The Influence of Finance on the Utilisation of Obstetric Services among Women in Rural Nigeria: A Systematic Review

ABSTRACT

Introduction: Nigeria has one of the highest maternal mortality rates in the world with greater concentration on rural areas. Underutilisation of obstetric is documented to be the major cause of the increasing high maternal mortality rate. Several factors are noted to influence rural women's access to the use of obstetric services; however, finance appears to be the most important determinant. Hence, this review aims to explore the influences of finance on the utilisation of obstetric services among rural women in Nigeria.

Methods: We conducted a mixed method systematic review to identify the influence of finance on the utilization of obstetric services in rural Nigeria. Data were retrieved between January 2001 to July 2016.

Results: Although, satisfaction with cost-of-service increases with the utilisation of obstetric services, it was not considered a hindrance to the utilisation of obstetric services. Poverty as a concept underpinned in finance was found to be the major reason women do not utilise obstetric services. However, most of the articles are not of high quality.

Conclusion: Finance influences the utilisation of obstetric services. Then, we recommend increased in empowerment of rural women to improve and secure its financial status. Furthermore, obstetric services should either be made free or at a very minimal cost, to increase obstetric service utilisation, hence reducing the high maternal morbidity and mortality.

Keywords: Finance; utilization; obstetric services; rural women; Nigeria; systematic review.

INTRODUCTION

Comment [MdMDM1]: Cite the sites used to find the articles, journals and databases for this review.

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Maternal Mortality remains one of the most crucial challenges in the world with greater concentration from developing countries. The World Health Organization (WHO) and other International Organisations estimated a maternal mortality ratio (MMR) of 239 per 100,000 live births in developing countries, as compared to 12 per 100,000 live births in developed countries [1]. Nigeria as a developing country has one of the worst records of maternal deaths in the world, which contributes 19% to the global annual maternal deaths, thus ranking among the countries with the worst record of maternal mortality [2,1]. These deaths are avoidable if obstetric services are being accessed, where deliveries are conducted by a skilled birth attendant, such as midwives, doctors, or nurses [3].

The importance of obstetric services cannot be overemphasised. They are needed for the care and management of normal and complicated pregnancy, delivery, and recuperative period of women [4]. Antenatal care, which is the entry point to obstetric care, identifies at-risk pregnancy and manages associated risks. Delivery services or institutions allow the provision to detect risk around labour and childbirth for prompt intervention and postnatal care. It also has the potential of reducing newborn and maternal death. The health care and health education received by pregnant women before, during and after delivery have implications for the survival and well-being of both the women and their babies [5]. Poor utilisation of obstetric services had also been identified as a major risk factor of maternal morbidity and mortality [6].

Comment [MdMDM4]: obstetric

From the 2013 Nigeria Demographic Health Survey, only approximately one-third of birth in Nigeria is delivered in a health facility, while 63% of births are delivered at home [7]. Respondents from this survey were a national representation of women of reproductive age as respondents were selected from each household across all states using a stratified three-stage cluster sampling design. Further analysis of this survey done by [5] from the survey reveals that only a quarter of the participants had postnatal care within two weeks of birth and on

average, had at least four antenatal visits [5]. Hence, not only do women not utilise obstetric services but also one in every five women deliver with no one present [8]. This poor utilisation clearly explains the high maternal mortality rate in the country. Ibeh 2008 opined that the poor utilisation and high maternal mortality in the country are most likely sustained by the weak health care system and poor economic background of women in the country [9].

Although various factors have been revealed to influence the utilisation of obstetric services as well as maternal mortality in Nigeria. These factors include educational level, parity, financial constraint, poverty, transportation, distance, cultural beliefs, employment status, health service factors such as adequacy of drugs and equipment, availability of health professional attitude of nurses/midwives or doctors and cost of care [5, 10,6, 11].

Furthermore, study have shown a significant association between socioeconomic status and obstetric service utilization. In their context, socio-economic was defined based on wealth quintile, that is, participants were classified based on poorest, poor, middle, rich and richest [5]. Financial status determines individual wealth status [1]. Wealth status serves as a proxy for measuring the long-term standard of living and is based on household ownership of consumer goods, dwelling characteristics (source of drinking water, toilet facilities) and other characteristics that are related to a household socio-economic status. So, finance is seen as a vehicle that drives all human activities, such as transportation, education, access, and utilization of health services.

Comment [MdMDM5]: better?

While concerns are on reviewing the current pattern of obstetric services in Nigeria to make them more effective in addressing pregnancy complications, to accelerate the progress towards achieving the Sustainable Development Goals (SDG) target of less than 70 per 100, 000 live births in maternal mortality rate by the year 2030, there is a crucial need for the financial status of women and use of maternal service to also be addressed [9, 1].

Furthermore, there is evidence of high underutilization of obstetric services like antenatal care (ANC) in rural areas compared to urban Nigeria [12]. The 2013 NDHS also show that 77% of rural women deliver at home as compared to their urban counterparts (37%). Comparatively, only 38% of these rural women had their deliveries assisted by skilled birth attendants while 58% were assisted by either Traditional Birth Attendants (TBA), relatives, other persons or unassisted [7]. This reveals how rural population carry a disproportionate burden of disease and death and are generally disadvantaged in accessing maternal health services, therefore addressing factors influencing utilisation, targeting these groups of women will have an overall impact in improving utilisation and reducing maternal mortality in the country. Therefore, this study conducted a systematic review on the influence of finances on the utilisation of obstetric services among women in rural Nigeria.

Comment [MdMDM6]: finances

MATERIALS AND METHODS

The review of the literature was conducted using the following keywords: obstetric services, rural Nigeria, finance, and utilisation. Search terms introduced as synonyms to Obstetric Services were Obstetrics, Midwifery, 'maternal healthcare', antenatal, perinatal, postnatal, antepartum and childbirth. Those for finance were poverty, money, fund, wealth, wage, salary, cost, pay, social class, economic and socio-economic while accessibility and use were used as synonyms to utilisation.

Comment [MdMDM7]: it is better

Keywords were used to begin the search from relevant databases starting from the subject, MESH (Medical Subject Heading), CINAHL (Cumulative Index of Nursing and Allied Health Literature) or Thesaurus heading depending on the database. Electronic database and citation tracking was done for this review. To identify an initial set of necessary data, the electronic databases were used as explained by Higgin and Green [13]. Bettany-Saltikov (2012) affirmed that the use of appropriate keywords is fundamental to the effective literature

search [14]. Boolean operators ('OR' 'AND') was used to combine all search terms. The Boolean operator 'OR' was used to combine synonyms to exhaust all studies containing either of the searched terms, while 'AND' was used to combine search result for each keyword [15]. It is noted that increased comprehensiveness of the search reduces its precision [13]. However, strict inclusion and exclusion criteria was adopted to arrive at a sample.

Reference list of already identified papers were checked to identify papers that were not identified during the electronic search. These papers were also tracked back and traced to why they were omitted during the electronic search. This was useful because keywords which were found relevant, were further added to the search term of this review to build up a more constructive and comprehensive electronic search strategy [15]. During the search process of this review, frequently cited authors were looked out for using web of science and Goggle scholar and a quick assessment of the study title.

Since the research question to this review is related to the field of nursing, medicine, public health, and social science, consequently, in other to exhaustively access all available studies to address the research question, the following databases were searched: CINAHL, MEDLINE, Academic Search Complete, ASSAI and ProQuest. A self-design data extraction form was pilot tested and used for the initial extraction of relevant information from the sample. Data extraction was performed independently and compared by the three reviewers. The 2011 version of mixed method appraisal tool (MMAT) was used critically appraise the methodological quality of the included papers.

Inclusion and Exclusion Criteria

The inclusion criteria for this review are studies done on women of reproductive age, with pregnancy experience in rural Nigeria. Also, included in the review are all empirical studies

on finance related terms on obstetric services and related term such as MCH, PNC, ANC among others from January 2001 to July 2016, which must be written in English.

The review however, excluded studies done outside rural Nigeria on women not within reproductive age, and not related to finance and Obstetric services. Also, excluded are non-empirical studies done before January 2001, and after July 2016.

RESULTS

A total of 59 papers were extracted from the databases, out of which only 7 (11.9%) articles met the inclusion and exclusion criteria. These comprise qualitative, quantitative descriptive (cross-sectional descriptive study or survey) and mixed-method study. The papers are Okafor et al. (2014), Adewemimo et al. (2014), Adamu and Salihu (2002), Alenoghena, Isah and Isara (2016), Emelumadu et al. (2014), Osubor, Fatusi and Chiwuzie (2006), and Sambo et al. (2013) [16-22]. Following a critical appraisal of these studies using the MMAT appraisal tool; the quality of these studies ranges in ranking score from 25% to 75%.

The study by Okafor et al. (2014) was a qualitative study, with a clearly stated objective to determine rural women preferred choice of healthcare provider for pregnancy and delivery services in their community and determinants to utilisation [16]. Although, a specific type of qualitative study design was not stated, the method of data collection was explicitly documented which was carried out through Focus Group Discussions (FGDs) and short questionnaire for demographic data which explains a generic qualitative study. Okafor et al. (2014) conducted three FGDs on 25 women from three rural communities in Lagos state, Nigeria, which were within reproductive age range (20-42 years). Participants were identified and selected from the community purposively. Information which was mainly in the local language of the participants was translated into English language word for word and analysed manually using the framework method. Findings from Okafor et al. (2014) study reveal that

majority of the women in the community patronised the Traditional Birth Attendants (TBA) while some use either both TBA and Orthodox (skilled birth attendant) or only orthodox. Reasons for preferring TBA to orthodox services; among other reasons was Financial constrain as some of the participants mentioned that women do not attend because of financial reason as husbands will often state they do not have money [16].

Al-Busaidi (2008) stated that qualitative studies aim to create a concept that helps the understanding of social phenomenon in natural setting, giving emphasis on the meaning, experiences, and view of the participants [23]. Considering the objective of Okafor et al. (2014) study, adopting a qualitative type of approach was credible [16]. Even though discussion in the Focus group was not based on individual experience but on community-level practices and reasons, addressing such an objective requires in-depth information from the women participants [24]. Thus, it was good that the researcher adopted a qualitative study design.

The selection of participants in qualitative research is largely determined by the purpose of the study as the aim of the sampling in qualitative research is to identify specific groups of people who share or live in similar circumstances relevant to the phenomenon being studied [23]. Hence, the type and number of participants which were recruited for the Okafor et al (2014) study were clear and suitable to address the objective of their study and the finding could be transferable to the study setting of this review. Reasons, why certain potential participants did not turn up for the FGDs, was also indicated which depict transparency of the study [25, 26]. The use of a focus group for the study was appropriate as FGD aims to collect views of people and insight into the meaning of those views [27].

Okafor et al (2014) FGD was well conducted with an appropriate group size. A clearly stated instrument for data collection and the form of the information was stated (Okafor et al. 2014),

thereby, ensuring rigour of the study. Although inaudible comments were regarded as lost data in Okafor et al (2014) study, commenting on it would have shed light on how the research can be understood [24]. Although, data analysis was stated to be done manually by applying framework method noting emerging patterns, how the decision was made to arrive at themes was not indicated in the study. This is however not enough to conclude that the findings are not representative of the data considering the detailed presentation of the method of data collection as well as stating the method of analysis used [24]. However, transparency should have been demonstrated by stating who conducted the analysis. The researchers did not comment on this. The stated method of data analysis was relevant in addressing the research [26], hence, demonstrating a degree of credibility of the findings.

Although an explicit discussion of the findings was explained in relation to other studies and setting within Nigeria and outside Nigeria, an appropriate consideration was not made to the context of the study setting. e.g. as it was indicated in the discussion that socioeconomic disadvantage neighbourhood is associated with poor access to maternal health service utilisation, it would have been more appropriate to consider the poor utilisation of orthodox services to the socioeconomic status of the setting under study. Furthermore, appropriate consideration of the findings about the researchers' influence was not indicated [26]. Although, the researcher's background was indicated in the article, and shows some degree of affiliation of their discipline to the formulation of the research objective, their role about the data collection, analysis of the data as well as their reaction to critical events were not stated and how it could influence findings was not demonstrated in the paper. Therefore, the credibility of the study is reduced following the quality assessment tool by Pluye et al. (2011) [26]. However, there was consistency in the report of results, discussion, and conclusion [16].

Overall, although qualitative researchers have been criticized for overusing focus groups at the expense of other qualitative methods, the generic qualitative method such as Okafor et al.

(2014) [16] type of study still holds a similar advantage as other qualitative study type when well conducted [25]. In addition, findings from Okafor et al (2014) study can be compared to the study done by Adewemimo et al. (2014) whose results also reveal that many women do not utilise obstetric services and poverty and affordability identified to be associated to reasons for poor utilisation [16, 17].

The study carried out by Adewemimo et al (2014) was a population-based survey to determine the level of skill birth attendant utilisation, the knowledge of women on danger signs as well as to examine factors that encourage or impede utilisation [17]. The study was conducted in the southern part of Kastina state in Nigeria- a rural setting. Four hundred participants of reproductive age (15 - 49 years) who had delivered within the past two years before the survey were interviewed using a questionnaire that consisted of both open and closed-ended questions to elicit information to address the objective of the study. Data were analysed using statistical analysis, however, responses from open-ended question were categorised into themes and categorised into responses before analysis with consideration made in translating responses which were in local language to English language before the analysis.

Results from [17] study reveal that more women (43.5%) receive ANC from unskilled birth attendants as compared to lesser number of women (36.3%) who utilise skilled birth attendants during antenatal. While a greater percentage (81%) had no ANC at all during their last pregnancy. Their result also shows that majority of women (93%) do not utilise SBA for delivery but either utilise unskilled birth attendants (TBA) (25%, n=100) or deliver alone (42%, n=168). Results were also similar with postnatal coverage. Part of the thirteen and seven factors identified as a barrier and enabler respectively, in accessing SBA was poverty (18%, n=72) and affordability (16%) of the services respectively [17]. These findings are

generalizable and reliable as the study met majority of the methodological quality criteria for population-based study as reported [26].

Surveys are non-experimental, quantitative descriptive studies which are also referred to as cross sectional studies [28, 29]. They are used to gather information to determine the scope of a problem, exploring attitudes, opinions, health status, understanding and predicting of health behaviours as well as relationship that exist between variables in a predetermined population [28, 29]. Adewemimo et al. (2014) clearly stated objective shares similar component for which surveys are used for, therefore, their adoption of a population-based survey as a research strategy in addressing their objective was appropriate [17].

Furthermore, sampling strategy is an important aspect to be considered in ensuring appropriately conducted survey [26]. The source of sampling by [17] was appropriate. Considering that the geographical context – Funtua - that was surveyed consisted of several wards and the population considered (sample frame) were women of reproductive age in Funtua who had delivery experience within the last two years prior to the survey. They used random sampling in selecting two wards and systematic sampling to select participants for the study [17]. This was good as it gives every woman an equal chance of being included for the sample, hence, reducing selection bias and ensuring that their findings could be generalised to the population [30].

Although, Adewemimo et al (2014) study used a sample size 400, which was calculated using appropriate standard procedure, their sample size cannot be clearly justified. This is because the sample frame which was the total no of women of reproductive age who gave birth two years prior to the survey was not stated but rather just the total number of women within reproductive age in 'Funtua' which was 106,868 [17]. If this value is assumed to be used in calculating the sample size of the study, it then reflects that a sample size of 400 is small,

thereby reducing the potential of generalising the result [28]. However, the sample was representative of the population they stated as a clear inclusion and exclusion criteria as well as why certain eligible individuals refused to participate were clearly stated [17, 29].

In addition, [31,26] recommend that survey researcher, should appropriately measure and report, the instrument for data collection, the variable to ensure validity and reliability as well as response rate. This criterion was met and clearly reported in [17] study. All questionnaires used in [17] study was checked for consistency and completeness, the questionnaire was tested for reliability using the test-retest method, variables were clearly defined and accurately measured using descriptive and inferential analysis with acceptable confidence interval. Hence, the measurements in [17] study are justified and appropriate in addressing their research objective and reflect what they were meant to reflect [26]. Furthermore, a response rate of 95% was indicated in the study conducted by [17]. This depicts an excellent response rate [28].

Therefore, following the analysis of Adewemimo et al (2014) study, it can be concluded that; the results can be generalised to the population, their findings are valid and reliable to this review [17]. Although, the findings from Adewemimo et al (2014) and Okafor et al. (2014) adopted different study type; findings are similar; showing a reduced utilisation of obstetric services in these study areas and affordability, cost of service and poverty being associated to the poor utilisation [16, 17]. The results of these studies are like another conducted by Adamu and Salihu at Kano in 2002 [18].

The objective of Adamu and Salihu (2002) study was to identify the socio-cultural and economic barriers of women to the utilisation of obstetric services [18]. Although the study had a clear objective which appears to be important and of relevant interest to this review, there was no clear design adopted nor was the research type (whether quantitative or

qualitative) stated in other to assist with the appraisal of the study. However, comparing the study objective and the way the researchers presented their data; Adamu and Salihu (2002) study appear to have adopted a cross-sectional study design. The study was done in rural Kano, a northern Part of Nigeria involving 107 pregnant women within 8-40 weeks' gestational age. The sampling method adopted in recruiting participants was not stated but appears to be a convenient sampling approach. Information to illicit response to address the study objective was achieved through the use of questionnaire by a trained midwife in the local language of the participants. The researchers analysed data using frequency distributions. Findings from the study showed that most participants (ANC= 88%, Delivery = 96.3%) do not utilise obstetric services. Results also showed that among other reasons for non-utilisation of obstetric service financial constrain (ANC= 46%) appears to be the most common barrier [18].

Although the researchers' approach of using the instrument for data collection was good as it attempts to reduce non-response error [28], however, Pluye et al. (2011) stated that instrument for data collection should be explicitly explained, hence a more detailed description of the instrument such as whether questions were of open or closed ended questions would have added a clearer origin of the source of data. Moule and Goodman (2014) affirmed that sampling strategies is crucial in selecting participants to be recruited in research and with poor sampling technique; the findings of the study is jeopardised, hence an unclear sampling method in Adamu and Salihu (2002) study compromises the generalisation of their findings [32]. More so the assumed convenient sampling would not have been the best approach in the selection of participants as Moule and Goodman (2014) stated is not the best sampling method in quantitative studies [32].

Although Adamu and Salihu (2002) study indicated specific inclusion criteria; there was no clear; source of sampling; sampling strategy; or validity of the instrument used nor was there

a stated response rate [18]. Coughlan, Cronin, and Ryan (2008), and Moule and Goodman (2014) have emphasized the need for a calculated sample size as it is not only intrinsic in data analysis but also determines the response rate which is a major goal in cross-sectional studies [28, 32]. Following the quality assessment of [18] study, the sample was not representative of the population, measurements are not appropriate. Therefore, the finding cannot be generalised to the population. A study by Alenoghena, Isah and Isara (2015) reveals a higher utilisation of obstetric service but still identifies cost of service as a predictor to increase utilisation [19]. This is contrary to the studies conducted in Northern and Southern Nigeria [17, 18, 16].

A study conducted by Alenoghena, Isah and Isara (2015) in both rural and urban communities of Edo state, Nigeria to assess the utilisation of maternal health services, its' determinants and users' perception. In this study, a multistage sampling technique was used to select participants to achieve a sample size of 342 out of which 171 reside in rural communities, and data were collected using questionnaire and observational checklist [19]. The observational checklist was used basically for obtaining data on the availability of services in a health facility as reported.

The result from Alenoghene, Isah, and Isara (2015) study revealed that a greater percentage of rural participant utilise maternal health facility with a P-value of 0.0001 (PHC; 139(81.3%), General Hospital; 14(8.2%), TBA; 9(5.3%), private clinic; 2(1.2%), Home; 7(4.1%) which shows result were statistically significant. Results also reveal that cost of service was a significant predictor of utilisation (P = 0.008) and the majority (77%) of the respondents believed cost of service was not expensive [19]. Although the results show the average income of respondents as ₦15, 727 (approximately £29), the amount been charged per service was not stated. An analysis of an association between the income of respondents and utilisation should have added more value to the result. However, the researchers made an

emphasis in the discussion area of the paper; associating low cost and acceptance of services to the free medical programmes being ran by the state government in most of the communities that were studied [19]. These results can be generalised, due to the appropriate sampling strategy the researchers adopted for the selection of participants [28, 29, 31].

The questionnaire used for data collection in Alenoghena, Isah and Isara (2015) study, was pretested in a different community which share similar characteristics with the communities under study and necessary correction was made, depicting that reliability and internal validity of the instrument was ensured [17, 28]. The observational checklist which was used to obtain data on availability of services in the facilities was done with a rating scale which was appropriate as well, however a major disadvantage which is associated to the use of observational checklist where the observers adjust ratings, should have been addressed in the study by pre-observational training of the observers. This was not indicated to be done in the study, hence introducing observer bias [28].

Furthermore, variables were clearly stated with appropriate statistical measures which were justifiable and appropriate for addressing the study objectives. However, how responses from open ended question were analysed was not stated. Thus, external validity of the instrument is deterred and influencing the generalisation of the findings from the sample to the population, which is a major goal of a cross sectional study [28, 31, 33].

However, another study (Emelumadu et al. 2014) included in this review with similar study design; share similar findings with Alenoghene, Isah and Isara (2015) but the study was of higher quality following quality assessment [20]. Emelumadu et al. (2014) study aimed to assess the perception of pregnant women attending ANC services in selected public primary healthcare facilities in Anambra State in Nigeria. The study was done in three rural communities in the state where purposive sampling was used to select three health centres

which were under the management of a teaching hospital in the state. The researchers used a semi-structured, interviewer- administered questionnaire to gain responses from 302 pregnant women who attended ANC during the period of survey which was September 2007 to August 2008) [20].

Results from Emelumadu et al. (2014) reveal that majority of the women utilise health facility during their last pregnancy but with greater preference to hospital than health centre (ANC: hospital and health centre= 78.8%; Delivery: hospital=78.8%, health centre=13.8%) while fewer women utilise TBA (ANC= 1.6%, Delivery= 5.3%). A large percentage of women (91%) who had their last delivery in health facility or TBA, indicated satisfaction with cost of service provided (81%) [20]. The study also reveals that non- satisfaction with cost of service was significantly associated to non-facility delivery. The researchers noted in their discussion that participants were highly satisfied with the quality of health services (85%) but least satisfied with the cost of services (79%) and that high patronage of hospital services in the region was suggestive that most women are willing to pay for obstetric services in the hospital rather than the health centres irrespective of the lower cost of service charged by the health centres [20].

As stated by Coughlan, Cronin, and Ryan (2008) stated that frequency distribution describes single variables while inferential statistics measures association and are relevant in the data analysis of cross-sectional survey [28]. The results from Emelumadu et al. (2014) were achieved by analysing data using statistical analysis such as frequency distribution and Chi-square test through SPPSS version 17 at a P-value of 0.05 [20]. Frequency distribution was used to measure each of the variables while association between socio-demographic variable and utilisation were analysed with the use of chi-square. Furthermore, the instrument for data collection (questionnaire) was pretested for reliability as well as internal validity. These were all appropriate and show that the variables were clearly and accurately measured. In addition,

the semi-structured interviewer-administered questionnaire adopted by the researchers as instrument for data collection is good because it has the advantage of producing a higher response rate as compared to the self-administered questionnaire [28].

From Emelumadu et al (2014) study, the response rate appears to be 75.2%, since it was reported that out of the 310 women recruited, 8 women did not participate in the interview. The response rate is very good and as stated [29]. A good response rate increases the statistical power of the study, however, reasons why the women did not participate was not stated. It would have been more appropriate to state reasons why the eight participants were not involved in the interview, to increase confidence in the result [30]. Nevertheless, eligibility criteria were clearly stated in the study.

Emelumadu et al. (2014) study should have been randomised to make selection of facilities that were surveyed rather than the purposive method of sampling that the researchers used. Using Purposive sampling has reduced the chances of every pregnant woman in the study area to be selected as well as caused selection bias. This is however only a limitation to the study as bias is not only peculiar to purposive sampling but random sampling as well [28]. Generally, Emelumadu et al. (2014) met salient criteria of a good cross-sectional descriptive study and could be regarded as a good study. The study is reliable and valid and has a greater weight in this review. The findings are comparable to an earlier study in a rural community in Benin Nigeria which revealed that cost of service influences utilisation of obstetric services [21].

Osubor, Fatusi and Chiwuzie (2006) study was a mixed study with an objective to assess maternal health services and health seeking behaviour in a rural community in Benin Nigeria. For the quantitative aspect, trained data collectors administered a structured questionnaire to illicit information from 225 women of reproductive age with previous history of pregnancy

who were recruited from the community using multistage sampling technique. The researchers conducted six focus group discussions in the community to address the qualitative aspect of the study. However, four of the FGD was for the women in the community while the other two sessions were for health workers. The researchers conducted the FGD in the languages participants could understand and all discussion was recorded in audiotapes. The researchers analysed data using statistical and thematic analysis for quantitative and qualitative data respectively. Data was triangulated such that findings from the qualitative data were used to elaborate on the quantitative findings [21].

The results of the study reveal that more women (53%) utilise skilled health facilities as compared to the unskilled health facility. However, women preferred the TBA (25.5%) as compared to the government clinic (15.7%) while the private maternity had the highest preference (37.3%). Among other reasons identified for the non-utilisation of the government-owned facility was the high cost of services. Reasons for a preferred place of birth was not reported from the FGD, however, the discussion aspect in their study indicated that; participants opined that; if the quality of services improves, they would access government facilities [21].

A major strength associated to Osubor, Fatusi and Chiwuzie (2006) study is the mixed method design the researchers adopted. The researchers were able to put together data gathered from each method to take a complete picture which appropriately addresses their research objectives. The researchers were able to demonstrate when integration of data occurred as this was stated to occur during the interpretation of the result. Hence, triangulation was done and appropriate for the study. According to Small (2011), mixed method study is basically supplementing quantitative methods with qualitative with the primary aim of overcoming potential bias through triangulation, which is compulsory when a mixed method approach is employed [34].

Still, Osubor, Fatusi and Chiwuzie (2006) have some deficiencies with the qualitative and quantitative aspects of their study. Brickci and Green (2007) stated that a way of sampling in qualitative study is by making an estimate of 15 people in any homogeneous group such as age, gender, parity, or occupation [35]. Although, homogeneity was ensured in Osubor, Fatusi and Chiwuzie (2006) study, as the participants in the focus group were stratified into age, parity and type of occupation, which depicts credibility of the result. However, the number of participants in each group was not stated. Gill et al. (2008) affirmed that group size is an important consideration in focus group discussion and recommends 6-14 participants per group [27] and would have been more credible if the number of participants were stated in study.

Contrary to the unclear sampling in the qualitative aspect of the study, the researchers adopted a clear and appropriate sampling technique in recruiting participant for the quantitative method. This was good and show that the sample was representative of the population. However, a sample size and number of eligible participants was not indicated in the study which is relevant in supporting quantitative method [32]. Hence, the study should have stated a sample size so that a response rate can as well be calculated such that confident generalisation of the result can be made. Notwithstanding, the study met the pertinent criteria of well conducted mixed method, hence, findings from the study are reliable, valid, and trustworthy. The findings are like another study Kaduna state North-western Nigeria that also identified cost of service as an influencing factor to utilisation of obstetric service in rural areas [22].

A common limitation such as absent of indicating average cost of service or average income of participants, in relation to service utilisation identified in most of the studies included in this review was addressed by Sambo et al. (2013) [22]. Sambo et al.'s (2013) study was aimed at investigating the cost of service to the users and how it influences the utilisation of

obstetric services in a rural health facility in Giwa Kaduna, Northern Nigeria. An interview-administered questionnaire was used to collect data from 135 pregnant and 6-weeks post-partum women. The data were analysed with frequency distributions using a statistical package for social sciences software (SPSS) version 19.

Results revealed that ANC utilisation was high among participants (80.7%), average costs of services in Naira and equivalent estimate in British pounds are ANC; ₦1,472.00 (£3.2), Delivery; ₦1,500.00 (£3.2), while results for average income show that most of the spouses of respondents (52%) earn less than 10,000 (present equivalent in pounds = £21) with statistical significance between husband income and ANC attendance [22]. However, these results are highly not reliable as there are a lot of flaws in the analysis.

Draugalis, Coons and Plaza (2008) noted that when study is placed in a wrong context such as not stating prior studies that have been done nor the rationale for the study, the tendency of stating an implicit research objective sets in and subsequent measures in achieving a reliable result is altered [31]. This is not exactly the case with Sambo et al. (2013). A clear context was set with a clear objective; however, the measurements was not appropriate and does not answer the research question completely. Based on the objective of the study, it was expected that frequency of service utilisation should have been measured to examine the association between the cost and utilisation; even so, this was not measured in the study. Although the questionnaire used was pretested to ensure the reliability of the instrument; the internal and external validity was not done. Since the objective of the study was to investigate the cost of service and how it influences utilisation, it is expected that bivariate descriptive statistics should have been adopted in the data analysis to show an association between cost of service or income and utilisation rather than a descriptive statistic that was used. This is because bivariate descriptive statistics shows relationship between variables [28].

In addition, Sambo et al. (2013) measure husband income which was not part of the variable to be considered rather than measuring the participant's income, hence, introducing selection bias. Furthermore, there was no calculated sample size nor clear sampling strategy used in arriving at the number of participants that participated in the study. Studies have affirmed that poor or absence of sampling results in findings that cannot be generalised [28, 32, 33]. Hence, the results of Sambo et al (2013) cannot be generalised as it is lacking in design and findings.

DISCUSSION

The purpose of this review was to identify how finance influences the utilisation of obstetric services among rural women in Nigeria. The result of this review implies that finance to some extent determines the utilisation of obstetric services. Affirmation is not expressed due to the level of evidence supporting this finding. From the seven studies analysed in this review only three were of high quality, two were moderate quality and the other two were very low. The three high quality studies are surveys, but sample sizes are not large enough for a concrete generalisation to be made to the entire population in Nigeria. Three major themes were extracted from the results which answer how finance influences utilisation of obstetric services among rural women in Nigeria under three themes: Cost of service, Affordability of service, Poverty.

Cost of service was a significant theme identified from the data of this review. The result from previous studies enormously imparted on this theme [19-22]. The findings from these studies indicate that, cost of service has a positive influence on obstetric service utilisation. The finding from Sambo et al. (2013) claims that cost of service is correlated with husbands' income [22], however, the study had a lot of limitations that cannot be compromised as earlier stated. The findings from [19, 20, 21], all revealed a high percentage of women

utilising obstetric service as compared to the number who do not use the service; with cost of service seen as a predictor to utilisation. Although, the cost of service was a reason for non-utilisation of services among the women who do not utilise the service [21]. However, greater percentage of the women opined that cost of service was not expensive [19] and satisfactory [20].

The high utilisation of service discovered from these three studies were contrary to the reviewer's expectation as illustrated in the 2013 National Demographic Health Survey (NDHS) which shows that only less than half of women in Nigeria utilise obstetric services as compared to the unskilled health service [7]. However, another finding from this review also reveals that out of the large percentage of women who utilise obstetric services; a higher percentage patronise the privately owned hospital as compared to the government hospitals [20, 21]. This finding is not peculiar to this review as other studies have also indicated women's preference to utilising private and public hospitals over primary health care facilities [33, 36].

The primary health facilities are established with an aim to provide equity, easy and affordable services to users while the private hospitals are most profitable for providers [37]. Hence, it seems illogical to think that rural women would have a higher preference to private health facility over primary health centres considering the high cost attributed to private hospitals as compared to the health centres. However, the high preference to private health facility may likely be a result of the consistent poor quality and inadequate service provided in the health centres [36]. Therefore, the finding implies that women utilise obstetric services irrespective of the cost. Hence, the cost of service is not regarded as a barrier to the utilisation of obstetric service. This goes on to show the weight women place on pregnancy as well as their entire health. This health seeking behaviour of these women can as well be reflected on the Health Believe Model (HBM).

The health belief model is underpinned by the idea that health behaviour is determined by personal beliefs or perception about the susceptibility to a disease that could be avoided with medical care and lack of barriers to care [38]. The model is based on key components which are perceived susceptibility, perceived barriers, perceived seriousness, modifiable variables, cues to action and self-efficacy [38]. Every component of the HBM may not be applicable to the identified health seeking behaviour from this finding but it could be attributed to the perceived benefit, barriers, seriousness, as well as efficacy. From the finding it can be deduced that the individual women who utilise obstetric services perceived that being pregnant places them at risk of maternal morbidity or mortality (perceived susceptibility) and they considered the implication of them utilising skilled health facilities (perceived benefit) irrespective of the cost of service (perceived barrier). The ability of these women to understand the need and be able to access obstetric services could be regarded as self-efficacy [38]. However, not every woman may consider pregnancy as being susceptible and even when susceptibility is perceived, perceived barrier such as not being able to afford the services predicts their access to obstetric service.

Affordability of service was another distinct theme that was identified from this review. This theme was identified from one of the enablers for skilled birth attendant utilisation [17]. Contrary to the high level of utilisation found from the four earlier discussed studies [19-22], findings from Adewemimo et al (2014) established poor obstetric service utilisation [17]. This implies that not being able to afford the service was a barrier to rural women accessing obstetric service. The finding is like that from a study done in south-east, Nigeria which also show that affordability of unskilled health care was a reason for patronising TBA rather than the skilled health facility [39]. Although, affordability was not defined in Adewemimo et al. (2014) study, such that comparison should have been made between cost of service and the income; it is only logical that affordability depends on individual's economic status.

Cost of service that is regarded as high for an individual with low socioeconomic status may be seen as low for a person with a low socioeconomic status. Hence it is important that the economic status of women is considered in placing user fee. This shows that there is need for obstetric services to be at a very minimal or no cost in order to promote the use of these services. Studies have also indicated that women are willing to access service if the service are affordable and assures them of an efficient and quality service [40-42]. It is, however, worthy to note that being ready to pay for service does not translate to the capability to pay [43]. Even with minimal charge for service; the very poor still find it difficult or unable to utilise obstetric services.

Subsequently, another key theme extracted from this review was poverty. Poverty was earlier defined in this review as a situation of people whose resources are so limited that it excludes them from the minimum acceptable way of life in the countries in which they live [44]. Hence not having money to access obstetric service was regarded as poverty in this review. This review found out that poverty was a barrier to the utilisation of obstetric service utilisation. Financial constrain of women as well as lack of financial involvement from their husbands was identified as reasons for not utilising obstetric service [16, 18]. Although poverty was not defined in Adewemimo et al (2014) study, it was identified as a barrier to accessing skilled birth attendants [17]. Results from studies have shown a very poor level of utilisation of obstetric services by women, hence poverty appears to be a barrier to the utilisation of obstetric services [16-18].

These findings are consistent with previous reports that indicated the burden of poverty on the poor maternal health indices in Nigeria with emphasis on the rural areas [44-46]. This is likely attributed to the low socioeconomic status found in rural areas, in addition to the out-of-pocket fee or user charges placed on health care among rural women in Nigeria [5,47]. Ezeonwu (2014) indicated that rural women commonly have very low socio-economic-status

due to minimal or no level of education and as such they have a narrow opportunity for financial security [45]. Furthermore, another study noted that poor socio-economic status during contending with other family demands demobilises rural women effort to access utilisation of obstetric services [48]. Considering that an average rural woman survives on less than $1. 25 per day; the increasing out of pocket expenditure would results in poor utilisation of obstetric service utilisation which would also result in increased burden on maternal health, thus keeping them in a viscous cycle of poverty [49]. This explains the increasing debate in removing pocket fee or user fees from the health care system in Nigeria [43, 47].

The findings from this review could best be illustrated in relation to the models of the three delays which were developed by Thadeus and Maine (1994) [50]. Three phases of delays are delay in identifying the problem and deciding to seek care, the delay in reaching appropriate care and the delay in receiving quality care when the woman arrives at the health facility, and it provides a conceptual framework of the factors influencing the early arrival to appropriate care in obstetric services [50, 51]. Following this model, the delay associated to finance is situated at phase 1 of the model. This review acknowledges cost of service as one of the factors influencing utilisation to obstetric service similarly to Thadeus and Maine's (1994) review. However, contrary to Thadeus and Maine's (1994) opinion of cost of service being one of the major delays, this review found that a major factor was poverty. Findings from the theme A reveals that irrespective of the cost-of-service women utilise health facility while theme B explains that the cost of service could only be an enabler to accessing utilisation. However, the theme C explains that poverty being determined by the financial or socio-economic status of the woman predicts the woman decision to access obstetric services.

The major limitation of this review was that few, and low-quality articles were used, occasioned by the methodology and data analysis. So, the evidence to this review is not strong, and should be interpreted with caution.

CONCLUSION

This review found that poverty was an underpinning factor affecting the utilisation of obstetric services among rural women in Nigeria as large number of women were identified not to use obstetric services due to financial constrain. Similarly, the cost of service does not determine women accessibility to obstetric service, but only an enabler.

Based on the finding of this review, we recommend increased emphases on women empowerment programmes particularly, in the rural areas to improve and secure the financial status. Furthermore, obstetric services should either be made free or at a very minimal cost, to increase obstetric service utilisation, hence reducing the high maternal morbidity and mortality.

ETHICAL APPROVAL

The review was approved by the research and ethics committee of the Coventry University, United Kingdom with project reference number P41826.

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