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Midwives Population and Antenatal Care (Anc) Service Provision in Cross River State, Nigeria: A Quantitative-Qualitative Approach

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Abstract
The main thrust of this study was to assess midwives' population and service provision at Primary Health Care level in Cross River State, Nigeria. To achieve this objective, two research questions and one hypothesis was postulated to guide the study. The adopted design for this study is a concurrent triangulation mixed method design, which utilizes both quantitative and qualitative approaches. The sample comprised of 70 mid-wives for the quantitative approach and 8 mid-wives for the qualitative approach through the use of census and purposive sampling techniques respectively. A questionnaire developed by the researcher on the type of services provided by mid-wives was used to collect data for the qualitative approach, while a focused group discussion was used to collect data for the qualitative approach. The data gathered were analyzed with descriptive and inferential statistics as well as qualitatively. Results indicated that only forty-four (44) PHCs have midwives while one hundred and fifty-eight PHCs have no midwife at all. The result also indicated that the one PHC that has above 3 midwives render high quality care services to client than the 43 PHC that have below 3 midwives population has the calculated t-value of 17.225 is greater than the critical t-value of 1.980 at 0.05 level of significance and 68 degrees of freedom. This implies that there is a significant relationship between midwives' population and ANCs service provision in PHCs in Cross River /State, Nigeria. Based on this finding, it was recommended that the presence of midwives in State Primary Health Care Development Agency should be strengthened. Nursing and midwifery council should review the policy to establish community midwifery in Cross River State were more midwives will be trained and automatically employed to PHC level in the State.
Keyword: *Mid-wives, Population, PHCs, ANCs, Service provision*

INTRODUCTION

Midwives are central to Primary Health Care (PHC) and are often the first and sometimes the only health professional that people see and the quality of their initial assessment, care and treatment is vital. They are also part of their local community, sharing their culture, strengths and vulnerabilities and can shape and deliver effective interventions to meet the needs of patients, families and communities. According to Esuabana, Effiom, and Ubi, (2021), contributing to the poor state of maternal and child health in Nigeria, especially in rural areas, is the widespread shortage of trained health workers. Between 2008 and 2013, 47% of women in rural areas received antenatal care from a skilled provider, compared to 86 % of women in urban areas. In the same period, only 23% of births in rural areas were attended by a skilled birth attendant, compared to 67% in urban areas. To address the human resource gaps and accelerate progress toward the Sustainable Development Goal 3 on health and well-being, WHO estimates that the world will need an additional 9 million nurses and

midwives by the year 2030. Hence, achieving health for all will depend on their being sufficient numbers of well-trained and educated, regulated and well supported nurses and midwives, who receive pay and recognition commensurate with the services and quality of care that they provide.

In a recent report on the "global strategy on human resources for health with regard to workforce 2030," it is estimated that there is a global health workforce shortage of roughly 17.4 million providers as of 2013. Of this number, about nine million were nurses and midwives (WHO, 2016). The authors of the report noted that most countries are not on track to reach a threshold of 4.45 midwives per 1,000 people, which will be necessary for accomplishing the health-related SDG targets by 2030. Additionally, the health workforce tends to be concentrated in cities, leaving women in rural areas with limited access to skilled care (UNFPA, ICM and WHO, 2014). Nursing and midwifery services are a vital resource for attaining health and development targets. They form the backbone of health systems around the globe and provide a platform for efforts to tackle the diseases that cause poverty and ill-health. If we are to succeed in improving health systems performance, urgent action is needed to overcome the problems that seriously undermine the contribution these services can make to the vision of better health for all communities (World Health Organization, 2002). Researchers who modeled the projected effects of scaling-up midwifery predicted that a ten percent increase in coverage of midwifery-led care would result in a twenty-seven percent reduction in maternal mortality in low and middle income countries (UNFPA, ICM and WHO 2O14).

The major roles of midwives include rendering care to women during pre-pregnancy, pregnancy, intra-partum and postpartum periods. Overall, this care aim towards positive outcome in the process of childbearing for both mother and baby (International Confederation of Midwives, 2005; Masterson, 2010). Furthermore, midwifery services extend to the client's family and the larger community (ICM, 2005). The World Health Organization classifies midwives as skilled birth attendants alongside with doctors and nurses with midwifery skills (WHO, 1999). This means that midwives are very important in the reduction of maternal mortality. A strategy by WHO to reduce maternal mortality is skilled birth attendance in addition to Emergency Obstetric Care (EmOC) and community mobilization (De Brouwere, Tonglet & Larberghe, 2002; Henry, Thea, Hamer, & Dejong, 2017).

Maternal mortality remains a major public health challenge globally, with an estimated 295,000 annual maternal deaths. This high global prevalence is attributed to mortality from low and middle income countries especially sub-Saharan Africa which accounts for 66.3% of all maternal deaths compared to 5% in developed countries. The high prevalence in sub-Saharan Africa is secondary to poor access to maternal and child health services. Nigeria, one of the largest countries in sub-Saharan Africa accounts for 15% of all maternal deaths globally and a maternal mortality ratio (MMR) of 917 per 100,000 live births (WHO et al, 2019). Cross River which is one of the states in South-Eastern Nigeria tops the list for high maternal mortality in the country with MMR of 2000 per 100,000 live births (NDHS, 2013).

The reason for this alarming ratio is presumed to be that antenatal, delivery and postnatal services in the state are mostly provided by traditional birth attendants (TBAs), and faith based institutions without skilled attendants at birth accounting for only 41.3%. (NDHS, 2013). The close correlation between access to a skilled, motivated, and supported midwife and maternal and child health is well established (Rosskam, et al. 2011). Worldwide however, there is an estimated shortage of 4.3 million midwives, nurses, and doctors, with the shortage most severe in low and middle income countries (Rosskam et al 2011; WHO, 2006). Meanwhile, research indicates that teams of midwives and midwife assistants working in facilities could increase coverage of maternity care by up to an additional 40% by 2015 (Koblinsky, et al, 2006).

The availability of skilled health providers (particularly midwives) is critical in ensuring high quality ante natal, intra-partum, emergency obstetric and post-natal services. Indeed, SDGs for maternal health is unlikely to be achieved without attention to the recruitment and retention of midwives (WHO, 2017; ICN, 2017). Accelerating progress towards the SDGs and pursuing an ambitious post-2030 development agenda will require governments, civil societies and professional associations to work with educational institutions, NGOs and a range of international and bilateral organizations to ensure that midwives are more actively sought and

retained, and that the value of existing staff is better recognized, to avoid the risk of a post-2030 slow-down (WHO, 2012).

According to Moses and Chugani, (2014), in support of the roles stated previously, midwives have proficiency to manage normal (uncomplicated) pregnancies, childbirth, immediate postnatal period, identify, manage and refer complications as well as offer base-line emergency obstetric and new-born care when needed. They have been recognized as being pivotal in the reduction of maternal mortality. In Cross River State, for both institutional and non-institutional deliveries, maternal mortality occurs as a result of antepartum and post-partum haemorrhages, pre-eclampsia and eclampsia, obstructed labour, sepsis, unsafe abortion, thrombosis and thromboembolism, ectopic pregnancy, HIV/AIDS exacerbated during pregnancy (Payne, 2016).

These causes if properly assessed and managed by skilled birth attendants are preventable. Additionally, these complications are common in sub-Saharan Africa and it has been observed that there is inappropriate distribution of skilled birth attendants between rural and urban areas. There is a high concentration of skilled birth attendants in the urban areas, therefore, resulting in higher maternal deaths in the rural areas (Bhutta, et al, 2010). Various strategies have been put in place in Nigeria to help increase the number of midwives in rural areas and one of those strategies is the Midwives Service Scheme (MSS) designed specifically to recruit retired but still active midwives and the newly qualified ones to be employed and deployed to health facilities located in rural areas (NPHCDA, 2009). Programmes with these essential elements have been able to attract, recruit, and deploy newly qualified, unemployed, and in some cases, retired but still productive midwives to areas where their skills can make a difference in saving lives and improving the health of women and newborns (NPHCDA, 2009). Currently this strategy is no more functional in most of the states.

Recently, Cross River State Primary Health Care Development Agency and the World Health Organization (WHO) stated that the state needs 784 (seven hundred and eighty-four) midwives across the 18 Local Government Areas with at least four midwives per ward, this was declared during the International Day of the Midwife (IDM) 2017 celebration held in Cross River State. Also in that occasion, the State Commissioner for Health expressed regret toward the lack of adequate number of midwives in the state explaining further that in some Local Government Areas, there are no midwives and the state is commencing the recruitment of midwives that will gradually close up that gap. Therefore, this study seeks to assess midwives' population and service provision: an assessment of primary health care level in Cross River State, Nigeria.

LITERATURE REVIEW

The concept of midwives' population at primary health care level

A midwife is a person who has successfully completed a midwifery education programme that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education; and is recognized in the country where it is located; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery (ICM, 2017). The midwife is recognized as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period and to provide care for the newborn and the infant.

This care includes preventive measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures. A midwife may practice in any setting including the home, community, hospitals, clinics or health units (ICM, 2017). Primary Health Care (PHC) is defined as "essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation, and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (Alenoghena, Isah, & Isara, 2016).

It is the first level of contact of individuals, the family and community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of the continuing health care process (Alenoghena, et al, 2016). The implementation of PHC is primarily through services carried out at the primary health centres and this can only be achieved by Human Resources for Health. Primary care has a number of distinctive features that differentiate it from conventional care. These features are person - centeredness, comprehensiveness and integration, effectiveness and safety, and continuity of care (WHO, 2009). Nurses and midwives took the Declaration of Alma-Ata to heart from the start and continue to put its principles into practice. Their contribution forms the backbone of primary health-care services worldwide.

The coverage of nurses and midwives, in terms of adequate numbers and their appropriate distribution in locations where the community can access them is critical, a direct association has been observed between health worker density and maternal, infant and child survival (Dawson, Nkowane & Whelan, 2015). In particular, the density of nurses has been found to have a significant independent effect on maternal mortality which has not been demonstrated for doctors (Lawn, Yakoob, Haws, Soomro, Darmstadt & Bhutta, 2009). Recent calculations also show that scaling up midwifery-delivered interventions from present baseline levels in 78 countries could significantly reduce maternal deaths, stillbirths and neonatal deaths.

According to Nkwo, Lawani, Ubesie, Obu & Chinawa (2015), sub-Saharan Africa has the least access to MNCH services in the world. This is due to general inadequacy of health systems and particularly due to concentration of available health workers and facilities in the urban centers at the expense of the majority of the population who live in the rural areas. Various forms of health worker motivation have been suggested, some of which were designed specifically for encouraging more health workers to accept postings to health facilities located in the rural areas (Bhutta, Chopra, Axelson, et al. 2010). Health human resource capacity is one of the major determinants of an effective health care delivery system. It is more importantly so in the Primary health care system, which is the key component of every health system (Alenoghena, Isah & Isara, 2016).

Midwives Model of Care

The Midwives Model of Care is a fundamentally different approach to pregnancy and childbirth than contemporary obstetrics. Midwifery care is uniquely nurturing, hands-on care before, during, and after birth, and care for newborns. The Midwives Model of Care is based on the fact that pregnancy and birth are normal life events. The midwives model of care, whether practiced in clinics, private homes, hospitals or birth centers, has at its core the characteristics of being with women, listening to women, and sharing knowledge and decision-making with women. The goal of the midwifery model of care is to support women and their families in the process of birthing their babies safely, unhindered and with confidence. Every woman deserves access to the high quality, safe, personalized, attentive, affordable, and respectful care of a midwife (Midwives Alliance, 2018).

Population of midwives at PHC level

Makowiecka, Achadi, Izati, and Ronsmans (2008) carried out a study on midwifery provision in Indonesia and the result revealed that 10% of villages do not have a midwife but had a nurse as a midwifery provider; there is a deficit in midwife density in remote villages compared with urban areas; those assigned to remote areas are less experienced; midwives manage few births and this may compromise their capacity to maintain professional skills; over 90% of non-hospital deliveries take place in the woman's (64%) or the midwife's (28%) home; three-quarter of midwives did not make regular use of the fee exemption scheme; midwives who live in their assigned village spend more days per month on clinical work there. They concluded that adequate provider density is an important factor in effective health care and that efforts should be made to redress the imbalance in provision, but that this can only contribute to reducing maternal mortality in the context of a supportive professional environment and timely access to emergency obstetric care.

Study carried out byNkwo, Lawani, Obu and Chinawa, (2015) on poor availability of skilled birth attentants in Primary Health Care System in Enugu, revealed that of the 208 government-owned PHC facilities

selected for the study, 152 (73.1%) were found to provide perinatal care. The remaining 56 (27.9%) were not providing perinatal care. Of the facilities that were not providing perinatal services, 38 were health posts and dispensaries which were not designed to provide perinatal services whereas 18 were Health Centreswith facilities for perinatal care but each was manned by a single male Community Health Extension Worker (CHEW) or Junior Community Health Extension Worker (JCHEW). Male CHEWs and JCHEWs generally avoided providing perinatal care.

There was no obstetrician or non-obstetrician physician employed in the 152 PHC clinics studied. There were only 55 non-midwife nurses comprising of general nurses and public health nurses and none of them had received competency-based midwifery training according to the ICM recommendations. No PHC facility had more than one of such nurses. The most available cadres of health care providers at the PHC level were the CHEWs and JCHEWs. Although the mean number of CHEW/JCHEW per facility was 8.1, the actual number ranged from one to 36 per facility. The PHC facilities that were located in the local government headquarters generally had more CHEW/JCHEWs than those that were located in the more remote communities.

Another study carried out by Ugo (2016), on Strengthening Primary Health Care Services in Rural Nigeria: The Potential of Using Midwives as Skilled Birth Attendants, the result revealed that a total of 1000 primary health care facilities across the six geopolitical zones were supported by the SURE P MCH programme and provided 24 hour services which did not obtain before the programme commenced. A total of 3158 midwives were recruited and deployed between October 2012 when the programme started and 2014. There were no midwives in all facilities before October 2012. The newly engaged midwives were distributed across the 1000 facilities according to the structure where possible. A total of 597 midwives were deployed to the North-Central zone, 389 to North-East zone, 586 to North-West zone, 509 to South-East zone, 571 in South-West zone and 506 in South-South zone.

The difference in the number of births by the skilled birth attendants (the midwives deployed to the facilities supported by SURE P MCH) and the number of women now using a contraceptive method in the areas where these facilities are located were significant. The total number of antenatal care (ANC) visits were up by 42%, new ANC visits by 39% and four or more ANC visits increased by 30% after the follow-up survey. Births by skilled birth attendants were up by 56%, postnatal visits by women were also up by 33% and women using contraceptive methods increased by 66%.The skilled delivery at birth and use of contraceptive methods showed only marginal increase at follow-up for both zones. Similar patterns were observed in the North-Central zone and South-South zone. Although the number of births by skilled birth attendants fell slightly at follow up, there was still a slight increase in the number of postnatal visits in the South-South zone. Similar patterns were also recorded in the South-East and South-West zones. Although the South-West zone showed more remarkable increases in total and new ANC visits, births by skilled birth attendants, postnatal visits and number of women using contraceptive methods. In summary, p-value for all core indicators were statistically significant, with a range of 0.48 – 0.46 ($p<0.05$). Thus showing the intervention had a positive impact on maternal health care improvement.

Another study by Achadi et al (2007) on Midwifery Provision and Uptake of Maternity Care in Indonesia revealed that an average density of 2.2 midwives per 1000 population, 33% of births are with a health professional, and 1% by caesarean section. Having at least six midwives per 10000 population was associated with a fourfold increase in caesareans [adjusted risk ratio (RR) 4.3: 95% confidence interval (CI): 3.3–5.5] and a threefold increase in the odds of having a health professional attend the delivery [adjusted odds ratio (OR) 2.88: 95% CI: 0.96–8.70]. The assigned midwife's professional status and the duration of her service in the village were also associated with higher rates of health professionals' attendance of delivery and caesareans.

OBJECTIVES OF THE STUDY

This study sought to assess midwives' population and antenatal care service provision at Primary Health Care level in Cross River State, Nigeria. Specifically, the study sought to:

1. Identify the PHC facilities with midwives in Cross River State.

2. Examine the difference between midwives' population and ANC service provision at PHC in Cross River State.

RESEARCH QUESTIONS

1. Which of the PHC facility has midwives in Cross River State?
2. How does midwives' population influence ANC service provision at PHC in Cross River State?

RESEARCH HYPOTHESES

H_0: There is no significant difference between midwives' population and ANC service provision at PHC in Cross River State.

STUDY DESIGN

The adopted design for this study is a concurrent triangulation mixed method design, which utilizes both quantitative and qualitative approaches. Mixed methods research is an approach for conducting research that involves collecting, analyzing and integrating both quantitative and qualitative research (Creswell, 2010). This approach to research is used when the integration provides a better understanding of the research problem than either of each alone. By mixing both quantitative and qualitative research data, the researcher gains in breadth and depth of understanding and corroboration, while offsetting the weaknesses inherent to using each approach by itself. One of the most advantageous characteristics of conducting mixed methods research is the possibility of triangulation that is, the use of several methods to examine the same phenomenon. Triangulation allows one to identify aspects of a phenomenon more accurately by approaching it from different vantage points using different methods and techniques (FoodRisC Resource Centre, 2018).

Cross-sectional descriptive survey design was used for quantitative study. The term cross sectional describes design conducted in the present to examine what currently exist. The fundamental characteristic of cross-sectional survey design is that all data are collected at one time period (Cherry, 2019). The participants in cross-sectional designs are selected based on the inclusion and exclusion criteria set for the study, the designs are used for population based surveys (Setia, 2016). This type of design is best for this study because it suits the researcher's plan to examine the association or relationship between the independent variable (midwives' population) and the dependent variable (midwives service provision). In this study, data were collected at one time period.

The qualitative research design employed case study approach utilizing focused group discussion for data collection, to gain in-depth understanding of the type of services provided by midwives in relationship with population of midwives. Case study approach is particularly useful when there is a need to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-life context (Cresswell et al, 2011). Case study offers opportunity for a researcher to use range of tools on one subject. This gives time and space to build a detailed understanding of the topic, establishing a sound platform from which to explore the factors influencing the case study in greater detail (Salmon, 2017).

Study population/Sample

The target population for this study involved all midwives working at Primary Health Care facilities in Cross River State. The study adopted a census sampling procedure for quantitative approach. For qualitative aspect of the study, purposive sampling technique was used to select midwives working in primary health facilities. Eight (8) participants were selected purposively from PHC facilities in each senatorial district to form three focus group discussions (FGD) units which summed up to twenty-four (24) participants.

RESULTS AND FINDINGS FOR QUANTITATIVE

Research Question one: Which PHC facility has midwives in Cross River State?

Table 1 shows that out of two hundred and two (202) Primary Health Care facilities in Cross River State, only forty-four (44) PHCs have midwives while one hundred and fifty-eight PHCs have no midwife at

all. Comprehensive Health Centre Ikom is the facility in Cross River State with seven (7) midwives. PHC MmaEffa, PHC Akim, PHC Ntamkpo, PHC Ekuntack, Model PHC Utuwngwan, PHC Obudu urban, Model PHC KassanErowan, PHC department Calabar South, PHC department Yala LGA are the only PHC facilities that have two midwives each. The majority thirty-six (36) PHC Wanikade, PHC Oba, Okpoma, PHC Okuku, PHC Yache, PHC Wanihem, PHC Olachor, PHC Okpoma, PHC Ugep, PHC Ekori, Department of PHC Obubra, PHC Ofatura, PHC Ochion, PHC department Odukpani LGA, PHC Ito, PHC Odukpani Junction, PHC Ohong, PHC Ekonokor, PHC Nkaransi, PHC Ebe Victoria, PHC Ediba, PHC Ekpo-Abasi, PHC IkotOmin, PHC Ikot Ishie, Okunde PHC, PHC Batrico, PHC Upa, PHC Gakim, PHC Eyaya, PHC Ikot Nakanda, PHC Ediba, PHC Ekureku, PHC Anong, PHC Ojor, PHC Mfamosing, PHC Enghaught, Department of PHC in AkamkpaLGA all have only one midwife each.

TABLE 1

Names of Health Centres in Cross River State that have Midwives (n=70)

S/N	LGA	NAME OF PHC	NUMBERS OF MIDWIVES
1	ABI	PHC EDIBA	1
		PHC EKUREKU	1
		PHC ANONG	1
2	AKAMKPA	PHC MMA EFFA	2
		PHC OJOR	1
		PHC MFAMOSING	1
		PHC ENGHAUGHT	1
		DEPARTMENT OF PHC IN THE LGA	1
3	AKPABUYO	IKOTNAKANDA	1
4	BAKASSI	-	-
5	BEKWARA	MODEL PHC	2
		PHC UPA	1
		PHC EYAYA	1
		PHC GAKIM	1
6	BIASE	P HC AKPET 2	1
7	BOKI	MODEL PHC KASSAN EROWAN	2
		PHC BATRICO	1
		OKUNDE PHC	1
8	CALABAR MUNICIPALITY	PHC AKIM	2
		PHC IKOT ISHE	1
		PHC EDIBA	1
		PHC IKOT OMIN	1
		PHC DEPARTMENT	2
9	CALABAR SOUTH	PHC EKPO ABASI	1
10	ETUNG	-	-
11	IKOM	COMPREHENSIVE HEALTH CENTRE	7
		PHC EKONOKOR	1
		PHC NKARANSI	1
		PHC EBE VICTORIA	1
12	OBANLIKU	PHC UTANGA	
13	OBODU	MODEL HEALTH CENTRE UTUGWANG	2
	OBUDU	PHC OHONG	1
		PHC OBUDU URBAN	2
14	ODUKPANI	PHC ODUKPANI JUNCTION	1
		PHC ITO	1
		PHC DEPARTMENT	1
15	OBUBRA	PHC OCHONG	1
		PHC OFATURA	1
		DEPARTMENT OF PHC	1
16	OGOJA	PHC EKUNTACK	2
17	YAKURR	PHC EKORI	1
		PHC NTAMKPO	2
		PHC UGEP	1
18	YALA	PHC OLACHOR, OKPOMA	1
		PHC WANIHEM	1
		PHC YACHE	1
		PHC OKUKU	1
		PHC OBA, OKPOMA	1
		PHC WANIKADE	1
		DEPARTMENT OF PHC	2
		TOTAL	70

Source: questionnaire

Research Question two: How does midwives' population influence ANC service provision at PHC in Cross River State?

TABLE 2

Description of ANC Service Provision (n=70)

Ante-natal services	Always	Most times	Sometimes	Not at all
Booking/registration	9 (12.9%)	26(37.1%)	35(50. 0%)	-
Vital signs check	14 (20.0%)	16 (22.9%)	40 (57.1%)	-
Height/ weight measurement	11 (15.7%)	20 (28.6%)	38 (54.3%)	1 (1.4%)
Physical examination	11 (15.7%)	14 (20.0%)	44 (62.9%)	1 (1.4%)
Abdominal examination	14 (20.0%)	19 (27.1%)	34 (48.6%)	3 (4.3%)
Pelvic assessment	9 (12.9%)	8 (11.4%)	51 (72.9%)	2 (2.9%)
Urine testing	14 (20.0%)	23 (32.9%)	33 (47.1%)	-
Health education	12 (17.1%)	16 (22.9%)	39 (55.7%)	3 (4.3%)
Counseling	10 (14.3%)	10 (14.3%)	44 (62.9%)	(8.6%)
Administration of drugs	16 (22.9%)	23 (32.9%)	31 (44.3%)	-

Source: questionnaire

TEST OF HYPOTHESIS

The null hypothesis stated that there is no significant influence between midwives' population and ANCs service provision. The independent variable is midwives' population while the dependent variable is antenatal care service provision. The independent variable which is Midwives population is a categorical variable and it is grouped into PHC facilities that have high number of midwives population, that is, three (3) and above and those PHC facilities that have low number of midwives population, that is, below three (3) midwives in each PHCs in Cross River State. The dependent, ANC service provision is a continuous variable. To test this hypothesis, the independent t-test analysis was applied to test the data at 0.05 level of significance and 68 degrees of freedom. The result is presented in Table 3.

Table 3 result showed the differences in antenatal service provision of PHCs with midwives population numbering 1-2 and 3 and above. The Table showed that PHC facilities with 3 and above midwives is one (1)and has a mean score antenatal care service provision of 34.57 and standard deviation of 2.07. Similarly, PHC facilities that has 1-2 midwives population are (43) and has a mean score of antenatal service provision to be 18.98 and standard deviation score of 3.60. The result indicated that the one PHC that has above 3 midwives render high quality care services to client than the 43 PHC that have below 3 midwives population has the calculated t-value of 17.225 is greater than the critical t-value of 1.980 at 0.05 level of significance and 68 degrees of freedom. Therefore, the null hypothesis which stated that there is no significant relationship between

midwives' population and antenatal care service provision is rejected while the alternate hypothesis is upheld. This implies that there is a significant relationship between midwives' population and ANCs service provision in PHCs in Cross River /State, Nigeria.

Table 3

Independent t-test analysis of the difference between midwives population and ANC service provision in Cross River State, Nigeria. N= 70

Midwives groups	No of PHCs	n	Mean	S.D	t-cal	p-value
3 &Above Midwives in PHCs	(1)	7	34.57	2.07	17.225*	.000
1-2 Midwives in PHCs	(43)	63	18.98	3.60		

Significant at P<.05 df=68 Critical t= 1.980

RESULTS AND FINDINGS FOR QUALITATIVE

Sub-theme 1: General services:

Primary health centre (PHC) has various component and midwives affirm that in their various health facilities, they serve other essential duties apart from attending to pregnant women and newborn as stated:

"When you look at our role in the PHC facilities, you look at the component of PHC and you see that our role is enormous, so it is not just pregnancy and delivery and child health services. We also carry out services such as school health services, treatment of minor ailment, ART for HIV positive mothers, we encourage pregnant women to do scan, home visit and immunization". FGD2-P5.

Sub-theme 2: Ante-natal services:

Ante-natal services remain an essential component in Primary Health care as the first point of contact of community members to the health care system and it mirrors future patronage or rejection of government health care facilities as stated:

"We are well aware that most women visit the hospital for the first time during pregnancy and we as midwives' care for them, predict whether they will deliver in the facility and utilize future care for their babies or not. We provide a lot of services not only limiting our services to pregnancy and delivery, often we go beyond the pregnant woman to involve the entire family" FGD1-P 7.

Participants identified core ante-natal care services to the pregnant women which include health education on birth preparedness, ante-natal registration, laboratory investigations, and referrals services as stated:

> *"To the pregnant women who come for antenatal registration, since I am the only midwife, I make sure during registration, I do it alone to screen and identify high risk cases and those I have to refer to other health facilities, so I normally obtain full history including laboratory investigations, like urine testing, I*

do those laboratory investigations that are essential for ante-natal registration as well as screening to detect high risk cases with underlying complications and need for referral."(FGD 2- p2)

While identifying health education as an important role, participants revealed content of health education to include birth preparedness, good nutrition, personal hygiene, exclusive breast feeding among others as stated:
'After due registration, I provide health education on how the pregnant woman and her family could adequately prepare for birth and what to do in cases of emergency, to be prepared for birth and you can never tell complications, we health educate families also to know signs of onset of labour and danger signs during pregnancy" FGD2-P 8.

In affirmation to preparedness, another added:

'We tell them what to bring to the facility, materials, money, who to support or care for the other children when she is away, sometimes we counsel them to arrange for transport to the hospital'.
Almost all participants identified some laboratory investigation such as blood test and urine testing as their categories of services as stated: "I run some tests such as HIV screening, checking haemoglobin status and urine testing'.

Another participant affirmed by stating:

"Apart from booking or registering our client, I provide advice on diet, personal hygiene, I do urinalysis to check for glucose and protein, check for signs of pre-eclampsia, give health talk on birth preparedness, exclusive breastfeeding, I also test for HIV and a general assessment of the mother from head to toe is done including palpation" (FGD 3- p5).

Although there are other cadres of health workers, it was obvious that midwives play an important role especially among pregnant women bearing in mind the risks associated with pregnancy and delivery as stated:

"I am an experienced midwife and I know that you cannot allow CHEWs to assess or even book pregnant women because they do not have the skills, you cannot even rely on them for a comprehensive history. It is my duty if morbidity and mortality associated with pregnancy must be reduced in our State."(FGD1-P7).

IMPLICATIONS OF THIS STUDY TO MIDWIFERY PRACTICE

The findings of this study imply that there is gross shortage of midwives population in all primary health care facilities in Cross River State. Due to inadequate number of midwives in primary health care facilities the findings revealed that, task shifting, poor quality of care was practiced, where most of the services midwives were supposed to render were being provided by other health workers who do not have midwifery training and adequate skills. This shifting of significant midwifery task is perceived to contribute significantly to maternal morbidity and mortality in Cross River State. In this study, majority of participants are of the opinion that maternal mortality rate in Cross River State can never reduce without increasing midwives' population in all the PHC facilities.

CONCLUSION/RECOMMENDATIONS

The population of midwives at PHC level in Cross River State is grossly inadequate. This deprives the women of child bearing age of their right to be attended to by competent midwives as recommended by ICM and WHO. This implies that the women particularly in rural areas where PHCs are the only source of modern health care facilities, are exposed to the risk of morbidity and mortality. It was therefore recommended that the government should employ more midwives as a way to improve midwives' population at Primary Health care level in the State. Policy makers should formulate policies that will help promote midwifery workforce at the Primary Health care level in the State. Midwives should embark on advocacy to the government and non-

governmental bodies on the need to improve midwives' population which will lead to improved service delivery in PHC level in the State. The presence of midwives in State Primary Health Care Development Agency should be strengthened. Nursing and midwifery council should review the policy to establish community midwifery in Cross River State were more midwives will be trained and automatically employed to PHC level in the State.

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