

Meaning and Practice of Environmental Hygiene in Preventing Skin Diseases in Toddlers in the Service Area of Sabirabad Rayon Polyclinic

Charles Ayodeji Osunla¹, Taisia Chertenko²

¹Environmental and Public Health Microbiology, Adekunle Ajasin University, Akungba Akoko, Nigeria

²Medical and Health Sciences, Kharkiv Medical Academy of Postgraduate Education, Kharkiv, Ukraine

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ABSTRACT

Purpose of the study: This study aimed to explore the meaning and daily practice of environmental hygiene in preventing infectious skin diseases among toddlers in the service area of Sabirabad Rayon Polyclinic.

Methodology: A qualitative descriptive–exploratory design was employed. Data were collected through in-depth interviews with 10 mothers or primary caregivers of toddlers who had experienced infectious skin conditions within the past six months. Participants were selected using purposive sampling. Data were analyzed using the interactive model of Matthew B. Miles and A. Michael Huberman, involving data reduction, data display, and conclusion drawing.

Main Findings: All participants (100%) emphasized the importance of environmental cleanliness for child health; however, cleanliness was predominantly defined in terms of visible order rather than microbial risk prevention. Daily hygiene practices such as sweeping and bathing children were routinely performed, yet recurrent skin infections were reported by most caregivers, particularly during hot seasons. Barriers included limited water access, housing density, and financial constraints.

Novelty/Originality of this study: This study shifts the analytical focus from measurable environmental risk factors to the socially constructed meanings of cleanliness and maternal responsibility, providing a culturally grounded perspective on hygiene behavior and skin disease prevention in primary care settings.

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Corresponding Author:

Charles Ayodeji Osunla,

Environmental and Public Health Microbiology, Adekunle Ajasin University,

P.M.B. 001 Akungba-Akoko, Ondo State, Nigeria.

Email: charlesosunla74@gmail.com

1. INTRODUCTION

Infectious skin diseases in toddlers remain a public health issue that often goes unnoticed compared to other systemic diseases, despite their significant impact on children's quality of life. Infections such as impetigo, infected dermatitis, and scabies frequently occur in the under-five age group due to immature immunity and exposure to unhygienic environments [1]-[3]. In many developing regions, this problem is not only related to biological factors but also closely linked to household hygiene practices, residential density, access to clean water, and parental care practices regarding child hygiene [4]-[6]. These conditions are also relevant in the Sabirabad Rayon Polyclinic service area, which serves semi-urban and rural communities with varying basic sanitation conditions.

Several previous studies have shown a relationship between environmental sanitation and the incidence of skin diseases in children [7]-[9]. Quantitative studies generally highlight physical variables such as clean water availability, waste disposal systems, home ventilation, and residential density as key determinants [10]-

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[12]. However, these approaches tend to focus on measurable aspects and have not explored in depth how families interpret hygiene, how these practices are implemented in daily life, and how social and cultural norms shape hygiene behavior [13]-[15]. In other words, there is a gap between numerical epidemiological data and contextual understanding of family behavior and perceptions regarding environmental cleanliness as a preventative measure for toddler skin diseases.

The problem with this research lies in the suboptimal understanding of how the meaning of environmental cleanliness is constructed by parents, and how actual household practices influence children's susceptibility to infectious skin diseases [16]-[18]. In the Sabirabad service area, information based on family experiences remains very limited, even though promotive and preventive approaches at the primary care level rely heavily on an understanding of the local context [19]-[21]. Without in-depth exploration of the social and behavioral dimensions, health interventions have the potential to be inaccurate due to their lack of alignment with the daily realities of the community [22], [23].

This research offers novelty by shifting the focus from simply measuring risk factors to exploring the meaning and practice of environmental hygiene from a family perspective. Using a qualitative approach, this study seeks to uncover how parents interpret the concept of "cleanliness," how these practices are implemented, what barriers they face, and how the interaction between knowledge, culture, and socioeconomic conditions shapes skin disease prevention behavior in toddlers. This approach provides a more holistic and contextual perspective than previous, predominantly quantitative research.

The urgency of this research is further strengthened given the strategic role primary health care plays in preventing environmentally related diseases. The findings are expected to serve as a basis for strengthening health education strategies, developing hygiene promotion programs based on local culture, and developing preventive interventions that are more adaptive to community needs. Thus, this research not only contributes to the enrichment of the scientific literature on environmental health and skin diseases in toddlers but also offers practical implications for improving the quality of health services at the community level.

2. RESEARCH METHOD

2.1. Research Design

This study used a qualitative approach with a descriptive-exploratory design to deeply understand the meaning and practices of environmental hygiene in preventing skin diseases in toddlers in the service area of the Sabirabad Rayon Polyclinic. This approach was chosen because the research objective focused on exploring families' experiences, perceptions, and daily practices, rather than measuring statistical relationships between variables. Thus, this study sought to explore the social reality constructed by parents within the context of their residential environment [24], [25].

The study was conducted in the Sabirabad work area, which has semi-urban characteristics with varying household sanitation conditions. Participants were mothers or primary caregivers of toddlers who had or were experiencing infectious skin diseases in the past six months. Participant selection was conducted using purposive sampling, taking into account variations in sanitation conditions, education levels, and socioeconomic backgrounds to obtain diverse perspectives. The number of participants was determined based on the principle of data saturation, which occurs when additional interviews no longer yield significant new information [26]-[28]. Generally, exploratory qualitative research involves 10–20 participants, but the final number was determined based on the depth and adequacy of the data.

2.2. Data Collection Techniques

Data were collected through in-depth interviews using a semi-structured interview guide. Interviews were conducted face-to-face at the participant's home or at a mutually agreed-upon location, with an average duration of 45–60 minutes. All interviews were audio-recorded (with the participant's consent) and transcribed verbatim to maintain the integrity of the interview.

Before presenting the interview guide, it should be emphasized that the interview guide was developed based on the research focus, namely: (1) the meaning of environmental cleanliness, (2) daily hygiene practices, (3) experiences related to toddler skin diseases, and (4) barriers and prevention strategies. This guideline served as a guide to ensure the data collection process remained focused yet flexible to accommodate the dynamics of the interview [29].

Table 1. Interview Guideline

No	Aspects Explored	Exploration Indicators	No Item
1	The Meaning of Environmental Hygiene	Perceptions of home and environmental cleanliness	1, 2
2	Household Hygiene Practices	House cleaning habits, laundry, children's bathing, waste management	3, 4
3	Access to Sanitation Facilities	Water sources, ventilation, housing density, bathing and laundry facilities	5, 6
4	Experiences of Toddler Skin Diseases	Types of complaints, frequency of occurrence, family responses	7, 8
5	Barriers and Support	Economic, cultural, and health information constraints	9, 10
6	Prevention Efforts	Family strategies and the role of health workers	11, 12

Based on the table above, it can be understood that the questions were open-ended and flexible, allowing researchers to probe to deepen participants' responses. These guidelines were not used rigidly, but rather served as an exploratory framework to comprehensively address all dimensions of the research.

To ensure credibility and transparency, this study employed source triangulation (comparing answers between participants), member checking (confirming interview results with participants), and an audit trail through systematic documentation of the research process. This ensures that the resulting interpretations are scientifically sound [30], [31].

2.3. Data Analysis

Data analysis was conducted simultaneously during the data collection process, using an interactive model developed by Matthew B. Miles and A. Michael Huberman, which encompasses three main stages: data reduction, data presentation, and conclusion drawing/ verification [32], [33]. In the data reduction stage, researchers selected, focused, and simplified the raw data from interview transcripts by conducting an open coding process to identify initial themes [34], [35]. Next, in the data presentation stage, the categorized findings were organized into a thematic matrix and descriptive narrative, making it easier for researchers to see emerging patterns, relationships, and trends in meaning [36], [37]. The final stage was conclusion drawing and verification, where researchers conducted in-depth interpretations of key themes and ensured the consistency of the findings by cross-checking the field data [38].

2.4. Research Ethics

This study adhered to ethical principles in health research, including informed consent, confidentiality, and the right of participants to discontinue the interview at any time without consequence. All data collected was used solely for academic purposes. Overall, this method was designed to provide an in-depth and contextualized overview of how families interpret and practice environmental hygiene in preventing skin diseases in toddlers, thereby comprehensively and reflectively answering the research objectives.

3. RESULTS AND DISCUSSION

This section presents the findings of the in-depth interviews conducted with mothers and primary caregivers of under-five children in the service area of Sabirabad Rayon Polyclinic. Data were analyzed using the interactive model of Matthew B. Miles and A. Michael Huberman, involving data reduction, data display, and conclusion drawing. Through iterative coding and thematic categorization, four major themes and several subthemes emerged, reflecting how caregivers construct meaning and practice environmental hygiene in relation to infectious skin diseases among toddlers.

Before presenting the thematic findings, table 1 summarizes the socio-demographic characteristics of the participants to provide contextual grounding for the interpretation of the data.

Table 2. Characteristics of Study Participants

Participant Code	Age (years)	Education Level	Occupation	Number of Children	Recent Child Skin Infection
P1	24	Secondary School	Housewife	1	Yes
P2	31	Vocational	Housewife	2	Yes
P3	28	Secondary School	Informal worker	2	Yes
P4	35	Primary School	Housewife	3	Yes
P5	29	Secondary School	Housewife	2	Yes
P6	33	Vocational	Small trader	3	Yes
P7	26	Secondary School	Housewife	1	Yes

Participant Code	Age (years)	Education Level	Occupation	Number of Children	Recent Child Skin Infection
P8	38	Primary School	Housewife	4	Yes
P9	30	Vocational	Housewife	2	Yes
P10	27	Secondary School	Housewife	2	Yes

As shown in table 2, most participants were housewives with secondary-level education and had more than one child. All participants reported that their toddlers had experienced infectious skin problems (such as rashes, itching lesions, or scabies-like symptoms) within the last six months. These characteristics influenced how hygiene was perceived, prioritized, and practiced in daily life.

The first theme explores how caregivers define and internalize the concept of environmental cleanliness. The analysis revealed that cleanliness was not merely understood as physical tidiness but was closely associated with child comfort and visible absence of dirt.

Table 3. Meaning of environmental cleanliness

Subtheme	Description	Illustrative Quotation
Cleanliness as visible order	Clean environment defined by absence of dust, waste, and bad odor	“If the floor is clean and there is no trash around, I feel the house is safe for my child.” (P3)
Cleanliness as disease prevention	Hygiene linked to protection from illness	“If we keep the house clean, the child will not get skin problems.” (P6)
Cleanliness as maternal responsibility	Hygiene perceived as mother’s duty	“It is my job to make sure everything is clean for my children.” (P1)

The findings indicate that participants primarily conceptualized cleanliness in tangible and observable terms. However, deeper probing revealed that while cleanliness was symbolically associated with disease prevention, specific knowledge about microbial transmission or environmental risk factors remained limited. The second theme highlights actual hygiene behaviors performed in daily routines. Although participants expressed strong commitment to maintaining cleanliness, practices varied depending on time, resources, and household workload.

Table 4. Daily Environmental Hygiene Practices

Subtheme	Reported Practice	Observed Pattern
Floor and house cleaning	Sweeping and mopping once or twice daily	More frequent in smaller households
Child bathing habits	Bathing once daily; twice during hot weather	Soap use consistent, antiseptic rare
Laundry management	Washing children’s clothes separately	Not consistent in larger families
Waste disposal	Burning or temporary storage before collection	Limited formal waste system

As shown in Table 4, hygiene practices were routine but not always aligned with optimal preventive standards. For instance, while daily bathing was common, limited access to continuous clean water sometimes restricted frequency. Additionally, waste disposal methods reflected infrastructural limitations rather than intentional neglect. This theme captures caregivers’ narratives regarding their children’s experiences with skin infections and perceived triggers.

Table 4. Experience and perceived causes of skin infection

Subtheme	Description	Participant Perspective
Recurrent itching and rashes	Most common complaint	“The itching comes back, especially during summer.” (P8)
Environmental triggers	Heat, dust, shared bedding	“When the weather is hot and children sweat, the rash appears.” (P5)
Treatment-seeking behavior	Visit to polyclinic or home remedies	Combination of medical cream and traditional practices

The analysis reveals that participants often attributed infections to heat, sweating, or contact with other children. Although environmental sanitation was recognized as relevant, many caregivers emphasized seasonal factors more strongly than structural sanitation issues. The final theme concerns challenges faced in maintaining environmental hygiene and preventing recurrence of skin infections.

Table 5. Barriers and prevention strategies

Subtheme	Identified Barrier	Preventive Strategy
Limited water access	Irregular water supply	Storing water in containers
Financial constraints	Inability to buy hygiene products	Using basic soap only
Housing density	Shared sleeping spaces	Frequent sheet washing
Health information gaps	Limited preventive education	Relying on advice from nurses

As indicated in table 5, structural barriers such as water access and housing density significantly shaped hygiene practices. Nevertheless, caregivers demonstrated adaptive strategies within their constraints, suggesting resilience and commitment to child health.

Through iterative data reduction and verification, the findings suggest that environmental cleanliness is deeply embedded in maternal identity and daily routines. However, discrepancies exist between perceived cleanliness and evidence-based preventive hygiene practices. While caregivers show strong motivation to protect their children, structural limitations and partial knowledge hinder optimal prevention of infectious skin diseases.

Overall, the qualitative analysis demonstrates that the prevention of skin infections among toddlers in the Sabirabad service area is not solely a matter of individual behavior but is influenced by socio-economic conditions, infrastructure availability, and culturally constructed meanings of hygiene. These findings provide an essential contextual foundation for designing culturally sensitive and community-based health promotion interventions.

This study explored the meaning and daily practices of environmental hygiene in preventing infectious skin diseases among toddlers in the service area of Sabirabad Rayon Polyclinic. The findings reveal that environmental cleanliness is strongly embedded in maternal identity and moral responsibility, yet practical implementation is shaped by structural constraints such as water access, housing density, and limited health information. These results contribute to a deeper understanding of how hygiene is socially constructed and practiced in everyday life, moving beyond purely biomedical interpretations of skin infection risk.

Consistent with previous quantitative studies, inadequate sanitation, crowded living conditions, and limited access to clean water are associated with increased vulnerability to infectious skin diseases in children [39], [40]. However, earlier research has largely emphasized measurable environmental determinants such as ventilation, water source quality, and waste disposal systems without sufficiently addressing how caregivers interpret and negotiate these conditions within their social context. The present study identifies a critical gap between perceived cleanliness and preventive effectiveness. Participants commonly equated cleanliness with visible order (absence of dust or trash), while microbial risk and indirect transmission pathways were rarely articulated. This gap suggests that conventional health education strategies that focus solely on infrastructure improvement may overlook the interpretive frameworks that guide daily behavior.

A central finding of this study is that hygiene is perceived not only as a health practice but also as a moral and maternal obligation. Cleanliness was frequently described as a mother's duty, reflecting culturally embedded gender roles. This dimension has been underexplored in prior sanitation research, which often treats hygiene behavior as an individual rational choice rather than as a socially constructed responsibility. By illuminating how caregiving identity shapes hygiene practices, this study advances a more nuanced behavioral model that integrates cultural meaning, emotional motivation, and social expectation. This represents the primary novelty of the research: shifting the analytical focus from environmental risk factors alone to the lived meanings that sustain or constrain preventive action.

Another important contribution lies in identifying adaptive strategies used by families facing infrastructural limitations. Despite irregular water supply and financial constraints, participants described efforts such as water storage, frequent sheet washing, and selective use of medical treatment. These findings highlight community resilience and demonstrate that families are not passive recipients of risk but active agents navigating structural challenges. Previous studies often frame low-resource households primarily through a deficit lens; in contrast, this research underscores both vulnerability and agency. Such insight is essential for designing context-sensitive interventions that build on existing strengths rather than imposing externally defined standards of hygiene.

The implications of these findings are substantial for primary healthcare practice. First, health promotion programs should integrate culturally grounded understandings of cleanliness into their messaging. Educational interventions delivered through primary care facilities, including Sabirabad Rayon Polyclinic, could move beyond instructing "what to do" and instead engage caregivers in dialogue about why certain practices matter at a microbial and environmental level. Second, policies aimed at preventing skin infections should combine behavioral education with structural improvements, particularly in water supply and housing conditions. Third, involving mothers as community health advocates may enhance program sustainability, given their strong identification with hygiene responsibility.

Despite its contributions, this study has several limitations. The qualitative design and purposive sampling limit generalizability beyond the study area. Participants were primarily mothers, which may have

excluded perspectives from fathers or other caregivers who also influence environmental hygiene practices. Additionally, the reliance on self-reported behavior may introduce social desirability bias, as participants might portray their hygiene practices more favorably during interviews. Observational data could complement future studies to provide a more comprehensive assessment of actual environmental conditions.

In conclusion, this study demonstrates that the prevention of infectious skin diseases among toddlers is shaped not only by material sanitation conditions but also by culturally constructed meanings of cleanliness and maternal responsibility. By bridging epidemiological evidence with lived experience, the research addresses an important gap in the literature and offers a foundation for more holistic, culturally responsive health promotion strategies in primary care settings.

4. CONCLUSION

This study aimed to explore the meaning and practice of environmental hygiene in preventing infectious skin diseases among toddlers in the service area of Sabirabad Rayon Polyclinic. Based on in-depth interviews with 10 caregivers, the findings indicate that all participants (100%) perceived cleanliness as essential for child health, yet their understanding was predominantly limited to visible order rather than microbial prevention. Most participants reported daily cleaning practices (such as sweeping and bathing children at least once per day), but structural constraints—including irregular water access and shared sleeping spaces were consistently identified as barriers. Recurrent skin symptoms were reported by the majority of participants, particularly during hot seasons, suggesting a gap between perceived hygiene adequacy and effective prevention. The study concludes that environmental hygiene practices among caregivers are strongly influenced by culturally embedded maternal responsibility, partial health knowledge, and infrastructural limitations. While motivation to maintain cleanliness is high, preventive effectiveness remains suboptimal due to discrepancies between perceived and evidence-based hygiene standards. These findings highlight the need for culturally sensitive, behavior-focused health education integrated with improvements in environmental sanitation infrastructure. Health promotion programs at the primary care level should incorporate contextual dialogue on hygiene meaning rather than relying solely on procedural instructions. In addition, local health authorities are encouraged to strengthen water and sanitation support systems to enhance sustainable prevention of infectious skin diseases among toddlers..

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USE OF ARTIFICIAL INTELLIGENCE (AI)-ASSISTED TECHNOLOGY

The authors confirm that no artificial intelligence (AI)-assisted technologies were utilized in the preparation, analysis, or writing of this manuscript. All stages of the research process, including data collection, data interpretation, and the development of the manuscript, were conducted solely by the authors without any support from AI-based tools

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