Original article

Knowledge, attitude and practices of mothers regarding immunization of infants and preschool children at Al-Beida City, Libya 2008

Objectives: *To identify maternal knowledge, attitude and practice (KAP) about immunization and to determine maternal characteristics and the determinants of full immunization status among respondents of children age (2-24 months).*

Methods: *A cross sectional survey of nonrandomized sample of 200 mothers were interviewed at primary health care clinic at Al-Beida City coming for vaccination of their children in a period from first to 31 August 2008* **.**

Results: *From a total of 200 studied mothers 81% (n=162) completely immunized their children and 19% (n=38) partially immunized them. Seventy-seven percent of studied sample were from urban, while the rest were from rural town. Paramedical workers were the main source of information to respondents of completely immunized children (88.28%) followed by T.V, posters and symposia, while community leaders and doctors were found to be a lesser source. Concerning the effect of the education status of the mothers the percentage of complete immunization was 71.41% for highly educated mothers while for the illiterates it was 88.23% but, the difference was not statistically significant. The mother's work did not affect the child's immunization status as 79.45% of working mothers completed their children's immunization. The child's health and sickness was the most common cause for cessation of immunization, followed by non availability of the vaccine, social reasons and forgetfulness (54%, 20.%, 10,5% and 5.5%) respectively Only 10% of the mothers failed to report a reason for not immunizing their children* **.**

Conclusion: *The child's gender, education, residence and job of the mother did not affect the pattern of immunization, while negative attitude (mothers afraid from vaccination) significantly affected the immunization status. This signifies the incomplete knowledge and inappropriate practice of the people. Extra effort is need to raise the knowledge and break the old beliefs of the people. Appropriate information dissemination, aggressive campaigning and family involvement are crucial to the success of the programme.*

Keywords: Immunization , knowledge, attitude , practice, child, mothers.

Mabrouka A.M. Bofarraj

Pediatrics Department, Al-Thawra Central Teaching Hospital ; Faculty of Medicine, Omar Al-Moukhtar University- Al-Beida, Libya.

Correspondence:
Dr Mabrouka Bofarraj, Assistant Professor of Pediatrics, Al-Thawra Central Teaching Hospital; Faculty of Medicine, Omar Al-Moukhtar University- Al-Beida, Libya.
E-mail: *Mabrouka1964 @yahoo.com*

INTRODUCTION

Childhood immunization almost guarantees protection from many major diseases. It prevents 2 million deaths per year worldwide and is widely considered to be 'overwhelmingly good' by the scientific community.[1,2] However, 2.5 million deaths a year continue to be caused by vaccine-preventable diseases, mainly in Africa and Asia among children less than 5 years old.[1] Vaccination coverage has now reached a plateau in many developing countries, and even where good coverage has been attained, reaching children not yet vaccinated has proved difficult.[3] Thus, there is an urgent need to find ways to increase vaccination coverage and particularly to encourage parents to have their children vaccinated.

A multiregional study from Bangladesh, Ethiopia, India, Malawi and the Philippines concluded there was a "very sizeable social demand" for better quality of vaccination services [4] and that "serious damage" was being done to the Expanded Programme on Immunization (EPI) by poor interaction between staff and clients. Other studies[5–7] suggest that vaccination demand and acceptance depend on factors that are far more numerous and complex. Supply- (or provider-) related factors are clearly important, particularly the relationship between health-care workers and mothers[3,8] (including attitudes of vaccinators

towards mothers, as well as their perceived motives and technical competence).[3,5,8,9] Uptake of vaccination services is dependent not only on provision of the services but also on other factors including knowledge and attitude of mothers and density of health workers.[10] The opportunity costs (such as lost earnings or time) incurred by parents may also have an important impact on uptake.

Cultural receptivity to perceived modernity and education, as well as trust in health workers, were considered to be the most important factors influencing attitudes.[6] In short, knowing little about vaccination does not necessarily translate into negative attitudes towards it;[5–7] factors such as trust (e.g. in health-care providers) and culture may be more influential.[6,7] The impact of high levels of knowledge on subsequent attitudes towards vaccination is unknown.

The fundamental question is whether or not resources should be invested in improving parents' knowledge of and attitudes towards vaccination. Although the evidence is unclear, it is commonly believed,[3,9] though some disagree,[2] that strengthening advocacy, communication and social mobilization will enhance informed and willing participation in vaccination programme and that vaccination strategies are likely to be more successful if they are based on an understanding of sociocultural behaviour.[3,9,11]

Since factors influencing demand vary greatly by region and context, findings from one population cannot always be extrapolated to another. Thus, simple operational research into local knowledge and attitudes should become an essential part of every vaccination campaign.

Therefore, our aim was to identify maternal knowledge, attitude and practice about immunization and to determine maternal characteristics and other determinants of full immunization status.

METHODS

A cross sectional survey of non randomized sample and 200 mothers were included in the study.

Selection criteria:

Mothers attending the Primary health care clinic (PHCC) In Al-Beida city, Libya for vaccination of their children in the period from the1st to the 31st of August, 2008.

Mothers having children in the age group 2-24 months on the date of interview were included. The interview consisted of questions about immunization knowledge, attitude and practice and also the background characteristics of the child and mothers.

Background questions covered the demographic, occupation and education data and the source of immunization information. The results were categorized according to two groups (completely immunized up to age and partially immunized defined as those who missed any one vaccine out of the programme). Information regarding the administration of vaccine was obtained from immunization card or on the basis of recall by the respondents in case of unavailability of the card.

Variables analyzed were:

i- With respect to the studied mothers: (education, job, source of information about vaccination, causes of cessation of immunization, impact of education and mother's work).

ii-With respect to the children of the studied mothers: (Gender, and immunization status).

Statistical analysis:

Computer package SPSS was used for analyzing the data , chi- square at alpha level 0.05 was used as a test of significance.

RESULTS

A total of 200 participant mothers were included in this study. Of those, 162 (81%) completely immunized their children whereas 38 (19%) partially immunized them (Table1).

More than half of the studied sample 113 (56.5%) were females and 87(43.5%) were males with male female ratio of 1:1.5. Child's gender was not a significant factor in immunization status (Table 2). Seventy seven percent of the studied mothers were from urban and the rest from rural areas. The residence did not affect significantly the immunization status as 79.38% of children from urban and 86.9% from rural areas were completely immunized ($p > 0.05$) (Table 3). The mother's job did not affect the child's immunization (Table 4). Among educated mothers the percentage of completely immunized children was 71.4% whereas among illiterate mothers it was 88.3%, but the difference was not statistically significant ($p>0.05$) (Table5). The paramedical worker, was found to be the major source of information to the attendants of completely (50.2%) and partially immunized (34.2%) children; community leaders, on other hand were found to be the most important source of information among partially immunized children (Table 6).

A favorable attitude toward the immunization programme was expressed in 161 mothers (80.5%). A positive attitude was significantly highly associated with better immunization status (P <0.001) (86.33% were fully immunized and 13.66% were partially immunized) than negative attitude (mothers afraid and false belief about immunization) (58.97% were completely immunized and 41.02% were partially immunized (Table7).

The most often mentioned reason for incomplete immunization was child sickness which was reported in 54%, followed by social reasons, forgetfulness and others (Figure 1).

Table 1. Distribution of studied children according to their demographic characteristics.

Biosocial characteristics of the child	Number	Percentage
Gender		
Male	87	43.5 %
Female	113	56.5 %
Place		
Urban	154	77 %
Rural	46	23 %
Birth order		
1st	63	31.5 %
2nd	43	21.5 %
3rd & above	94	47 %
Immunization status		
Fully immunized	162	81 %
Partially immunized	38	19 %

Table 2. Distribution of children immunization status according to their gender.

Sex	Immunization status				Total	%	χ^2	p
	Complete		Partial					
	No	%	No	%				
Male	70	80.4	17	19.5	87	43.5	66.81	<0.001
Female	92	81.4	21	18.5	113	56.6		
Total	162		38		200			

Table 3. Immunization status according to residence.

Place	Immunization status				Total	%	χ^2	p
	Complete		Partial					
	No	%	No	%				
Urban	122	79.28	32	20.7	154	77	1.62	>0.05
Rural	40	86.91	6	13.1	46	23		
Total	162		38		200			

Table 4. Immunization status according to the mother's employment.

Mother's work	Immunization status				Total	%	χ^2	p
	Complete		Partial					
	No	%	No	%				
House wife	60	88.2	8	11.8	68	34	3.6	>0.05
Employed	102	79.5	30	21.9	132	66		
Total	162		38		200			

Table 5. Distribution of the studied group according to the level of education of mothers.

Mother's education	Immunization status				Total	χ^2	p
	Complete		Partial				
	No	%	No	%			
Illiterate	15	88.33	2	11.76	17	5.13	>0.05
Primary	15	83.33	3	16.66	18		
Secondary	87	85.29	15	14.72	102		
University	45	71.41	18	28.57	63		
Total	162		38		200		

Table 6. Distribution of the studied group according to the source of immunization information.

Source	Immunization status		Total	χ^2	p
	Complete	Partial			
	No	No			
T.V	17	3	20	14.7	>0.05
paramedical worker	82	13	95		
Doctors	8	2	10		
Posters + symposium	15	0	15		
Community leaders	40	20	60		
Total	162	38	200		

Table 7. Immunization status according to the mother's attitude towards vaccination.

Mother's attitude	Immunization status				Total	%	χ^2	p
	Complete		Partial					
	No	%	No	%				
+ve attitude	139	86.33	22	13.7	161	80.5	17.5	<0.001
-ve attitude	23	58.47	16	41.0	39	19.5		
Total	162		38		200			

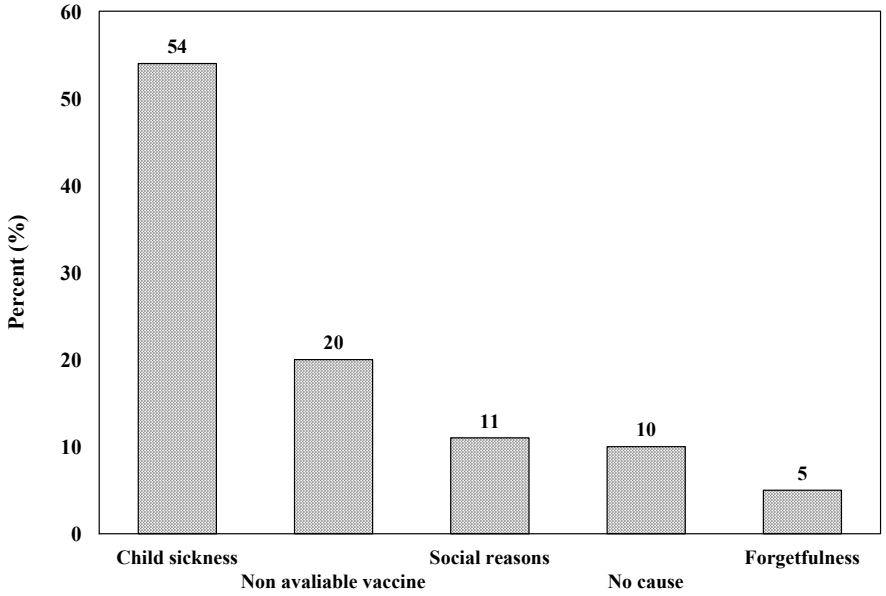

Figure 1. Causes for cessation of immunization according to knowledge of the studied mothers.

DISCUSSION

Vaccination in Libya is an obligatory programme. Despite all effort taken by the Government and international agencies still there remains some element of incomplete immunization of the children observed in this study.

In the present study we didn't observe unimmunized children in contrast to other researchers who reported percentages of children who were not immunized at all of 23.9%, 18.7%, 30% and 80%.[12-15] Partial immunization was observed in 19% in our study indicating that still there were some children lost to follow up and missed some vaccines. The percentage reported in this study for complete immunization (81%) was slightly lower than that of literacy (83%) [16], but the percentage of complete immunization in our study was higher than the coverage rate reported in several studies in India[12,13], Karachi[14] and Nigeria[16,17] (44%,50%, 70%, 62%, 55%) respectively. The lower than expected coverage observed in the current study reinforces the need for continuous motivation, regular supervision and continuous monitoring and evaluation to detect any declines in vaccination.

The gender of the child did not significantly affect the state of immunization in the present study and this is the same with the study carried out by Odusanya et al. in Nigeria in 2008.[16] Also the place of residence was not associated with the attitude and knowledge of the mothers regarding complete immunization and this is in accordance with other studies.[16,18]

There was no significant relation between immunization status and mothers' educational level in the present study in comparison to other studies who found that maternal education was a significant predictor of completeness of immunization as the highly educated mothers will be more aware of the seriousness of this issue. This role of maternal knowledge as an important determinant of vaccination coverage has been shown by several researchers.[16,18] The possible explanation for this disagreement could be due to difference in sample size.

More than half of the attendants of completely immunized children received the information from health care workers. This was because the majority of the respondents had available services at primary and secondary health care levels and these health facilities seem to be most readily available and accessible to the people. The community leader played a significant role in the partially immunized group. These findings are consistent with the finding of other studies [12,19, 20]

More than two thirds of the attendants of children had positive attitude toward vaccination which reflect a higher significance for complete and partial immunization. The negative attitude (as fear from vaccination and some false beliefs) played a highly significant role in imparting knowledge to the partial immunized group. This finding is in accordance with other researchers.[13,14,15]

Child sickness as cough was observed to be the main reason of cessation of immunization in this study, followed by social reasons and forgetfulness and these reasons were found to be similar to other studies.[13,15, 21] Similar findings were reported from developed[22, 23] and developing countries.[19, 24]

The government health facilities, specially at the primary level need to be more user friendly by making it accessible to all and also by reducing the waiting time so that the health system becomes efficient for the achievement of the goal of " Health to All ". The insufficient knowledge of the people requires sincere effort on the part of the health professionals and policy markers to plan and execute the IEC " information, education and communication" initiatives.

We conclude that the knowledge of studied mothers about vaccination is not completely adequate and this is reflected on the state of immunization. Child gender; education, residence and job of mothers do not significantly affect the pattern of immunization while negative attitude (mothers afraid of vaccination, cessation of immunization by mild illness) significantly affects the immunization status. This refers to incomplete knowledge and inappropriate practice of the people. This would require appropriate information dissemination, aggressive campaigning and family involvement as crucial to the success of the programme.

ACKNOWLEDGEMENT

I am deeply indebted to Professor Dr. Abdo Salama Faculty of medicine, Community department in Omar Al Mokhtar University for his statistical help and continues support. Special thanks to Dr. Wafa J. Saad, house officer in pediatrics department at Al-Thawra Central Teaching Hospital, Al-Beida, Libya for her kind help in data collection.

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