

Attitudes and Practices of Mothers Towards Child Immunization and Child Welfare Clinic Attendance: A Study at Madina Polyclinic

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Abstract

Background: Ghana's child immunization coverage is one of the highest in the West African Sub-region but since child immunization coverage highly depends on the knowledge, attitude and practices of mothers, it is important to assess these in a rapidly developing and changing society.

Objectives: The objectives of the study were to find out mothers knowledge on vaccines and vaccine-preventable diseases, determine the sources of information of mothers on immunization and immunization-related issues, assess the attitudes and practices of nursing mothers towards child immunization, investigate the attitude of nursing mothers on Child Welfare Clinic attendance and to assess the attitudes of mothers towards the quality of interaction at the child welfare clinic and satisfaction with service delivery.

Methods: Employing a quantitative method, the study selected 100 respondents for primary data collection and analysis at Madina Polyclinic, a suburb of Accra. These respondents were mothers coming for vaccination of their children at the child welfare clinic in a period from first to 31 April 2014.

Results: From a total of 100 studied mothers, it was established that Mothers have poor knowledge of vaccines and vaccine-related issues. Despite the poor knowledge of mothers, their attitude towards child immunization was very high. The health worker was found to be the main source of information on immunization and immunization-related issues followed by the media and the mother of the respondent. The health worker was also the most trusted source of information relating to immunization. The study found that despite the positive attitude towards immunization mothers had negative practices towards it (mothers afraid of vaccination, preferring a particular mode of vaccine delivery etc.). These negative attitudes could be related to that of poor knowledge. The mother's work did not prevent the mother from bringing the child to the child welfare clinic for immunization. The mother's ill health and forgetfulness were the most common causes for missing an immunization schedule at the child welfare clinic. Mothers reported problems with the point of immunization service delivery but nevertheless were satisfied with health care workers performance and felt comfortable coming for vaccines at the immunization clinic.

Conclusions: On the bases of the findings recommendations were made to stakeholders in the health sector to input extra effort to raise the knowledge and address the problem of misinformation of the people. Appropriate information dissemination, aggressive campaigning and family involvement are crucial to the success of the program. Emphasis by health professionals on parents with lower education should also be prioritized.

Keywords: Attitude; Child immunization; Child welfare

Introduction

An important advancement in the practice of public health was the discovery of vaccination by the British physician Edward Jenner in 1947. Immunization provides the easiest and effective preventive mechanism for preventable and infectious diseases for children under five. For Instance, it is estimated that without immunization, 3% of all children will die from measles, 2% from whooping cough, 1% from tetanus and 0.5% will be crippled by polio for the rest of their lives. Also, neonatal tetanus, which is prevented by immunizing mothers with tetanus toxoid (TT), could in addition, be responsible for up to 20% of all infant deaths in the Ghana [1].

However, the objectives of this study are to find out mothers' knowledge on vaccines and vaccine-preventable diseases. Determine the sources of information of mothers on immunization and immunization-related issues. Assess the attitudes and practices of nursing mothers towards immunization. Investigate the attitude of nursing mothers on CWC. Assess the attitude of mothers towards the quality of interaction at the child welfare clinic and satisfaction with service delivery.

It was based on proven efficacy of achieving immunity to disease through vaccination that led the World Health` Assembly in 1974, to adopt a resolution that introduced the expanded programme of

immunization (EPI) to build on the success of the global smallpox eradication programme and to ensure that all children under five in all countries benefit from life-saving vaccines [2]. Today the focus on immunization is not convincing countries to adopt the EPI but how to ensure adequate coverage. Indeed, one of the UN General Assembly Special Session goals is to ensure full immunization of children under one year of age at 90% coverage in all countries with at least 80% coverage in every district by 2010 [3].

In developed countries, the rate of immunization coverage has reached its highest peak as parents and guardians have a full understanding of the importance of immunization and also in congruence with laws of those nations.

Even in developing countries like Ghana, coverage is beginning to plateau. According to a 2011 study by the Ghana statistical service (GSS)

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Out of the 65 respondents who reported having heard stories, 45 said they did consider refusing any form of vaccine afterwards, nine did not and eleven said they had become confused. Only one respondent

actually refused a vaccine as a result of hearing these stories. Though most mothers reported not hearing stories, a substantial number of them reported having been personal witnesses to events where persons suffered from disability related to immunization. As much as 30% reported having been witnesses to such an occurrence. 91.5% of

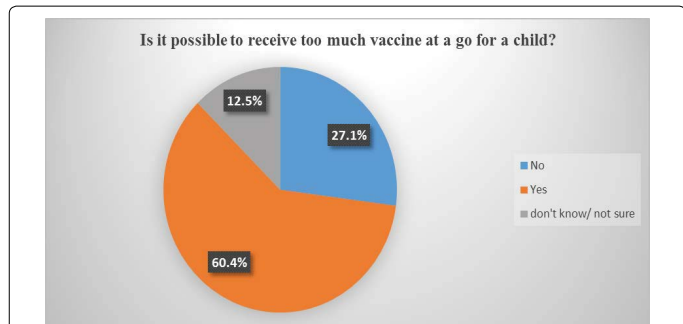


Figure 6: Responses on the Possibility of Receiving Too Much Vaccine at a Go.

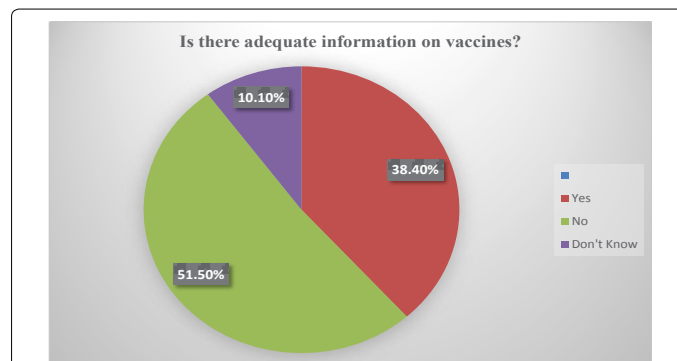


Figure 10: Responses on Adequacy of Information on Vaccines.

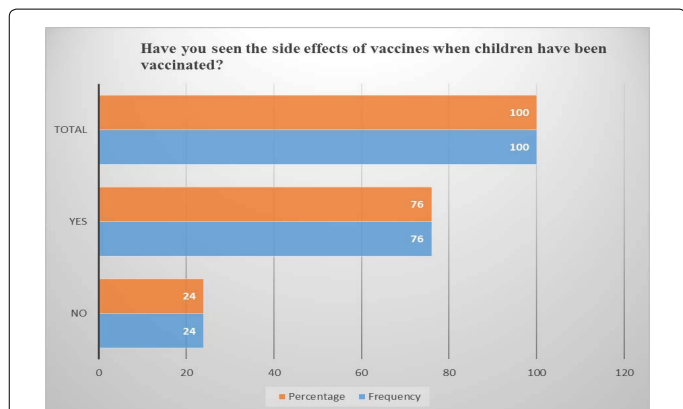


Figure 7: Responses on side effects of vaccines.

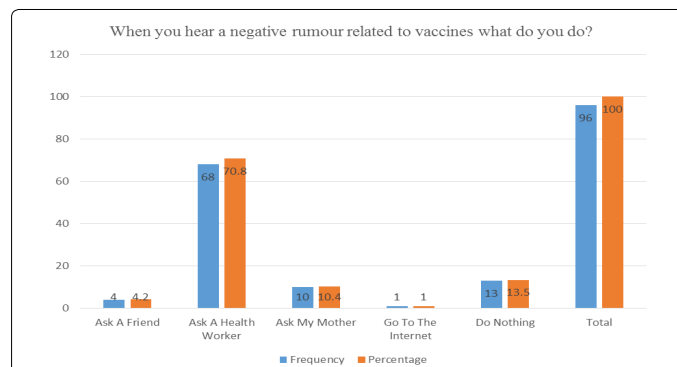


Figure 11: Actions of the Mother on Negative Rumours on Vaccines.

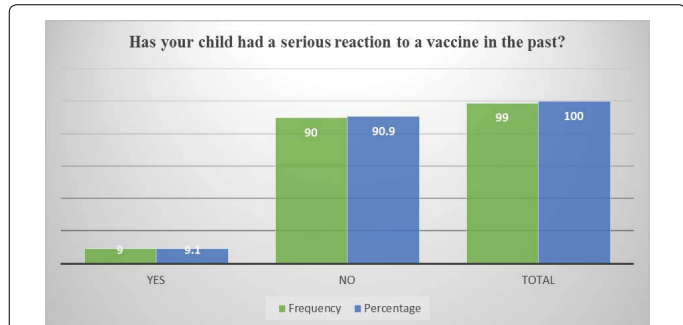


Figure 8: Responses on Child Reaction to Vaccines.

Ages of Respondents	Frequency	Percentage
18 -25	37	37
26-33	44	44
34-41	17	17
42+	1	1
Below 18	1	1
Total	100	100

Table 1: Ages of Respondents.

Number of Children Mother Has	Frequency	Percentage
One	45	45.5
Two	28	28.3
Three	15	15.2
Four	10	10.1
Total	99	100

Table 2: Number of Children of Mother.

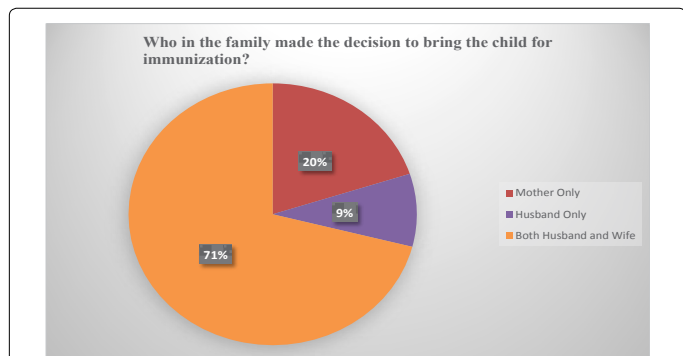


Figure 9: Responses on Decision Making on Immunization.

Reasons Why Mothers Bring Their Children for Immunization	Frequency	Percentage
Prevent child from getting diseases	76	76
Keep child health and full of immunity power	16	16
Give the child long live	5	5
Eliminate Concerns on Communicable Diseases	1	1
Other	2	2
Total	100	100

Table 3: Reasons Why Mothers Bring their Children for Immunization.

respondent believed that there was no better way to prevent vaccine-preventable diseases than with vaccine. 8.5% thought otherwise.

An overwhelming majority of the respondent (75.5%) rightly thought vaccine benefits, in general, were greater than their risk. 19.4% did not think so and 5.1% did not know what to think.

As a result, a substantial number of the respondent (83%) indicated that cost will not deter them from getting a vaccine if they felt the child need it. 17% indicated cost can deter them even if they felt the child needed the vaccine. 66.3% of respondents reported that they did not

Give example of vaccine preventable diseases	Responses	
	Number	Percentage
Measles	38	0.297
Poliomyelitis	35	0.273
Pneumonia	3	0.023
Tetanus	3	0.023
Yellow Fever	2	0.016
Diarrhoeal Diseases	7	0.055
Tuberculosis	10	0.078
No Vaccine Mentioned	28	0.219
Hepatitis B	2	0.016
Total	128	1

Table 4: Stated Examples of Vaccine Preventable Diseases.

Vaccines given at the child welfare clinic	Responses	
	Frequency	Percentage
No Vaccine Mentioned	48	0.369
Vitamin A	22	0.169
Measles Vaccine	11	0.085
Yellow Fever Vaccine	4	0.031
Pneumococcal	6	0.046
Rotavirus	3	0.023
Oral Polio Vaccine	20	0.154
BCG	8	0.062
Penta –Valent	8	0.062
Total	130	1

Table 5: Stated Examples of Vaccines Given At CWC.

Where did you first hear about childhood vaccination?	Frequency	Percentage
Health Worker	66	66
My Mother	12	12
Friends	3	3
Media	12	12
At Church	2	2
other	5	5
Total	100	100

Table 6: Sources of Information of Mothers on Vaccines and Vaccine Related Issues.

Who do you trust most on information related to vaccines?	Responses		Percentage of Cases
	Frequency	Percentage	
The Health Worker	93	0.554	0.939
My Friend	3	0.018	0.03
My Mother	29	0.173	0.293
Media	27	0.161	0.273
Church Leader	7	0.042	0.071
My Husband	5	0.03	0.051
Any Source	4	0.024	0.04
Total	168	1	1.697

Table 7: Degree of Trust of Mothers on Sources of Information on vaccines.

feel they know which vaccines they should receive. 33.7% indicated they knew which vaccines they should get for themselves and their children.

When respondents were asked whether they thought the practice of immunization is important, all respondent answered yes and when they were asked whether the practice of immunization should continue all participants answered in the affirmative. The reasons they cited for the continuation of the practice of immunization was in terms of the health benefit (98%) and surprisingly 2% stated that their reasons for continuation are based on religious reasons.

Most mothers (88%) who were interviewed indicated that they were regular attendants at the Madina polyclinic. 12% reported that it was their first visit to the child welfare clinic. 97% of respondents reported that attending child welfare clinic can improve care for their child and family. 3% did not think attending child welfare clinics could improve care for their child and their family.

Furthermore, it was encouraging to know that 92% mothers did not consider going to work or other places more important than taking their children to the child welfare clinic whilst 8% mothers thought they could abandon an immunization session for work.

19.1% reported that they have ever defaulted at the child welfare clinic. 80.9% indicated they had never defaulted. Out of the 19.1% who reported missing a session, common reasons cited include: 29.4% reported that sickness, 29.4% indicated forgetfulness of the date for the next visit, 11.8% indicated that travel, 11.8% indicated being busy, 5.9% indicated the child was sick. 5.9% reported financial difficulty, 5.9% reported other problems.

Mothers were asked to indicate whether the health worker told them about the importance of vaccination, out of the number who responded 85.6% indicated that yes, they did whilst 14.4% reported that they did not.

90.8% reported that the health worker explained the adverse side effects of vaccines to them and 9.2% respondents disagreed. Generally, respondents were asked to indicate whether they were satisfied with the health care worker's response to their questions related to immunization; 76.8% of mothers indicated that they were satisfied whilst 23.2% said they were not.

On the child welfare clinic environment, mothers were asked to indicate whether they were comfortable coming to the child welfare clinic, 85% indicated that they were comfortable, 15% said no there were not comfortable.

Out of the 15 respondents who indicated discomfort at the child welfare clinic, 60% indicated overcrowding as their main concern and 33.33% indicated inadequate furniture as the reason for their discomfort. 6.67% did not indicate any reason for the discomfort.

Discussion

Interpretation of findings

Whilst mothers could tell the general reasons for which vaccines were given and what they do for children, knowledge on childhood vaccines and vaccine-preventable diseases in mothers was poor. Most respondents could not mention the most common childhood diseases for which vaccines were administered at the child welfare clinic. A lack of knowledge regarding the vaccines administered at the child welfare clinic and the diseases which they give protection against was observed. For instance, majority of the respondents could not mention the names

of any of the vaccines given at the child welfare clinic. Other situations where mothers displayed improper knowledge of vaccines include the following: Mothers afraid of vaccination and panicking when a vaccine is given, mothers thinking they know which vaccines to get for their children and mothers thinking that children could have too many vaccines at a go, not wanting to be the first to go get a new vaccine for the child: These instances are indicative of the incomplete knowledge and inappropriate practices of the mothers. This is consistent with the findings of Bosu et al. [7], that mothers often have poor knowledge about immunization. The difference, however, is that in their study, this poor knowledge about immunization served as an impediment to child welfare attendance but in this study, I had little evidence suggesting that poor knowledge of mothers about immunization resulted in poor attendance rate.

A significant degree of rumor mongering and misinformation still linger in the minds of Ghanaian mothers concerning vaccines. For instance, a substantial number of mothers in this study claim to have heard stories about children developing vaccine-preventable diseases even after receiving vaccines. On further probe, respondents mention specifically the polio vaccine. This may be partly related to rumors circulating that the polio vaccine-induced paralysis and HIV/AIDS. This may be a spillover from the objections in 2003 that halted polio vaccination campaigns in Nigeria as documented by Jegede.

In fact, a number of respondents claim to have been personal witnesses to this event. This problem of rumour mongering may be allied to the problem of the poor knowledge of mothers on immunization-related issues. It must be pointed out that Bosu et al. [7], and Adu and Gyamfi [8], who conducted their studies in Ghana do not specifically mention the problem of rumor mongering, but they may have captured this under the poor knowledge of mothers. Whilst it is favorable that these rumors did not lead respondents to refuse vaccines, this is worrying because it has the potential of leading mothers to reject the vaccine. Further research into the reasons why the polio vaccines are rumored to cause vaccine-related disability in Ghana needs to be investigated.

More than half of the attendants at the child welfare clinic indicated that they receive information related to vaccines from the health care workers. This is possible because a majority of women in Ghana today deliver at health facilities and midwives play an important role, during the antenatal and the post-partum period, of reminding mothers to send the new-born baby to the child welfare clinic to receive mandatory vaccines. The degree of trust imposed in the health worker for the information delivered was equally encouraging. This is a favorable finding because respondents indicated that the source of information does influence their decision to send the child for immunization. The mothers of the respondents were also significant sources of information related to vaccines.

Whilst it is favorable that a large proportion of mothers in this study appear to obtain information on side effects of vaccines and concerns on negative rumors from the health worker, obtaining information from other sources such as the media or internet should be worrying since opponents of vaccinations may invariably publish biased or unreliable interpretations of proven scientific results.

An example of this is what Plotkins documents that although scientists and medical scholars had provided plentiful evidence to discount Edward Hooper's ideas that the virus that causes AIDS transitioned from monkeys to humans via a polio vaccine, media attention has sparked conspiracy theories and concerns globally. This

conspiracy theories and concerns have led people in certain parts of the world to reject the polio vaccine all thanks to the media attention that was given to the rogue publications of Edward Hooper. The finding that most respondents in the study received information from health workers is favorable and needs to be guarded jealously.

The prevalence of a positive attitude towards immunizations was realized in this group of mothers surveyed and the satisfaction with the service was high. Even with the low level of education of mothers, almost all of them displayed a positive attitude toward vaccination which reflected in the decision to bring the child for immunization even when they apparently did not understand the reasons for some of the activities at the child welfare clinic. This position that mothers have a positive attitude towards immunization is supported by Roos et al. [9], who stated that the prevalence of a positive attitude towards immunizations was excellent in the group of mothers they studied. Mabrouka [10] also found in his study that a favorable attitude toward the immunization programme was expressed in 161 mothers (80.5%). WHO [11] mentions a Uganda study that the positive attitude of mothers as follows: "there are very low levels of community knowledge and understanding of the "scientific" foundation of immunization, but despite this, over 90% of mothers and fathers "believe immunization is important... [there is] massive goodwill in the midst of lack of knowledge." A similar study in Rwanda also found that mothers and other family members had only a modest level of correct knowledge regarding diseases, the schedule, etc., but vaccination rates were very high. The authors concluded that "knowledge of vaccination on the part of parents is not an important factor in vaccination coverage".

In the Gambia, "29% of urban and 48% of rural mothers could not correctly name any biomedically vaccinable diseases," yet national coverage was 90%.

An overwhelming majority of mothers indicated that vaccine benefits are larger than their risk and cost will not deter them from getting a vaccine for their child if they felt the child needed it.

Mothers reported that they have never refused vaccines at the child welfare clinic and mothers also indicated that they did not agree with groups that refuse vaccines for various reasons. All these go to emphasize the positive attitude and practices of the studied mothers towards immunization [9,11].

All respondents that we surveyed were the mothers of the children brought to be immunized. This highlights the inadequate male involvement in child welfare clinic attendance in Ghana. This finding is consistent with the findings of Adu and Gyamfi [8] who conducted his study on the Child Welfare Clinic attendance among children 24-59 Months in the Assin North Municipality, Ghana.

The study also showed that most mothers (respondents) were lowly educated, majority of the respondents had education below Senior High School (SHS). This could affect respondents' understanding of issues concerning the Child Welfare Clinic and therefore negatively affecting attendance. This view of the low education of mothers affecting child welfare clinic activities is also shared by Adu and Gyamfi [8].

A surprising finding of this study is that out of the 100 mothers surveyed, no mother brought a child above the age of 31 months. It will have been expected that if the expected Ghana Health Service standard is that every child should complete the Child Welfare Clinic at aged 59 months, at least a child should have been presented between the ages of 31-59 months. But this was not the case. The import of this is that most of the children are denied the services which are provided at the Child

Welfare Clinic such as growth monitoring, counselling and vitamin A supplementation. This finding was also reported by Adu and Gyamfi [8]. Further research into the reasons why child welfare attendance drops in children after due vaccines have been received needs to be investigated.

Several reasons have been advanced as possible reasons why mothers often default at immunization schedules. Whilst studies, such as WHO, 2009 and MICS, 2008 seem to indicate the occupation and other business activities of caregivers as a major reason for the default rate of Child Welfare Clinic attendance, most respondents in this study did not indicate work or their occupation as a barrier. This may be due to the fact that the majority of respondents reported being self-employed or unemployed. Bosu et al. [7] do not mention the mother's occupation as a hindrance factor rather they indicate that the lack of suitable venues and furniture at outreach clinics, financial difficulties, long waiting times, transport difficulties, poorly motivated service providers as reasons for Child Welfare Clinic attendance default.

Ahmet et al. [12] indicate the major problem for the default rate at immunization services is that of the attitudes of the health care workers towards the mothers.

Angelillo et al. [13] rather indicate inconvenient vaccination centre hours, difficulty arranging the time, and long waiting lists as the major obstacles to immunization services attendance. Mwinituo [6], concludes that long waiting time, negative attitude of health care providers are the major problems causing a negative perception about child welfare services attendance.

The Mother's ill health and the forgetfulness of the mother were observed to be the main reason for missing an immunization session in this study, followed by the mother was busy and mother travelled. The child was sick and other social problems such as transport difficulties and financial problems were infrequently reported. These reasons were found to be similar to other studies cited in this work.

The attitude of health workers plays a role in the success of immunization services delivery. Most of the studies reviewed seem to indicate how important the role and attitude of the health worker is to the success of immunization services delivery. For instance, in a study conducted by Ahmet et al. [12] in Turkey, mothers state that the attitudes of the health care workers towards the mothers are very important for making use of the immunization services. In their study mothers stated that they were reproved severely in instances when they had wrong practices, wrong information, or when they had asked questions.

This was evident particularly when the mothers missed an immunization session. The negative and the judging attitude of the health care workers when the mother delayed the session made mothers uncomfortable. Therefore, the mother did not want to get the services when she had missed one session. Bosu et al. [7] indicate a problem of poorly motivated service providers and Mwinituo [6] mentions that of the negative attitude of the health worker. This is ample proof of the fact that most studies identify problems with the health worker. Though, it should be mentioned that Angelillo et al. [13] did not mention problems with the service providers.

Fortunately, in this study, variables to measure the attitude and performance of the health worker rather generated positive results. For instance, mothers indicated that the health worker answered all questions related to immunizations well, explained adverse reactions to mothers and periodically reminded them of the importance of child immunization.

This is a more positive outlook than reported by the above-cited studies. This finding is favorable for the progress of immunization services delivery.

Whilst Child Welfare clinics in Ghana may not have all the necessities required of modern clinics, it is important that these clinics be made user-friendly by making it accessible to all and also by reducing the waiting. Often problems such as long waiting times, inadequate furniture, lack of suitable venues, and inconvenient hours exist at points where immunization services are delivered. The existence of such problems at immunization service delivery points is supported by Bosu et al., Mwinituo and WHO [6,7,11]. In these study mothers identified with these problems and mentioned others including overcrowding and excessive noise. Whilst mothers identified the existence of these problems, they nevertheless indicated that they were comfortable coming to the centre for the immunization service delivery.

The limitation of the study was; there will be problem of the researchers' subjective interpretation of the populations' responses. Additionally, data collected at child welfare clinics may not be able to give full insight into the attitudes and practices of mothers towards immunization since the environment at these clinics were chaotic at times. Mothers were busy and usually in a hurry to leave the clinic to attend to other activities and as such answers that they gave may not be insightful. Also, the decision to use a close ended questioning approach to facilitate easy data collection and analysis may provide us with data that is shallow.

Conclusion and Recommendations

The study has established that mothers' knowledge of vaccines and vaccine-preventable diseases is low. This study has also established that though mothers' level of knowledge on immunization is poor they nevertheless have a positive attitude towards immunization.

Based on the conclusions of the study, it is recommended that:

- There should be an organized programme for the education of the public on vaccine-preventable diseases using appropriate channels of communication. Public health education messages should put more emphasis on the causes, risk factors, transmission/spread, preventative strategies, side effects and contraindications to immunization.
- The public health unit of the Ghana Health service should conduct periodic health systems research to identify hindrances to the effective delivery of routine immunization at household and community levels.

In order to maintain the current high vaccination coverage in Ghana, it is recommended that health care workers focus particularly on parents of a compromised education and, further, tailor and target their information to appropriate levels of each mother's understanding.

References

1. Ghana Health Service (2003) Field Guide for Immunization Programme.
2. Centres for Disease Control and Prevention (1999) Global Diseases Elimination and Eradication as Public Health strategies. *Morbidity and Mortality Weekly Report* 48: 1-216.
3. Ministry of Health (2010) Immunization Programme Comprehensive Multi-year plan (2012-2014). Ghana, pp: 1-60.
4. Ghana Statistical Service (2011) Ghana multiple indicator cluster survey with an enhanced malaria module and biomarker. Final Report.

5. WHO, UNICEF, World Bank (2009) *State of the World's Vaccines and Immunization*. 3rd edn., pp: 1-208.
6. Mwinituo P (1994) *Attitude and Perceptions of Mothers on Immunization and CWC Attendance at Achimota Hospital*. Accra, Ghana.
7. Bosu WK, Ahelegbe D, Edum-Fotwe E, Bainson KA, Turkson PK (1997) Factors influencing attendance to immunization sessions for children in a rural district of Ghana. *Acta Tropica* 68: 259-267.
8. Gyamfi AB, Adjei B (2013) *Child Welfare Clinic Attendance among Children 24-59 Months in Assin North Municipality, Ghana*. *International Journal for Innovation Education and Research* 1: 59-68.
9. Bernsen RM, Al-Zahmi FR, Al-Ali NA, Hamoudi RO, Ali NA, et al. (2011) Knowledge, attitude and practice towards immunizations among mothers in a traditional city in the United Arab Emirates. *Journal of Medical Sciences* 4: 114-121.
10. Bofarraj MA (2011) Knowledge, attitude and practices of mothers regarding immunization of infants and preschool children at Al-Beida City, Libya 2008. *Egyptian Journal of Pediatric Allergy and Immunology*, p: 9.
11. World Health Organization (2009) *Epidemiology of the Unimmunized Child: A grey Literature Review*.
12. Topuzoğlu A, Ay P, Hidiroglu S, Gurbuz Y (2006) The barriers against childhood immunizations: a qualitative research among socio-economically disadvantaged mothers. *The European Journal of Public Health* 17: 348-352.
13. Angelillo IF, Ricciardi G, Rossi P, Pantisano P, Langiano E, et al. (1999) Mothers and vaccination: knowledge, attitudes, and behavior in Italy. *Bulletin of the World Health Organization* 77: 224-229.