

Full Length Research Paper

Perception and willingness to participate in midwives service scheme amongst nursing and midwifery students in Southwestern Nigeria

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Received 24 September, 2014; Accepted 9 December, 2014

The Midwives Service Scheme (MSS) was implemented to reverse the poor trends in maternal mortality in Nigeria over the past decade. However, little is known about the acceptance of the scheme amongst nursing and midwifery students who are key to ensuring success of the program. The study assessed the awareness, knowledge, perception and willingness to participate in the Midwives Service Scheme in all nursing and midwifery schools in Oyo State, Nigeria. A cross sectional study of 361 final year nursing and midwifery students in Oyo State, Nigeria was conducted via total sampling technique. All consenting students were recruited to participate. Semi-structured self-administered questionnaires were employed to collect relevant information. Data was analyzed with descriptive statistics and association between respondents' characteristics tested using Chi-square at 5% level of significance. Mean age of respondents was 24 ± 4.3 years, 92.8% were female, 87.0% single and 83.4% Christians. Most preferred post basic nursing and midwifery careers reported were university degree nursing (43.4%) and psychiatry nursing (60.8%) respectively. Only 33.8% of the student nurses and midwives were aware of MSS among whom less than half (48.4%) correctly identified the objective of the scheme. Few (24.7%) reported a willingness to participate in the scheme. Awareness of the existence of the scheme was significantly higher amongst the midwives compared to the nurses ($X^2=118.0$; $p<0.001$) and in older participants compared to the younger ones ($X^2=11.3$; $p<0.001$). Higher proportion of student midwives ($X^2=99.5$; $p<0.001$) and participants ≥ 25 years ($X^2=14.18$; $p<0.001$) were significantly more likely to participate in the scheme compared to their respective counterparts. Low level of awareness and willingness to participate in the scheme amongst graduating students in Southwestern Nigeria emphasizes the need for scaled up awareness campaigns to boost acceptance among these groups who are vital stakeholders in the effective implementation and sustenance of the scheme.

Key words: Midwives Service Scheme, nurses, midwives, maternal mortality.

INTRODUCTION

For many decades now, maternal mortality has continued to serve as a very major index in assessing the success

of any healthcare system, which is evidenced by its inclusion in the Millennium Development Goals (MDGs)

(UNFPA, 2014c). Sadly, with less than two years to the 2015 target set by the United Nations to achieve MDGs, reduction of maternal mortality ratio (MMR) by three quarters between 1990 to 2015 (MDG-5) in Nigeria is still very nebulous and far from its set target. About 500,000 women die every year in the world due to complications related to pregnancy or childbirth with about half of them residing in Sub-Saharan Africa (Alvarez et al., 2009). Reported maternal and child health outcomes in Nigeria are amongst the worst in the world, with Nigeria second only to India in the number of maternal deaths, majority of which are preventable (Ashir et al., 2013). The World Bank statistics indicate that at least 144 women die each day from pregnancy-related complications in Nigeria placing the country among one of the worst in the world (Archibong and Agan, 2010).

At the national level, maternal mortality ratios (MMRs) are estimated at 630 deaths per 100,000 live births (LBs) but vary from as low as 370 deaths per 100,000 LBs in the southern states to over 1,000 deaths per 100,000 LBs in the northern states (Ashir et al., 2013). Variations in MMR are not only particular to regions in Nigeria but also noticed to be significantly linked with urban-rural variations: – 351/100,000 in the urban as compared to 828/100,000 in the rural parts of the country (Archibong and Agan, 2010) or with booking in prenatal care where it was found that maternal death was about 30 times higher in un-booked compared to the booked patients (Abe and Omo-Aghoja, 2008). Maternal mortality, though an important measure of women's health and indicative of the performance of health care systems, monitoring progress towards the goal has proved to be problematic because maternal mortality is difficult to measure, especially in developing countries with weak health information and vital registration systems (AbouZahr and Wardlaw, 2001; UNFPA 2014). Attention to maternal health was demonstrated in 2000 when 147 heads of state and government and 189 nations signed the Millennium Declaration, in which the proportion of births assisted by trained birth attendants became an important indicator to measure the progress of improving maternal health (Ayede, 2012). Over a decade later, several causes have been implicated for the poor progress in reducing maternal mortality in Nigeria broadly resulting from a wide variety of indirect and direct causes. Medical causes include hemorrhage (34%), infection (10%), hypertensive disorders (9%) and obstructed labour (4%) (Alvarez et al., 2009) while social causes that have been implicated include delayed referral and poverty (Agan et al., 2010). With regards to the timing of maternal death, between 11 and 17% of maternal deaths take place during the childbirth itself and between 50 and 71% occur in the post-partum period.

External factors that have provided laudable explanations for severity of maternal health conditions in sub-Saharan Africa include weak political and financial commitment, deteriorating institutional infrastructure, rapid population growth rates, pervasive poverty, and gender inequalities (Chiwuzie and Okolocha 2001); inability to ensure the right mix of Human Resources for Health (HRH) at all three levels of the health system; local, state and federal (WHO, 2011). Furthermore, skilled birth attendants are either inadequate in number or are not available at all in majority of the rural areas (Koblinksy et al., 2006; FMOH, 2010) as a majority of pregnant women in labour in the rural areas are left unattended to by skilled birth attendants (World Bank, 2013; Ayede, 2012). This alone, is a major predisposing factor responsible for the high mortality ratio in Nigeria especially in the underserved rural populations (WHO 2013). Of the many strategies to address this, the MSS was established in 2009 (Abimbola et al., 2012; NPHCDA, 2009).

MIDWIVES SERVICE SCHEME (MSS)

Midwives service scheme is a national effort instituted by the Federal Government of Nigeria to address the sub-optimal care plaguing maternal care and care of the newborn in Nigeria. The Scheme is a tripartite arrangement between the Local, the State and the Federal governments of Nigeria. These three levels of government statutorily provide the financial support among others to the Scheme while the National Primary Health Care Development Agency (NPHCDA), a parastatal of the Federal Ministry of Health (FMOH), is the implementing body (Abimbola et al., 2012). The goal is to provide an emergency response to human resources for health gaps and to ensure an increase in the coverage of skilled birth attendance to reduce maternal, newborn and child mortality (WHO, 2011). The scheme engages the services of newly graduated, retired and the unemployed midwives by posting them to primary health care facilities in the rural areas for a period of one year that is renewable subject to satisfactory performance (NPHCDA, 2009; FMOH, 2010). “Essentially the midwives attend to healthcare services such as the antenatal, labour, postnatal and infant welfare services among others. More difficult cases especially those requiring emergency obstetric or gynecologic care are referred to designated secondary health facility referral centers. To enhance the quality of the services that they provide, there is a quarterly continuing medical education (CME) on life saving skills (LSS) as well as on the integrate dmanage ment of childhood illnesses (IMCI) for these midwives” (NPHCDA, 2009).

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“To date, 2,488 midwives have been deployed to 652 rural health facilities. This is close to the target of 2,500, which was set in 2009. The scheme has also been accompanied by measures to improve service uptake at the health facilities, which includes community mobilization amongst other measures. Funding of the scheme is a tripartite arrangement of the federal, state and the local governments. The federal level contributes 50% of funding, while states contribute 33% and local governments 13%” (WHO, 2011). Despite this structure, the scheme has been dogged by many challenges among which are retention, availability and training of midwives. Most of the newly graduated midwives are either very young or single or are newly married. Inadequate social amenities especially in the hard-to-reach rural areas are other factors responsible for attrition among this crop of health workers in the scheme (Abimbola et al., 2012). Sustaining this programme in the face of inadequate and unwilling workforce is a concern, bearing in mind that the success of the MSS will go a long way in reducing the high level of the prevailing maternal, new born and child mortality rates in Nigeria. The objective of this study is to assess the awareness, perception and willingness of final year nursing and midwifery students in Oyo State, Nigeria to participate in the Midwifery Service Scheme.

METHODOLOGY

Study setting

In this study, a cross-sectional survey was carried out between July and September, 2012 in Oyo State, Nigeria. Oyo state is located in the Southwest geopolitical zone of Nigeria and consists of 33 Local Government Areas. The State covers a total of 27,249 square kilometers of land mass (ranked 14th by size) and bounded in the south by Ogun State, in the north by Kwara State, in the west it is partly bounded by Ogun State and partly by the Republic of Benin, and in the East by Osun State. The State is homogeneous with a population of about 4.5million, predominantly occupied by Yoruba people. The people of Oyo State may be divided into five zones, which are: Ibadan, Ibarapa, Oyo, Oke-Ogun and Ogbomosho groupings (Oyo, 2014). Our study spanned across 3 major cities in Oyo State namely Ibadan, Ogbomosho and Saki (located in Oke-Ogun zone) home to all the nursing and midwifery schools in the State.

Study population, sample size and selection

The study population consisted of all the final year students of the schools of nursing and the schools of midwifery from both the government (public) and the faith-based (private) institutions in Oyo State. There were four (4) schools of nursing in Oyo State (2 government schools and 2 private schools). The schools of midwifery, 6 in number (2 public, 4 private) includes the Baptist Hospital, Ogbomoso (1 nursing school, 1 midwifery school), Baptist Hospital Saki (1 nursing school, 1 midwifery school), Muslim School of midwifery Saki, University College Hospital Ibadan (1 nursing school, 1 midwifery school), Oyo State Schools of Nursing and midwifery, Catholic Hospital Oluoyoro Ibadan (1 school of midwifery). The total number of final year nursing and midwifery students in all study. All consenting final/graduating year students from these schools were enrolled in the study. A total number of 361 candidates

opted to participate in the study with a response rate of 96.8%. A pre-tested self-administered questionnaire was used to collect the data that was developed based on the study objectives and review of relevant literature. In order to ensure full capture of as many participants as possible, visits were repeated at least twice to interview participants who were unavoidably absent during the first visit. Ethical approval to conduct the study was obtained from the Bowen University Teaching Hospital Research Ethics Committee according to the Declaration of Helsinki Ethical Principles for Medical Research involving human subjects. Data collection was completed over a period of eight weeks.

Statistical analysis

Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 15. Frequency tables and proportions were generated and used to interpret quantitative variables respectively. Chi-square test was used for bivariate analysis to test associations between selected socio-demographic characteristics, awareness and willingness to participate in the scheme.

RESULTS

Socio-demographic characteristics

The student nurse to student midwife ratio was 2:1 and mean age of the respondents was 24 ± 4.3 with 67.9% below 25years of age. Most were female (92.8%), single (87%), predominantly of Yoruba tribe (85.6%), Christians (83.4%) and from nursing school, Ibadan (32.1%). The highest qualification for entry into basic nursing training was senior secondary school certificate (65.1%) while basic nursing certificate was entry requirement for midwifery training (39.9%) (Table 1)

Awareness, knowledge and willingness to participate in MSS

Only 124 (33.8%) respondents of the student nurses and midwives were aware of Midwifery Service Scheme (MSS). Amongst those that were aware (N=124), over half (55.6%) of the respondents knew that MSS was launched in 2009 but less than half (48.4%) correctly identified the objective of the programme as reducing maternal and child morbidity and mortality in Nigeria while another 15.3% reported that the main objective for the creation of the program was simply to deploy midwives to rural areas of the country. More than one-fifth (22.6%) did not have the slightest idea of why it was launched. Almost a quarter of the total, 89 (24.7%) reported a willingness to participate in the scheme (Table 2).

Perception towards MSS

About their perception of the scheme, 118 (32.7%) were of the opinion that MSS is targeted at reducing maternal and infant mortality in Nigeria, 19.9% felt every qualified

Table 1. Socio-demographic characteristics of participants.

Socio-demographic Characteristics (N=361)	Frequency	Percentage
Sex		
Male	26	7.2
Female	335	92.8
Age		
≤24	245	67.9
≥25	116	32.1
<i>Mean Age</i>	24± 4.3	
Marital status		
Single	314	87.0
Married	42	11.6
Other (widowed, co-habiting)	5	1.4
Religion		
Christianity	301	83.4
Islam	52	14.4
Traditional worshipper	8	2.2
Tribe		
Yoruba	309	85.6
Others	52	14.4
Highest qualification		
Secondary school certificate	235	65.1
Basic nursing	126	39.9
Course		
Nursing	235	65.1
Midwifery	126	34.9
School distribution by location		
Nursing Ogbomoso	78	21.6
Midwifery Ogbomoso	24	6.6
Nursing Saki	41	11.4
Midwifery Saki	32	8.9
Nursing Ibadan	116	32.1
Midwifery Ibadan	70	19.4

nurse should participate in the scheme; only 22.7% believed that it is both a well implemented and sustainable scheme in Nigeria (Table 3).

Preferred career paths and factors influencing choices

Majority 283 (78.4%) claimed to have willingly chosen nursing as a profession. Influence from family members was a cogent reason for studying nursing in a few of the

participants (10%) while others chose nursing because of failure to a secure university admission (7.5%) (Table 4). About career choice after basic nursing, a substantial proportion of the respondents expressed a desire to pursue university education (43.4%) followed by training in psychiatry nursing (23.4%). Only 6.8% of the student nurses had plans for midwifery training after basic nursing training. Reported reasons for not choosing or preferring midwifery as a career after basic nursing training and midwifery training include lack of interest or passion for midwifery (22.8%), preference for Bachelor of

Table 2. Awareness, knowledge and willingness to participate in MSS.

Variable	Frequency (N)	Percentage (%)
Awareness of MSS (N=361)		
Yes	124	33.8
No	217	60.4
Don't know	20	5.8
Knowledge on year of launch (N=124)		
Correct (2009)	69	55.6
Incorrect (others)	55	44.4
Knowledge on objective of MSS (N=124)		
Reduce maternal and child morbidity and mortality	60	48.4
To deploy midwives to rural areas	19	15.3
Support or ensure that pregnant women have access to focused ante-natal care	1	0.8
Others	16	12.9
No idea	28	22.6
Willingness to participate in MSS (N=361)		
Yes	89	24.7
No	272	75.3

Table 3. Perception of MSS among nursing students.

Perception of MSS amongst nursing students	Agree	Don't know	Disagree
	N (%)	N (%)	N (%)
Help reduce maternal and infant mortality	118 (32.7)	242 (67.0)	1 (0.3)
It is a scheme that every qualified nurse should participate in	72 (19.9)	251 (69.5)	38 (10.6)
It is a well implemented scheme	82 (22.7)	259 (71.8)	20 (5.5)
It is a sustainable scheme	82 (22.7)	265 (73.4)	14 (3.9)

Nursing Science Nursing (BNSc.) (18.7%), preference for other courses (6.4%), perception that midwifery is not unique enough (5.0%) (Table 4). For post midwifery training, majority would rather prefer specialized nursing training such as psychiatry (60.9%), while only 27.3% expressed a desire for midwifery nursing practice for which they were trained (Table 4). Other career choices are as seen in Table 4.

Awareness of MSS and willingness to participate by cadre of students

Awareness of the existence of the scheme was significantly higher amongst the midwives compared to the nurses and in older participants compared to the younger ones respectively (Table 5). Midwives and older participants (≥ 25 years) were significantly more likely to participate in the scheme compared to nurses and younger respondents respectively (Table 6).

DISCUSSION

In this study, majority of the participants were females. Similar to the distribution found almost globally, females seem to pre-dominate the nursing profession (US Census Bureau, 2013; HRSA, 2013). Generally, the preponderance of females in the nursing profession could be due to ancient beliefs that nursing was an extension of women's domestic roles or the degrading of a man's prestige or social status especially in patriarchal cultures (Evans, 2004), such as Nigeria. Majority of the participants are below 24 years of age and that logically explains why most of them are single. Statistics have shown that age at marriage in Nigeria is found to be significantly influenced by educational status, women aged 25 to 49 in Nigeria with at least secondary education have a median age at marriage of 22.0years (NPC and ICF Macro, 2009). Since all of our participants were final year students in either nursing or midwifery schools, it is only rational that majority of the respondents

Table 4. Preferred career paths and factors influencing choices.

A. What influenced your choice of studying nursing (N=361)	Frequency (N)	Percentage (%)
Personal choice	283	78.4
Others (family members)	36	10.0
Inability to secure university admission	27	7.5
Others	6	1.7
No response	9	2.4
B. Preferred career post-basic nursing (N=235*)		
Midwifery training	16	6.8
Emergency nursing training	10	4.3
Psychiatry nursing training	55	23.4
Orthopaedic nursing training	4	1.7
Paediatrics nursing training	8	3.4
Peri-operative nursing training	12	5.1
Nurse tutor training	4	1.7
Intensive Care unit/ Anaesthetic nursing training	4	1.7
University education	102	43.4
Work as a nurse	5	2.1
Travel for greener pasture	9	3.8
Others	2	0.9
Don't know	4	1.7
C. Reason for not preferring midwifery post basic nursing (N = 219**)		
Preference for Bachelor of Nursing Science	41	18.7
Midwifery is not unique	11	5.0
Gender sensitivity (Males believe midwifery is for females)	10	4.6
Not aware of any need for midwifery	11	5.0
No interest or passion for midwifery	50	22.8
Preference for other courses	14	6.4
No response/ Don't know	82	37.5
D. Preferred career post-midwifery (N= 128***)		
Midwifery	35	27.3
A/E	6	4.7
Psychiatry nursing	78	60.9
Orthopaedic nursing	4	3.1
University education	3	2.4
Don't know	2	1.6

* - Addressed student nurses only ,**- All student nurses (235) minus those who had preference for midwifery, ***- Student midwives only.

were single. Poor awareness (33.8%) of 'foot soldiers' needed to ensure success of the initiative and a consequent reduction of the poor national index may pre-suppose to a large extent some inadequacy with regards to sensitization or awareness campaigns by the federal government.

The United Nations Population Fund (UNFPA) has canvassed the need to establish more schools of midwifery, particularly in states where there is no school of midwifery stressing that the underlying factor that contributes to the high mortality figures may not be

unconnected to a low skilled birth attendance rate (UNFPA, 2014a). Contrary to this, our study established that an overall dismal proportion of respondents (19.1%) knew the year when the scheme was launched while less than half of the participants (48.4%) were able to correctly identify the objectives for creating the scheme despite the fact that the scheme was launched 5 years ago. Results of this study expose the grim situation and fundamental program implementation deficiencies, which may not aid the success or the objectives for which the scheme was created. Only 19.9% of respondents believe

Table 5. Bivariate associations between cadre, age-group, sex and awareness of MSS.

Variable	Awareness of MSS		Chi square	P-value
	Yes	No		
Cadre				
Nurses	34 (14.5)	201 (85.5)	118.0	<0.001
Midwives	90 (71.4)	36 (28.6)	-	-
Age-group				
<25	70 (28.6)	175 (71.4)	11.3	<0.001
≥25	54 (46.6)	62 (53.4)	-	-
Sex				
Male	6 (23.1)	20 (76.9)	1.58	>0.209
Female	118 (35.2)	217 (64.8)	-	-

Table 6. Bivariate associations between cadre, age-group, sex and willingness to participate in MSS.

Variable	Willingness to participate in MSS		Chi square	P-value
	Yes	No		
Cadre				
Nurses	19(8.1)	216(91.9)	99.50	<0.001
Midwives	70(55.6)	56(44.4)	-	-
Age-group				
<25	46 (18.8)	199 (81.2)	14.18	<0.001
≥25	43 (37.1)	73 (62.9)	-	-
Sex				
Male	4 (15.4)	22(84.6)	1.30	0.255
Female	85(25.4)	250 (74.6)	-	-

that every qualified nurse ought to participate in the scheme while 22.7% believed that it was a properly implemented or sustainable scheme. The preponderance of skilled personnel in urban regions as established in recent studies (UNFPA, 2010) crave for a need for the government to incorporate into the curricula of students a course that enlightens students into the advantages of the scheme and the need for participation. Since maternal mortality is higher in Northern Nigeria and in the rural areas compared to the urban (Doctor et al., 2012; Global One, 2012), it is recommended that some form of incentives, either financial or non-financial should be introduced into motivating skilled nurses and midwives to these remote areas, particularly targeted towards student nurses/midwives who may not be interested in participating in the scheme (75.3%) as our study has shown. Even though financial incentives have been proven to a commonly employed strategy to improve health worker motivation and retentions in specific conditions (MHNIP, 2013; CMS, 2012; RANIP, 2014), it is also worthy to note that proper implementation of

financial incentives requiring careful planning and management is pertinent to avoid loss of moral, staff grievances or counter-productive consequences (Ditlopo et al., 2013).

It is quite consoling that a greater proportion (43.4%) of the graduating class has the correct knowledge for which the scheme was established. Sadly, studies continue to expose gaps in service that limit efficiency and productivity in delivery of services. These include but are not limited to, non-availability of partographs, enabling environments or adequate equipment (Opiah et al., 2012). When asked what was the main motivation for choosing nursing as a profession, majority (78.4%) attested the source of motivation to personal choice and desire, however, the desire for most of the students to venture into other nursing specialties such as university education (43.4%) or psychiatry nursing (23.4%) corroborates the findings of Abbaszadeh et al. (2010) that asserts an increasing students' knowledge of majors and careers. The desire of nursing students to pursue a university degree (43.4%) or midwives preferring other

specialties (68.7%) could also imply a fundamental problem with the academic environment in which students are subjected to. Amongst the midwives in graduating class, only 27.3% would opt for midwifery career that they were primarily trained for; and only 6.8% of graduating nurses are willing to progress to midwifery training. According to Divaris (2008), "the 'ideal' academic environment may be defined as one that best prepares students for their future professional life and contributes towards their personal development, psychosomatic and social well-being"(Divaris et al., 2008). The desire of nursing students to pursue a university degree could also imply desire for some degree of job satisfaction or job security from towing the academic line as most of these students attested to lofty dreams of becoming 'respected professors' someday rather than risk being forgotten in some remote areas trying to reduce maternal mortality. Some literature have proposed detailed emphasis into personal traits which may explain trends in professions such as job efficiency and satisfaction, or desire to pursue expected lines (in this case-midwifery compared to other specialties as observed in our study) (Abbaszadeh et al., 2010; Adib-Hajbaghery and Dianati, 2005).

Intriguingly, most midwifery students (60.9%) would rather abandon all midwifery skills to attend to the mentally disturbed; a finding that warrants further studies to establish facts why this is preferred compared to midwifery or what makes it more lucrative. Majority did not opt for midwifery but for other specialist because midwifery is generally seen as 'old persons' nursing career while others such as psychiatry nursing, emergency or theatre nursing are perceived to be more challenging and are accorded some enviable degree of respect which they perceive is not bestowed on midwifery. More so, pursuing further studies in a university goes with better respect and could make them to be seen at par with peers who are university graduates and thus respected as such. However, the danger in nurses pursuing university education, among many, includes the indirect depletion of the workforce to basic nursing services as majority may want to take up career in teaching; work in other areas of the health sector such as non-governmental organizations (NGOs); or even going for higher university degrees to pursue higher academic career goals. It is likely that the higher the academic attainment of such a person, the more unlikely that such a person will take up a basic clinical nursing and or midwifery job in a health facility, much less accept to be posted to a rural area for the purpose of the MSS. While pursuing a university education in nursing and related disciplines is not an unwelcome development, however, it goes without saying the negative consequences that may affect the MSS and other basic clinical nursing practice. In the long term, what looms is a resultant depletion of the pool of potential midwives who could be recruited into the scheme. The authors

dare to postulate that, in the absence of a targeted designed incentive package to encourage young nursing graduates to embrace midwifery as a career, the sustainability of the scheme is threatened and which could lead to the defeat of the aim of the MSS in its entirety.

For the scheme to achieve the purpose for which it was established, it has to be firmly rooted and sustainable. This in itself requires, among others, an adequate pool of skilled birth attendants adequately nourished through the nursing and midwifery training institutions (UNFPA, 2014). If however, interest in other nursing specialties and higher degrees persists as shown in this study, without concerted efforts to improve interests in midwifery as a career, the sustainability of the scheme will be compromised.

LIMITATIONS OF THE STUDY

Our study investigated only graduating nurses and midwives from the Southeastern Nigeria that has the low maternal mortality rate relative to other regions (Doctor et al., 2012; Global One, 2012). This considerably limits the generalizability of our study to other parts of the country especially the Northern Nigeria that has very poor maternal mortality indices. It may be logical to deduce that poor awareness in nurses and midwives in southwestern Nigeria is a fall-out of relative organized maternal health care services compared to other parts of the country. Further studies in other parts of the country are advocated for in order to establish the national state of awareness or knowledge of MSS in other parts of the country. Even though our study cannot be generalizable based on this limitation, nevertheless, our study provides a good background on which many more extensive studies may be established. Our study also examined combined levels of awareness and willingness to participate in the scheme for both nursing and midwifery students. This may have concealed salient findings that would have been pertinent in identifying facts or trends that are particular to individual groups. Studies on disaggregated group of students are also advocated for in order to objectively differentiate the level of awareness, perception and willingness to participate in the MSS that separately assess nurses and midwifery students. Furthermore, the study could not explore at a deeper level, the low level of interest of many of the study participants in midwifery as a career because it was quantitative in design. A qualitative study to obtain a better understanding of some of these issues is desirable.

Conclusion

This study revealed poor awareness and willingness to participate in the MSS. Most nurses and midwives, even

though most of them chose the profession out of personal choice, prefer other specialties in nursing rather than progressing to work as skilled midwives. Preference for a degree program in nursing, lack of uniqueness in midwifery career, and lack of interest were some of the reasons reported for the desire for other specialties. A scaling up of awareness and enlightenment workshops by the federal government is recommended to correct misgivings which may limit the awareness or interest in the scheme post-graduation for all nursing and midwifery students if success and sustainability of the scheme is to be feasible. Furthermore, incorporation of a course on MSS is advocated for proper grooming and adequate preparation of the graduating students for the task ahead. Lastly, there is a need to investigate the distal factors such as environmental and academic factors, which may preclude effective learning and acceptance of the scheme amongst all nursing and midwifery schools.

Conflicts of interest

Authors hereby affirmatively declare that no competing interest exists.

ACKNOWLEDGEMENTS

The authors will like to acknowledge and appreciate all the Heads of Nursing and Midwifery schools sampled for their cooperation and assistance during the data collection process. To all the final year students who volunteered to participate in the research despite their end of year rigorous exams.

REFERENCES

- Abbaszadeh A, Borhani F, Mohsenpour M (2010). Compatibility of personality and major among freshman undergraduate nursing students of the Kerman University of Medical Sciences. *Iran J. Nurs. Midwifery* 15(2):90–95.
- Abe E, Omo-Aghoja LO (2008). Maternal mortality at the Central Hospital, Benin City Nigeria: a ten year review. *Afr. J. Reprod. Health* 12(3):17–26.
- Abimbola S, Okoli U, Olubajo O, Abdullahi MJ, Pate MA (2012). The midwives service scheme in Nigeria. *PLoS Med.* 9(5):e1001211.
- AbouZahr C, Wardlaw T (2001). Maternal mortality at the end of a decade: signs of progress? *Bull. World Health Organ.* 79(6):561–568.
- Adib-Hajbaghery M, Dianati M (2005). Undergraduate nursing students' compatibility with the nursing profession. *BMC Med. Educ.* 5:25.
- Agan TU, Archibong EI, Ekabua JE, Ekanem EI, Abeshi SE, Edentekhe TA, Bassey EE (2010). Trends in maternal mortality at the University of Calabar Teaching Hospital, Nigeria, 1999-2009. *Int. j. women's health.* 2:249–254.
- Alvarez JL, Gil R, Hernández V, Gil A (2009). Factors associated with maternal mortality in Sub-Saharan Africa: an ecological study. *BMC Public Health* 9(1):462.
- Archibong EI, Agan TU (2010). Review of Policies and Programs for Reducing Maternal Mortality and Promoting Maternal Health in Cross River State, Nigeria. *Afr. J. Reprod. Health.* 14(3):37–42.
- Ashir GM, Doctor HV, Afenyadu GY (2013). Performance based financing and uptake of maternal and child health services in Yobe state, Northern Nigeria. *Glob. J. Health Sci.* 5:34–41.
- Ayede AI (2012). Persistent Mission Home Delivery In Ibadan: Attractive Role Of Traditional Birth Attendants. *Ann. Ib Postgrad. Med.* 10(2):22–27.
- World Bank (2013). *World Development Indicators.* The World Bank, Washington DC.
- Chiwuzie J, Okolocha C (2001). Traditional Belief Systems and Maternal Mortality in a Semi-Urban Community in Southern Nigeria. *Afr. J. Reprod. Health.* 5(1):75–82.
- CMS (2012). *Primary Care Incentive payment program (PCIP): Centre for Medicare and Medicaid Services.*
- Ditlopo P, Blaauw D, Rispel LC, Thomas S, Bidwell P (2013). Policy implementation and financial incentives for nurses in South Africa: a case study on the occupation-specific dispensation. *Glob. Health Action* 6(19289):138–146.
- Divaris K, Barlow PJ, Chendea SA, Cheong WS, Dounis A, Dragan IF, Hamlin J, Hosseinzadeh L, Kuin D, Mitirattanakul S, Mo'nes M, Molnar N, Perryer G, Pickup J, Raval N, Shanahan D, Songpaisan Y, Taneva E, Yaghoub-Zadeh S, West K, Vrazic D (2008). The academic environment: the students' perspective. *Eur. J. Dent. Educ.* (1):120–30.
- Doctor HV, Findley SE, Afenyadu GY (2012). Estimating Maternal Mortality Level in Rural Northern Nigeria by the Sisterhood Method. *Int. J. Popul. Res.* pp.1–5.
- Evans J (2004). Men nurses: a historical and feminist perspective. *J. Adv. Nurs.* 47(3):321–328.
- FMoH (2010). *National Strategic Health Development Plan 2010-2015.* Abuja, Nigeria.
- Global One (2012). *Maternal Health in Nigeria: a statistical overview.* pp.1–12.
- Healthcare Services in UNFPA Assisted States of Nigeria (2010). *Lagos State Report; UNFPA Nigeria Country Office.*
- Koblinsky M, Matthews Z, Hussein J, Mavalankar D, Mridha MK, Anwar I, Achadi E, Adjei S, Padmanabhan P, Marchal B, De Brouwere V, van Lerberghe W (2006). Going to scale with professional skilled care. *Lancet* 368(9544):1377–1386.
- Mental Health Nurse Incentive Program (MHNIP)(2013). *Australian Government Department of Health; Program Guidelines –June 2013.* pp.1–7.
- National Population Commission (NPC) (2009). [Nigeria] and ICF Macro. *Nigeria Demographic and Health Survey 2008.* Abuja, Nigeria: National Population Commission and ICF Macro.
- NPHCDA (2009). *Increasing Skilled Birth Attendance in Nigeria: National Primary Health Care Development Agency-Midwives Service Scheme and PRRINN-MNCH collaboration-an Update.*
- Opiah MM, Ofi AB, Essien EJ, Monjok E (2012). Knowledge and utilization of the partograph among midwives in the Niger Delta Region of Nigeria. *Afr. J. Reprod. Health.* 16(1):125–32.
- Oyo (2014). *The Official Website of Oyo State - The Pacesetter State.*
- Remote Area Nursing Incentive Package (RANIP) (2014). *Human Resources Policy-HR Policy C2.* Queensland Governemnt Department of Health.
- The U.S. Nursing Workforce (2013). *Trends in Supply and Education-Health Resources and Service Administration (HRSA).* pp. 1 – 68.
- UNFPA- United Nations Population Fund (2014). *State of the World Population Report (2014a).*The power of 1.8 billion. United Nations Population Fund (UNFPA).
- UNFPA-United Nations Population Fund (2014b). *Canvasses Support For Midwifery Service In Nigeria; Nursing World Nigeria.*
- UNFPA-United Nations Population Fund (2014c). *The State of the World's Midwifery. A Universal Pathway. A woman's Right to Health-Fast Facts.*
- U.S Census Bureau (2013). *Men in Nursing Occupations; American Community Survey Highlight Report.* pp. 1-7.
- WHO (2013). *Global Health Observatory Data Repository.*
- WHO (2011) *Reviewing Progress, Reviewing Commitment; Progress report on the Kampala Declaration and Agenda for Global Action by Global Health Workforce Alliance, WHO.* pp. 1-3.