ISSN 1605-2021

লোক-প্রশাসন সাময়িকী
Lok Proshason Samoeeky
সংখ্যা: ৫৩/ No. 53
অগ্রহায়ণ ১৪১৮/ডিসেম্বর ২০১১
Agrahayan 1418/ December 2011

Socio-Cultural Beliefs of Child Bearing Mothers Regarding Vaccination and Children's Health: A Case Study of the Selected Rural Areas of Munshiganj District, Bangladesh

Tauhid Hossain Khan*

Abstract: *This study delved into the specific socio - cultural beliefs about vaccination and children's health. With a view to having an insight on this issue, the study also tested the four components of the Health Belief Model (HBM) in relation to use of childhood vaccination among child bearing mothers in rural Bangladesh. 150 surveys were administered to mothers visiting their houses in a rural areas of Munshiganj district in 2009. Results show that, majority of the respondent (87.3%) reported that, all of the required vaccine were provided to their children. A significant number of respondents have belief about vaccine preventable diseases as fatalistic something (68.35%), can be prevented by folk prevention system (18.3%), caused by evil spirit (43%) and for mother's sin (41.5%). Based on the bi variate analysis, among the socio economic variables, occupation, education and income are significantly related to five types of socio cultural beliefs. According to the perception of the respondents toward vaccine preventable disease, 93.7% respondents perceive susceptibility, 64.8% respondents perceived severity, and 59.9% respondents perceived benefit getting vaccine their children, albeit, surprisingly 90.8% respondents perceived barriers to get vaccine to their children. Based on the HBM (Health Belief Model), the first three components of HBM (Perceived Susceptibility, Perceived Severity, Perceived benefit) are significantly associated with vaccination behavior of child bearing mothers.*

1.0 Introduction

Vaccination is one of the most powerful and effective weapons of disease prevention as well as the most important essential elements of childhood primary health care. Viewed globally, vaccines are the most cost-effective medical intervention to prevent death and diseases (World Bank, 1990). Not only a good in itself, childhood vaccination represents the gateway to provision of comprehensive health care to which all children ought to be entitled. Moreover, Pediatric immunization programs have eradicated many of the infectious diseases of childhood and have been one of the most remarkable public health accomplishments in the history of medicine (Edwards, 2000). While world child death rate (e, g. under five child deaths in last year was 10.5 million) is high (WHO, 2000). Global estimates (for 2000) for vaccination coverage of DTP3 and Polio vaccine remains at virtually the same level as previous years: 78%

* Lecturer, Department of Sociology, Jagannath University, 10, Chittaranjan Avenue, Dhaka 1100 email:tauhid_khandu@yahoo.com

(WHO; UNICEF, 2006). Global measles vaccine coverage stands at 77%. An estimated 28 million infants worldwide have not been vaccinated with DTP3 in 2005 , 75% of these children live in ten countries India, Nigeria, China, Indonesia, Pakistan, Ethiopia, Democratic Republic of Congo, Sudan, Bangladesh and Philippines (WHO, 2006). Since WHO launched EPI in 1974, the estimated incidence of childhood vaccine preventable diseases has declined significantly - at the end of the 1970s, less than 10% of the children of the world were vaccinated. A dramatic change was occurred during 1980s -1990s, at the beginning of 1980s, vaccination coverage against the six target diseases were only about 20% globally (WHO, 2006). But by the end of the 1990, almost all developing countries earned nearly 80% coverage which was targeted by the world health assembly. But this situation does not remain same over the world. In developed countries, the implementation and large-scale application on vaccination program have been remarkable successfully in eliminating or reducing the prevalence of infectious disease. For example, two regions of the world, America and Europe whose vaccination coverage is 90% (WHO, 2006).

Most of the developing countries where most of the people live under poverty line or with lower level socio-economic background because of lack of education as well as awareness, they believe in various religious superstitions, dogma, local and folk medicine or preventions which extremely act upon their vaccination coverage. For example, in recent years, the alarming condition in developing countries reveals an estimated 28 million infants worldwide who have unvaccinated with DPT3 in 2005 (WHO, 2006). And by the end of the 20th century, researchers discovered that in the developing world more than 3 million children still die annually from measles, neonatal tetanus, and pertussis, while more than a quarter of a million children are crippled by poliomyelitis (Matsuda, 2002).Among the developing countries, those in South Asia have shown some of the worst figures with regard to prioritizing health and the assessment of favorable health outcomes. Bangladesh as a developing country, similar to its South Asian neighbors remains with same socio demographic background, with the various types of child mortality e.g. 1 in 15 children dies before reaching the first birth day (BDHS, 2000). Although child mortality is declining due to increasing vaccination coverage, out of all total child death, 30% die only owing to six preventable childhood disease (Mazumder, 1997). However, due to the continuing concerns and interests of all stakeholders on EPI,

the program has made remarkable success in Bangladesh in increasing its vaccination coverage among children from 2% in the mid-1980s to 95% of at least one dose currently (Khan, 2005). Yet 40% of the eligible children remain unluckily to receive the complete schedule of EPI (Mazumder, 1997).

In recent years, there has been a welcome growth in the literature addressing on the beliefs toward vaccination behavior over the world irrespective of developed or developing society. Religious beliefs often attack the vaccination behavior over the world and even U.S.A where in 48 states allows exemptions for religious beliefs that prohibit the use of vaccination (Kennedy, Brown, & Gust, 2005). As of the 2004-05 school years, 19 states allowed for a separate philosophical exemption, in which parents whose personal beliefs are opposed to vaccination may claim exemption for their child (Kennedy, Brown, & Gust 2005). They also asserted that race is an important factor toward vaccination behavior here. This study also shows that a parent's opposition to compulsory vaccination is associated with negative attitudes and beliefs about safety and utility of vaccines (Kennedy, Brown, & Gust 2005). Another study reveals individual's belief toward vaccination such as measles vaccine contributes to autism (Stanton et al, 2004); pertussis vaccine as a cause of mental retardation (Stanton et al, 2004). Concerns regarding Hepatitis B vaccine and its association with demyelization disease in France resulted in Frances's suspending its adolescent Hepatitis B vaccine program in 1998 while the program was subsequently reinstated, since the acceptance of vaccine remains low (Streefland, 2003; Stanton, 2004). Many studies show that parents may prefer to make errors of omission rather than errors of commission and those they may find it easier to accept natural risks rather than manmade risks (Fredrickson et al., 2004). Some parents disagree with the practices of conventional medicine (Lunder et al, 2000; Simpson et al, 1995; Fredrickson et al, 2004). These groups of parents believe in 'natural healing' (Stein et al, 2000). Cultural differences (Fredrickson et al, 2004) are deemed as a cause for resistance to vaccination particularly within recent immigrants. Destruction of natural immune system (Fredrickson et al, 2004), breast-feeding is enough for the most vaccine preventable disease (Fredrickson et al, 2004), and autism, brain damage are occurred after vaccination- are the dominating socio cultural beliefs in this respect (Fredrickson et al, 2004).There is a mounting evidence that the socio cultural beliefs by the parents of the developed countries regarding vaccination acts upon their

vaccination behavior as well as health seeking behavior (Fredrickson et al, 2004) .

Several studies have noted that besides inadequate availability of health care services in many areas, especially the less developed countries containing disease-specific and non-disease-specific cultural beliefs may influence people's health seeking behavior.(Feyisetan, Asa, & Ebigbola, 1997). A study conducted in Nigeria, Yoruba community found that each episode of measles is traditionally considered as a punishment of breaching family taboos or as an evil dead from witches or enemies. The beliefs that disease episodes are caused by enemies are usually stronger in polygamous households where co-wives are natural suspects (Feyisetan , Asa, & Ebigbola, 1997). With this kind of fatalistic view about the case of measles, parents especially in the rural areas do not seek to modern medical care like vaccination. The belief in Abiku (Abiku is the Yoruba word for children believe to have come from the spirit world, who can tie at will unless certain rituals are performed) is still among mothers and the curative measures likely to be adopted by a mothers. Many depend on whether the sick child is believed to be an Abiku. So, modern curative method such as vaccination would be inadequate for a sick abiku, they believe. In the Philippines and in other developing countries, Tetanus to void has been viewed as causing infertility (Stanton, 2004). Some African believes that vaccination is contaminated, weapon to birth control of poor country by the developed countries (Nuwaha et al., 2000). Nepal is a south-Asian developing country where a number of mothers (3.1%) believe that vaccine preventable dieses are caused by heredity (Matsuda, 2002). A study conducted in Uganda found that most of the mother believes that malaria epidemic appear after National Immunization Days (Nuwaha et al, 2000).

Bangladesh as a developing country remains with so called socio-cultural beliefs like other developing countries towards vaccination and children health. Bangladesh is a country of Muslim majority which mostly affects its socio-cultural life by its religious beliefs and practices. These religious practices and rituals comprising beliefs also act up on the people's health seeking behavior like vaccination. Stanton (2004) illustrated about perceptions of accepted practices in parts of Bangladesh and Pakistan, male vaccinations may not be able to deliver tetanus to women-or may do so only through a curtain in which the limb alone is exposed to the male (Streefland, 2003).Bangladeshi parents, mostly who are illiterate, believe in uncertainty about their children's health, as a case of illness or not of

their child, they think it is desire of Allah (God). A study conducted in Bhairab, Bangladesh, found that a number of traditional terms in the local dialect were in use among the mothers. The terms identified polio, Diphtheria, Tuberculosis and measles. The beliefs associated with the explanation of these diseases occurrences are reflected in the diseases terms like Alga Batas (evil spirits), Alga Dos, Tahura (polio), and Lula Batas (Aziz et al., 1999). Through use of local dialect, members of the community get an occasion to discuss the culturally prescribed ways of getting relief from these diseases. As a result, some mothers gave greater attention to the traditional prescription without giving importance to the modern recommended methods. Culturally prescribed methods mean to go a man or woman who has power of Jin or supernatural power or Hojor (a religious expert). In Bangladesh especially rural people also believe in homeopathy, various herbal treatments instead of vaccine, many mother in laws/father-in-laws believe that we raised our children too, at that time Tika (vaccine) was not necessary, why this will be necessary now? (Khan, 2005). There is another belief from gender perspective found in Khan's (2005) study that it is enough to give vaccine to male child, there is no need for female child (Khan, 2005). A study conducted in Matlab, chandpur found that ARI is referred to as Alga Batas (evil spirits) and mothers tend to spiritual healer (ICDDRB, 2003).

2.0 The Health Belief Model (HBM) and Vaccine Related Behavior

Of the various model in health psychology that are used to explain health behavior, the HBM provides the most appropriate theoretical framework in which to examine how mothers/ Parents think about vaccination and diseases. The Health Belief Model (HBM) is a social - cognitive model developed in the 1950s by the U.S Public Health service which is often used to explain and predict health related behaviors (Stretcher and Rosenstock, 1997). The basic components of Health Belief Model are derived from a well-establish body of psychological and behavioral theory whose various models depends mainly upon two variables: (a) The value placed by an individual on a particular goal; (b) The individual's estimate of the likelihood that a given action will achieve that goal. In the Context of health related behavior, these correspondences are: (a) the desire to avoid illness (or if ill, to get well); (b) The belief is that a specific health action will prevent illness. For example, if a person's goal is to avoid a health problem, the individual must feel personally vulnerable (Perceived susceptibility) to a problem judged to be potentially serious (perceived severity), and he/she must estimate that specific action will be

beneficial in reducing the health threat (Perceived benefit) and will not involve overcoming obstacles (Perceived barriers). Thus, as Rosenstock (1997) notes in describing this model, "The combined levels of susceptibility and severity provided the energy or force to act and the perception of benefits (less barriers) provided a preferred path of action (Rosenstock,1990)".When applied to parents as well as mother's vaccination behavior, the HBM suggests that simply having knowledge and awareness about infectious disease will not necessarily result in increased visits to a hospital for vaccination or likely to get vaccinate their children. Instead, the model specifies four related elements that must be present for knowledge about diseases to be translated into preventive action (Onta, 1998; Matsuda, 2002). First: An individual must perceive that he or she is susceptible to an infectious disease; and second, that person must also perceived that the disease in a serious condition; Third, he/she must believe that there are benefits to taking preventive action; Finally, the individual must also perceive that any potential berries to taking preventive actions are outweighed by potential benefits. Based on this Model, Perceived susceptibility, perceived severely, and perceived benefits are likely to be positively related to vaccination behavior, while barriers to taking action are likely to be negatively related to it. A final variable completes the original Health Belief Model-the presence of an internal or external stimulus, or "Cues to action" that triggers the individual's health behavior. An internal cue may include symptoms of illness, when as external cues include media companies about health promotion or interpersonal interaction, such as learning that a friend has been affected by a health problem. In this regard, mothers will likely to or trigger vaccination action influence either by seeing any physical symptoms of disease such as Polio and so on or by knowing message from media campaign or interpersonal interaction. More recently the concept of self-efficacy" has been added to some version of the HBM-Rosentock suggests that self efficacy was not explicitly incorporated into early version of the Health belief Model (HBM) because the original was on circumscribed preventive actions, such as receiving an immunization or accepting screening test (Rosenstock,1990). He proposes that self-efficacy is more useful in understanding behaviors, such as those related to chronic illness care, which occur over a period of time and require lifelong changes in behaviors. Since the behavior of interest in this study was a circumscribed action, the concept of self-efficiency was not felt to add explanatory power and thus was not included in the model.

3.0 Conceptual framework of the study

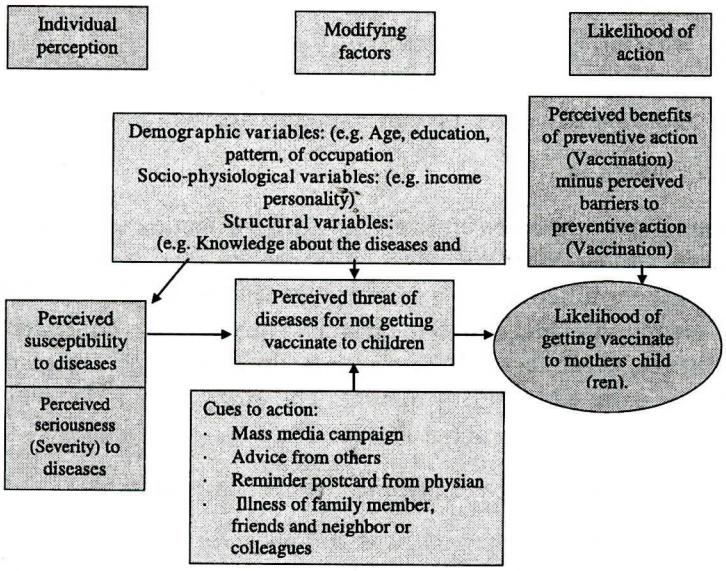

Fig: 1 Conceptual Framework of the Study.

4.0 Objectives of the study

The overall objective of the proposed study was to provide data, which would allow for designing strategies to reduce socio cultural constructed misconceptions as well as beliefs about vaccination and children's health among child bearing mothers of rural Bangladesh. Specific objectives were:

- To examine the socio- cultural beliefs about vaccination and children's health among child bearing mothers.
- To explore mothers' general understanding about children's health.

5.0 Hypotheses of the study

1. Mothers' beliefs about children's health and vaccination behavior vary by income.
2. Mothers' beliefs about children's health and vaccination behavior vary by the level of education.
3. Mothers' beliefs about children's health and vaccination behavior vary by the patterns of occupation.
4. Vaccination behavior would be more frequent among

childbearing mothers who endorsed the first three components of Health Belief Model (i.e. Perceived susceptibility, Perceived severity, Perceived benefit).

5. Vaccination use is expected to be much less frequent among those mothers who perceived greater barriers to vaccination.

6.0 Study Method

This exploratory research utilized quantitative methods including semi structured survey to collect data. The use of semi structured survey instruments permitted the data to improve the validity of the findings and enable greater inferences from the results. The study was conducted at the two villages, Jastitala and Hoglakandi, rural area of Bangladesh at Gazaria upazila, Munshiganj district. The study area is situated away from Dhaka city by only about 40 km.

6.1 Sampling Procedure and Sample size Determination

Probability sampling approach was followed for conducting survey of this study. Particularly systematic random sampling procedure was adopted to draw sample for the survey. This study was conducted at two villages of a rural area; the unit of analysis was the child bearing mothers who have a at least a live child. The total number of households under study area is 763 and all of these households were considered as the sampling frame from which the required number of sample was drawn. The sample size was estimated through an approach based on confidence level and precision rate. Using Fisher's (Sarartakos, 2005) exact formula we got a sample size of 150. Dividing the total number of households by the desired sample size of 150, we got the sampling interval of 763/150 =5.088=5and this interval became a quasi-random selection criterion, that is to say ,every 5th household was selected for interview starting from a randomly selected household as there is an average family size is 5.

For 150 respondents, 150 households were visited with following 5 intervals. Once the household was selected, the required number of respondents would be selected using simple random sampling from that house hold. If there were no found the characteristics of the target group, then the next and nearest household was selected.If the sample respondents were not available at the time of interview, and then at least two revisits would make to interview the sample respondents. However, there were cases of non-response from respondents including cases of

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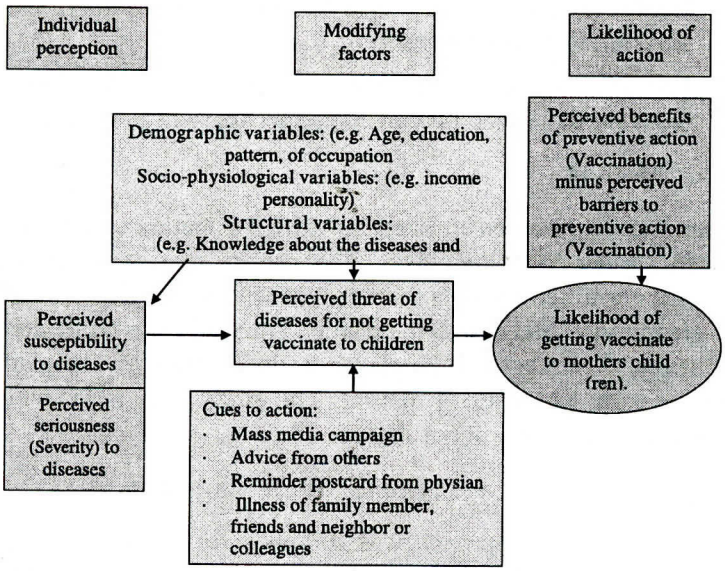

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non-availability of members/respondents in selected households. In this situation, the interviewer selected alternative respondent from the next fifth household so that the overall sample size is achieved. Therefore the overall non-response rate in this study is virtually zero.

6.2 Administering the Interview

The fieldwork for present study was conducted for a period of four months during June -September, 2008. There were four female interviewers responsible for data collection from sampled households. All of the field interviewers were recruited from the study area. The researcher self was the field supervisor. Some of them had the experience of conducting survey-interview. Besides, they were trained on the data collection mechanism, the art of data collection and briefed comprehensively on the data collection instruments (e.g. interview schedule) would be used. After getting the training interviewers went to the field. Before approaching the sample respondents, the interviewers informed them about the purpose of this study, topics under study and the need for collecting data. The data collection team then sought their cooperation and formal permission to administer survey.

6.3 Analysis of Data

The research has involved a great deal of descriptive analysis in line with a study design that aims at providing a holistic synthesis that can explain the trends observed in data. The analysis follows a general scheme of simple description at the univariate and bivariate level that articulate the full scope of factors considered in the explanation of the trends/patterns observed in the data. Data were analyzed in two stages using SPSS software version 12. Analyses involved from running simple measures of association. Differences were tested by Cramer's V.

7.0 Findings of the Study

7.1 Background Characteristics

In total, 150 respondents ranging from age 10 to 45 years were interviewed. The table 1 shows that the majority of the respondents (54.2%) are 25-33 years old; On the contrary, a considerable number of respondents (23.2%) are less than 24 years old. In terms of respondent's level of education, most of the respondents (40.8%) have passed secondary school certificate exam (SSC). On the contrary, a considerable number of respondents (29.6%) has no education .In terms of

respondents' occupations, most of the respondents (64.9%) are housewives. In terms of total monthly family income, the majority of the respondents' (53.1%) family income ranges between less than Tk.10, 000-Tk.20, 000 per month. On the contrary, a significant number of respondents' (49.2%) monthly family income is between less thanTk.20, 000-Tk.30, 000 .On the contrary, only 19%resndents have more than 30,000TK. per month. In the case of marital status, 91.1% respondents are married.

Table 1: Background Characteristics

Major characteristics	Per cent
1.Age in Years	
>24	23.2
25-33	54.2
34-40	19.0
41+	3.5
Total	100.0
11.Marital Status	
Married	91.1
Other	8.9
Total	100.0
111.Level of education	
No Education	29.6
Primary Education	19.0
Secondary Education	40.8
Higher Secondary Education	6.3
Tertiary level of education	4.2
Total	100.0
1V.Occupation	
Small business and Farming labor	8.1
Student	2.5
Housewife	64.9
Govt. service	8.9
Non-govt. service	15.6
Total	100.0
V.Family Income in Taka	
>10,000-20,000	49.2
20,000-30,000	31.8
30,000+	19.0
Total	100.0

7.2 Children's Vaccination Coverage by All of the Required Vaccine

All most of the respondent (87.3%) had reported that all of the required vaccine is provided to their children while only 12.0% respondents did not give all of the required vaccine to their children. An ignorable number of respondents (0.7%) could not give any positive or negative response.

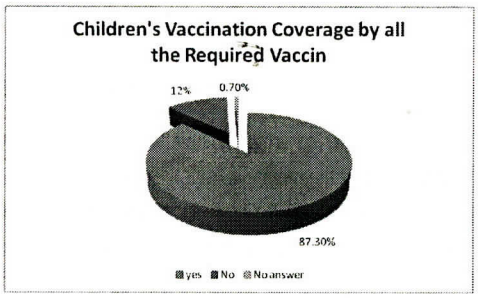

Figure1: Children's Vaccination Coverage by all Required Vaccine

7.3 Respondent's Perceptions toward Vaccination

Respondents were asked "will a child contract the disease if he/she was not vaccinated?" regarding perceived susceptibility. As shown in table 2 all most of the respondents (93.7%) thought perceived susceptibility in terms of their children's vaccination, if their children were not vaccinated while only 4.2% respondents did not do so.

Table.2 Respondent's Perceptions toward Vaccination

Perception	Yes	No	Don't Know	Total
Perceived Susceptibility	93.7	4.2	2.1	100.0
Perceived Severity	64.8	31.0	4.2	100.0
Perceived Barriers	59.9	31.0	9.2	100.0
Perceived Benefits	90.8	2.8	6.3	100.0

Respondents were asked "will a child die due to these diseases or illness?" regarding perceived severity. As shown in table 2 all most of the respondents thought perceived severity regarding illness resulted from non-vaccination while a considerable number of respondents (4.2%) also did not do so, but a small number of respondents (4.2%) showed no response. Respondents were asked "will the vaccination cause undesirable side effects?" regarding perceived barriers, the most of the respondents (59.9%) thought perceived barriers regarding undesirable side effects as barriers for vaccination while a considerable number of

respondents (31.0%) also did not do so, but a small number of respondents (9.2%) showed no response. Respondents were asked "will the process of vaccination prevent a child from getting the disease against which he/she was vaccinated?" regarding perceived benefit. As shown in table 2, all most of the respondents thought perceived benefit regarding a child will be prevented from diseases against which he/she was vaccinated while an ignorable number of respondents (2.8%) did not do so.

7.4 Socio Cultural Beliefs about Vaccination and Children Health

Respondents were asked the statement to test their misconception regarding these disease are given by God, thereby some children are born with these disease. It was found that a significant number of respondent (68.3%) had misconception regarding diseases and children's health while a considerable number of respondents (29.6%) had no misconception regarding diseases and children's health. but a small number of respondents didn't response (2.1%) or had no comments.

Table 3: Items on Socio Cultural Beliefs about Vaccination and Children Health

Items	Yes	No	Don't Know	Total
these disease are given by God, thereby some children are born with these disease	68.3	29.6	2.1	100.0
some children die of typhoid, malaria, diarrhea etc to get vaccination to them"	24.6	66.2	9.2	100.0
Only boy children are to be vaccinated"	6.3	90.1	3.5	100.0
Children are victim of these diseases due to mother's sin or problem of mother's movement (Chala fera).	41.5	45.8	12.7	100.0
These are not actually disease, these are actually Alga batas,Lula batas , kharap batas ,giner asor(attack by Gin &Pari)	43.0	50.0	7.0	100.0
Jar fokh , pani para (holy water), ras, pata &mol of various gas gasra(juice or soup),leaves & roots of various tree), and other folk medicine are enough for prevention for these diseases	18.3	74.6	7.0	100.0
Rich countries are controlling population growth of poor countries naming vaccination.	5.6	32.4	62.0	100.0

Respondents were asked the statement to test their misconception regarding gender issue about vaccination, diseases and children's health. It was found that all most of the respondents (90.1%) rejected the statement; they had no such misconception regarding vaccination, diseases and children's health, while an ignorable number of respondents (6.3%) supported the statement. Respondents were asked the statement to test their misconception about vaccination, diseases and children's health. It was found that the half of the respondents (50.0%) opposed the above statementThese are not actually disease, these are actually Alga batas,Lula batas , kharap batas ,giner asor (attack by Gin &Pari ; they had no such misconception regarding vaccination, diseases and children's health, while a large number of numbers of respondents (43.0%) also supported the statement.

7.5 Bi variate Analysis

Socio-economic Variables and Beliefs toward Vaccination and Children Health

Table 4: Summery of Cramer's V Values on beliefs by socioeconomic characteristics

Socio-economic variables	Beliefs				
	Folk Prevention System	Fatalistic belief (Will of God)	Evil Spirit(Alga Batas)	Mother's Sin	Priority to boy child
Occupation	V=0.260*	V=0.29*	V=0.26**	V=0.317*	V=0.98*
Income	V=0.26**	V=0.305***	V=0.244***	V=0.323***	V=0.089*
Education	V=0.35**	V=0.43**	V=0.37**	V=0.41***	V=0.26**

*** p=0.001 ** p=0.01 * p=0.05

Table 4 shows the statistical association between a set of socio economic characteristics and a set of socio cultural beliefs toward vaccination and health of children. The result indicates that occupation, family income, level of education of mothers are more likely to believe in folk prevention system ,will of God, Evil spirit , mother's Sin , priority to boy child.

Vaccination Behavior and Components of HBM

Table 5: Vaccination Behavior and Components of HBM

Status of Vaccination	Components of HBM			
	Perceived Susceptibility	Perceived Severity	Perceived benefit	Perceived barriers
Fully Vaccination	V=0.38**	V=0.59***	V=0.43***	NS

*** p=0.001 ** p=0.01 * p=0.05; NS: Not Significant

Table 5 shows the statistical association between mother's vaccination behavior and four components of HBM (Perceived Susceptibility, Perceived Severity, Perceived benefit, Perceived barriers). The result indicates that among the four components of HBM, the first three components are significantly associated with vaccination behavior.

8.0 Discussion and Conclusion

Depending on vaccination coverage of Bangladesh, this study demonstrate clearly high childhood vaccination coverage, although there is a differentials regarding urban (all vaccine: 80.9%) and rural (all vaccine: 71.1%) existed over Bangladesh (BDHS, 2004). However, National childhood vaccination rate is as high as 95% of at least one dose currently (khan, 2005). It is evident that mothers of Bangladesh have very impressive health behavior with regard to childhood vaccination. Although the findings of this study (87.3%) have overlapped the national coverage, the under five child mortality is still disappointable (69/1000 live births in Bangladesh and, according to BDHS -2004, in rural it was 98/1000 live births). High vaccination coverage cannot obviously lead to high childhood mortality. While most of the childhood deaths are occurred by six preventable diseases, thereby, there is a general question, why is childhood mortality not being minimized due to gradually increasing vaccination coverage. This hidden fact is rooted in socio-cultural factors. These socio-cultural factors construct mothers' knowledge, attitude & beliefs toward vaccination and children's health. This study demonstrated that a considerable number of mothers believe in various spiritual power, folk medicine, various social, cultural & religious superstitions about vaccination and children's health, although mothers have positive attitude toward vaccination and children's health, considerable socio-demographic background, considerable level of media exposure. This study also demonstrates considerable number socio-cultural and economic barriers toward vaccination (although not greater

than benefit). These barriers are rooted in mother's beliefs which are constructed by various socio-cultural determinates including socialization process where they grow and social structure where they live. However, Although the study shows high vaccination coverage and mothers attitude toward vaccination is positive, but the non-coverage is utmost affected by mother's socio-cultural misunderstanding beliefs, these negative beliefs are not only threat for child health in rural area but also urban area of Bangladesh.

This study replicated these statistics with the finding that most of the mothers sampled (87.3%) get fully vaccinate to their children as per the required number of vaccines and age of children. Thus, the question remains unanswered about what accounts for this exemplary behavior seen among child bearing mothers throughout this highly impoverished country. At a first glance it would seem that these mothers have been well schooled in the traditions of western medicine (no doubt from the numerous polio and TB eradication programs initiated by the U.S. in the late 1980s), and have subsequently adopted the regimes of western behavior. However, the results of this study suggest that there may also be another story that accounts for this high level of vaccination behavior. This study discovered a peculiar association of vaccination with the first four components of HBM. Generally, perceived susceptibility influences perceived severity when a mother endorsed perceived susceptible toward vaccination behavior, likely the mothers were supposed to perceived severity as well, but this study suggests an unexpected findings that the mothers who endorsed the perceived susceptibility (93.7%) are greater than the mothers who endorsed the perceived severity (64.8%). Despite this, the first three components of HBM(perceived susceptibility, perceived severity, Perceived benefit) are consistently associated with the mother's vaccination behavior accept perceived barrier (table 5). Several studies suggest that perceived benefits are the only component of the model that is significantly related to vaccination behavior among mothers (Matsuda, 2002). These suggest that the benefits associated with vaccination may be important to these mothers in providing impetus for healthy vaccination behavior. But unlikely, this study shows no especial relation of perceived benefit with mothers' vaccination behavior. In this study, a considerable number of mothers (31.0%) who do not believe that their children may die because of these diseases (Polio, Diphtheria, Tetanus etc) unless they get vaccine to their children, although a large number of mothers (93.7%) had fear about these diseases or feel a

vulnerable about these diseases. But why does it remain so? This question leads to some socio-cultural beliefs that are revealed by the open ended question "why do some children have healthy and why do some children get sick? In answer of this question, a significant number of mothers (91.6%) stated that it occurs by 'will of God', thereby, this spiritual belief affect negatively the perceived severity. Many studies suggested that when mothers endorse perceived barriers, vaccination coverage is low complying with the study of Kennedy, Brown, & Gust (2005).These findings are contradictory to Matsuda (2002) conducted on Nepalese mothers when mothers were asked an open ended question denoting perceived barriers 'what are the causes or barriers not to get vaccinate all of the required vaccines to your children?' A Considerable of number of mothers (32%-35%) said the various side effects: crying, post vaccination fever, pain in injected place. It also implies that mothers did not endorse perceive barriers as greater than perceived benefit.

This study suggests significant association of socio-cultural beliefs of mothers about vaccination & children's health with socio economic (e.g., income, education & occupation) not demographic variables. Socio cultural beliefs are mostly playing role as barriers toward vaccination behavior. It is surprised that these beliefs could not refrain mothers from getting vaccination to their children. It is, of course, not anomalous, if we see the association of vaccination coverage with the third component(perceived benefit) and fourth component (perceived barriers) (table 5), it means that albeit the mothers have beliefs in various socio cultural superstitions , these are obviously barriers to vaccination but they did not see as greater as benefit , rather they have conceived as benefit for their children.

9.0 Recommendations

A child will be an asset in future. In Bangladesh, alarming child mortality or child survival mostly depend on prevention of childhood diseases through vaccination, To get full vaccination coverage, the following issues can be recommended for national and local level: -

- Concerned authority needs to ensure regular holding of EPI sessions and regular supervision, even if some additional measures are required.
- Alternatively some form of community involvement may be considered for ensuring regular sessions.
- Alternative strategies need to be formulated for difficult to reach locations.
- Vacancy of the providers needs to be filled up timely.
- A common consensus or minimum incentives to the providers at the grass root level needs to be reached to all stakeholders.
- The health personnel need to be mindfully because mothers' comply with what they tell them, even as regards stopping vaccination.
- Elderly family numbers and Husband need to change their gender biased mentality.
- Campaign through interpersonal communication with mass media Campaign needs to be emphasized.
- Religious leaders (Imam) need to be taken in mainstream of campaign to avoid misconception regarding vaccination and children's health.
- Rural elite and opinion leaders also need to be taken in mainstreamed of campaign program.
- Need based or area specific targeted research needs to be undertaken.

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