

Perceived Causes and Health Seeking Behaviours of Measles among Caregivers of Under-Five Children in Rural Communities in Anambra State, Nigeria

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Abstract

The study x-rayed the perceived causes and health seeking behaviour of caregivers of measles in under-five children in rural communities in Anambra State, Nigeria. A mixed design was adopted for the study. The study was carried out among the caregivers of children suffering of measles present in rural primary health care facilities in Anambra state. A sample of 240 caregivers was used for the study. Questionnaire and focus group discussion (FGD) guide served as instruments for data collection. Two hundred and forty caregivers were selected using multistage sampling technique. Twenty-five FGD participants were purposively selected. Descriptive statistics were used to summarize information on socio-demographic characteristics of respondents. The result of the study among others shows that only 82(34.2%) of the caregivers sought appropriate care. FGD reveals that misconceptions about childhood measles and traditional beliefs are prevalent in these areas. The study recommends the need to focus on interventions targeted towards addressing misconceptions about childhood measles since caregivers' perceived cause and health seeking behaviour about childhood measles is not adequate, thus ensuring improvement in health seeking behaviour of caregivers. Training of patent medicine vendors may complement government effort in ensuring provision of appropriate health services in rural areas.

Keywords: Measles, Perception, Causes, Health-Seeking Behaviour, Rural Communities.

Introduction

Measles is a highly contagious and infectious disease which has been known to have considerable impact on childhood morbidity and mortality worldwide. In developed countries, measles is uncommon and it is not very serious childhood illness (Victor, Sambo, Jimmy & Nzewi, 2013). The situation in developing countries is different though substantial progress has been made in reducing deaths among under-five children. The proportion of reduction is still insufficient to reach the Millennium Development Goal 4 (MDG 4) by 2015, particularly in sub-Saharan Africa and South Asia (You, Wardlaw, Salama & Jones, 2010). Millions of children die annually of preventable and treatable conditions (measles inclusive) largely in low- and middle income countries because they do not access biomedical treatment in timely manner (World Health Organization, 2007).

The incidence of this childhood measles among children under-five is comparatively high in sub-Saharan Africa, Nigeria inclusive (Strebel, Cochi, Grabowski, Bilous, Hersh, Okwo-bele, Hoekstra, Wright, & Katz, 2003). In Nigeria, childhood measles remains the fifth leading cause of death among under-five children (Okonkwo, Motayo, Ogundiji, Babalola, Adedeji, Ogun, & Nkang, 2009). Majority of these deaths could be averted with prompt and effective health care and interventions. The lack of timely and adequate medical care is a significant contributor to mortality and morbidity in resource poor settings (Abubakar, Van Baar, Fischer, Bomu, Gona, & Newton, 2013).

Home treatments and self medication for childhood measles is now a norm in Nigeria, especially in rural areas. Beliefs, traditional practices and misconceptions related to childhood measles tends to thwart the efforts of the government towards prevention and control of childhood measles (Olaogun, Adebayo, Ayandiran, & Olasode, 2006). Cost of care, waiting time at health facilities, ignorance, access to hospitals, attitude of workers and medicines out of stock were some reported perceived barriers to appropriate health seeking behaviours in Nigeria (Afolabi, Daropale, Irinoye, & Adegoke, 2013). The caregivers' perception of the cause of childhood measles usually determines the way the disease is initially managed at home as well as their health-seeking behaviour.

Health seeking behaviour refers to any action taken on by persons who perceived they have health problem or to be unwell for the intention of finding an appropriate treatment. Health seeking behaviour for a health problem is a problem focused, planned behaviour, involving interpersonal interaction with a selected health-care professional (Cornally & McCarthy, 2011). The WHO (2007) estimated that seeking prompt and appropriate care could reduce childhood death due to measles by 40 per cent. Thus, improving caregivers' health-seeking behaviour could contribute significantly to reduction in mortality. Appropriate health-seeking behaviour requires that a caregiver recognizes when a child is ill, can interpret when an illness needs to be treated outside home and seeks timely and appropriate care (Abubakar et al, 2013). Therefore, the ability of the caregivers to recognize symptoms

in their children is an important step in seeking prompt and effective care. Contextually, appropriate health-seeking behaviour refers to care sought from trained health care practitioners in a health care facility such as a Primary Health Centres, dispensaries and hospitals; while inappropriate health-seeking behaviour refers to care sought from drug vendors, traditional healers, religious and indigenous facilities and patent medicine stores. Inappropriate health-seeking behaviour may lead to childhood mortality.

Childhood mortality due to measles has been attributed to poor health service delivery associated with ignorance and cultural beliefs (Chibwana, Mathanga, Chinkhumba & Campbell, 2009), delay in seeking appropriate care and seeking any care (Abubakar et al, 2013). It is further related to the caregivers' ability to recognize symptoms, the perceived signs and symptoms, the importance attached to the signs and symptoms and understanding of the cause as well as expected outcome of childhood illness (Abubakar, Holding, Mwangome & Maitland, 2011). Several studies have shown that delay in seeking appropriate care usually contributes to large number of child deaths mostly affecting the rural areas (Tinuade, Iyabo, & Durotoye, 2010; Iyalomhe & Iyalomhe, 2012).

Rural settings have been shown to be highly marginalized in terms of geographical accessibility, financial and cultural composition thus posing a great threat to the health of children in these areas (Omotosho, 2010). In a study carried out in South east Nigeria, disparities exist between urban and rural areas in terms of practices and types of care sought for childhood illness, most of the rural caregivers rely on herbal remedies, self treatment with drugs bought over the counter from patent medicine vendors and usually visits the health facilities when the problem persists or becomes worse (Chukwuocha, Nwankwo, Amadi, Dozie & Ikegwuoha, 2009).

In Nigeria, the various sources of health care are available. These include orthodox medicine comprising of primary, secondary, and tertiary health care services; alternative medicine comprising of traditional facilities, indigenous and faith- oriented facilities; and patent medicine stores and drug vendors. However, the choice of this treatment sources by caregivers have been found to be influenced by cultural and traditional beliefs (Abubakar et al, 2013), knowledge of signs and symptoms of illness (Sterkenberg, Kashumba & Wolffers, 2007), type of home treatment, perceived severity of the illness (Uzochukwu, Onwujekwe, Onoka & Ughasoro, 2008) or socio-economic status (Mebratie, Van de Poel, Yilma, Abebaw, Alemu & Bedi, 2014).

The study area is Anambra state situated in South-east Nigeria. Anambra State occupies a land mass of 4,416 sq km with a projected population of 4,984,127 inhabitants (National Population Commission, 2006). There are 21 Local Government Areas distributed evenly within three senatorial districts with Awka as the State capital. Anambra State is predominately rural with over 40 per cent of the population residing in rural areas. Farming, fishery and trading are the predominant occupation in the State. There are 1,481 government health facilities located in different parts of the State including 1,059 primary health care facilities, 422 secondary health facilities and 4 tertiary health facilities together with 1,085 private health facilities. In the study location -Anambra State-, health care services are provided in all government facilities, yet many people still do not access these services. The contributions of the factors related to seeking prompt and appropriate care is yet to be fully understood.

The purpose of this study therefore was to ascertain caregivers' perceived causes of measles and forms of health seeking behaviours in rural communities of Anambra State. Specifically, the study investigated:

1. caregivers' perception about the cause of childhood measles in under-five children; and
2. health-seeking behaviour patterns of caregivers for childhood measles.

Research Questions

Two research questions guided the study.

1. What are the caregivers' perceptions about the cause of childhood measles in under-five children?
2. What are the health-seeking behaviours of caregivers for childhood measles in under-five children?

Methods

Mixed design utilizing both quantitative and qualitative methods was used. Mixed methods design is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks (Creswell, 2013). The study population comprised of all caregivers of under-fives accompanying children with measles to the health facilities. Caregivers of children under-five years who have been residing in the study location for at least one year and brought an affected child to health facility participated in the study except caregivers who had children with measles showing signs and symptoms necessitating immediate treatment or referral and caregivers who were temporary visitors in the area.

The sample for the study consisted of 240 caregivers. Multistage sampling technique was used. At the first stage, two senatorial zones were purposively sampled out of the three senatorial zones representing 67 per cent. In Stage two, four LGAs out of the seven in each of the selected senatorial zones representing 57.1 per cent were selected using simple random sampling. At the third stage, the list of all wards in the selected LGAs was

obtained and stratified into urban and rural wards. Three rural wards were then selected randomly from each of the selected wards thus giving a total of 24 wards. A primary health care facility was sampled in each of the 24 sampled wards using simple random sampling without replacement. Ten questionnaires were equally allocated to the selected health facilities and all consenting caregivers who met the inclusion criteria were allowed to participate in the study. This yielded perfect return rate (100%).

Questionnaire and FGD guide were used for data collection. The questionnaire covered the socio-demographic characteristics of caregivers. The questionnaires were administered by the researchers. The qualitative aspect comprised of Focus Group Discussions (FGD), in which caregivers of under-five children were the target. A total of 3 FGDs were conducted. Two groups consisted of 8 caregivers while the third group consisted of 9 caregivers giving a total of 25 caregivers. FGD participants were purposively selected. A focus group guide was used to obtain information on perception of causes, health-seeking behaviours of caregivers with regards to childhood measles and the conditions that preempted appropriate health seeking behaviours. Each FGD session lasted for 45 – 60 minutes. The sessions were audio taped and subsequently transcribed verbatim. Table 2 presents the focus discussion guide used. The questions presented were core to the discussions; however, probes were introduced to clarify and enhance the quality of the discussions. Moreover, although the main focus of the study was measles disease, sometimes adults did share their own experiences of health-seeking, and the researchers included the information in cases where it helped to clarify the points raised.

Questionnaires were entered and analyzed using Statistical Package for Social Sciences. The results of the respondents' characteristics were presented with descriptive statistics. FGD were coded and transcribed verbatim, and then thematically analyzed using NVIVO. The final transcripts used for analysis were based on the audio-taped materials. Data was analyzed thematically with the assistance of NVIVO 9 software programme according to the framework analysis (Silverman, 2010). The transcripts of the FGD were reviewed and read (familiarization), during which a coding scheme was developed. The transcripts were coded by creating 'nodes' in the NVIVO programme), with each node examined separately. The first author (SI) developed coding schemes and identified themes. The themes identified were then evaluated and checked by one of the authors (UD), who also independently coded five randomly selected transcripts. Themes identified by UD were compared with those identified by SI, with an emphasis on consistency and redundancy. Any disagreements in coding were clarified by consensus. Direct quotes arising from the discussion are presented to support identified themes. Three of the authors - SI, UD and ES - checked for the accuracy of the translations and interpretation of the quotes presented.

Results

Table 1

Socio-demographic characteristics of caregivers and U-5 children with measles (n=240)

Socio-demographic characteristics of caregivers and under-five children	f	%
Caregivers age (years)		
<20	4	1.7
20-29	168	70.0
30-39	42	17.5
≥40	26	10.8
Mean (±SD) 28.2 (±7.7)		
Marital Status		
Single	14	5.8
Married	221	92.1
Widowed	5	2.1
Level of Education		
Non formal	43	17.9
Primary	100	41.7
Secondary	83	34.6
Tertiary	14	5.8
Occupation		
Skilled labour	63	26.3
Unskilled labour	96	40.0
Housewife/unemployed	77	32.0
Others	4	1.7
Religion		
Christian	198	82.5
Moslem	42	17.5

Average Monthly Income		
< #10,000	159	66.3
≥ #10,000	81	33.7
Children Age (Months)		
≤ 12	130	54.2
13-14	75	31.2
25-36	24	10.0
> 36	11	4.6
Mean (±SD) 16.7 (±11.3)		
Child gender		
Male	143	59.6
Female	97	40.4
Birth Position		
1 st	75	31.2
2 nd	88	36.7
3 rd	77	32.1
Number of Children in the Family		
< 3	145	60.4
≥ 3	95	39.6

Table 1 shows the socio-demographic characteristics of the caregivers and children. Seventy per cent of the caregivers were between ages 20-29 years, Mean (±SD) age was 28.2 (±7.7) years. Majority (92.1%) of the caregivers were married, 57.5 per cent were Christians, and 40.4 per cent had secondary school education or higher. The table also shows the age and sex distribution of the children where majority (54.2%) were aged ≤ 12 months with Mean (±SD) age of children as 16.7 (±11.3); with 59.6 per cent males.

Table 2: **Focus Group Discussion Guide**

S/n	Questions
1	What do you think is the cause of measles?
2	What action do you seek first when you notice the disease?
3	What other actions or persons do you seek help from?
4	Under what conditions do you decide to go to the traditional and religious healers?

Table 2 presents an overview of lead questions asked. The results are presented in three broad themes: perceived causes of measles, health seeking behaviours (first action sought, and other treatments sought), and conditions that preempt seeking biomedical care. Quotes and conversational trends are presented to support the identified themes. In these quotes, local terms related to measles and health seeking treatments are presented, while no direct translation of these terms are presented in the text (in an effort to avoid changing the respondents' meaning).

Causes of measles

Under this theme, participants in our study indicated that heat is the primary cause of measles. Based on the coded responses in the node, the researchers observed that higher proportion of the caregivers perceived heat as the cause of measles in children.

“Measles occurs during hot seasons. It is obvious that too much heat causes it.” (Participant, 8)

“It manifests like prickly heat which is caused by heat. More so, it makes the baby very uncomfortable just like heat related problem.” (Participant, 19)

“I think that measles is caused by many things. It could be as a result of dirt on the body (lack of personal hygiene), germs, and probably not heat.” (Participant, 7)

Despite the perception of heat as the cause of measles, some participants perceived germs, dirt and punishment for first life as the cause of measles among under fives. None of the participants mentioned that it is an infectious

diseases caused by virus. The researchers probed further to ascertain the health seeking behaviours they take to manage or avert measles.

Health seeking behaviours

This theme had two sub themes:

First action (help) sought

The participants under this sub theme noted many health seeking behaviours sought at the recognition of measles by the caregivers. Some reported the case first to local patent medicine dealers.

“We have a good doctor (patent medicine dealer nicknamed Doctor) that sells drugs in my community that mixes drugs for us when we encounter measles and other health problems” (Participant, 2)

“I go to nearby chemist shop for solution. He usually recommends calamine lotion and paracetamol to help calm the rash and fever respectively” (Participant, 24)

Some other participants engage in some other health seeking behaviours like cooking sand with water and bathing with the water, rubbing local ‘nzu’, dusting powder and rubbing some herbs.

“I cook sand with water and use the water to bath the child. This method tends to reduce the fever and calm the itching caused by the rashes. (Participant, 17)

“I apply Moju powder mixed with nzu on the rashes to reduce the itching. Sometimes i use dusting powder. These applications bring about a cooling sensation on the child which tends to reduce the discomfort and restlessness of under-five children with measles.” (Participant, 25)

Some other participants seek appropriate care (going to see a doctor first). Few others sought homeopathic remedies. The following extracts exemplify the above mentioned health seeking behaviours.

“At the initial stage when the fever starts, I use paracetamol but at the manifestation of the rashes, I seek the counsel of a doctor at a nearby clinic.” (Participant, 11)

“At the onset, I go to a traditional healer who uses herbs and herbal mixtures to calm the situation.” (Participant, 5)

All the responses of the participants that were coded in this theme show that the participants sought their first help most inappropriately. The researchers observed that the majority of caregivers used natural home remedies and consulted patent dealers to seek for treatment compared to those who went first to clinics or primary health centres. No one reported going to religious healers/faith clinics as first resort.

Other actions sought after the first help

Home treatments and help from patent medicine dealers were the first preferences for those seeking treatment for their children with measles. However, in cases where the child’s health does not seem to improve, more than half of the caregivers the researchers discussed with sought for alternatives, such as visiting the hospital/clinics or a traditional healer.

“When the child’s health fails to improve after I had sought the help of a patent medicine dealer in my community; I run to the hospital.” (Participant, 2)

Some others noted that when treatment seems not to work, they go for traditional healers (homeopathic healers).

“If I have done my part by using all the methods I learnt from my grandmother and mother, I go to seek help from herbalists, we have good ones here. ..., and I feel comfortable with their care the most.” (Participant, 17)

Few respondents sought help from patent medicine dealers as their alternative care when the first health seeking fails to give expected results.

“After using some local powders and soaps, I visit the chemist (patent medicine dealer) for drugs and advice. I only use hospitals when I perceive the infection or disease condition as very deadly.” (Participant, 25)

From the discussions, the researchers gathered that alternative help were usually sought for few days (2-4 days) after the manifestation of the rashes.

Conditions that preempt appropriate health seeking behaviour

When it was understood that majority of the caregivers were more confident with traditional healing (including use of herbs, prayers, sand water, other rituals and rites), probes were directed to ascertain factors that preempt the appropriate health seeking behaviour. One caregiver mentioned that:

"I do not go to clinic/hospitals whenever a serious case (like my baby's health) is involved because one may wait all day in hospital queue without getting to see the doctors." (Participant, 13)

Some caregivers explained the different reasons for choosing unconventional care:

"Patent medicine dealers, herbalists and religious healers are people we all know. They live with us, feel our pains and joys. They are readily available and give prompt response to our health challenges when we seek help; unlike the doctors that we rarely see or communicate with. They come from towns (urban areas) and pride themselves in their white coats. They claim ownership of government owned properties with their attitude. Most of them according to people that visited them have no human sympathy. Also, their charges are usually very high." (Participant, 9)

"I do not use hospitals because of waiting time and consultation fee. You may end up spending more on consultation when compared to the actual treatment (buying drugs)." (Participant, 22)

"My problem with hospitals is that you can never be too sure of meeting the doctor when you go. Proximity is also a problem to some people." (Participant, 15)

From the discussion, the researchers noted that most caregivers sought health care from inappropriate sources because they model their parents who believed in the traditional methods.

"I go to traditional healers only because my parents used to take us to them whenever we felt sick. To me, I believe in their treatments." (Participant, 4)

Discussion

This study was carried out to ascertain caregivers' perceived cause of childhood measles with the intention to determine their health seeking behaviour and its associated factors. The perception of caregivers about childhood measles in this study location reveals that misconceptions about childhood measles still exist. Majority of the caregivers perceived childhood measles to be caused by too much heat, while some others maintained that measles is caused by dirt and germs. This finding is shocking and unexpected. None of the respondents were of the opinion that virus is responsible for childhood measles, and can be prevented by immunization. WHO's (2001) statement that all children of 9 months should be immunized with measles vaccine to avoid measles was not favoured.

Although health services are provided in all health facilities, majority of mothers still sought care from patent medicine stores while few sought cares from traditional healers. This finding was not surprising because patent medicine business in recent times has become a trending business in rural locations in South East Nigeria. This finding corroborates with the findings of Oreagba, Onajole, Olayemi and Mabadeje (2004) that mothers in rural areas readily patronize patent medicine stores and traditional healers than mothers in urban areas. Plausible explanations include the geographical proximity to these informal sources coupled with the fact that the majority of these patent medicine stores and traditional healers may accept alternative means of payment for drugs such as trade by barter or even get treatment on credit. Another major reason for their preferences may be as a result of dissatisfaction with public health services which may occur due to lack of drugs, poor health workers attitudes among others (Chukwuocha, Nwankwo, Amadi & Dozie, 2009). Implication of this finding shows how expedient it is to checkmate the services rendered by health professionals.

The findings on conditions that preempted seeking appropriate health care revealed that caregivers resorted to traditional methods as a result of perceived cause of measles, attitude of hospital staff, cost, and familial relationships they have with the alternative sources. This finding was expected. This finding is in agreement with Olaogun et al (2006) who stated that beliefs, traditional practices and misconceptions related to childhood measles is prevalent in Nigeria especially in rural areas. These misconceptions may likely affect their initial decision to seek medical care and may result to development complications and death in children. In addition, this study established that mothers who perceived childhood measles as severe were much more likely to seek appropriate health care. This finding is in agreement with Abdulraheem and Parakoyi (2009).

Conclusion

Misconceptions about the causes of childhood measles still exist among mothers in the rural areas; and they have implication on the initial type of care sought. Though majority of mothers sought care, majority of them sought health care mostly from inappropriate sources with high patronage of patent medicine stores and traditional healers. Perceived cause and severity of measles, attitude of hospital staff to patients seeking care, ignorance of free schemes, and familial relationships they have with the alternative sources inhibited good health seeking behaviours among the caregivers.

Recommendations

1. There is the need for health education and promotion of appropriate health-seeking behaviour services among mothers. Ministries of Education and Health should collaborate to bring health information to the grass root (those in the rural areas) on etiology and treatment of measles and other childhood killer diseases.
2. Measles and other childhood diseases that are not in the primary and secondary school curricula should be integrated into the curricula. Trainings and re-training should be conducted for should be properly taught in the primary and secondary schools; so as to equip everybody with the ideal knowledge on the etiology and treatment seeking.
3. Training and retraining of patent medicine vendors may complement government effort in ensuring provision of appropriate health services in rural areas.

References

- Abdulraheem. S., & Parakoyi, B. (2009). Factors affecting mothers' health care-seeking behaviour for childhood illnesses in a rural Nigerian setting. *Early Child Development Care*, 179, (5), 671-683.
- Abubakar, A., Holding, P., Mwangome, M., & Maitland, K. (2011). Maternal perceptions of factors contributing to severe under-nutrition among children in a rural African setting. *Rural Remote Health*, 11, 1423.
- Abubakar, A., Van Baar, A., Fischer, R., Bomu, G., Gona, J. K., & Newton, C. R. (2013). Socio-cultural determinants of health-seeking behaviour on the Kenyan Coast: a qualitative study. *PLoS ONE*, 8, (11), e71998. doi:10.1371/journal.pone.0071998
- Afolabi, M. O., Daropale, V. O., Irinoye, A. I. & Adegoke, A. A. (2013). Health-seeking behaviour and student perception of health care services in a university community in Nigeria. *Health Science Resources*, 5, (5), 817-824 .doi.org/10.4236/health.2013.55108
- Chibwana, A. I., Mathanga, D. P., Chinkhumba, J., & Campbell, C. H. (2009). Socio-cultural predictors of health-seeking behaviour for febrile under-five children in Mwanza-Neno district, Malawi. *Malaria Journal*, 8, 219. doi: 10.1186/1475-2875-8-219
- Chukwuocha, O., Nwankwo, O., Amadi, N., Dozie, N., & Ikegwuoha, E. (2009). Treatment seeking behaviour of mothers' for febrile children in same rural parts of Imo State Nigeria: Implications for home management of malaria in endemic areas. *International Journal of Tropical Medicine*, 4, 132-135.
- Creswell, J. W. (2013). *Research design; qualitative, quantitative, and mixed methods approaches (4th Edition)*. Los Angeles: Sage Publications
- Mebratie, A. D., Van de Poel, E., Yilma, Z., Abebaw, D., Alemu G., & Bedi, A. S. (2014). Healthcare-seeking behaviour in rural Ethiopia: evidence from clinical vignettes *British Medical Journal Open*, 4, (2). doi:10.1136/bmjopen-2013-004020
- National Population Census. (2006). Federal Republic of Nigeria, Official Gazette of the National Population and Housing Census: The Federal Government Printer, Awka, Nigeria. Igbo focus 2013.
- National Population Commission & ICF Macro. (2009). *Nigeria Demographic and Health Survey, 2008*. Abuja, Nigeria: National Population Commission and ICF Macro.
- Okonkwo, O., Motayo, B., Ogundiji, T., Babalola, T., Adedeji, O., Ogun, A. & Nkang, O. (2009). Global eradication of measles: A highly contagious and vaccine preventable Disease: What went wrong in Africa? *Journal of Cellular Animal Biology*, 3, (8), 119-140.
- Olaogun, A., Ayandiran, O. & Olasode, O. (2006). Effects of mothers' socioeconomic status on the management of febrile conditions in their under-five children in a resource limited setting. *BMC International Health and Human Rights*, 6, (1). doi:10.1186/1472-698x-6-1.
- Silverman D (2010) *Doing qualitative research: A practical guide*. Thousand Oaks, CA: Sage
- Stekelenburg J, Kashumba E, Wolffers I (2007). Factors contributing to high mortality due to pneumonia in Kalabo District, Zambia. *Tropical Medicine of International Health*, 7, 886-893.
- Strebel, P., Cochi, S., Grabowski, M., Bilous, J., Hersh, B. S., Okwo-bele, J. M., Hoekstra, E., Wright, P. & Katz S. (2003). The Unfinished Immunization Agenda. *Journal of infectious Disease*, 187, 1-7.

- Taffa, N. & Chepngeno, G. (2005). Determinants of health care-seeking for childhood illnesses in Nairobi slums. *Tropical Medicine and International Health*, 1, 240-245.
- Tinuade, O., Iyabo, R. A., & Durotoye, O. (2010). Health-care-seeking behaviour for childhood illnesses in a resource-poor setting. *Journal of Paediatrics and Child Health*, 46, 238–242. doi: 10.1111/j.1440-1754.2009.01677.x
- Uzochukwu, B., Onwujekwe, E., Onoka, C. & Ughasoro, M. (2008). Rural-urban differences in maternal responses to childhood fevers in South East Nigeria. *PLoS ONE*, 3, (3), e1788.
- Victor, O., Sambo, B., Jimmy, J. & Nzewi, N. (2013). Mothers' perceived cause and health-seeking behaviour of childhood measles in Bayelsa, Nigeria. *Journal of Research in Nursing and Midwifery*, 2, (1), 6-12.
- World Health Organization. (2007). Measles. *WHO Fact sheet N 286*. Retrieved on 7/7/14 from www.who.int/publications-measles
- World Health Organization. (2007). *Millennium development goals report: 2007*. United Nations Department of Economical and Social Affairs: United Nations.
- You, D., Wardlaw, T., Salama, P., Jones, G. (2010). Levels and trends in under-5 mortality, 1990-2008. *Lancet*, 375, 101-102.