



ANTENATAL CARE COUNSELLING AND HYGIENE COUNSELLING METHOD AMONG MOTHERS IN CROSS RIVER STATE, NIGERIA

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Cite this article:

Olufowoke M. Oyeyipo (2023), Antenatal Care Counselling and Hygiene Counselling Method Among Mothers in Cross River State, Nigeria. British Journal of Contemporary Education 2(1), 88-99. DOI: 10.52589/BJCE-2FZORYRV

Manuscript History

Received: 18 June 2022

Accepted: 28 Aug 2022

Published: 11 Sept 2022

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ABSTRACT: *This article provides information on antenatal counselling and hygiene counselling methods among mothers in Cross River State, Nigeria. Two research questions were drawn and two null hypotheses on the variables to direct the variables under investigation. The population was 3,006 women of reproductive age. Relevant literature was reviewed in line with the research objective. The literature employed supports the theoretical framework. Ex post facto design was implemented in the study. The selection was done through the sampling and purposive sampling technique. The reliability estimate of the instrument was established through the Cronbach Alpha reliability method. One way analysis of variance (ANOVA) was the statistical analysis technique adopted to test the hypotheses under study. All hypotheses under study were subjected to testing at .05 level of significance. From the data analysis, the researcher's findings was in consonance with that of Goodburn and Campbell (2001) that antenatal counselling and hygiene are organised services provided to cater for the health needs of prenatal and postnatal women, newly delivered mothers, during labour, delivery, puerperal periods so as to reduce morbidity and mortality. On hygiene counselling, the researcher admitted that hygiene is the practice of keeping oneself and one's living and working environment clean in order to prevent illness and diseases (Centre for Diseases Control, 2009).*

KEYWORDS: Antenatal, Hygiene, Counselling, Variables, Mortality, Fatality, Sampling technique.



INTRODUCTION

Around the world, people celebrate the birth of a new baby. Mothers are celebrated at the successful delivery of their babies and honoured for their role as mothers. Yet in most parts of the world, pregnancy and childbirth remain a precarious journey (White Ribbon Alliance, 2000). In developing countries, more than half a million women die each year from causes related to these life threatening events, such as morbidity, mortality, obstetric fistula, and other allied diseases such as high blood pressure and gestational diabetes (World Health Organisation, 2004). Shiffman (2000) stated that ninety-nine percent of these deaths occur in less developed regions, and most are due to inadequate medical care at the time of prenatal care and childbirth. Shiffman (2000) further opined that women's lives can be saved and their suffering reduced if health systems could address these preventable life threatening conditions.

Goodburn and Campbell (2001) revealed that antenatal counselling are organised services provided to cater for the health needs of women during pregnancy, labour, delivery and puerperal periods so as to reduce morbidity and mortality. In Nigeria, the use of antenatal counselling, during pregnancy and delivery by pregnant women, is still very low and maternal morbidity and mortality remains a public health challenge (Khalid, 2006). Antenatal Care (ANC) is the care a pregnant woman receives during her pregnancy through a series of consultations with trained health care workers such as midwives, nurses and sometimes a doctor who is a gynaecologist. (National HIV/AIDS and Reproductive Health Survey, 2013; Lincetto, Mothebesoane-anons, Gomez & Minyanja, 2010; Bustre et al., 2013). The poor outcome in Nigeria could be the result of poor ANC utilisation (Barigagi, Findley & Helleningers, 2011; Ajayi & Osakine, 2013).

Fagbamigbe and Idemudia (2015) carried out a study in the north-eastern part of Nigeria. Records of 2,199 respondents who did not use ANC among the 6,229 women of childbearing age who had at least one child within five years preceding the National HIV/AIDS and Reproductive Health Survey in 2012 were used for the analysis. The barriers reported for not visiting any ANC provider were assessed vis-à-vis respondents' social demographic characteristics. Using multiple response data analysis techniques and Pearson chi square test at 5% significance level, rural dwellers constituted the majority of the mothers who did not use ANC during the five years preceding the survey. North-east was the geographical zone with the highest number of non-users compared with the few non-users from the south-east. Some respondents with higher education and also in the wealthiest quintiles did not use antenatal care. The reason given for non-usage of ANC varied significantly with respondents' wealth status, educational attainment, residence geographical location, age, and marital status. Over half of the non-users reported having problems getting money, while 44.1% claimed they did not attend ANC due to unavailability of transport services. The three leading problems: "getting money to go"; "fairness of ANC service providers"; and the "unavailability of transport" constituted 44.3% of all barriers. The study revealed that the elimination of these three problems could increase ANC coverage in Nigeria by 15%.

However, Dada (2008) in a cross sectional descriptive study in Atwina, Ashanti, Ghana studied a population consisting of 28,255 women. This represented the total number of women in the reproductive age group at the time of the study. A total sample size of 222 women was selected through the simple random sampling technique. The instrument was both a close and open ended questionnaire. The average age of the respondents was 28.0 years and a deviation of 6.51. The minimum age among the respondents was 15 and the maximum 47 years. Over fifty



percent (52.2%) of the respondents were between the ages of 20-29 years. Their occupations were farming, trading, and artisanry.

Also, a study carried out by Ojong et al. (2015) at the University of Calabar Teaching Hospital, Cross River state on 174 pregnant women who attended antenatal care clinics revealed that the majority of the respondents had good perceptions toward antenatal care. The instrument for data collection was a three-section questionnaire. The instrument which had a correlation coefficient of 0.79 questionnaire was administered through face-to-face interaction and on-site collection of completed questionnaires. The data were analysed using frequencies and percentages, while chi-square test analysis was used to test the hypotheses. In testing the hypothesis using chi-square analysis, it showed a statistical association between perception and attitude towards focused antenatal care. Based on the above, intensive awareness creation on focused antenatal care for pregnant women was recommended. Retraining of health workers and the supervision of health workers to improve on the hindrances identified as barriers were also recommended.

Ikechuku (2010) in a descriptive, cross sectional study of 204 eligible and consenting women who participated in this study. These women were of child bearing age (reproductive age group therefore 15-49 years) who attended antenatal, maternal and child health clinics at the General Hospital Onitsha.

Semi-structured interviews were administered using pre-tested questionnaires. Data were collected on the respondent's biodata, antenatal care attendance and content of antenatal care at the last continent and factors influencing antenatal care utilisation. The research assistants were trained on vernacular translation and questionnaire administration. The questionnaire was pre-tested in a private health facility in Idemili North Local Government Area to ascertain the reliability and validity of the instrument and a time duration for completing questionnaires was given. Data collected were analysed using a statistical package for social science (SPSS) and presented using tables and charts. Relevant means were calculated and tests of association carried out using t-test and chi-square (X²). Statistical significance was established at $P < 0.05$. A total of 204 respondents were interviewed and the findings are as presented below. The age range of respondents was 15-44 years and mean age was 28.3 ± 4.7 years. Most of the respondents were married (97/1%) about 93% and 88% of them were Christians and Igbo respectively.

WHO (2008) averred that antenatal counselling promotes the health of the mother and newborn during and after delivery. Lawn (2006) maintains that in several developing countries, information is lacking on the intrinsic quality of communication limiting one's ability to assess intervention effects. However, several studies, as posited by Harting (2004), have examined the quality of antenatal counselling suggesting that adequacy of information provided is low (Teifer, 2002; Rowley, 2002; Walreven, 2002). Available data suggested that mothers often perceive counselling to be poor. Beck (2002) further stated that low maternal knowledge following counselling has been attributed to insufficient communication (Rea, 2007; Delva, 2006).

Hygiene Counselling

Hygiene is the practice of keeping oneself and one's living and working environments clean in order to prevent illness and disease (CDC, 2009). Centre for Diseases Control (2009) defined



handwashing as the act of cleaning the hands with water or another liquid with or without soap or other detergent, for sanitary purposes. Therefore, the fundamental principle of handwashing is removal and not killing (CDC, 2009). Goodburn (2001) opined that the prevention of infection is by ensuring that the women give birth in a clean environment by maintaining the highest possible standards of hygiene and infection control, and using clean or sterile equipment, including gloves.

Fetuga (2007) and Bang (2001) stated that infection accounts for up to 40% of neonatal deaths in Nigeria and India. Hence, the World Health Organisation emphasises on the “five cleans” during the delivery. The “five cleans” are a clean place, a clean surface, clean hands, clean cord and dressing and a clean tie. Curtis (2005) and Fewtrell (2005) stated that the hygiene practices have proven to reduce diarrhoea rates by 30 – 40 percent. Furthermore, they posited that the level of reduction is achieved through a comprehensive approach by promoting improvements in key hygiene practices; such as hand washing, treatment and safe storage of drinking water, safe disposal of faeces and food hygiene. The practice of hand washing is about as old as man; it is a very important practice held by the Jews in high esteem who ensured that hand washing preceded eating. Good handwashing involves the brief rubbing together of all surfaces of the lathered hand, followed by rinsing under a stream of water (CDC, 2009).

People are particularly guided by their culture in Nigeria and other African countries. The African culture assigns mothers the dual role of being the children’s nurse (who handles their faeces, blows their nostrils, bathes and feeds among other things as well as the household) and chef (who prepares the family meals and feeds the children). This coupled with poor knowledge and practice of simple hygiene increases the risk of spreading disease to the underage children who by reason of their poorly developed immune system are particularly vulnerable to these diseases (CDC, 2009). Some critical times at which hand-washing must be employed include: after using the toilet; changing diapers; attending to a sick person; handling raw meat, fish or poultry; after handling garbage treating a wound or cut; contact with domestic animals; before food preparation; and before eating (Centre for Disease Control, 2009). Equally, Black, Morris and Bryce (2003) stated that a great number of diseases can be transmitted from lack of or ineffective hand washing, particularly faeco-orally transmitted diseases, ranging from self-limiting infections like diarrhoea. Hygiene measures, including hand washing with soap before meals and after use of restrooms, have been found to prevent Hepatitis A viral infection (WHO, 2012). Water and sanitation projects are strongly linked, introducing multiple health effects. The improvements in the quantity and quality of water were singularly able to reduce the morbidity due to diarrheal diseases by just 17%; combinations of water and sanitation projects were further able to reduce the morbidity rate by as much as 30%.

The World Health Organization (2012) estimated that 5.5% of the global disease burden is due to inadequate water and sanitation, while the duo is believed to be responsible for 88% of the 4 billion diarrheal cases, and the resultant 1.8 million deaths that occur in the world annually. Furthermore, WHO (2005) stated that 94% of the diarrheal cases are preventable through increased availability of clean water and improved sanitation and hygiene. UN (2008) stated that the importance of safe water and improved sanitation is further reflected in their inclusion as one of the Millennium Development Goals, a framework that was widely accepted for the worldwide improvement of health and welfare. National Population Committee/Owners Risk of Chafing (2003) stated that there has been a lot of investments on improving water supply; however, efforts in improving access to sanitation facilities in Nigeria have been restricted to the building of a few public toilets. According to the survey by the National Demography and



Health in 2003, 29.8% of rural households in Nigeria had access to potable water compared to 6.7% with flush toilets. This lack of emphasis is said to be responsible for 5-20% of all deaths in Nigeria (Water Aid Nigeria, 2004).

In another study, Curtis and Caincross (2003) observed that improving access to safe water, sanitation technologies, products and facilities or an enabling environment improves hygiene. In a community based descriptive cross sectional study carried out by Asekun-Olarinmoye, Olubukola and Wasiu (2014) in Igbonna, located in Olorunda local Government area of Osun State, Nigeria, the sample size was determined by using Leshie Fisher's formula which yielded approximately 270 respondents. Assuming a 10% non-response rate, 300 respondents were recruited for the study. Multi-stage sampling technique which involved four stages was utilised in recruiting respondents as follows:

Stage 1: Two-thirds of all streets in Igbonna were selected (i.e. 10 out of 15 existing streets) by simple random sampling (balloting).

Stage 2: Systematic sampling method was used to select houses in each street. This was based on the total number of houses in each street.

Stage 3: All eligible households in each house were selected.

Stage 4: All consenting mothers of under-five in each eligible household were recruited into the study.

A pre-tested semi-structured questionnaire comprising questions on respondents' socio-demographic characteristics, knowledge, attitude and practice of hand washing was utilised for data collection, using the interviewer administered questionnaires. Three hundred mothers of under five children, most of which belonged to the age group of 21-30years (71.7%) participated in the study. Nearly one-half (48.3%) of them were traders, while about a third (30.0%) were artisans. More than one-half (56.7%) of them had secondary education as their highest educational qualification. A few respondents (2.0%) had no formal education while about one-fifth (18.6%) of them had post secondary education. Majority of the respondents (98.3%) were married and there were nearly as many Muslims as Christians (48.7% and 51.3% respectively). The respondents mostly had 1 or 2 under five children each (97%).

Uneke et al. (2013) carried out a cross sectional intervention study. The study was divided into two phases: the intervention phase and evaluation phase. A total of 202 health workers (39 doctors and 103 nurses) were selected, and the WHO direct observation method was used. In the study, the overall hand hygiene compliance rate was 65.3%. This outcome was comparatively higher than the compliance rates reported by a number of recent similar studies from various developing countries including Saudi Arabia (50.3%), Brazil (46.7%), Kuwait (33.4%) and Indonesia (20%). In the present study, the post-intervention hand hygiene compliance rate was related to professional category and findings indicated that hand hygiene compliance rate was significantly higher among the nurses (72.9%) and the midwives (65%) compared to the doctors (59.7%) ($X^2=23.48$, $P<0.05$). Evidence emerging from the same recent studies in Saudi Arabia, United Kingdom and Italy showed that hand hygiene compliance rate is consistently higher among the nurses than the doctors.

Evidence by Clasen (2006) stated that counselling on the treatment and safe storage of water has reduced diarrhoea. Clasen (2007), in a systematic study using randomised and quasi-



randomised trials of interventions to improve the microbial quality of drinking water for the prevention of diarrhoea in adults and in children in settings with endemic disease. Data analysis with 33 reports from 21 countries documenting 42 comparisons were included. Variation in design, setting, and type at point of intervention and variation in the defining assessing, calculating and reporting outcomes limited the comparability of the study results and pooling of results by meta analysis.

Effectiveness was not conditioned in the presence of improved water supplies or sanitation in the study setting and was not enhanced by combining the intervention with instructions on basic hygiene, a water storage vessel, or improved sanitation or water supplies. Other common environmental interventions intended to improve water quality are generally effective for preventing diarrhoea in all ages and in under fives.

The intervention to improve drinking water quality was undertaken at the level of either the water source or the household. Water source interventions included protected bore holes, wells, distribution to public tap stands. Household interventions comprised improved water storage, approaches to treating water in the home (chlorination), water purifying products, filtration interventions. Improvement in water quality were often accompanied by other environmental interventions intended to prevent faecal-oral transmission, including improved sanitation and water supplies, improved water storage in the home, instruction on basic hygiene regarding contaminated water and diarrheal disease.

Ordimoha and Owhondah (2008) carried out in a descriptive cross-sectional study in Ogboru, Ndomi local government area of Rivers State, 194 was the sample size but made up to 220 to take care of non-responses. The 220 copies of the questionnaire were administered and retrieved. Most of the respondent were engaged in agriculture (31.30%) had secondary school education, (46.82%) and had spouses with mostly secondary school education (53.18%) who were mostly engaged in agriculture (25%) or self employed (28.84%). Only 149 (67.73%) of the households had access to a sanitation facility. The instrument was administered using a structured interviewer-administered questionnaire, field observations and focus group discussion. The reason given by the respondents for not having a sanitation facility include lack of space 61 (85.92%) and cost 9(21.68%). Most of the facilities were flush toilets 91(61.07%) and they formed 87.95% of the 83 facilities found to be in good hygienic condition of the respondents with sanitation facility, 43 (28.86%) would not allow young children to use the facility for the fear that they might fall into the latrine pit. Children were mostly allowed to defecate wherever is convenient for them, and only 47(21.36%) of the respondent routinely disposed the stool of their children into the sanitation facility.

About 88 (40%) of the respondents were found to have found human faeces in their compound, and only 48(21.82%) were found to have the appropriate handwashing behaviour. 31(14.09%) of the households reported at least an episode of diarrhoea in a children less than 36 month. The access to sanitation facilities in the study community was comparable to those of urban communities in Nigeria. However, hand washing behaviour remains poor such that the prevalence of diarrhoea is still high in the commonly.

The study was designed to detect a 5% difference in access to sanitation facility with an alpha error of 5%, acceptable beta error of 20%, and a power of 80%, and using the national average of household access to sanitation facility of 74.3%. Using the usual formula for sample size

determination descriptive studies, the minimum required sample size was determined to be 194, but made up to 220 to take care of non-responses.

A broad range of research by World Health Organisation (2012) and United Nations Children Emergency Fund (2010) added that safe disposal of faeces reduces the risk of diarrhoea by 30 percent or more. The World Health Organisation (2015) published a document called five keys to safer foods that describes actions that families should take in the kitchen to maintain food safety. These actions include not mixing raw meat with cooked food, cooking food thoroughly, keeping food at safe temperature, and using safe water and raw materials (WHO, 2015).

Research Questions

1. To what extent does mothers' perception of ante-natal counselling influences safe motherhood practices?
2. To what extent does mothers' perception of hygiene counselling influences safe motherhood practices?

Hypotheses

- 1 Mothers' perception of ante-natal counselling does not significantly influence safe motherhood practices.
- 2 Mothers' perception of hygiene counselling does not significantly influence safe motherhood practices.

DATA PRESENTATION AND ANALYSIS

Summary of Independent t-test for the Influence of Mothers' Perception of Ante-natal Counselling on Safe Motherhood Practices

S/No	Safe Motherhood Practice	Perception of Ante-Natal Counselling	N	X	SD	T
1	Drug Intake Habit	Positive	22	16.00	0.02	3.57
		Negative	289	13.85	2.82	*
2	Food Consumption Pattern	Positive	22	7.68	2.03	5.23
		Negative	289	9.97	1.97	*
3	Rest Pattern	Positive	22	7.95	2.50	6.15
		Negative	289	10.98	2.21	*
4	Exercise Routine	Positive	22	9.59	3.02	5.67
		Negative	289	12.20	2.00	*
5.	Overall Safe motherhood practice	Positive	22	41.23	5.40	5.37
		Negative	289	47.00	4.82	*

P<.05 level of significance; df = 309; critical t = 1.96

Results of data analysis showed that the calculated t-values for mothers' perception of antenatal counselling and safe motherhood practices in terms of drug intake habit (3.57), food consumption pattern (5.23), rest pattern (6.15), exercise routine (5.67), and in terms of overall safe motherhood practices (5.37) were each greater than the critical t-value of 1.96 at .05 level of significance using 309 degrees of freedom. These results mean that mothers' perception of antenatal counselling significantly influences safe motherhood practices in terms of the sub-variables and in terms of overall practices. Results of mean values revealed that, it was mothers with positive perception toward ante-natal counselling (\bar{X} =47.00) that exhibited better safe motherhood practices than their counterparts with negative perceptions (\bar{X} =41.23). Since the result on overall safe motherhood practices was significant, the null hypothesis is rejected.

Summary of Independent t-test for the Influence of Mothers' Perception of Hygiene Counselling on Safe Motherhood Practices

S/No	Safe Motherhood Practice	Perception of Hygiene Counselling	N	X	SD	T	P
1	Drug Intake Habit	Positive	27	15.78	0.42	3.54*	.000
		Negative	284	13.83	2.85		
2	Food Consumption Pattern	Positive	27	8.70	2.30	2.95*	.003
		Negative	284	9.91	2.00		
3	Rest Pattern	Positive	27	8.04	3.40	6.74*	.000
		Negative	284	11.03	2.06		
4	Exercise Routine	Positive	27	9.04	1.99	8.16*	.000
		Negative	284	12.30	1.98		
5.	Overall Safe motherhood practice	Positive	27	41.56	6.06	5.66*	.000
		Negative	284	47.07	4.71		

P<.05 level of significance; df = 309; critical t = 1.96

The independent variable in this hypothesis is the mothers' perception of hygiene counselling (classified into positive and negative perceptions), while the dependent variable is safe motherhood practices among women. The classification of the women into groups of positive and negative perceptions was done using the score range of 18 (24-6=18). Scorers between 6-15 points were considered as having negative perceptions, while scorers within 16-24 points were considered as having positive perceptions towards hygiene counselling. Independent t-test statistical technique was employed in testing the hypothesis.

Results of data analysis showed that the calculated t-values for mothers' perception of hygiene counselling and safe motherhood practices in terms of drug intake habit (3.54), food consumption pattern (2.95), rest pattern (6.74), exercise routine (8.16), and in terms of overall safe motherhood practices (5.66) were each greater than the critical t-value of 1.96 at .05 level of significance using 309 degrees of freedom. These results mean that mothers' perception of hygiene counselling significantly influences safe motherhood practices in terms of the sub-variables and in terms of overall practices. Results of mean values revealed that, it was mothers with positive perceptions toward hygiene counselling (\bar{X} =47.07) that exhibited better safe motherhood practices than their counterparts with negative perceptions (\bar{X} =41.56). Since the result on overall safe motherhood practices was significant, the null hypothesis is rejected.



DISCUSSION OF FINDINGS

Mother's Perception of Ante-natal Counselling Significantly Influence their safe Motherhood Practices

The result of the data analysis in respect of hypothesis one showed that mother's perception of antenatal counselling significantly influenced their safe motherhood practices, in terms of drug intake habit (3.57), routine exercise pattern (5.67), food consumption pattern (5.23), rest and recreation pattern (6.15) and safe motherhood practices (5.37) were each greater than the critical value of (1.96) at 0.05 level of significance using 3.09 degrees of freedom. Mothers with positive perception towards antenatal counselling exhibited better safer motherhood practices than their counterparts with negative perceptions. This result corroborated with WHO (2000) reports on the antenatal services on reducing maternal mortality rate. The study of Oman, Sharbarki and Rhandeka (2008) also supported the findings that registered women who visited the antenatal clinics were happy with the services at the antenatal clinic mainly because of the attitude of the doctors and nursing staff and it affords the opportunity for socialisation.

Also, WHO (2008), in further agreement with this finding of the study, stated that antenatal counselling promotes the health of the mother and newborn during and after delivery. The practice of antenatal counselling provides an important opportunity to improve maternal understanding about pregnancy, childbirth and the care of the newborn (Teifer, 2002). This finding corroborated with the earlier research work of Goodburn and Campbell (2001) that antenatal counselling are organised services, provided for, to cater for the health needs of women during pregnancy, labour, delivery, and puerperal periods so as to reduce morbidity and mortality in Nigeria. This researcher noted that mothers with negative perception were dissatisfied with the laboratory services, inadequate learning during visits, inadequate familiarisation with care providers and overcrowding at the ante-natal clinic during morning hours. The researcher also observed that mothers in the study with positive outcome are happier and willing to take to the counsel of the researcher. Mothers who had counselling sessions with the health counsellor were ready to make referrals to other mothers based on their positive outcome and experiences. In line with this result, Igbokwe (2008) indicated that urban and rural locations have great impact on the utilisation of antenatal services, that is, mothers living in rural areas are hindered by access to the health facility due to the distance and cost of transportation. Rowley and Walreven (2002) suggested that mothers with negative perceptions often perceive counselling to be poor. Beck (2002) equally stated that low maternal knowledge following counselling has been attributed to insufficient communication.

Mother's perception of hygiene counselling significantly influences their safe motherhood practices

The result of this component of the study showed that mother's perception of hygiene counselling does not significantly influence safe motherhood practices. In line with Curtis and Fewtrell (2005), this result observed that hygiene practices have proven to reduce diarrhoea rates by 30-40 percent. Furthermore, mothers with positive hygiene practices exhibited better safer motherhood practices such as the "five clean practices" which the World Health Organisation emphasises during delivery. The guidance counsellor positively impacted her counselees by informing them of the need to embark on the five safety keys such as clean food, clean surface, clean water, clean storage and clean hands. This researcher also emphasised the

need for mothers to engage in the three cleans, such as clean cord, clean tie, clean surface to ensure safety for child.

The implication of the study would mean that mothers who do not practice safe motherhood might have children who are not educationally competent, which might perhaps lead to educational backwardness.

CONCLUSION

The study revealed that there are various factors that mitigate against a mother's safe delivery and influences her well being and her foetus. The study implies that if a mother practises safe motherhood, that is, antenatal counselling and hygiene counselling, she perhaps might fare better in comparison to women who do not practise antenatal counselling.

REFERENCES

- Ajayi, I. O. & Osakine, D. C. (2013). Socio-demographic factors determining the adequacy of antenatal care among pregnant women visiting Ekiti State Primary Health Centres. *Health Allied Science*, 12, 1-6.
- Asekun-Olarinmoye, E.O., Olubukola, O., Wasiu, A. & Ifeoluwapo, O. (2014). Handwashing: knowledge, attitude and practice amongst mothers of under-five children in Osogbo, Osun State, Nigeria. *Journal of Biology, Agriculture and Health Care*, 4 (16), 24-27.
- Bang, A. T., Bang, R. A., Biatule, S., Deshmuck, M. & Reddy, M. H. (2001). Burden of morbidities and the unmet need for health care in rural neonates – a prospective observational study in Gadchiroli, India. *Indian Pediatrics*, 38 (9), 952-965.
- Barigagi, Findley and Helleningers (2011)
- Beck, R., Daughtridge, R. & Sloane, P. (2012). Physician-patient communication in the primary care office: A systematic review. *Journal of American Board Family Practitioner* 2002 jan-feb www.medscape.com.
- Bustreo, F., Say, L., Koblinsky, M., Pullum, T.W., Termmerman, M. & Pablos-Mendez, A. (2013). Ending preventable maternal deaths the time is now. *Lancet, Global Health*, 1(4); e17b – e177
- Centre for Disease Control (CDC) (2009a). Handwashing: Clean hands save lives. 26/7 saving lives protecting people <http://www.cdc.gov/handwashing/org>
- Centre for Disease Control (CDC) (2009b) Vessel sanitation program-general information on hand hygiene. <http://www.cdc.gov/nech/VSP/Cruiselines/handhygienegeneral.htm>. 1600 Clifton Road Atlanta, GA 30329-4027
- Clasen, T., Schmidt, W., Rabie, T., Roberts, I. & Cairons, S. (2007). Intervention to improve water quality for preventing diarrhea: A systematic review and meta analysis. *Biodata of Medical Journal*, 14, 334 (7597)782.
- Curtis, C. & Caincross, B. (2003). Effect of washing hands with soap on diarrhea risk in the community. A systematic review. *Lancet*, 3, 275-281.
- Dada, P. (2008). The utilization of antenatal care services in Atwima Nwabiagya district; antenatal care service. www.academia.edu.



- Delva, M. (2006). Morning sickness, nausea and vomiting during pregnancy. <http://www.storknet.com/complications/morningsickness/nausea.htm>. Accessed on 25/5/2015
- Fagbamigbe, A. F., Bamgboye, E. A., Yusuf, B. O., Akinyemi, J. O., Issa, B. K., Ngige, E., Amida, P., Bashorun, A. & Abatta E. (2013). *National HIV/AIDS and reproductive healthstereological survey, 2012*. Abuja: Federal Ministry of Health.
- Fetuga, T., Ogunlesi, T., Adekambi, D., Olanrewaju, D. & Olowu, A. (2007). *A comparative analyses of childhood deaths in Sagamu, Nigeria: Implications for the fourth millennium developmental goals*. *South African Journal of Childhood Health*, 1 (3), 106-111.
- Fewtrell, I., Kaufmann, R. B., Kay, D., Enanoria, W., Haller, I. & Colford, J. M. (2008). Water, sanitation, and hygiene interventions to reduce diarrhea in less developed countries: a systematic review and meta-analysis. *Lancet Infectious Disease*, 1, 42-52.
- Ghabashi and Rhandeka (2008)
- Goodburn, E. & Campbell, O. (2001). Reducing maternal mortality in developing world: sector-wide approaches may be the key. *British Medical Journal*, 322, 917-920.
- Harting, J., Van, A. P., Van der Molen, H. T., Ambergen T, de. & Vries N. K. (2008). Quality assessment of health counselling: performance of health advisors in cardiovascular prevention. *Patient Education and Counselling*, 545, 107-118.
- Igbokwe E. (2008). Knowledge and attitude of Nigerian pregnant women towards antenatal exercise: A cross sectional survey. *Obstetrics and Gynaecology, ISBN obstet gynaecological 2014 April 14, 2011.4260539.doi 11.1155/2014/260539 pub med.gov.US National libraryof medicine national institute of Health*<http://dx.doi.org/10.1155/2014/260539>
- Ikechuku E. (2010). Prevalence and determinants of contraceptive practice in a defined nigerian population. *Journal of Obstetrics Gynecology*, 22 (5), 540-543.
- Khalid, S. K., Daniel, W. & Lale, S. (2006). WHO analysis of causes of maternal death: A systematic review and title *Lancet volume 367 issue 9516 2006*. [http://dxdoi.org/1016/s0140-6736\(06\)68397-9](http://dxdoi.org/1016/s0140-6736(06)68397-9)
- Lawn, J. & Kerber, K. (eds) (2006). Opportunities for Africa's newborns in Malawi and Tanzania practical data, policy and programmatic support for newborn care in Africa, Geneva, Pmnch and WHO Cape Town. www.savethechildren.org.
- Lince, H. O., Motuebesoane-anon, S., Gomez, P. & Mujanta, S. (2014). Antenatal care: Opportunities for African's newborns - a systematic review. *Health Science*, 93-10.
- Luby, S. P., Halder, A. K., Huda, T., Tronchet, C., Unicomb, L. & Johnston, R. B. (2011). The effect of handwashing at recommended times with water alone and with soap on child diarrhea in rural Bangladesh: An observational study. *Plos Medicare*, 8 (6). e1001052.
- National Population Commission and ORC Macro. (2003). *Nigeria demographic and health survey 2003*. Maryland: Calverton.
- Ojong, I. N., Uga, A. L. & Chiotu, C. N. (2015). Knowledge and attitude of pregnant women towards focused antenatal care, antenatal care services in University of Calabar Teaching Hospital, Cross River State, Nigeria. *International Journal of Midwife and Health*
- Ordimoha H. & Owhondah F. (2008). Prevalence of diarrhea in Ogboru, Ndomi local government area of Rivers State. *International Journal of Midwife and Health*



- Rea, M. F., dos Santos, R. G. & Sanchez-Moreno, C. C. (2007). Quality of infant feeding and counselling for HIV mothers in Brazil: Challenges and achievements. *Acta Pediatrics*, 96:9.
- Rowley, J. T., & Walraven, G. E. (2002). *Experiences of mothers with antenatal, delivery and post-partum care in rural Gambia*. *Africa Journal of Reproductive Health*, 6, 74-83.
- Shiffman, D.L., (2000). Fetal alcohol syndrome epidemiology in a South African community: a second study of a very high prevalence area. *Journal of Studies on Alcohol*, 66, 593-604.
- Terfer, M. I., Rowley, J. T., Walraven, G. E. (2002). *Experiences of mothers with antenatal, delivery and post-partum care in rural Gambia*. *Africa Journal of Reproductive Health*, 6, 74-83.
- United Nations (2008). We can end poverty: Millennium development goals. Developmental Goals and beyond 2015 Millennium Goals Report Addendum to the 2010 Report Goal 4 and 5 New York High level plenary meeting of the General Assembly www.un.org
- Uneke, C.J., Ndukwe, C.D., Oyibo, P.G., Nwakpu, R.N., Nnabu, R.C. & Prasopa-Plaizier, N. (2014). Promotion of hand hygiene strengthening initiative in a Nigerian teaching hospital: Implication for improved patient safety in low income health facilities. *Brazilian Journal of Infectious Diseases*, 18 (1), 21-27.
- United Nations International Children Fund (UNICEF) (2010). *A right based preventive approach for psychosocial information sheet*. Abuja: UNICEF.
- Walraven, S (2002). Determinant of the prevalence of drug misuse by Micconium analysis Arch Dis Child fetal neonatal intrauterine cocaine exposure in a suburban setting ed.2006;91:F291-2 doi:10.1136/adc.2005.078646
- Water Aid Nigeria (2008). Water sanitation in Nigeria: A briefing on national policy water aid Nigeria 2008. www.wateraid.org. <http://www.wateraid.org/ng>.
- White Ribbon Alliance (2006). *Safe motherhood*. Washington DC.: Secretariat Non-governmental Organization Networks for Health.
- World Health Organization. (2000). *World health report*. Geneva: WHO.
- World Health Organization (WHO) (2004). Maternal and Newborn Health, Framework for the promotion and implementation of community based interventions. 2004. Geneva. AFR/MPS/04-01
- World Health Organisation (WHO) (2005). *The world health report, 2005: Make every mother and child count*. Geneva: World Health Organisation.
- World Health Organisation (WHO) (2008). A review of the HHS family planning programme, mission, management, and measurement of results. Retrieved from <http://www.nap.educatalog/12585.html>
- World Health Organisation (WHO) (2007). A review of the HHS family planning programme, mission, management, and measurement of results. Retrieved from <http://www.nap.educatalog/12585.html>
- World Health Organization (2012). Five keys to safer food. <http://www.who.int/foodsafety/consumer/5keys/en/>. Retrieved May 10, 2014
- World Health Organisation (WHO) (2015). Prevention of foodborne diseases, five keys to safer food. Department of food safety, Zoonoses and foodborne diseases. Email fontannaz.who.int, avenue april 20-1121 Geneva – Switzerland. <http://en.m.pedia.org.wikipedia>.