health equity, one that deserves global attention and concerted dermatologic action.

SCOPE AND NOVELTY OF THIS REVIEW

Dermatologic disparities in Aboriginal and Torres Strait Islander children remain critically underrepresented in international literature, despite their magnitude. The authors position their work in relation to two key existing publications. Ricciardo et al.[8]

provides an important global perspective on skin conditions in children with skin of color, centering clinical recognition, morphological presentation, and diagnostic features across diverse darker skin tones worldwide. While Aboriginal and Torres Strait Islander children are mentioned as illustrative examples, the review's primary focus is on equipping clinicians globally to recognize and manage skin conditions across global populations with skin of color. The authors' manuscript addresses diagnostic challenges related to darker skin tones, but complements this landmark work by providing a dedicated, in-depth analysis of the epidemiological burden, systemic sequelae, and social architecture of skin diseases specifically in Aboriginal and Torres Strait Islander children. Davidson et al.[2] offers a valuable Australian-focused synthesis of bacterial skin infections (impetigo, scabies, cellulitis, and abscesses) in Aboriginal children, with emphasis on remote communities in northern Australia. The authors acknowledge that few data are available for other Australian states and note that research on community-wide skin health programs was 'underway'. The authors' review extends this foundation by incorporating 5 years of new evidence (2020–2025), integrating data from both remote and urban settings, and broadening the dermatologic scope beyond bacterial skin infections to encompass inflammatory, fungal, and pigmentary conditions. Furthermore, this review synthesizes recent evidence from community-led, culturally grounded intervention programs, including outcome data from the SToP trial, which Davidson cited as starting in the remote Kimberley region in 2019, as well as process evaluations of the Gija Healthy Skin Story educational resource, and the HipHop2SToP youth engagement initiative.

Together, this brief review provides a comprehensive resource for clinicians and policymakers seeking to address skin health inequities in Aboriginal and Torres Strait Islander children. More broadly, it offers a paradigm for understanding how structural inequity manifests as dermatologic disease in Indigenous communities worldwide, with transferable lessons for First Nations populations facing similar burdens of preventable skin disease.

DERMATOLOGIC HEALTH SOCIAL DETERMINANTS

Skin problems open a window into deep social inequities. Not just illness; they show how history still shapes the lives of First Nations' people today. Colonization displaced Aboriginal and Torres Strait Islander populations into environments that today are characterized by household crowding and a lack of adequate access to basic services and health.[6,7] Environmental and historic determinants have made Aboriginal and Torres Strait Islander children particularly vulnerable to preventable skin diseases and their severe complications, such as post-streptococcal glomerulonephritis (PSGN) and rheumatic heart disease (RHD).[4,5] Care shaped by racist biases further compounds this disparity. Dermatology as a field has long centered on lighter skin tones, with minimal representation of Indigenous patients or patients with darker skin in medical textbooks, teaching materials, and diagnostic imagery.[8] This visual and curricular bias results in diagnostic inequities, delays in care, and a limited capacity of clinicians to recognize and manage skin disease presented in darker skin.[10] Medical teaching often unfoundedly links darker skin to diagnoses with stigmas, such as sexually transmitted infections.[10] People of color with skin diseases may experience stigmatization, with consequent discrimination and social rejection even by dermatologic care providers.[10]

COMMON DERMATOLOGICAL CONDITIONS AMONG ABORIGINAL AND TORRES STRAIT ISLANDER CHILDREN

Among Aboriginal and Torres Strait Islander children in remote communities, the prevalence of skin infections is alarmingly high. Hospitalization rates for skin infections among Aboriginal children are approximately 15-times higher than those of non-Aboriginal children in Western Australia.[7,11] Complications from skin infections, such as bacteremia and sepsis, are higher in Aboriginal children compared with non-Aboriginal children. The annual incidence of invasive *Staphylococcus aureus* infections among Aboriginal children in northern Australia was 46.6 cases per 100,000 population, compared with 4.4 cases per 100,000 in non-Aboriginal children.[12] A study found that Aboriginal and Torres Strait Islander children had significantly higher ICU admission rates for invasive infections, particularly *S. aureus,* compared with non-Aboriginal children.[13] Although ICU case fatality rates were similar between groups, the population-based mortality from these infections was more than twice as high among Aboriginal and Torres Strait Islander children, highlighting major health inequities.[13]

Impetigo

Research has discovered that the prevalence of impetigo among Australian Aboriginal and Torres Strait Islander children is among the highest reported worldwide, particularly in those residing in remote communities.[2,4,14,15] The point prevalence of impetigo commonly ranges from 10–70%, with a pooled community prevalence of approximately 28%.[2,4,14,15] Community-based studies have documented that up to 49% of children in Aboriginal communities in northern Australia were affected at a given time,[16] with 84% of remote Aboriginal and Torres Strait Islander children presenting to a clinic with impetigo at least once before their first birthday.[13] The burden of impetigo in remote Aboriginal communities has significant implications onmorbidity, healthcare utilization, and long-term health equity.[14,16]

Scabies

Scabies remains highly prevalent, affecting up to 33% of Aboriginal children in remote communities and contributing to secondary complications such as impetigo, PSGN, and RHD.[5] Scabies leads to intense pruritus and skin lesions, which are frequently superinfected by *S. aureus* and *Streptococcus pyogenes*, resulting in impetigo, cellulitis, and abscesses.[5] Crusted scabies imposes a significant economic burden, with an estimated healthcare cost of AUD 35,418 per patient in the Northern Territory, primarily borne by hospital systems.[16] Cellulitis is a frequent complication, with extremities being the most commonly affected site in children presenting to healthcare facilities.[17] Considering the disproportionately high rates of severe skin and bacterial infections reported among Aboriginal children, these findings emphasize the vital need to prioritize skin health in Aboriginal and Torres Strait Islander populations.[12,13]

From Skin Infection to Systemic Disease

Acute PSGN and RHD after streptococcal impetigo or scabies are severe complications that occur at the highest rates globally in remote Aboriginal communities.[2,18] The incidence of acute PSGN in Aboriginal children under 15 years in remote Australia ranges as high as 94–124 per 100,000 person-years, representing nearly 19–54-times the rate seen in non-Aboriginal children.[19] Though less common elsewhere, RHD among Aboriginal and Torres Strait Islander youth living in remote areas is hyper-endemic. About 3.3% of children show signs of it during heart scans, and most have the antecedent of repeated skin infections like scabies or impetigo.[20] Survival rates for those diagnosed remain significantly lower than for non-Aboriginal children, with premature mortality attributable to delayed diagnosis.[3,20]

Other Causes of Clinic Visits for Skin Disease Among Aboriginal Children

Outside of remote areas, dermatologic conditions also remain a major driver of healthcare encounters among Aboriginal children.[21,22] Atopic dermatitis, the most prevalent chronic inflammatory skin disease in this population, affects approximately 18% of urban Aboriginal children, and is frequently associated with undertreatment, secondary bacterial infection, and sleep disturbances.[21,23] Head lice and tinea are also widespread, each affecting 12–18% of children.[24]

Autoimmune connective tissue disorders, pigmentary disorders, and benign neoplasms are noteworthy, but less frequently reported. These conditions are often underdiagnosed due to diagnostic complexity and limited access to specialists.[22,25] In the Kulunga Moorditj Healthy Skin (KMHS) project, the first Australian co-designed research-service study to describe skin health in urban-living Aboriginal children and young people, skin of color was defined as Fitzpatrick Skin Phototypes IV–VI, and a substantial proportion of participants were classified within these darker phototypes.[24] A study found that pigment issues made up about 15% of skin diagnoses, especially dyspigmentation after inflammation, showing that they often appear in Aboriginal children.[24] Skin color matters during diagnosis; pigmentary disorders pose a particular diagnostic challenge in children with darker skin.[2]

SYSTEMIC BARRIERS TO CARE AND CONSEQUENCES IN ABORIGINAL AND TORRES STRAIT ISLANDER CHILDREN

Systemic neglect, the lack of public investment, and the scarcity of basic services, such as functioning bathrooms, laundry facilities, and clean water, complicate skin disease management in this population.[2] Although subsidized healthcare exists through Medicare and the Pharmaceutical Benefits Scheme, access to dermatologic care remains limited by expenses related to medications and transportation, particularly for families residing in remote areas.[2,3] Implicit bias among healthcare providers undermines the trust necessary for care utilization and continuity of treatment by Aboriginal Australians.[7,22] The normalization of skin infections within communities, coupled with under-recognition of dermatologic diseases, sustains delayed or inadequate methods for treating and preventing skin infections in Aboriginal and Torres Strait Islander children.[25] The perceived normalization of skin infections is probably a consequence of limited access to timely care and a history of healthcare services not meeting community needs, rather than community indifference. Shortages in staff, along with broken referral systems, make it harder to get skin care quickly.[26] These limitations are further exacerbated by the underrepresentation of Aboriginal and Torres Strait Islander populations in health screening programs, and of populations with skin of color in dermatologic research and education.[10,25,27]

Even though schools frequently act as key spots for teaching health habits and running screenings, they struggle due to inadequate funding and unclear directives fading over time.[7,9] Together, these barriers lead to more disease burden and poorer health outcomes for Aboriginal and Torres Strait Islander children, whether they live in remote or urban areas.

The high burden of pediatric skin disease poses downstream effects on early childhood development, school readiness, and long-term social and economic participation.[3] Chronic pain, itching, and discomfort associated with dermatologic diseases can cause significant sleep disturbance, impaired concentration, and frequent absenteeism from school, all of which negatively affect Aboriginal and Torres Strait Islander children. Recurrent or visibly apparent skin conditions are also strongly associated with stigma, diminished self-esteem, and disrupted peer relationships.[11,23,24]

Untreated or recurrent skin infections significantly elevate the risk of serious systemic complications. As previously mentioned, among Aboriginal and Torres Strait Islander children, the most critical sequelae include invasive bacterial infections, PSGN, and rheumatic fever. Chronic complications contribute to increasing morbidity and mortality, affecting Aboriginal and Torres Strait Islander children's overall wellbeing.

INTERVENTIONS

In Australia, some public initiatives have begun to integrate medical, educational, and environmental strategies to enhance pediatric skin health. The SToP trial enrolled 915 children aged 5–9 years across nine Kimberley, Australia, communities, with 777 completing at least one skin check. The trimodal approach, combining See (skin checks), Treat (treatment training), and Prevent (co-designed health promotion), achieved a 17–19% decline in impetigo prevalence between 2019–2022. Multi-method evaluation confirmed sustained community engagement throughout the trial.[9,28]

Community-led educational initiatives have demonstrated effectiveness in promoting skin health. For instance, the Berrembi Jarragboo-Boorroo Wajawoorroo Men'Gawoom Gijam (Gija Healthy Skin Story) resource had over 500 copies distributed, including a Kriol version. Co-designed with community members, this resource aims to support families in recognizing skin infections and understanding their connection to complications such as RHD, with process evaluation demonstrating high community acceptability and uptake.[29]

On the other hand, the HipHop2SToP project utilized music and youth engagement to teach healthy skin and hygiene practices.[7] Such culturally appropriate and Aboriginal-led interventions, alongside the multi-method SToP trial evaluations, have demonstrated high acceptance, uptake, and reductions in skin infections.[9,28] Virtual support interventions have shown potential to increase engagement with skin health; however, studies emphasize the necessity of in-person community engagement and environmental health interventions to achieve meaningful improvements in Aboriginal and Torres Strait Islander populations.[28,30]

Active case detection campaigns have proven essential in identifying cases of crusted scabies, particularly when follow-up and engagement with close contacts are implemented.[31] Aboriginal community members emphasized the need for face-to-face engagement, highlighting that interventions are most effective when guided by local knowledge and priorities.[32] Skilled personnel and community engagement maximize effectiveness of health interventions.[30] Improving clinician knowledge of dermatologic presentations in skin of color is an important strategy to enhance care accessibility and outcomes among Aboriginal children.[8,25] Despite the SToP trial achieving a decline in impetigo prevalence, it reported that the sustainability of such interventions is threatened by extreme workforce instability in remote clinics, where annual turnover rates exceed 150%, meaning almost twice as many individual employees are required each year to maintain staffing.[9,28] Lessons from these programs offer transferable insights for Indigenous and minority populations globally.

CONCLUSION

Aboriginal and Torres Strait Islander children carry a disproportionate burden of skin conditions, particularly skin infections. Higher incidence of skin diseases ties back to deep-rooted social challenges faced by Aboriginal and Torres Strait Islander populations. Reducing disparities in dermatological care requires collaboration. In both city neighborhoods and remote regions, current initiatives prove the importance of culturally appropriate community-led interventions, including educational initiatives, hygiene programs, and active case detection campaigns to control this issue. Despite drawing on community initiatives, this paper lacks input from Aboriginal and

Torres Strait Islander peoples. For future research, the authors strongly recommend incorporating this input to ensure genuine partnership, promote health literacy, and advance dermatologic equity. Future research should focus on evaluating the long-term sustainability and scalability of interventions to ensure improved dermatologic outcomes across diverse Indigenous populations.

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