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Mothers attitude towards childhood immunization in Bauchi Local Government, Bauchi State, Nigeria

Abarshi Dauda Daniel

Department Of Sociology, Faculty Of Social And Management Sciences, Bauchi State University, P.M.B.65, Bauchi Campus, Bauchia State, Nigeria.

Email: daudaabarshi@gmail.com

Abstract
A mother toward childhood immunization has become a thing of concern. Without positive attitude, misconception in Bauchi Local Government Area of Bauchi State. This study aimed at investigating the attitude of mothers toward immunization of their children against the childhood killer diseases. The study adopted health belief model theory as the theoretical framework. The study made use of questionnaires and in-depth interviews as techniques for data collection. The data generated were analyzed using descriptive statistics, percentages and chi-square. The total sample size was three hundred and twenty-two (322) and this included three hundred and twelve for questionnaire and ten for in-depth interviews. Pearson's chi-square with critical value approach and cross-tabulations were used to analyze the quantitative data gathered. The findings of the study revealed that mother attitude is favorable toward the immunization of their children against killer diseases. The government is recommended to create more awareness to improve positive attitude and overcome misconceptions among mothers on childhood immunization. Government should also build more health centers for mothers to ensure the childhood immunization compliance so as to eliminate infant mortality.

Keywords: Childhood, Immunization, Attitude, Mothers, Diseases.

Background to the Study

There is an adage which says "Health is Wealth." Children are future leaders, so their health should be given utmost priority by parents. To achieve this vital objective, mothers' education and attitude toward health and nourishment for their children is very important. Healthy and active children can develop the economy of a country to a required level. The preventive measure against diseases at childhood stage is immunization which is a complete course of injection that is administered to children soon after birth. Mojoyinola and Olaleye (2012) assert that immunization of children is aimed at providing primary prevention against killer diseases during childhood period. It stimulates the production of anti-bodies against diseases. These diseases take several precious lives to death all over the world especially in the third world countries in African and Asian countries (Ubajaka e' tal, 2012).There is a schedule by the health department for the immunization of children below the age of five. Vaccines are provided by Expanded Programed on Immunization (EPI) and private companies. These vaccines play a vital role in controlling childhood diseases.

Women education and their attitude also play an important role in determining the health condition of children. Available data shows

that only a negligible number of women have attended secondary school let alone tertiary education (Andre, 2003). This could be due to the fear that women might get out of control in the family even if the husband are educated. Most Muslim husbands prefer to marry women that are not educated because; they tend to be submissive and loyal to their husbands. However, their family remains highly patriarchal, where women irrespective of her level of education submit to her husband by asking for permission for Childs' immunization and other activities. Immunization helps the child to be mentally healthy and active. Most people are reluctant to allow their women to go for education and other courses in life due to low literacy rate (Imoh, 2013).

1.2 Statement of the Problem

The Knowledge and attitude of mothers on vaccines preventable diseases can ensure the success or otherwise of the campaign on immunization against the prevailing childhood killer diseases. In the northeastern part of Nigeria, Bauchi state in particular, which is one of the educationally backward states, mothers' knowledge on childhood immunization is poor, as very few of them have acquired western education which serves as a channel of knowledge. Though many mothers may have been informed about childhood immunization through the mass media e.g. radio, television, newspapers etc., most of them are still skeptical about the exercises. They are having different perspectives view about immunization, it let alone promoting and urging their followers to key into the programme for their children. However, with this seemingly high level of knowledge on childhood immunization by mothers, the rate at which they take children for immunization is discouraging. What could be the possible reason for such none compliance?

Moreover, religion and culture also contribute to the attitudes of mothers toward childhood immunization. In some part of the northeastern Nigeria, childhood immunization is seen as a modern strategy to control their population which goes contrary to religious injunction to 'multiply and fill the earth'. This makes the acceptance of childhood immunization difficult. Although with little awareness now they tend to be waving such misconception. Even with that, the question remains, why is the childhood immunization free and government attention on it more than the fight against evil called malaria? Why the outbreak of these childhood killer diseases after a series of routine vaccination? Also, the attitude of mothers in terms of attending antenatal care (ANC) from trained health personnel is shaped by their culture. Mothers in the rural areas and even some in urban areas patronizes traditional birth attendants (TBA) when pregnant and at the time of delivery than western health institutions. Attending antenatal care gives mothers the opportunity of knowing about childhood related illnesses and measures to overcome them. But when mothers prefer traditional birth attendance due to culture or distance, denied them the opportunity to have knowledge of pregnancy related issues including childhood killer diseases and immunization which guarantees child survival (Abidoye, 2013).

The patriarchal nature of our society also deepens the challenges of childhood immunization. This means that women are under the strict control of their husbands; their actions or inactions depends on the permission (approval) of their husbands. This especially in the northeastern part of Nigeria is the culture which is strictly observed. Even if mothers have the knowledge of childhood killer diseases and immunization, her movement to comply is determined by her husband. So the attitude of the husbands is

determined by their knowledge and the importance of childhood immunization (Streefland, 1999). Therefore, many mothers who are willing to immunize their children cannot unless permitted by the husband. Nevertheless, with these men domineering attitude mothers are most times allowed to immunize children. Why? Based on the above explanation, such questions like the level of awareness, attitude and practices of the mother's on childhood immunization against childhood killer diseases need to be answered.

1.3 Research Objectives

The aim of this study is to examine the knowledge attitude of mothers towards the immunization of children against the childhood killer diseases.

1.4 Research Hypotheses

The following hypotheses are formulated based on the research objectives:

$H_{0I:}$ There is no relationship between mothers' level of education and the immunization of children against childhood killer diseases.

$H_{02:}$ There is no relationship between patriarchal practices and mother's immunization of children against childhood killer diseases.

1.5 Operationalization of Key Concepts

Attitudes: This refers to a favorable or unfavorable evaluative reaction toward something or someone exhibited in one's belief, feelings or intended behavior. That is the belief and feelings related to person or event and the resulting behavior that is persistent and endurable.

Childhood: This is referring to a period child (boy or and girl) behavior from five years and below as early childhood.

Compliance: This refers to the cooperative performance and adherence to prescribed therapy as shown on the immunization schedule table and recorded in the child's clinic record card at a given period. It also involves the frequency of keeping clinic appointments.

Disease: This refers to any disorder or incorrect functioning of organ(s), part(s), structure or system of the body resulting from the effect of genetic or developmental errors, infections, poison, nutritional deficiency or imbalance, toxicity or unfavorable environmental factors, resulting to illness or sickness and ailment.

Education: It refers to the knowledge acquired through formal schooling system in Nigeria, which starts from primary level of education. Thus, any qualification below primary school will be considered as 'no education' in this study.

Immunization: It is the introduction of antigen into a body for a particular disease to produce a specific antibody. This also refers to the act of altering the immunologic status of a person (children) at risk of contracting a specific disease or infection by inducing the production of specific antibodies antigens associated with etiology of that disease through vaccination by which is susceptible.

Knowledge: It refers to a clear or mental apprehension or information and skills acquired through experience or education.

Attitude: A persistent and endurance behavior by a person

Mothers: It refers to women within the reproductive age 15-49 and those that have given birth to a child or children less than five years of age. Therefore, any woman within this age category being the maternal mother or the care giver of the child will be considered as 'mother' in this study.

2.0 Literature Review And Theoretical Framework

2.1 Mothers Attitude towards Childhood Immunization

Mothers play an important role in immunization of their children. For instance, they bring children along with each child's health or vaccination card to immunization

service delivery centre. In a study by Victor, et al. (2013), seventy-three percent of the respondents think measles is caused by too much heat and their sources of information were older women 50 % or self-generated (10%). Thus, the factors that delayed the mothers from seeking prompt and appropriate care are that mothers do not think lack of immunization is responsible for measles (68%) and that they take their children to older women 65% in addition to lack of finance. Health seeking behaviour of mothers showed that 56% go to herbalist/traditional healer, 25% to a vendor shop and 13% to clinic/hospital with 69% using modern method for treatments. However, 62% described it as an ineffective treatment. It is concluded that mothers perceived cause and health seeking behaviour in childhood measles is far from adequate and hence efforts should be geared towards mothers to put to an end to the mortality and morbidity rate we observe for this disease.

Kabir et al. (2008) the mothers' attitude towards childhood immunization was quite positive as most 95.5% of the mothers perceived it to be good for their children. This finding is however, contrary to what was previously documented in a study conducted on the knowledge, perceptions and beliefs of mothers on routine childhood immunization in a northern Nigerian village where 54% of mothers' showed unfavorable attitude towards it. This may be due to the higher educational status of mothers and more awareness on childhood immunization in the State. Also mothers' compliance regarding childhood immunization was also good. Based on the ages of children, almost three-quarter 73.5% of the mothers interviewed, revealed that all their children had been immunized up to desired expectation by health care givers.

Anand et al, (2007) study found that favorable attitude towards the immunization programme was expressed in 161 mothers 80.5%. The study shows that a positive attitude was significantly highly associated with better immunization status 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.

2.1.1 Patriacchal Influence on Mothers on Child Immunization

According to Anyene (2014), cultural practices and beliefs may be responsible for some of the disparities in immunization uptake. For instance, males are more likely to receive full immunization compared to girls, emphasizing cultural attitudes to gender, where male children are often more highly regarded and desired than females. However, it has been stated that the disparity is generally not significant. These gender disparities also affect education. Cultural practices, like religion and politics, play a key role in uptake of routine immunization. Immunization directly affects the issue of childrearing and child care and these are issues that have a cultural foundation.

Anyene (2014) affirms that certain cultural practices though acceptable for many years, have however, been found to be detrimental to immunization uptake, child survival and development. While this has been recognized and efforts to counter detrimental cultural practices are undertaken in different parts of the country, they have not always been successful, partly because these cultural practices are sometimes deeply entrenched and other times because there is insufficient engagement with the community and therefore inadequate sensitivity to the issues and education on their harms. One of such cultural practice which tends to occur in many parts of Nigeria is that a woman should remain indoors for 40 days after giving birth. This prevents her from accessing both post-

natal cares for herself and immunization services for her child against the childhood killer diseases.

2.2 Theoretical Framework

2.2.1 The Health Belief Model

Health belief model was one of the first, and remains one of the best known social cognitive models. It is a health behaviour change and psychological model developed by Irvin Rosenstock in 1966 for studying, promoting and the utilization of health services and why some people do not use health facilities and services such as immunization and screening. The health belief model (HBM) was furthered by Becker and colleagues in the 1970s and 1980s. Originally, the model was designed to predict behaviour response to the treatment received by acute and chronic patients, but in recent years the model has been used to predict more general health behavior.

The HBM seeks to explain preventive health behaviour of individual and groups. The model assumes that people's action towards health measures are based on their belief and attitudes. It also acknowledges that beliefs and attitudes are not spontaneous; rather they are a function of the processional experience of the individual. Hence, in a general sense, the model does not only look at the individual as a unit of analysis, but considers the socio-cultural environment which conditions the individual to adhere to certain beliefs and predisposes him or her towards behaving in a defined and culturally prescribed manner. The basic argument of this theoretical model is that an individual's attitudes and beliefs direct his line of action in health seeking both preventive and curative diseases. The model focuses on the factors and variables that are considered in the decision to seek or not to seek health care and from what sources to seek for it.

There are four core constructs: the first two refer to a particular disease whereas the second two refer to a possible course of action that may reduce the risk or severity of that disease.

i. Perceived susceptibility (or perceived vulnerability) is the individual's perceived risk of contracting the disease if he or she were to continue with the current course of action.

ii. Perceived severity refers to the seriousness of the disease and its consequences as perceived by the individual.

iii. Perceived benefits refer to the perceived advantages of the alternative course of action including the extent to which it reduces the risk of the disease or the severity of its consequences.

iv. Perceived barriers (or perceived costs) refer to the perceived disadvantages of adopting the recommended action as well as perceived obstacles that may prevent or hinder its successful performance.

These factors are commonly assumed to combine additively to influence the likelihood of performing the behavior. Thus, high susceptibility, high severity, high benefits and low barriers are assumed to lead to a high probability of adopting the recommended action. Another factor that is frequently mentioned in connection with the Health Belief Model is cues to action (events that trigger behavior), but little empirical work has been conducted on this construct.

2.2.2 The Relevance of HBM to Childhood Immunization

The major propositions of this model are:

i. Perceived susceptibility of the child to contract childhood killer diseases,

ii. Perceived severity of the diseases when contracted by a child,

iii. Perceived benefits of adopting the alternative course of action- immunization.

iv. Perceived barriers or cost

These are determinants of possible course of actions that may reduce the risk of severity of disease. Based on this theory, there are

factors that make an individual to take an action against a threat.

i. The perceived susceptibility of the children contracting the disease. Children that are under five years of age are vulnerable to contract childhood killer diseases because their immune system is weak at this stage. They are at high risk of contracting the disease if an alternative course of action is not taking.

ii. The perceived severity of the diseases by parents if a child contracted it, it is devastating. If a child contract any of the childhood killer disease could lead to permanent body damage example, being cripple or even death. When parents perceive such severity of the CKD and its consequences, they become motivated to immunize their children to avert the impending risks. So the pressure to adopt a health measure (childhood immunization) to reduce the severity of the diseases when it occurs becomes necessary.

iii. The perceived benefits are important factors that can determine the course of action toward health issues. A person weighs the benefits of embarking on any action including health care related issues. The benefit is that it will prevent or stop the child from being at risk of contracting Childhood Killer Diseases (CKD).

iv. The costs or barriers that could hinder parents from complying to immunize their children are numerous. These include the lack of knowledge of childhood killer diseases that will enable them to seek for immunization, their attitude due to religious affinity, culture, distance to health centers, husbands' permission to take the child for immunization, poverty, the costs of accessing health service etc. These are few of the obstacles that could stand as a hindrance to complying to childhood immunization.

3.0 Methodology

3.1 Population of the Study

The population of the study includes the mothers of children due for immunization against six killer diseases in the nineteen (19) political wards in Bauchi Local Government Area. According to National Population Commission (NPC, 2006), the population of mothers in the study area were two thousand (2000). This is the population of married mothers within the ages of 15-49 as at 2006 National population census in Bauchi Local Government, Bauchi State, Nigeria.

3.2 Sample Size

The sample size which is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. Therefore, using Krejcie and Morgan (1970) table for determining sampling size to get our sample size for the study is three hundred and twenty-two (322)

3.3 Sampling Methods for the Survey

Multistage cluster sampling was used to select the respondents. At the first stage, a probability sampling using simple random technique called balloting was used to select four (4) wards which the researcher had covered out of the nineteen (19) political wards in the local government. The list of all the wards were written on the folded piece of papers and nineteen (19) persons stood each representing a ward. YES, and NO inscription were written on the piece of papers.

3.3 Sampling Methods for the Qualitative

Ten participants were purposively sampled for the qualitative; which comprised of two health officials, two traditional birth attendants, two religious leaders, two staff of Non-Governmental Organizations (NGOs) working in health related areas and two traditional leaders (such as Mai Uguwa). The ten participants for in-depth interview were purposively selected because they can give more information on the topic of the study. Also, they are considered significant others, because their words and advices were

accepted by the community on the topic of the study.

3.4 Methods of Data Collection

Primary data was used for the study using survey (questionnaires) and interview to collect information from the respondents. They were supplemented with the secondary data obtained from text books, journals, official gazettes and materials from internet sources. The questionnaire was divided into five sections. Section one was used to elucidate demographic and socio-economic characteristics of the respondents, such as age, religion, marital status, among others. Section two focused on the attitude of mothers about childhood immunization. The questions were designed in English and in some cases administered in local language by the researcher and his assistants.

In the case of the interview, it was conducted using interview-guide. The interview was conducted in a place conducive and convenient to the interviewees. Tape recorder was used to record the voice of the participants on their permission and where not permitted, a note was taken as the participants give out information.

3.5 Methods of Data Analysis

The data obtained through quantitative technique was processed, presented and analyzed using descriptive statistics of percentages and frequencies obtained through the statistical package for the Social Sciences (SPSS version 19) and were presented in tabular format. Some variables were cross-tabulated to know their relationship. Pearson chi-square was used to establish whether there is a relationship between the variables.

4.0 Data Presentation and Analysis

Table 1: The Demographic and Socio-Economic Characteristics of the Respondents

Variables		Frequency	Percent
	15-24	67	21.8
	25-34	125	40.6
Age	35-44	78	25.3
	45 and Above	38	12.3
	Total	**308**	**100**
	Married	235	76.3
Marital Status	Widow	36	11.7
	Divorced	37	12.0
	Total	**308**	**100**
	No Formal Education	57	18.5
	Primary Education	31	10.1
Education	Secondary Education	81	26.3
	Tertiary education	139	45.1
	Total	**308**	**100**
	House Wife	145	47.1
Occupation	Student	57	18.5
	Business	37	12.0
	Teacher	25	8.1
	Civil Servant	38	12.3
	Others	6	1.9
	Total	**308**	**100**
	Christianity	127	41.2

Religion	Islam	181	58.8
	Total	**308**	**100**
	Only One	61	19.8
Number of Children	Two-five	169	54.9
	Six and Above	78	25.3
	Total	**308**	**100**
	Government Hospital/Maternity Homes	190	61.7
Children's Place of Birth	At Home	50	16.2
	Religious Centre	5	1.6
	Private Hospitals/Clinics	61	19.8
	Others	2	0.6
	Total	**308**	**100**
Years as Married Mother	1-5 years	90	29.2
	6-10 years	110	35.7
	11 years and Above	108	35.1
	Total	**308**	**100**

Source: Field survey 2019

Table 1 shows the demographic and socio-economic characteristics of the respondents. It is important to note that all of the respondents were mothers. The age distribution shows that, most of the respondents are between the ages of 25-34 years, while only few of the respondents constitute the other age categories. This implies that majority of the mothers are of reproductive age and may have insights on the study. The table shows that mainly most of the respondents are married, while only a small number of the respondents are the divorced and widowed. Also, a small number of the mothers have attended the secondary education, no formal education and primary education while, most of the respondents have attended tertiary education. This implies that mainly most of the respondents have higher levels of education. The Table also indicates that most of the respondents were housewives, while only few of the respondents were students, civil servants and business women. This indicates that the information given by the respondents is fairly representative of diverse opinions since it cuts across many employment statuses.

On the religion of the mothers, most of the respondents were Muslims while only few were Christians. This shows that the study area is a Muslim dominated area. Also, the table indicates that most of the respondents have 2-5 children, while only few have 6 and above children and also very few have only one child. Furthermore, most of the respondents were born in government hospitals/maternities, while only few of the respondents were born in private hospitals/clinics and at home. The table indicates that most of the respondents have been married for 6-10 years and only few of the respondents have been married for 11 years and above. All the above indicate that the demographic and socio-economic characteristics of the mothers vary and may influence their responses on issues raised on the study.

Table 2: Knowledge on Childhood Immunization

Responses	**Frequency**	**Percent**

Yes	283	93.75
No	25	6.25
Total	**308**	**100**

Source: **Field Survey, 2019**

Table 2 shows the mothers knowledge on childhood immunization. The table indicates that most of the respondents know about the childhood immunization while only a few of the respondents do not have knowledge on childhood immunization. This implies that almost all the respondents have at least heard about childhood immunization services. This could be due to the influence of mass media such as radio, television and nurses in the hospitals. A participant during the in-depth interview (IDI) said: Some of the mothers have knowledge on childhood immunization but some do not, most especially those in the rural areas are not aware of childhood immunization (IDI: NGO Staff, 2019).

Another participant said:

> *There is a lot of awareness among mothers on childhood killer diseases and childhood immunization and the vaccines in Bauchi Local Government. Most of the mothers deliver children in government hospitals and they become exposed to childhood immunization, diseases and vaccines. There are a lot of radio jingles, posters and hospital staff that educate mothers on knowledge about childhood immunization, which is very high in Bauchi Local Government (IDI: Nurse, 2019).*

Table 3: Whether Husband Allows Childhood Immunization

Responses	Frequency	Percent
Yes	293	95.1
No	15	4.9
Total	**308**	**100**

Source: Field Survey, 2019

Table 3 shows the responses on whether the respondents' husband allows/encourages childhood immunization. The table shows that most of the respondents revealed that their husband allows and encourages childhood immunization, while only a few of the respondents did not. The level of education of the husbands, culture and religious position might have contributed to allowing wives to take children for immunization while the absence of education, cultural and religious forbiddance could be for husbands not allowing childhood immunization. A participant during the in-depth interview who believes that husband may encourage or discourage their wife/wives to immunize their children against childhood killer diseases said: Men are very strict in terms of allowing their wife to go out for any reason. Men do not belief that women should be allowed to go out, so they remained secluded in their homes. Even on childhood immunization men hardly allowed women to go for it. Except in most cases the men take the women to the hospital themselves for childhood immunization (IDI: TBA, 2019)

Cross tabulations

Table 4: Mothers level of Education by Mothers Immunization of Children

Responses	**Mothers Immunization of Children**		**Total**
	Yes	No	
No formal education	42 (16.5%)	15 (27.8%)	57 (18.5%)
Primary education	22 (8.7%)	9 (16.7%)	31 (10.1%)
Secondary education	72 (28.3%)	9 (16.7%)	81 (26.3%)
Tertiary education	118 (46.5%)	21 (38.9%)	139 (45.1%)
Total	**254 (100%)**	**54 (100%)**	**308 (100%)**

Statistics	Value	DF	Cramer's V	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.752	3	.169	.000
N of Valid Cases	**308**			

Source: **SPSS Version 19 Chi-Square Extract, 2019**

Table 4 shows the cross-tabulation of education and responses on whether level of mothers' education relates to the immunization of their children against killer diseases. The table indicates that only few of the respondents attended no formal education hold that mothers' level of education does not relate to the immunization of their children while most of the respondents attended secondary and tertiary education respectively, holds that the level of mother's education relates to immunization of children. Also, it can be observed that Pearson Chi-Square (calculated value) on table 4.36 b is 8.752>7.815, the critical value of the chi-square (t-tabulated) of 0.05 level of significant with degree of freedom (df) of 3 and Cramer's V showing the strength of the relationship. Based on these statistics, the null hypothesis which says that 'there is no relationship between the mother's level of education and the immunization of their children against childhood killer diseases' is rejected. This decision means the acceptance of its alternate that says 'there is a relationship between mothers' level of education and immunization of their children against childhood killer diseases.' This decision also connotes that, if the level of the education of mothers is high, it can facilitate childhood immunization. However, it is important to note that education may not be all-encompassing factor influencing childhood immunization as people with low educational background could also embrace childhood immunization.

Table 5: Patriachal Practices by Mothers Immunization of Children

Responses	Husbands Allows Childhood Immunization		Total
	NO	YES	
NO	15(4.9%)	13.8(0.0%)	15(4.9%)
YES	23.8(3.2%)	269(91.9%)	293(95.1%)
Total	**25(8.1%)**	**283(91.9%)**	**308 (100%)**

Statistics	Value	DF	Cramer's V	Asymp. Sig. (2-sided)
Pearson Chi-Square	178.493	1	.761	.000
N of Valid Cases	**308**			

SPSS Version 19 Chi-Square Extract, 2019

Table 5 shows the cross-tabulation of Patriarchal influence and responses on mother immunization of children. The table indicates that only few of the respondents show that husbands do not allow them to immunize their children, while most of the respondents revealed that husband allows them to immunize their children. Also, it can be observed that Pearson Chi-Square (calculated value) on table 4.37b is 178.493>3.841, the critical value of the Chi-square (t-tabulated) of 0.05 level of significant with degree of freedom (df) of 1 and Cramer's V showing the strength of the relationship. Based on these statistics, the null hypothesis which says that 'there is no relationship between husbands (Patriarchal) influence and mother's immunization of their children against childhood killer diseases' is rejected. This decision means the acceptance of its alternate that says 'there is a

relationship between patriarchal influence and mothers' immunization of their children against childhood killer diseases. This decision also connotes that patriarchal influence can affect childhood immunization. However, it is important to note that patriarchy may not be all-encompassing factor influencing childhood immunization, as some mothers without husbands also embrace childhood immunization.

Discussion of Major Findings

Level of Education Influence Mothers Immunization of their Children against Childhood Killer Diseases

The findings of the study reveals that mothers' level of education relates to the immunization of their children, as claimed by 82.5 percent of the respondents. This finding was supported by many of those interviewed during the in-depth interviews. They asserted that there is a lot of awareness among mothers about childhood immunization against killer diseases in Bauchi Local Government. Most of the mothers deliver in government hospitals and they become exposed on childhood immunization, diseases and vaccines. There are a lot of radio jingles, posters and hospital staff which help to pass the information about childhood immunization to mothers in Bauchi Local Government. This finding connotes Odusanya, et al. (2008) that mother's knowledge of immunization and vaccination at a privately funded health facility were significantly correlated with the rate of full immunization.

Educated mothers mostly accept childhood immunization better than less educated. They are less restricted on childhood immunization, societal and religious factors. This finding is in line with Babalola and Adewuyi (2006) findings that the more educated a mother is, the higher the chances that her children will be immunized against childhood killer diseases. Becker, et al. (1993) argued that education empowers a woman to access relevant health services, interact effectively and assimilate information relating to parental care and childhood immunizations against killer diseases. The Pearson Chi-Square test on table 4.36 shows that there is a relationship between mothers' level of education and the immunization of their children against childhood killer diseases.

However, high mothers' level of education may not be an all-encompassing factor influencing immunization, as some uneducated mothers tend to accept childhood immunization. Some of them either based their opinion or religious beliefs or whatever known to them. While some mothers even with their low level of education they understand the importance of childhood immunization and welcome the idea even better than those with the high level of education. However, under normal circumstance, the level of education of mothers is supposed to influence childhood immunization but individual difference also matters a lot, weather educated or not.

This connotes the rational choice theory which was adopted as the theoretical framework for the study that the pattern of human behavior in society reflects the choices made by individual. Child immunization is not a compulsory exercise but rather optional to mothers who have the knowledge of childhood immunization. So, for mothers with the knowledge about childhood immunization have the opportunity to make an informed choice as to whether to immunize their children or not which has it attendant benefit or consequences as the case may be.

Also, the theory of health belief model as suitable because; it is about the belief and culture of the people as regards health. The culture of the people is quite in agreement with childhood immunization; as such they

are interested in getting knowledge and awareness about it. This will expose them to knowledge about the perceived susceptibility or vulnerability of children at risk, perceived severity of the diseases when a child contracted, perceived benefits of immunizing children and the perceived barriers or obstacles to immunizing children against these diseases.

Patriarchy Influence Mothers Attitude towards the Immunization of their Children against Childhood Killer Diseases

The research findings show that patriarchal encourages childhood immunization. Thus, majority on table 4.9 with 89.6 percent of mothers and table 4.10 with 95.1 percent respectively of mothers revealed that husband allows childhood immunization and many participants during in-depth interviews confirmed it. This shows that patriarchy tend to influence mother's attitude on childhood immunization. Also, chi-square tests using cross-tabulation of patriarchy and responses on mother's immunization of children indicates that 52.0 percent and 48.0 percent of the mothers, who are Christianity and Muslims, respectively accept childhood immunization as good. The Chi-Square based on the table shows that there is a relationship between patriarchy and mothers immunization of their children against the childhood killer diseases.

Patriarchy is part of cultural practices. The culture states that women are under the control of men so also religion stressed that women should submit to their husbands. Regarding childhood immunization, women are to ask for permission whenever they are going to the hospital for childhood immunization. Thus, men have the right to refuse allowing mothers from taking their children for immunization. This finding connotes Anyene (2014) findings that certain cultural practices though acceptable for many years, have however, been found to be detrimental to childhood immunization against killer diseases. Also, Mojoyinola and Olaleye (2012) argue that religious belief systems also affect maternal health care utilization which may consequently lead to non-compliance with immunization schedule, as women who strictly hold to religious belief have a higher risk of not complying with the immunization against childhood killer diseases.

However, some cultural practices may have little or no influence on childhood immunization, as attested by some in the in-depth interviews. For instance father in-laws influence in the decision regarding childhood immunization is limited. Although, both culture and religion states that when a man is married, he is solely responsible for the decision of his house, but the role of father in-laws is to give fatherly advice to the man and his wife on anything he considers important. Nevertheles, it will be at the discretion of the couples whether to accept the decision or not when there is need but not to force their decision on the family. The husband and his wife are solely responsible for their decision and action. Therefore, in terms of childhood immunization, the father's in-laws can only advice their children but not to force them.

This implies that using the rational choice theory which stated that, the pattern of behavior in the society reflects the choices made by people as they try to maximize the benefits and minimize the cost. Here, men being rational, consider the immunization of their children against killer diseases as important which will save their children from suffering and eventually, death. Therefore, they encouraged their wives to take their children for immunization as 'a stich in time saves nine'. Also, using the health belief model theory, the men consider children under the ages of five as more susceptible

with severe effects and consequences when contracted with the diseases, considered the perceived benefits and ensure their children are immunized despite the cost or the obstacles.

Recommendations

Based on the findings the following recommendations are hereby offered:

1 The government should create more awareness to overcome the misconception some mothers have on childhood immunization. Government should also build more health centers for mothers to ensure the childhood immunization of their children to eliminate infant mortality. Government should employ more health officials; such as nurses to meet the World Health Organization (WHO) health staff ratio of one nurse to four patients as the numbers is grossly inadequate.

2. Government should also build more health centers for mothers to ensure the childhood immunization of their children to eliminate infant mortality. The health personnel should be oriented to behave in a professional manner and have good manners of approach and not to use harsh and abusive words on mothers who take their children for immunization in hospitals/clinics.

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