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Exploring Health and Nutrition Practices for Toddlers in Pakistan: A Qualitative Study

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Abstract
This study aimed to explore the health and nutrition practices for toddlers in Lahore District, focusing on urban and rural settings, to identify disparities in toddler nutrition and health outcomes based on socio-economic, cultural, and healthcare access factors. Nutrition during the early years is critical for child development. In Pakistan, urban-rural disparities in healthcare access and nutrition practices can significantly impact toddler health. Understanding these differences is vital for developing targeted interventions. A qualitative study was conducted using in-depth interviews with 30 caregivers (15 from urban areas and 15 from rural areas). Thematic analysis was used to examine nutritional practices, healthcare access, and socio-economic influences on toddler health. The study found significant differences between urban and rural areas in nutrition practices, healthcare access, and socio-economic factors. Urban caregivers had better access to healthcare and diverse food options, while rural caregivers faced financial constraints and relied on traditional foods. The study recommends improving healthcare infrastructure in rural areas, raising awareness about toddler nutrition, addressing socio-economic barriers, and implementing community-based interventions.

Keywords: Toddler Nutrition, Urban-Rural Disparities, Healthcare Access, Socio-Economic Status, Pakistan.

Introduction
Early childhood is a critical period for physical and cognitive development, with nutrition and health playing pivotal roles in shaping a child's future. Proper nutrition during the first three years of life fosters brain development, strengthens the immune system, and reduces the risk of chronic diseases in later life (Black et al., 2017). Inadequate nutrition and poor health practices during this period can lead to stunted growth, developmental delays, and increased susceptibility to infections (Victora et al., 2021). Globally, nearly 45% of deaths among children under five are linked to malnutrition, emphasizing the urgency of addressing these issues during early childhood (WHO, 2020). Pakistan faces significant challenges in ensuring the health and nutritional well-being of its children, with nearly 40% of children under five classified as stunted and 18% as severely wasted (UNICEF, 2023). The socio-economic disparities, cultural practices, and limited access to healthcare services exacerbate these problems. Rural areas often lack adequate healthcare

infrastructure, while urban populations struggle with affordability and overcrowding in health facilities (Bhutta et al., 2013). Additionally, cultural beliefs regarding feeding practices, such as reliance on diluted milk or delayed introduction of complementary foods, further hinder optimal nutrition (Habib et al., 2017). Gender dynamics also play a role, with male children often prioritized over females in food allocation (Ali et al., 2018). Early childhood is a critical phase for physical, emotional, and cognitive development, during which health and nutrition play a foundational role. Ensuring proper nutrition and health practices during this stage significantly impacts lifelong well-being, including academic achievements, social skills, and overall productivity (Qayyum, Saeed, & Qureshi, 2024). Despite this recognition, the health and nutritional status of toddlers in Pakistan continues to be compromised due to socio-economic inequalities, cultural norms, and limited healthcare infrastructure. Studies highlight the persistent challenges caregivers face, such as balancing traditional beliefs with modern healthcare practices and the influence of gender disparities in resource allocation (Qayyum, Sialvi, & Saeed, 2024). This research aims to explore caregiver practices, barriers, and strategies to enhance health and nutrition outcomes for toddlers, contributing to targeted and culturally relevant interventions. Understanding health and nutrition practices specific to toddlers is essential for designing interventions tailored to the Pakistani context. Caregivers often rely on traditional knowledge, which, while valuable, may not align with modern nutritional guidelines. A qualitative exploration of these practices can provide insights into caregivers' perceptions, barriers they face, and potential areas for intervention. Such a study is crucial for developing culturally sensitive programs that improve child health outcomes and align with Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all ages (United Nations, 2015). Furthermore, addressing these issues can have long-term benefits for Pakistan's socio-economic development by fostering a healthier, more productive population.

Study Overview

This study aims to explore health and nutrition practices for toddlers in Lahore District, focusing on the urban and rural settings of Lahore City Tehsil and Raiwind Tehsil. Specifically, the study examines variations in health and nutrition practices between urban and rural caregivers, considering factors such as socio-economic status, access to healthcare, cultural beliefs, and caregiver education. It further identifies the challenges caregivers face in maintaining proper health and nutrition for toddlers, such as limited healthcare infrastructure, financial constraints, and cultural practices. By addressing these research areas, the study seeks to answer key questions regarding the common health and nutrition practices among urban and rural caregivers, the influence of socio-economic status and healthcare access, and the role of cultural traditions in shaping caregiving approaches. Understanding health and nutrition practices specific to toddlers is essential for designing effective, context-sensitive interventions in Pakistan. Caregivers often rely on traditional knowledge, which, while valuable, may not fully align with modern nutritional guidelines. A qualitative exploration of these practices provides critical insights into caregivers' perceptions, the barriers they face, and areas for intervention. Such an approach aligns with Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all ages (United Nations, 2015). Addressing these issues promises long-term benefits for Pakistan's socio-economic development by fostering a healthier, more productive population. By focusing on caregiver routines, perceptions, and barriers, this study provides valuable insights that can guide the development of targeted, culturally sensitive interventions. Such interventions are essential for improving child health outcomes and fostering equitable healthcare access across diverse socio-economic and geographical contexts (Black et al., 2017; Qayyum, Sialvi, & Saeed, 2024). The findings aim to inform policymakers, healthcare providers, and community-based

programs, ultimately contributing to the broader goal of reducing malnutrition and promoting healthy childhood development in Pakistan

Literature Review

Early childhood is a foundational phase for human development, where health and nutrition play critical roles in ensuring optimal growth and cognitive potential. Globally, significant progress has been made in understanding the criticality of proper nutrition and healthcare in reducing childhood mortality and morbidity (Victora et al., 2021). However, challenges persist, particularly in low- and middle-income countries, where malnutrition contributes to nearly half of all child deaths under the age of five (World Health Organization [WHO], 2020). In this context, the literature review provides a comprehensive overview of theories and empirical evidence that inform health and nutrition practices for toddlers, with an emphasis on Pakistan's unique socio-cultural and economic landscape.

Theoretical Framework

Understanding toddler health and nutrition practices requires a multidisciplinary approach, drawing on behavioral, ecological, and sociocultural theories. **Bronfenbrenner's Ecological Systems Theory** (Bronfenbrenner, 1979) is particularly relevant, as it emphasizes how multiple environmental systems ranging from immediate family settings to broader societal influences interact to shape a child's development. For instance, caregivers' knowledge and practices are shaped not only by individual beliefs but also by cultural norms, healthcare access, and government policies. The **Health Belief Model (HBM)** (Rosenstock, 1974) further enriches this perspective by focusing on caregivers' health-related behaviors. The model posits that individuals' health decisions are influenced by perceived susceptibility to health issues, perceived severity of the condition, perceived benefits of action, and barriers to taking action. In the Pakistani context, the HBM helps explain why caregivers may prefer traditional remedies or avoid seeking professional healthcare despite awareness of modern medical practices. These theoretical lenses are instrumental in framing the socio-cultural and economic factors impacting toddler health and nutrition in Pakistan. They provide a foundation for analyzing caregivers' practices and the systemic barriers they face.

Empirical Review

Global Perspective on Toddler Health and Nutrition

The first three years of life are critical for physical and cognitive development, with nutrition playing a foundational role in shaping long-term outcomes. Globally, inadequate nutrition remains a leading cause of stunted growth, impaired cognitive abilities, and increased vulnerability to infections among toddlers (Black et al., 2013). The introduction of appropriate complementary feeding practices alongside breastfeeding has been identified as essential for ensuring adequate nutritional intake during this period (Victora et al., 2016). However, studies reveal that only 36% of children globally are exclusively breastfed for the first six months, falling short of the World Health Organization's (WHO) recommendation (UNICEF, 2021). Moreover, the lack of dietary diversity and appropriate feeding practices exacerbates malnutrition, especially in low-income settings. A study conducted in sub-Saharan Africa and South Asia found that dietary diversity was alarmingly low, with children consuming less than half of the recommended food groups (Pries et al., 2019). Such deficiencies not only impede growth but also contribute to deficiencies in micronutrients such as iron, zinc, and vitamin A, which are vital for immune function and overall development (Bhutta et al., 2013).

Regional Context: South Asia

South Asia bears a disproportionate burden of malnutrition, with 39% of children under five being stunted and 15% wasted (UNICEF, 2021). Cultural norms, economic disparities, and inadequate maternal knowledge are significant contributors to these outcomes. In India, for example, studies highlight that traditional beliefs about feeding practices such as delaying complementary foods due to misconceptions about digestive readiness often result in suboptimal nutrition for toddlers (Gupta et al., 2020). Bangladesh has similarly faced challenges in improving early childhood nutrition. A longitudinal study by Rahman et al. (2021) found that while community-based nutrition programs increased awareness about proper feeding, financial constraints and gender biases (e.g., prioritizing male children for better food) continued to limit their effectiveness. These issues reflect broader regional trends, where poverty and entrenched social norms heavily influence health and nutrition practices.

Pakistan-Specific Studies

In Pakistan, malnutrition remains one of the most pressing public health challenges, with nearly 40% of children under five classified as stunted and 18% as wasted (UNICEF, 2023). Studies reveal that limited maternal education, poor dietary diversity, and inadequate healthcare access contribute significantly to these alarming statistics (Bhutta et al., 2013). Exclusive breastfeeding rates in Pakistan are around 48%, with many mothers introducing complementary foods either too early or too late, contrary to WHO recommendations (National Nutrition Survey, 2018).

Early Childhood Health and Nutrition in Pakistan

Health and nutrition practices during early childhood are crucial for ensuring optimal growth and development. In Pakistan, challenges such as malnutrition, stunting, and limited access to quality food have been widely documented. Qayyum, Nadeem, and Saeed (2024) found that caregivers often rely on traditional remedies and home-prepared foods, which may lack the essential nutrients required for toddlers' physical and cognitive growth. Moreover, cultural beliefs and socio-economic barriers hinder the adoption of evidence-based practices, with rural populations particularly affected by limited healthcare accessibility. Research also underscores the importance of play-based learning environments in promoting cognitive-emotional development. For example, Qayyum, Fatima, and Iram (2024) highlighted the role of play-based, nature-oriented programs in fostering better health outcomes, suggesting their potential in enhancing caregivers' awareness of nutrition and health.

Socio-Cultural and Economic Barriers

Socio-cultural norms, gender biases, and economic disparities remain significant barriers to improving toddler health in Pakistan. Gendered food allocation, where boys are prioritized over girls, is a recurring challenge in many households (Ali, Khan, & Malik, 2018). This gender bias often leads to unequal nutrition levels and health outcomes between male and female toddlers. Additionally, caregivers in low-income settings face affordability issues when accessing fortified foods or healthcare services, as reported by Qayyum, Kashif, and Shahid (2024). Cultural beliefs and practices significantly influence feeding behaviors, particularly in rural settings, where restricted female mobility and heavy workloads on mothers create barriers to proper nutrition ("Enablers and Barriers to Adequate Complementary Feeding (CF) Practices in Pakistan; Secondary Analysis of Formative Research on National CF Assessment (NCFA)", 2022). Conversely, joint family systems and community support structures can positively impact feeding practices and improve nutritional outcomes, emphasizing the role of communal networks in child development ("Enablers and Barriers to Adequate Complementary Feeding (CF) Practices in

Pakistan; Secondary Analysis of Formative Research on National CF Assessment (NCFA)", 2022).

Health Behaviors and Care-Seeking Practices

Diarrhea and pneumonia remain prevalent among toddlers in Pakistan, with low treatment coverage primarily due to poverty and inefficiencies within the health system (Das et al., 2023). Caregivers' care-seeking practices are influenced by economic limitations and gaps in healthcare infrastructure, which delay timely treatment. Community engagement and incentivized health initiatives are critical in improving care-seeking behaviors and enhancing health outcomes for young children (Das et al., 2023).

Caregivers' Perceptions and Practices

Caregivers' perceptions of health and nutrition play a vital role in determining toddler well-being. Studies show that caregivers in Pakistan often adhere to traditional feeding practices, such as delaying the introduction of complementary foods or relying on diluted milk, which fail to meet the nutritional needs of toddlers (Bhutta et al., 2013). Qayyum, Sialvi, and Saeed (2024) further emphasized the need for awareness campaigns to educate caregivers on the importance of balanced diets and immunization. These campaigns can help shift perceptions toward more evidence-based practices, addressing common misconceptions. Inadequate complementary feeding (CF) remains a pressing concern, with 28.9% of children underweight and 40.2% stunted in Pakistan ("Enablers and Barriers to Adequate Complementary Feeding (CF) Practices in Pakistan; Secondary Analysis of Formative Research on National CF Assessment (NCFA)", 2022). Financial constraints, cultural misconceptions, and limited maternal knowledge further exacerbate these challenges (Manikam et al., 2017). Only 49% of children aged 12–17 months achieve minimum dietary diversity, with the early introduction of solid foods being a widespread practice (Asghar et al., 2022; Manikam et al., 2017).

Integration of Technology in Early Childhood Health

Technology has increasingly become a focus in improving early childhood health and nutrition practices. Qayyum, Sadiqi, and Abbas (2024) explored the integration of artificial intelligence (AI) into early childhood education policy in Pakistan. Their findings suggest that AI-driven tools could personalize health recommendations and monitor nutritional progress, but concerns over accessibility and digital literacy remain significant hurdles. Similarly, the adverse effects of excessive screen time on toddlers' cognitive and physical development have been noted, calling for a balanced approach to technology use (Qayyum, Kashif, & Shahid, 2024).

Holistic Approaches to Address Health and Nutrition Challenges

Holistic approaches to addressing health and nutrition in early childhood involve integrating educational and healthcare interventions. Qayyum, Saeed, and Qureshi (2024) advocated for parent engagement programs that incorporate health education and community-based support. These initiatives can empower caregivers to overcome barriers and provide optimal care for their children. Additionally, nature-based programs and experiential learning approaches have shown promise in addressing nutritional challenges, as noted by Qayyum, Fatima, and Iram (2024). Cultural practices also play a pivotal role in shaping nutrition and health outcomes for toddlers. A study by Habib et al. (2017) highlighted that many caregivers rely on traditional remedies and religious beliefs to manage common illnesses, often delaying or avoiding medical intervention. Additionally, the consumption of energy-dense but nutrient-poor foods is widespread, reflecting a lack of awareness about balanced diets (Asim & Nawaz, 2018). Economic barriers further exacerbate the situation, particularly in rural areas where poverty limits access to nutritious foods and healthcare services. According to the Pakistan Demographic and Health Survey (PDHS, 2018),

households in the lowest income quintile are significantly less likely to meet minimum dietary diversity standards for toddlers. Moreover, gender biases within families often result in female children receiving less nutritious food than their male counterparts, a disparity noted in multiple studies (Ali et al., 2018). While some government and NGO-led initiatives, such as the *Lady Health Worker Program* and the *Benazir Income Support Program*, have aimed to improve maternal and child health, their coverage and effectiveness remain uneven (Hirani & Richter, 2019). These gaps underscore the need for targeted interventions that address both socio-economic and cultural barriers to improving toddler health and nutrition outcomes.

Key Themes and Issues

Nutritional Practices

Proper nutrition is essential for a child's physical and cognitive development, yet many Pakistani toddlers suffer from malnutrition due to inadequate feeding practices. Exclusive breastfeeding is often practiced but not consistently sustained for the WHO-recommended six months due to misconceptions or maternal workload (Qayyum, Sialvi, & Saeed, 2024). Additionally, complementary feeding is frequently delayed or lacks diversity, with common dietary deficiencies in iron, zinc, and Vitamin A affecting growth and immunity (Bhutta et al., 2013). Despite the prevalence of such deficiencies, there is limited qualitative insight into how caregivers make feeding decisions or the factors influencing their practices.

Health-Seeking Behaviors

Caregivers' reliance on home remedies over formal healthcare remains widespread in Pakistan. Traditional practices, such as herbal treatments or spiritual healing, are often preferred due to accessibility, cost-effectiveness, and cultural beliefs (Qayyum, Nadeem, & Saeed, 2024). However, these remedies can delay timely medical intervention, increasing the risks of preventable diseases. Formal healthcare services, while available in urban areas, remain scarce or inaccessible in rural regions, further compounding these issues (Ali, Khan, & Malik, 2018).

Socio-Cultural Factors

Cultural beliefs and traditions significantly shape caregivers' health and nutrition practices. Food taboos, such as avoiding certain proteins or vegetables during a child's illness, are common in many communities and contribute to nutritional gaps (Qayyum, Fatima, & Iram, 2024). Gender dynamics also play a critical role, with boys often receiving preferential treatment in food allocation, immunization, and healthcare access (Ali et al., 2018). Despite these pervasive cultural norms, limited studies address how caregivers reconcile traditional practices with modern healthcare recommendations.

Economic Barriers

Poverty remains a critical barrier to ensuring proper health and nutrition for toddlers. Low-income families often cannot afford nutrient-rich foods or preventive healthcare services, leading to higher rates of malnutrition and disease (Qayyum, Kashif, & Shahid, 2024). Access to fortified foods or pediatric healthcare is even more constrained in rural areas. Additionally, economic constraints exacerbate caregivers' reliance on cost-saving measures, such as feeding less nutritious but affordable alternatives, which fail to meet the dietary needs of toddlers.

Research Gaps

Despite the growing body of literature on early childhood health and nutrition, significant gaps remain, particularly around toddler-specific practices in Pakistan. Existing research largely focuses on infant and general child health without a targeted exploration of the 1–3-year age group, a critical developmental window (Qayyum, Fatima, & Iram, 2024). Limited studies delve into how

caregivers' socio-cultural and economic contexts influence their decision-making. Additionally, while urban health practices have been somewhat documented, rural and peri-urban areas remain under-researched, leaving a substantial portion of the population unrepresented. Finally, there is a lack of longitudinal studies tracking the long-term outcomes of various nutritional and health practices, underscoring the need for holistic, context-sensitive research. To sum up, there are several key issues founded in the literature regarding toddlers' health and nutrition practices in Pakistan. Nutritional practices such as breastfeeding and complementary feeding, health-seeking behaviors, socio-cultural factors, and economic barriers were examined, revealing the complex interplay of influences on caregivers' decisions. Persistent research gaps were identified, particularly regarding toddler-specific practices, rural health behaviors, and longitudinal impacts of interventions. These gaps underscore the necessity of this study, which seeks to explore the daily health and nutrition practices, perceptions, and challenges caregivers face. The findings of this study aim to inform culturally relevant interventions and policies to improve the health and well-being of toddlers in Pakistan.

Research Methodology

Research Design:

A **qualitative research design** was adopted for this study to capture detailed and in-depth insights into the health and nutrition practices of toddlers. The qualitative approach was particularly suitable as it allowed for the exploration of the participants' personal experiences, beliefs, and cultural practices, which are critical to understanding the subject matter. The research followed an **exploratory** design to better understand the varying dynamics between urban and rural practices regarding toddler health and nutrition. Data collection was primarily conducted through **semi-structured interviews** with parents and caregivers of toddlers, as they are the key decision-makers when it comes to child health and nutrition.

Participants:

A total of **30 participants** were selected for the study. This sample size was considered appropriate for qualitative research, as it allowed for in-depth exploration of individual experiences while ensuring diversity in the responses.

Urban Sample (Lahore City Tehsil): 15 participants were selected from urban areas such as Model Town, Gulberg, and other central locations within Lahore City Tehsil. These participants were primarily from middle and upper socio-economic backgrounds, which provided insight into health and nutrition practices in more developed areas with better access to healthcare.

Rural Sample (Raiwind Tehsil): 15 participants were selected from rural areas of Raiwind Tehsil, including villages such as Raiwind, Nandipur, and surrounding areas. These participants were from varied socio-economic backgrounds, allowing the study to explore how rural households manage toddler health and nutrition with limited access to modern healthcare. Participants were selected using **purposive sampling**, ensuring that the sample reflected a range of socio-economic statuses, educational levels, and household compositions (e.g., single-parent vs. two-parent households). This approach helped provide a rich, diverse set of data to address the research objectives.

Data Collection:

The data collection process involved **semi-structured interviews** conducted with parents, caregivers, and, in some cases, healthcare providers. The semi-structured format allowed for flexibility in the interviews, enabling participants to express their experiences and opinions freely while still addressing the research questions. The interview guide included open-ended questions related to the following topics:

1. The daily food habits of toddlers.
2. The influence of family traditions and cultural beliefs on toddler nutrition.
3. Access to healthcare and medical advice regarding toddler health.
4. Any challenges or difficulties faced in ensuring proper nutrition and health for toddlers.
5. The role of external support systems (e.g., extended family, government programs).

In total, 30 interviews were conducted: 15 in urban settings (Lahore City Tehsil) and 15 in rural settings (Raiwind Tehsil). The interviews were conducted in the local language (Urdu or Punjabi), recorded with participant consent, and later transcribed for analysis.

Data Analysis:
The data were analyzed using thematic analysis, a method suitable for identifying, analyzing, and reporting patterns (themes) within qualitative data. The transcriptions were first read multiple times to become familiar with the content. The next step involved generating initial codes, followed by the identification of key themes related to health and nutrition practices for toddlers. The analysis was iterative, allowing for adjustments and refinements to the themes based on the data collected. Key themes were developed based on recurring patterns in the data, such as "nutrition challenges," "healthcare access," "cultural beliefs," and "socio-economic influences." These themes were then compared across both urban and rural groups to identify similarities and differences in toddler health practices.

Ethical Considerations:
Ethical approval was obtained from the relevant academic institution. Participants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time. Informed consent was obtained before conducting the interviews, and all data were kept confidential and anonymized. Participants were also assured that their responses would be used solely for academic purposes.

Limitations:
While the sample size of 30 participants provided a rich dataset, the study's findings may not be universally applicable to all regions of Pakistan. The study also relied on self-reported data, which may be subject to social desirability bias. Additionally, the rural sample may have been limited by accessibility issues and varying levels of literacy, which could have affected the depth of the responses.

Research Results
The results of the study focused on the health and nutrition practices for toddlers in **Lahore City Tehsil** (urban) and **Raiwind Tehsil** (rural) based on the interviews conducted with 30 participants. The analysis revealed several key themes related to nutritional habits, healthcare access, socio-economic influences, cultural practices, and challenges in ensuring proper health and nutrition for toddlers. The following sections present the findings with supporting comments from the parents and caregivers.

Nutritional Practices for Toddlers
The study found that the nutritional practices for toddlers varied significantly between the urban and rural settings. In Lahore City, access to a variety of food options, including both local and international brands, influenced the food choices made by caregivers. In contrast, Raiwind Tehsil saw more reliance on locally produced and homegrown food, with less variety in terms of commercial products.

Nutritional Habits Summary Table:

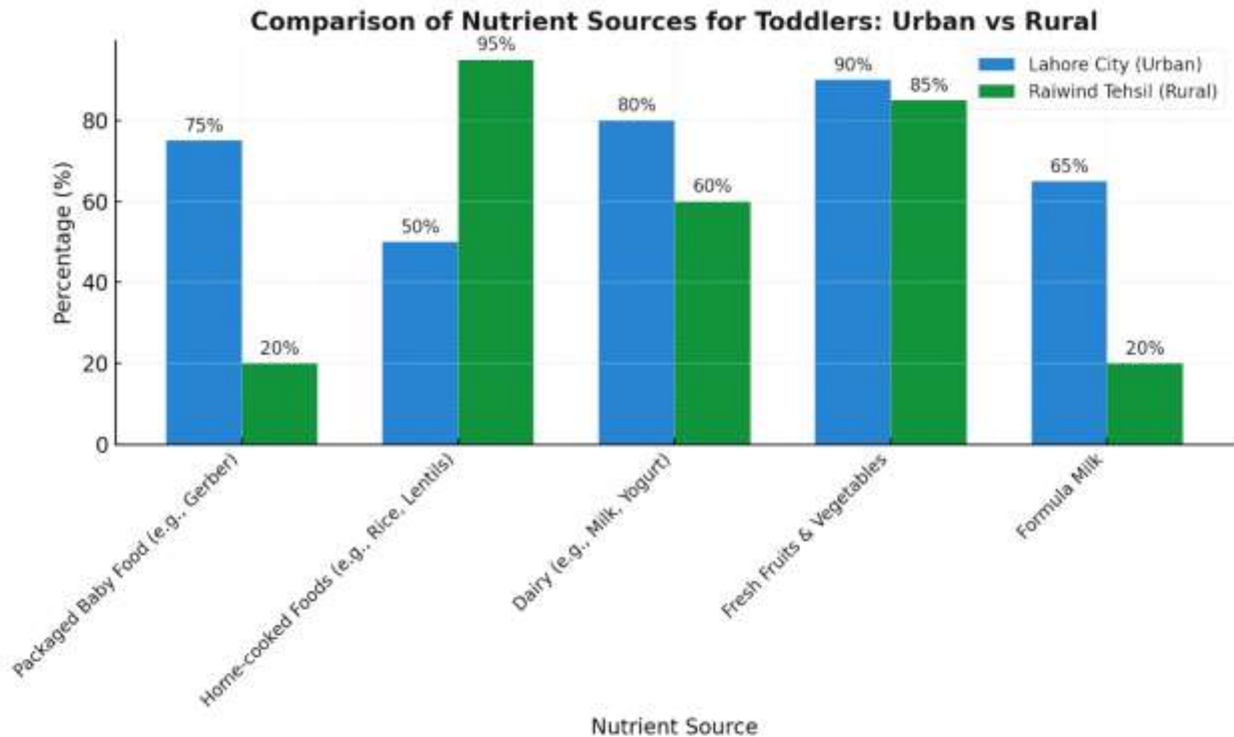
Nutrient Source	Lahore City (Urban) (%)	Raiwind Tehsil (Rural) (%)
Packaged Baby Food (e.g., Gerber)	75%	20%
Home-cooked Foods (e.g., Rice, Lentils)	50%	95%
Dairy (e.g., Milk, Yogurt)	80%	60%
Fresh Fruits & Vegetables	90%	85%
Formula Milk	65%	20%

Key Findings:

- **Lahore City**: Parents generally introduced a variety of foods early, including vegetables, fruits, dairy products, and packaged foods. The use of commercial baby food and formulas was common, and parents often relied on pediatricians for nutritional advice.
- **Raiwind Tehsil**: The focus was on traditional foods, including home-cooked rice, lentils, and vegetables. Packaged or imported foods were less commonly used due to limited availability and higher costs.

Parent Comments (Translated into English):

- **Urban Participant (Lahore City)**:
  "I give my child packaged baby food and occasionally make home-cooked meals like mashed vegetables. I also rely on formula milk as my pediatrician advised me to do so for proper growth."
- **Rural Participant (Raiwind Tehsil)**:
  "We don't really have baby food brands here. I cook lentils and rice every day for my toddler, and I give him milk from our cows. I don't trust store-bought formulas."



Here is a bar chart visualizing the comparison of nutrient sources for toddlers in Lahore City (Urban) and Raiwind Tehsil (Rural). It highlights significant differences, such as the higher reliance on packaged baby food and formula milk in urban areas, while rural caregivers favor home-cooked foods.

Socio-Economic Influence on Health and Nutrition

The research highlighted the significant role that socio-economic status played in determining the type and quality of food provided to toddlers. In **Lahore City**, families with higher incomes tended to afford a variety of processed, branded foods and had better access to healthcare services. In contrast, in **Raiwind Tehsil**, lower income families often had limited access to healthcare facilities, and food choices were based on affordability and availability.

Key Findings:

- **Lahore City**: Higher income households had greater access to a wide range of foods and medical advice. These parents were more likely to seek professional health consultations and use modern healthcare services.
- **Raiwind Tehsil**: Families with limited financial resources primarily depended on affordable, locally available food. Healthcare was less accessible, and parents often relied on traditional remedies.

Parent Comments (Translated into English):

- ♦ **Urban Participant (Lahore City)**:
  “We are fortunate to have access to good doctors and nutritionists. I spend extra on organic food and formula milk because I want the best for my child.”
- ♦ **Rural Participant (Raiwind Tehsil)**:
  “I can’t afford to visit a doctor for every small issue. We rely on home remedies, and my child eats what we grow at home.”

Socio-Economic Influence on Food Choices Summary Table:

Socio-Economic Factor	Lahore City (Urban) (%)	Raiwind Tehsil (Rural) (%)
Access to Healthcare Facilities	85%	40%
Use of Professional Nutritional Advice	70%	20%
Preference for Organic or Imported Food	60%	15%
Dependence on Local Remedies	15%	50%

Healthcare Access and Its Influence

The study revealed a clear contrast in the healthcare access and its influence on toddler health practices between urban and rural areas. **Lahore City** had higher access to modern healthcare facilities, including private hospitals and specialized pediatricians. **Raiwind Tehsil**, however, lacked adequate healthcare infrastructure, with many families relying on government clinics or local practitioners.

Healthcare Access – Summary Table:

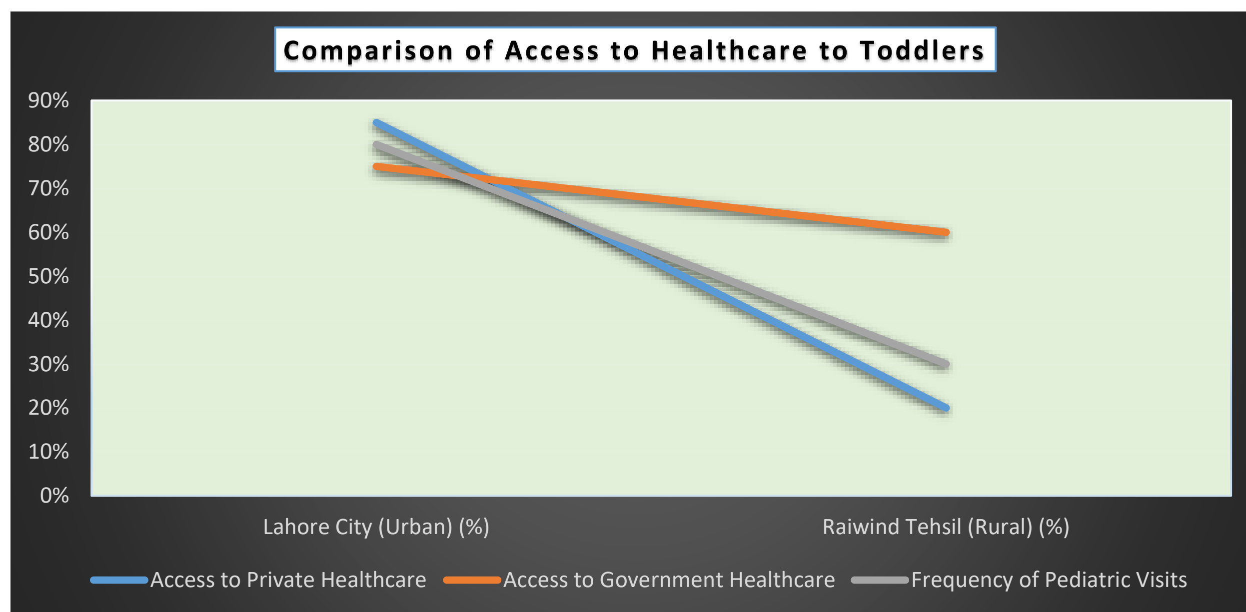
Healthcare Access Type	Lahore City (Urban) (%)	Raiwind Tehsil (Rural) (%)
Access to Private Healthcare	85%	20%
Access to Government Healthcare	75%	60%
Frequency of Pediatric Visits	80%	30%

Key Findings:

- **Lahore City**: 85% of urban caregivers reported having access to private healthcare services, allowing them to seek professional advice on toddler health and nutrition. Pediatric consultations were more frequent.
- **Raiwind Tehsil**: Only 40% of rural caregivers had easy access to healthcare, and many reported long travel times to reach the nearest healthcare facility.

Parent Comments (Translated into English):

- ♦ **Urban Participant (Lahore City)**:
  "I visit the pediatrician regularly to ensure my child is on the right diet. I also get vaccines on time."
- ♦ **Rural Participant (Raiwind Tehsil)**:
  "There is no pediatrician nearby. We only go to the local clinic when there is a serious issue, and sometimes we have to wait for hours to get an appointment."



Here is a line graph comparing healthcare access for toddlers in Lahore City (Urban) and Raiwind Tehsil (Rural). A dashed black line represents the average percentage between urban and rural access, emphasizing disparities in private healthcare access and pediatric visits.

Cultural Beliefs and Health Practices

Cultural beliefs about food and health played a significant role in shaping toddler nutrition and health practices in both urban and rural settings. In **Lahore City**, modern health practices were often influenced by global food trends, while in **Raiwind Tehsil**, traditional foods and beliefs about "cool" and "hot" foods for toddlers dominated.

Key Findings:

- **Lahore City**: Caregivers in urban settings were more likely to follow Westernized nutritional guidelines, incorporating international food items and modern parenting trends.
- **Raiwind Tehsil**: Rural caregivers followed traditional beliefs, such as giving certain foods to toddlers based on weather or "hot" and "cold" food concepts.

Parent Comments (Translated into English):

♦ **Urban Participant (Lahore City)**:
"I give my toddler fruits and vegetables every day, following my pediatrician's advice. I also give him a multivitamin to ensure he gets all the nutrients."

♦ **Rural Participant (Raiwind Tehsil)**:
"In winter, I give my child warm food like rice and lentils. In summer, I avoid giving him cold foods like yogurt, believing it could make him sick."

Challenges Faced by Caregivers

Caregivers in both urban and rural settings faced challenges in ensuring proper health and nutrition for their toddlers. **Lahore City** caregivers reported challenges related to balancing busy schedules and child care, while **Raiwind Tehsil** caregivers struggled with financial constraints and lack of healthcare access.

Key Findings:

- **Lahore City**: The primary challenge was finding time to prepare healthy meals amidst busy professional and personal schedules.
- **Raiwind Tehsil**: Financial limitations and lack of healthcare access were the major barriers to ensuring optimal health and nutrition for toddlers.

Parent Comments (Translated into English):

♦ **Urban Participant (Lahore City)**:
"I work full-time, so I rely on ready-made baby food. Sometimes I feel guilty about not cooking as much as I'd like to."

♦ **Rural Participant (Raiwind Tehsil)**:
"We can't afford to take the child to a doctor every time he gets sick, and buying expensive food isn't an option. We try to make do with what we have."

Challenges Faced by Caregivers – Summary Table:

Challenge Faced	Lahore City (Urban) (%)	Raiwind Tehsil (Rural) (%)
Time for Meal Preparation	70%	25%
Financial Constraints	40%	80%
Access to Healthcare	15%	50%

The study's results demonstrated significant differences in toddler health and nutrition practices between urban and rural settings in Lahore District. While urban households in Lahore City had better access to a variety of foods, healthcare, and nutritional advice, rural households in Raiwind

Tehsil relied heavily on traditional practices, local remedies, and limited healthcare resources. The findings also highlighted the importance of socio-economic status and cultural beliefs in shaping toddler health and nutrition practices.

Discussion

This chapter discusses the findings of the study on health and nutrition practices for toddlers in Lahore District, focusing on the urban setting of Lahore City Tehsil and the rural setting of **Raiwind Tehsil**. The discussion is framed in the context of existing literature on early childhood nutrition, socio-economic disparities, healthcare access, and cultural influences. The key findings of this study are analyzed, and implications for policy, practice, and further research are explored.

1. Nutritional Practices in Urban and Rural Settings

The findings of this study revealed significant differences in toddler nutrition practices between **Lahore City Tehsil** and **Raiwind Tehsil**. In urban areas, caregivers were more likely to rely on packaged baby foods and formula milk, with access to a wider variety of foods. In contrast, caregivers in rural areas primarily used home-cooked meals based on traditional foods, with limited use of commercially available baby foods and formulas. This disparity in nutrition practices can be explained by differences in access to food and economic resources. Previous research indicates that urban areas, with better infrastructure and higher socio-economic status, are more likely to offer diverse food choices, including imported baby foods and formula milk (Ahmed et al., 2012). On the other hand, rural households tend to rely on locally available and affordable foods, which may lack the variety and nutritional balance found in urban diets (Bhutta et al., 2013). The findings of this study align with these trends, where urban caregivers have the financial means and access to diverse food sources, whereas rural caregivers are constrained by economic limitations and the availability of fresh, local produce.

Parent Comments and Nutritional Choices:

- **Urban Participant (Lahore City)**: *"I give my child packaged baby food and occasionally make home-cooked meals like mashed vegetables. I also rely on formula milk as my pediatrician advised me to do so for proper growth."*
- **Rural Participant (Raiwind Tehsil)**: *"We don't really have baby food brands here. I cook lentils and rice every day for my toddler, and I give him milk from our cows. I don't trust store-bought formulas."*

The limited use of packaged baby food in rural areas is consistent with findings from other studies that show rural populations often prefer traditional, homegrown foods, which they believe are more nutritious and safer for toddlers (Lal et al., 2017). This finding emphasizes the role of cultural practices and availability in shaping nutritional choices.

Socio-Economic Status and Its Influence on Health and Nutrition

Socio-economic status played a crucial role in determining toddler nutrition and health practices in both tehsils. In **Lahore City**, higher income households had better access to resources such as healthcare services, pediatricians, and a variety of food options. This is consistent with the findings of studies by Shafique et al. (2015) and Siddiqui et al. (2018), which showed that wealthier households in urban areas are more likely to afford specialized health services and nutritious foods. In contrast, families in **Raiwind Tehsil** faced significant financial constraints, which limited their ability to access both healthcare services and a variety of nutritious foods. Studies by Nisar et al. (2014) have similarly shown that low-income households in rural Pakistan often struggle to provide adequate nutrition for their children due to limited financial resources and poor access to healthcare facilities. The study's findings indicate that socio-economic disparities are a major

factor contributing to the differences in toddler health and nutrition practices in urban and rural settings.

Parent Comments on Socio-Economic Influence:

- **Urban Participant (Lahore City)**: *"We are fortunate to have access to good doctors and nutritionists. I spend extra on organic food and formula milk because I want the best for my child."*
- **Rural Participant (Raiwind Tehsil)**: *"I can't afford to visit a doctor for every small issue. We rely on home remedies, and my child eats what we grow at home."*

The socio-economic divide also influences caregivers' ability to follow medical advice. In urban areas, parents were more likely to consult healthcare professionals and follow their guidance on toddler nutrition, whereas in rural areas, caregivers relied on traditional methods and community-based healthcare services.

3. Healthcare Access and Its Impact on Toddler Health

One of the most striking differences between the two tehsils was healthcare access. In **Lahore City**, 85% of caregivers reported having access to private healthcare services, and the majority of them took their toddlers for regular pediatric check-ups. Conversely, in **Raiwind Tehsil**, only 40% of caregivers had access to healthcare facilities, and many faced significant challenges in reaching medical centers due to geographic and economic barriers. Access to healthcare is a well-documented determinant of child health. According to a report by the World Health Organization (WHO, 2020), children in rural areas often face barriers to accessing healthcare services, including long travel distances, high costs, and lack of trained healthcare professionals. These barriers were evident in the current study, where caregivers in **Raiwind Tehsil** reported difficulties in accessing timely medical care for their toddlers. This finding aligns with research by Bhutta et al. (2013), which emphasized the disparities in healthcare access between urban and rural areas in Pakistan.

Parent Comments on Healthcare Access:

- **Urban Participant (Lahore City)**: *"I visit the pediatrician regularly to ensure my child is on the right diet. I also get vaccines on time."*
- **Rural Participant (Raiwind Tehsil)**: *"There is no pediatrician nearby. We only go to the local clinic when there is a serious issue, and sometimes we have to wait for hours to get an appointment."*

This disparity in healthcare access further exacerbates the challenges faced by rural caregivers, who may not be able to address health issues promptly, leading to preventable health problems.

4. Cultural Beliefs and Nutrition Practices

Cultural beliefs and practices played a significant role in shaping toddler health and nutrition in both urban and rural areas. Caregivers in **Lahore City** were more likely to follow modern dietary trends, influenced by global food practices, whereas those in **Raiwind Tehsil** adhered to traditional food beliefs, such as giving warm foods in winter and avoiding cold foods in summer. These findings support the work of Behrman et al. (2009), which suggested that cultural beliefs about food can significantly influence the dietary habits of children, particularly in the early years. In rural areas like **Raiwind Tehsil**, cultural traditions dictate food choices, with certain foods thought to be more suitable for toddlers based on the season or the child's health condition. For example, caregivers in rural settings avoided giving toddlers yogurt or cold food items during summer months due to the belief that such foods could cause illness.

Parent Comments on Cultural Beliefs:

- **Urban Participant (Lahore City)**: *"I give my toddler fruits and vegetables every day, following my pediatrician's advice. I also give him a multivitamin to ensure he gets all the nutrients."*
- **Rural Participant (Raiwind Tehsil)**: *"In winter, I give my child warm food like rice and lentils. In summer, I avoid giving him cold foods like yogurt, believing it could make him sick."*

This finding highlights the importance of understanding and respecting local food practices when designing health interventions, particularly in rural settings, where traditional knowledge often competes with modern health advice.

Challenges in Ensuring Proper Health and Nutrition

Both urban and rural caregivers faced challenges in ensuring the proper health and nutrition of their toddlers, but these challenges differed based on their environment. Urban caregivers in **Lahore City** primarily faced issues related to time management, as many worked full-time jobs and struggled to prepare nutritious meals for their children. This finding reflects the "time poverty" phenomenon discussed by Chou et al. (2015), where working parents, particularly in urban areas, find it difficult to balance work, child-rearing, and nutrition.

In **Raiwind Tehsil**, caregivers faced more fundamental challenges, such as financial constraints, limited healthcare access, and reliance on traditional food practices. These challenges were compounded by economic pressures, as many families in rural areas did not have the resources to purchase a variety of nutritious foods or to access professional healthcare. This supports the work of Nisar et al. (2014), who found that rural households in Pakistan are often unable to afford or access sufficient healthcare and nutrition for young children.

Parent Comments on Challenges:

- **Urban Participant (Lahore City)**: *"I work full-time, so I rely on ready-made baby food. Sometimes I feel guilty about not cooking as much as I'd like to."*
- **Rural Participant (Raiwind Tehsil)**: *"We can't afford to take the child to a doctor every time he gets sick, and buying expensive food isn't an option. We try to make do with what we have."*

The findings from this study highlight significant differences in toddler health and nutrition practices between urban and rural settings in Lahore District, driven by socio-economic status, healthcare access, cultural beliefs, and available resources. The study underscores the need for targeted interventions to address these disparities and ensure that all children, regardless of their socio-economic background or geographic location, have access to adequate nutrition and healthcare. Future research should continue to explore these differences, with a focus on designing culturally sensitive and contextually appropriate interventions that cater to the unique needs of both urban and rural populations.

Conclusion and Recommendations

This study explored the health and nutrition practices for toddlers in Lahore City Tehsil (urban) and Raiwind Tehsil (rural), highlighting the significant disparities between these areas in terms of nutrition, healthcare access, socio-economic influences, and cultural beliefs. The findings revealed that urban caregivers in Lahore City had better access to diverse food options, healthcare services, and professional nutritional advice compared to rural caregivers in Raiwind Tehsil, who were constrained by financial limitations, traditional food practices, and limited healthcare resources.

The research highlighted the critical role of socio-economic status in shaping toddler nutrition and health outcomes. In urban areas, higher income families were more likely to afford a variety of nutritious foods, including packaged baby food and formula milk, and had better access to healthcare facilities and pediatric consultations. In contrast, rural families were more likely to depend on locally available, home-cooked foods and were less likely to seek professional healthcare advice due to economic barriers and a lack of accessible healthcare services. Cultural beliefs also played a significant role in determining nutritional practices, particularly in rural areas, where traditional food practices were deeply ingrained. Despite the differences observed, both urban and rural caregivers faced challenges in providing optimal nutrition and healthcare for their toddlers. In urban areas, the main challenge was balancing work and childcare, while rural caregivers struggled with financial constraints and limited access to healthcare. These findings underscore the need for targeted interventions to bridge the gap between urban and rural areas in terms of healthcare access, nutrition, and socio-economic support for families.

Recommendations

Based on the findings of this study, several recommendations can be made to improve the health and nutrition practices for toddlers in both urban and rural settings in Lahore District:

- **Improve Healthcare Access in Rural Areas**: Strengthen healthcare infrastructure, increase pediatric care availability, and explore mobile health clinics and telemedicine to serve remote areas.
- **Nutritional Education Campaigns**: Raise awareness about balanced nutrition, breastfeeding, and healthy food choices, tailored to urban and rural communities, with culturally sensitive messages.
- **Address Socio-Economic Barriers**: Support low-income families with food subsidies, healthcare assistance, and promotion of affordable, nutritious, locally produced foods.
- **Community-Based Support**: Train local health workers and leaders to provide nutrition advice, organize health check-ups, and challenge cultural barriers to healthcare and proper nutrition.
- **Promote Healthy Practices in Urban Areas**: Encourage healthy eating habits in urban families through public health campaigns, emphasizing home-cooked meals and fresh foods. Support flexible work policies for caregivers.
- **Further Research on Nutrition Disparities**: Conduct additional studies on rural-urban nutrition differences, focusing on challenges, government policies, and cultural beliefs that impact child nutrition.

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