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RESEARCH ARTICLE

KNOWLEDGE AND ATTITUDE OF URBAN AND RURAL MOTHER IN AL MUKALLA CITY ABOUT VACCINATION, 2023

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Abstract

Vaccination is a critical public health strategy for preventing infectious diseases in children, yet vaccine hesitancy remains a significant challenge, particularly among mothers who influence their children's health decisions. This study aims to evaluate the knowledge and attitudes of mothers in urban and rural areas of Al-Mukalla, Yemen, regarding childhood vaccinations. A total of 581 women with at least one child under five participated, with data collected on their knowledge, sources of information, and attitudes towards vaccination. Results indicated that urban mothers had a higher level of awareness regarding the importance of vaccination compared to their rural counterparts, with 76% of rural mothers lacking knowledge about its significance. Urban mothers primarily relied on media (71%) and doctors (56%) as information sources, while rural mothers depended more on societal channels. Moreover, urban mothers demonstrated a more positive attitude towards vaccination, in contrast to the skepticism observed among rural mothers, influenced by cultural beliefs and misinformation. The findings highlight a critical need for targeted educational interventions to address knowledge gaps and enhance vaccine uptake, particularly in rural communities, ultimately aiming to improve child health outcomes in the region.

Keywords: Urban, Rural, Knowledge, Attitude, Vaccinations.

1. Introduction

Vaccination is one of the most effective public health strategies for preventing infectious diseases in children, particularly those under five years of age. [1] The World Health Organization (WHO) estimates that vaccination prevents 2-3 million deaths each year from diseases such as measles, tetanus, and whooping cough. [2] Despite these significant benefits, vaccine hesitancy remains a critical challenge, particularly among mothers, who are often the primary decision-makers regarding their children's health. [3]

Acceptance of any vaccination program depends mainly on parent's knowledge and attitude, availability of services health worker's distribution and the cost of opportunity, which are considered the major tools to reduce the incidence of childhood VPD which decreases child mortality and morbidity. In terms of mother's knowledges of immunization, majority of mothers knew that vaccination is not dangerous, and knew about the start timing of immunization and complete doses of the infant. [4]

Research has shown that a mother's knowledge toward vaccines have a direct impact on her likelihood to vaccinate her children. For instance, studies indicate that mothers with higher levels of education and awareness about vaccine safety and efficacy are more likely to adhere to recommended immunization schedules. [5] Conversely, misinformation and negative perceptions about vaccines can lead to delays or refusals in vaccination, contributing to outbreaks of preventable diseases. [6]

Cultural beliefs and socio-economic factors also play pivotal roles in shaping mothers' understanding of vaccination. In many communities, traditional beliefs and mistrust in healthcare systems can significantly influence vaccination rates. [7] Therefore, addressing these barriers through targeted education and community engagement is essential for improving vaccination coverage.

This study aims to evaluate the knowledge of mothers in urban and rural areas in Al Mukalla City regarding vaccinations for children under five years, emphasizing

the sources of information they utilize and the challenges they encounter. By identifying specific knowledge gaps and misconceptions, this research seeks to inform public health strategies designed to enhance vaccine uptake and protect children's health.

2. Materials and Methods

This study conducted in Al-Mukalla city is the capital of Hadhramaut governorate and the third most important after the Yemeni city of Sana'a and Aden. Five hundred and fifty-one women in reproductive age and had at least one child under five years lived in urban or rural areas of AL- Mukalla city enrolled in this study, and according to the census done in 2015, around 13,5418 women in urban areas from total population 276,044, and about 12,002 women in rural areas from total population 24,464. The sample size calculated using the Fisher's statistical formula, the minimum sample size was determined as following: (N=K2 (pq)/d2).

The data were entered into statistical package for the social sciences (SPSS) software package version 20.0 for further analysis. Each variable was tested for normality distribution using Kolmogorov Smirnov test (the data were normally distributed). Simple descriptive statistics using mean, frequencies, and percentages, were used to describe the background characteristics and other variables of the study population. Cross tabulation used to determine the relation between variables.

3. Results

In table (1), all answers of urban mothers regarding the importance of vaccination were high; while 76% of rural mothers had no idea on it is importance.

Table 1. Knowledge of mother about importance of vaccination

Knowledge	Urban No (%)	Rural No (%)	Total No (%)
Prevent infectious diseases	65 (73.9)	23 (26.1)	88 (27.9)
Maintain Child health	59 (56.7)	45 (43.3)	104 (32.9)
Reduce child mortality rate	15 (88.2)	2 (11.8)	17 (5.4)
Protect children from complication	82 (100)	0 (0.0)	82 (25.9)
Don't know	69 (24)	221(76)	290 (7.9)

The main sources of knowledge in urban areas were media (71%) followed by doctors (56%), while society and the health workers were the main source in rural areas (75% and 53.8% respectively), as Show in table (2).

Table 2. Source of Knowledge about vaccination

Source of Information	Total No (%)	Urban No (%)	Rural No (%)
Doctors	150 (25.8)	84 (56)	66 (44)
Health workers	247 (42.5)	114 (46.2)	133 (53.8)
Media	100 (17.2)	71 (71)	29 (29)
Society	84 (14.5)	21 (25)	63 (75)

The table (3), illustrated the knowledge of mothers regarding specific vaccines was noted to be higher among urban than rural mothers. The knowledge of mothers about polio high among urban mothers, while knowledge about measles high among rural mothers in comparing with other types of vaccinations.

Table 3. Knowledge of mothers about specific vaccines

Vaccines	Disease they prevent	*Mothers answered correctly		
		Total No (%)	Urban No (%)	Rural No (%)
OPV	Polio	129 (22.2)	103(79.8)	26 (20.2)
Measles	Measles	349 (60.1)	238(68.2)	111 (31.8)
BCG	Tuberculosis	164 (28.2)	91 (55.5)	73 (44.5)
DPT	Diphtheria, tetanus and pertussis	83 (14.3)	57 (68.7)	26 (31.3)

Note: OPV: Oral Polio Vaccine, BCG: Bacilli Calmette-Guerin. *Choice yes answers only

All positive attitude about vaccination was higher among urban mothers than rural mothers. Attitude of urban mothers more positive (90.0%) towards of vaccinate child during OPV campaigns even though child is fully vaccinated, while rural mothers appeared attitude towards continuo vaccinating children even, they suffering from adverse reaction from previous vaccination with 66.4% as show in table 4.

Discussion

This current study was conducted on mothers living in urban and rural areas of Al-Mukalla/Hadhramout-Yemen. less than one third of studied mothers knew about immunization and its importance revealing this knowledge to be higher among urban than rural mothers. This could be the reason for that inadequate information from health workers as the main source of information, and lack of educational program to understanding to which vaccines are acceptable in that rural communities. These results were similar to that conducted by Ramadan HA et al. when less than one third of the studied mothers had good knowledge about immunization. [8] But lower than that conducted by Joseph J et al. when 70% of respondents knew that immunization prevents some infectious diseases. [9]

Majority of urban mothers were capable to correctly match each vaccine against the diseases that prevents, especially about POV and its doses. This may be probably based on the fact that during the vaccination campaigns program the involved committees provide a broad dissemination of information about polio and its eradication through television, radio, involvement of the doctors and health workers who have better access to the community. While rural mothers get their information from the society (70%). This result was in agreement with Joseph J et al. and Montasser et al. [9]

Table 4. Attitude of mothers about vaccination

Attitude		Urban No (%)	Rural No (%)	Total No (%)
Vaccination is important for maintain child health	Yes	146 (74.5)	50 (25.5)	196 (33.7)
	No	144 (37.4)	241 (62.6)	385 (66.3)
Compliance to immunization schedule is important	Yes	149 (56.4)	115 (43.6)	264 (45.4)
	No	141 (44.5)	176 (55.5)	317 (54.6)
All children should be vaccinated	Yes	83 (54.2)	70 (45.8)	153 (26.3)
	No	207 (48.4)	221 (51.6)	428 (73.7)
Vaccinate the child during OPV campaigns even though the child is fully vaccinated	Yes	189 (90.9)	19 (9.1)	208 (35.8)
	No	101 (27.1)	272 (72.9)	373 (64.2)
Continuo vaccinating children even they suffering from adverse reaction from previous vaccination	Yes	187 (68.2)	87 (31.8)	274 (47.2)
	No	103 (33.6)	204 (66.4)	307 (52.8)
The vaccination is important for boys than girls	Yes	209 (54.3)	176 (45.7)	385 (66.3)
	No	81 (41.3)	115 (58.7)	196 (33.7)
More than one vaccine at the same time has no negative impacts on child immunity	Yes	113 (55.1)	92 (44.9)	205(35.3)
	No	177 (47.1)	199 (52.9)	376 (64.7)
Multi-doses of the same vaccine given at intervals are important for child immunity	Yes	123 (83.7)	24 (16.3)	147 (25.3)
	No	167 (38.5)	267 (61.5)	434 (74.7)

The results of the present study revealed positive attitude among urban than rural mothers regard the majority of items of immunization. Similarly reported in developed countries among mother's residence in the town having positive attitude and beliefs towards vaccination uptake. [10-11] The negative attitude among rural mothers could be due to fear from it and concern about the safety of vaccines, and not have sufficient knowledge on the benefits and good effects of the immunizations for their infants as reported in many studies. [12- 13]

Conclusion

The study in Al-Mukalla, Yemen, found a significant disparity in vaccination knowledge and attitudes between urban and rural mothers. Urban mothers were more aware of vaccines, while rural mothers were unaware of their importance. The primary sources of information were media and healthcare professionals, while rural mothers mainly drew from societal channels. The study suggests a need for targeted educational programs to improve vaccination uptake and child health outcomes.

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مقالة بحثية

معارف ومواقف الأمهات الحضريات والريفيات في مدينة المكلا حول التطعيم، 2023

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المُلخّص

إن التطعيم هو استراتيجية صحية عامة بالغة الأهمية للوقاية من الأمراض المعدية لدى الأطفال، إلا أن التردد في التطعيم لا يزال يشكل تحديًا كبيرًا، وخاصة بين الأمهات اللاتي يؤثرن على قرارات صحة أطفالهن. تهدف هذه الدراسة إلى تقييم معرفة ومواقف الأمهات في المناطق الحضرية والريفية في المكلا، اليمن، فيما يتعلق بتطعيمات الأطفال. شارك في الدراسة 581 امرأة لديهن طفل واحد على الأقل دون سن الخامسة من العمر، وتم جمع البيانات حول معرفتهن ومصادر المعلومات ومواقفهن تجاه التطعيم. وأشارت النتائج إلى أن الأمهات الحضريات لديهن مستوى أعلى من الوعي بأهمية التطعيم مقارنة بنظيراتهن الريفيات، حيث تفتقر 76% من الأمهات الريفيات إلى المعرفة بأهميته. اعتمدت الأمهات الحضريات في المقام الأول على وسائل الإعلام (71%) والأطباء (56%) كمصدر للمعلومات، بينما اعتمدت الأمهات الريفيات بشكل أكبر على القنوات المجتمعية. وعلاوة على ذلك، أظهرت الأمهات الحضريات موقفًا أكثر إيجابية تجاه التطعيم، على النقيض من الشكوك الملحوظة بين الأمهات الريفيات، المتأثرة بالمعتقدات الثقافية والمعلومات المضللة. وتسلط النتائج الضوء على الحاجة الماسة إلى تدخلات تعليمية مستهدفة لمعالجة فجوات المعرفة وتعزيز الإقبال على اللقاحات، وخاصة في المجتمعات الريفية، بهدف تحسين نتائج صحة الطفل في المنطقة في نهاية المطاف.

الكلمات المفتاحية: حضري، ريفي، معرفة، موقف، تطعيمات.

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