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RESEARCH PAPER

Socioeconomic and Cultural Barriers to Childhood Immunization at Mallah Village in Hyderabad

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ABSTRACT

The study aimed to assess socioeconomic and cultural barriers to childhood immunization at Mallah Village in Hyderabad. Immunization is a critical public health program that lowers infant mortality rates significantly. But substantial barriers still exist, especially within rural areas. A cross-sectional study was conducted from July to September 2024, involving 60 parents residing in Mallah Village. Participants were selected using a non-probability convenience sampling technique. Data was analyzed using IBM SPSS version 23, with descriptive statistics employed to compile demographic information and key study variables. The findings identified several barriers to immunization. Approximately 80% of participants reported low socioeconomic status, while 60% had limited education. Access to healthcare services was inadequate for about 70% of respondents. Cultural beliefs, values and misinformation about vaccines, significantly influenced immunization decisions for 65% of parents. The study recommends developing employment programs, launching educational campaigns, fostering community-healthcare collaboration, and conducting qualitative research to address cultural factors influencing immunization.

KEYWORDS Childhood Immunization, Community Health, Public Health, Socioeconomic Barriers

Introduction

Childhood immunization is one of the most efficient and effective public health approaches to lower childhood deaths and illnesses(Thirunavukkarasu et al., 2023) Globally, immunization against many infectious diseases has significantly reduced their prevalence, improving child health outcomes (World Health Organization, 2023).(Zhou, 2024)Studies have reported that vaccine preventable illnesses remain the leading cause for teenage mortality, contributing to an estimated 2-3 million deaths yearly, mainly in Asia and Africa.(Guye et al., 2023).Vaccines have significantly reduced outbreaks of smallpox, measles, and polio for years, resulting in the healthy and joyful development of two to three million children each year. The immunization against measles has prevented 23 million deaths between 2010 and 2018.(Newcomer, Glanz, & Daley, 2023)

The Expanded Program on Immunization (EPI), which was started in Pakistan in 1978, has had a significant role in lowering the prevalence of diseases that are preventable by immunization. First focusing on illnesses such as measles, tetanus, pertussis, poliomyelitis, and tuberculosis, the program was expanded in 2001 and 2008 to include immunizations against hepatitis and Haemophilus influenzae type B.(Khan et al.) In order to boost immunization rates and reduce vaccine-preventable diseases, Pakistan initiated the National Immunization Support Project (NISP) in 2016. The Expanded Immunization Program strives to vaccinate at least 90% of children with the primary series of immunizations.(Shahid et al., 2023) The effectiveness of immunization programs is frequently hindered by multiple barriers, particularly in in terms of socioeconomic struggling and culturally diverse communities, despite significant advancements in vaccine availability and delivery.(Muhjazi et al., 2024)

Research indicates that families face difficulties using immunization programs due to socioeconomic factors such less income, education, and limited access to healthcare. Transportation problems and high healthcare costs are two more barriers that poor communities experience.(Williams, Akande, & Abbas, 2024)

Cultural beliefs and values, inaccurate information about vaccines, and disbelief of the healthcare system can all have an impact on parents' decisions about immunizations. For instance, certain cultural groups may have specific beliefs about immunizations that are at contradiction with what the general public recommends, while others may be uncertain of immunizations due to bad experiences in the past.(Bangura, Xiao, Qiu, Ouyang, & Chen, 2020) There are regional differences in immunization rates; in rural regions, immunization rates are frequently lower and disease transmission is higher. Health network coverage, outreach service quality, cold chain integrity, community collaboration, and population mobility are factors that influence immunization effectiveness in resource-constrained contexts.(Memon, Qaisar, & Memon, 2024)

Although there is not much research on Mallah Village in Hyderabad particularly, it serves as an accurate representation of many underprivileged rural areas in Pakistan where similar challenges are prevalent. Many studies have explored the effects of socioeconomic and cultural barriers on immunization rates in various settings. Financial hardships might restrict a family's ability to access and utilize healthcare facilities, especially in rural locations. Additionally, low education and poverty are two common issues that influence immunization uptake. Transportation costs, healthcare prices, and family accessibility to local healthcare resources can all be barriers to timely immunization in these areas.(Muhammad et al., 2023)

A comprehensive strategy that addresses socioeconomic and cultural factors is required to overcome immunization barriers. Crucial strategies include resolving socioeconomic issues, enhancing immunization education, and promoting cultural competence among healthcare providers. By addressing these factors, public health campaigns can improve immunization coverage and protect children's health, particularly in underprivileged and diverse areas like Mallah Village.(Butt, Mohammed, Butt, Butt, & Xiang, 2020)

Literature Review

The immunization for children is essential for improving their health globally as well as lowering the prevalence of illnesses. (Zemariam et al., 2024)Parental attitudes and beliefs have a considerable impact on immunization rates, irrespective of immunization's effectiveness in refraining from many infectious diseases. This review looks at the variables that influence immunization acknowledgement, especially an emphasis on current studies evaluating attitudes about the obligation, safety, and delivery of vaccines. Perceptions about the safety and effectiveness of immunizations have a big impact on immunization decisions. Research indicates that parents who think vaccines are safe and effective are more likely to follow immunization schedules. However, hesitancy might also stem from concerns about safety, which is often fostered by misinformation. In order to maintain high immunization rates, these problems must be addressed with concise, accurate information.(Khaliq et al., 2024)

Cost-related concerns about immunizations can affect usage, particularly among low-income areas. Financial challenges can be overcome by providing clear information that immunizations are free. (Shah, Hasan, & Afeworki, 2023)Fears regarding the ingredients also affect immunization acceptability. Vaccine components are clearly safe, although worries about them still exist, illustrating the importance of proper safety.(Ayoub & Al-Ghabeesh, 2024)The uptake of immunizations is greatly influenced by beliefs about the significance of vaccines for a child's health. Research indicates that parents are more willing to vaccinate their children if they are educated on the importance of immunizations. Adherence to immunization

recommendations can be enhanced by highlighting the significance that immunizations contribute in protecting serious diseases.(Boyle et al., 2020)

A key barrier to immunization is fear of side effects, which can frequently be exacerbated by false information. It is crucial to address this with precise and clear knowledge.(Maulana, Sintari, & Hargono, 2023)Considering the higher risks associated with natural sickness, some parents think immunity acquired naturally is preferable to immunity induced by immunizations. This belief may reduce the number of immunizations and raise the risk of illness.(Angka, Market, Ardolino, & Auer, 2020)It is essential to know where to get immunization services. Parents are more willing to vaccinate their children if they are informed about facility locations and accessibility. This barrier can be overcome by enhancing communication and service accessibility.(; Siddique et al., 2023).Reliability of the immunizations process influences decisions. Immunization rates are higher among parents who trust the process. This comfort is influenced by elements including site experience and provider competence.(Ali et al., 2024)

Parental decisions are influenced by confidence in the accuracy of immunization administration. It is essential to have trust in health care providers to effectively administer immunizations. Parental concerns can be addressed by making ensuring the process is administered accurately and communicating it in a clear manner.(Jinarong, Chootong, Vichitkunakorn, & Songwathana, 2023)The status analysis report highlights the major challenges Pakistan's Expanded Program on immunizations (EPI) must overcome. The 2011 devolution of health services has made weak administration and leadership even more of a problem, as inadequate finance that hinders with transportation and cold chain maintenance. Low immunization rates and reduced program efficacy are the results of additional disruptions in vaccine supply and purchasing caused by inefficient resource allocation and prolonged distribution of funds.(Ali et al., 2024; Zarzeczny & Kahar, 2024)

Finally, immunization acceptability is greatly influenced by the clarity of the information presented regarding immunizations. Information that is easy to grasp increases immunization uptake and decreases hesitancy. It is vital to implement efficient communication strategies to make sure that parents are knowledgeable and secure in their immunization decisions.(Boyle et al., 2020; Hossain et al., 2023)

Material and Methods

Study design

A cross-sectional study was conducted from July to September in 2024 to assess socioeconomic and cultural barriers to childhood immunization at Mallah Village, in Hyderabad.

Study population

The target population consisted of 75 parents who lived at Mallah Village, Hyderabad.

Sample size

The sample size was determined to be 60 parents.

Inclusion Criteria

- Parents who were willing to participate.
- Parents who were available.

Exclusion Criteria

- Parents who refused to participate.
- Parents who were not available.

Sampling Technique

The study participants were chosen using a non-probability convenience selection technique.

Source of Data

Primary data was collected directly from parents using a structured questionnaire.

Research Tool

The questionnaire used in the study was divided into two sections and was modified and adopted. Gender, age, marital status, level of education, employment, information source, and number of children were among the sociodemographic data gathered in Section A. A total of 14 questions made up Section B, which evaluated the barriers to immunization.

Data Analysis

IBM SPSS version 23 was used to analyze the data. The demographic information and important study variables were compiled using descriptive statistics. The data were described using percentages and frequencies in addition to other related statistical methods.

Ethical Consideration

Participants' autonomy and privacy were strictly maintained. The study was authorized by the chief of the Mallah Village community. Participants received information on the objectives, methods, potential risks, and advantages of the study. Individuals were free to withdraw their participation at any moment without giving a reason. Prior to taking part in the study, parents were required to sign a written consent form.

Results and Discussion

Table 1
Classification Based On Gender

Categories	Frequency	Percentage
Male	15	25.0
Female	45	75.0
Total	60	100.0

The gender distribution of the study participants is displayed in Table No. 1. Of the 60 respondents in total, 15 were male (25%) and 45 were female (75%).

Table 2
Classification Based On Age

Categories	Frequency	Percentage
20-25 Years	11	18.3
26-30 Years	22	36.7
31-35 Years	20	33.3
36-40 Years	6	10.0
Above 40 Years	1	1.7
Total	60	100.0

Table No. 2 shows the age breakdown of the participants. The age range of 26–30 years accounted for the majority (36.7%), followed by 31–35 year olds (33.3%). A total of 1.7% of adults were over 40 years.

Table 3
Classification based on Marital Status

Categories	Frequency	Percentage
Married	56	93.3
Widowed	4	6.7
Total	60	100.0

Based on the classification of marital status in Table No. 3**,** 56 participants (93.3%) were married, while 4 participants (6.7%) were widowed.

Table 4
Classification Based On Qualification

Categories	Frequency	Percentage
Illiterate	23	38.3
Primary Education	15	25.0
Secondary Education	18	30.0
Graduated	4	6.7
Total	60	100.0

Based on the participants' classifications of educational background in Table No.4, 38.3% were illiterate, 25% had finished elementary school, **30%** had completed secondary school, and 6.7% had graduated.

Table 5

Classification Based On Occupation

Categories	Frequency	Percentage
Employed	12	20.0
Unemployed	48	80.0
Total	60	100.0

The job status of the participants is displayed in Table No. 5**,** with 20% (12 people) employed and 80% (48 people) unemployed.

Table 6
Classification Based On Source Of Information

Categories	Frequency	Percentage
Family & Friends	35	58.3
Mass Media	1	1.7
Health care provider	24	40.0
Total	60	100.0

Table No. 6 shows that participants most frequently obtained information from friends and family (58.3%), followed by medical professionals (40%), and the media (1.7%).

Table 7
Classification Based On Number of Children

Categories	Frequency	Percentage
2	27	45.0
4	16	26.7
5	10	16.7
Above 5	7	11.7
Total	60	100.0

The participant's number of children is categorized in table No. 7, (11.7%) had more than five children, compared to 26.7% who had four and the majority of participants (45%) with two children.

Table 8
Immunization Barriers

STATEMENT		Yes	No	Don't Know	Mean	St. Devi.
Do you believe vaccines for children are safe and effective?	Freq	55	1	4	1.15	.515
	%	91.7	1.7	6.7		
Do you believe vaccines are important for your child?	Freq	53	2	5	1.20	.576
	%	88.3	3.3	8.3		
Do you have fears that your child could get sick after receiving immunization?	Freq	6	27	27	2.35	.659
	%	10.0	45.0	45.0		
Do you believe that natural immunity is better than immunization for protecting your child against diseases?	Freq	46	9	5	1.31	.624
	%	76.7	15.0	8.3		
Do You believe vaccines contain dangerous ingredients?	Freq	58	1	1	1.05	.286
	%	96.7	1.7	1.7		
Do you trust the health workers who provide information about the benefits of immunization?	Freq	45	6	9	1.40	.741
	%	75.0	10.0	15.0		
Are you comfortable getting your child vaccinated?	Freq	50	4	6	1.26	.634
	%	83.3	6.7	10.0		
Do you know vaccines are free of cost?	Freq	55	3	2	1.11	.415
	%	91.7	5.0	3.3		
Do you know that a health visitor provides an immunization card?	Freq	56	2	2	1.10	.399
	%	93.3	3.3	3.3		
Do you know if the vaccinator injected accurately?	Freq	15	11	34	2.31	.853
	%	25.0	18.3	56.7		
Do you know where to take your child for immunizations?	Freq	42	7	11	1.48	.791
	%	70.0	11.7	18.3		
Have you encountered any challenges in accessing immunization services for your child, like long wait times or the distance to vaccination centers?	Freq	45	12	3	1.30	.561
	%	75.0	20.0	5.0		
Do you feel that the information provided about immunizations is clear and understandable?	Freq	16	35	9	1.88	.640
	%	26.7	58.3	15.0		
Have you or any family members experienced issues related to vaccine side effects?	Freq	8	46	6	1.96	.485
		13.3	76.7	10.0		

Table No. 8 illustrates immunization barriers showing that 91.7% of participants believe that immunizations are both safe and effective, and 88.3% believe that immunizations are crucial for children's health. In addition, 76.7% of respondents preferred immunization over natural immunity, and 96.7% of people do not think that vaccines contain harmful ingredients. It is also evident that parents have confidence in the information provided to them regarding immunizations, with 75% of parents having trust in medical professionals. However, fears remain, especially regarding diseases that may develop after immunization, as expressed by 10% of parents. It is notably that only 25% of individuals express belief in the accuracy of immunization administration. However, 75% of those respondents indicated that they had no problems accessing immunization services.

Discussion

The study assessed the socioeconomic and cultural barriers to childhood immunization at Mallah Village in Hyderabad, and included the opinions of participants along with important demographic data. There were notable disparities in gender, with 75% of respondents being female. This result is consistent with prior research indicating that societal norms may encourage more women to participate in health-related decision-making.(Cornish et al., 2021) The participants' age distribution showed that the majority of

the respondents were among the ages of 31 and 35 (33.3%) and 26 and 30 (36.7%), suggesting that young parents may regularly depend on internet sources for information and may have broad exposure to vaccine. (Butt et al., 2020; Charron, Gautier, & Jestin, 2020) The findings were greatly influenced by the participants' levels of education because 38.3% of them were identified as illiterate, which is associated with a lower rate of immunization uptake. (Ahmed et al., 2023; Muhammad et al., 2023) The majority of participants (58.5%) obtained their immunization information from friends and family. This indicates that medical professionals should interact more with the community to correct misconceptions and provide trustworthy information, as interpersonal relationships significantly impact healthcare decisions. This is concerning because the alarming 80% unemployment rate among respondents raises issues regarding their access to healthcare and their valuation of their children's health. 91.7% of respondents believe vaccines are safe; only 25% believe in the reliability of vaccine administration and 10% expressed worries about illnesses that might develop after becoming immunized. These fears are consistent with findings from other studies that suggest vaccine safety to be a barrier to immunization.(Boyle et al., 2020; Inam et al., 2023; Kaufman et al., 2021).While the public supports childhood immunization, significant economic and cultural barriers still exist. The key to solving these challenges is improving community involvement, increasing access to healthcare, and improving education. These will be critical initiatives to boost vaccine uptake and, eventually, improve health outcomes for children in Mallah Village.

Conclusion

This study's conclusion at Mallah Village in Hyderabad highlights the significant socioeconomic and cultural barriers to childhood immunization. The findings highlight the need for a comprehensive approach that prioritizes improving healthcare access, raising immunization rates, and developing cultural competence among healthcare professionals. Public health programs can greatly enhance children's overall health outcomes and immunization rates in communities with limited resources by addressing these kinds of issues. Developing methods suited to the unique needs of these groups is critically dependent on the findings of this research.

Recommendations

Implement targeted educational campaigns to improve literacy and health knowledge through community workshops and informational sessions.

Foster collaboration between healthcare professionals and community members to provide accurate information and dispel myths about vaccines.

Develop programs aimed at enhancing employment opportunities in the village to improve access to healthcare services.

Conduct qualitative studies to explore cultural factors and healthcare providers' perspectives on immunization for a deeper understanding of the challenges faced in the community.

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