

Effect of an Educational Intervention on Midwives' Competence in Antenatal Psychosocial Risk Assessment and Support for Pregnant Women in Ondo state: A Quasi-Experimental Study

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**Effect of an Educational Intervention on Midwives' Competence in Antenatal Psychosocial
Risk Assessment and Support for Pregnant Women in Ondo state: A Quasi-Experimental
Study**

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ABSTRACT

Background: Maternal mental health care is largely neglected in antenatal services in the sub-Saharan African context, Nigeria in particular. Common antenatal psychosocial risks such as, depression, anxiety, lack of adequate social support, intimate partner violence (IPV) has been found to be associated with poor perinatal and neonatal outcomes, including preterm birth, low birth weight and impaired maternal-infant bonding. It has been recommended by World Health Organization that psychosocial risk should be embedded in the regular antenatal visit of pregnant women, but due to lack of competence and structured approach to assess these risks, midwives have not been fully able to practice it. This study evaluated the effectiveness of an educational intervention on the competencies of midwives in the assessment and support of psychosocial risks of pregnant women in Ondo State, Nigeria.

Methods A quasi-experimental pre-test/post-test design with non-equivalent control groups was conducted on 172 midwives recruited using multi stage sampling method from public Secondary Health facilities in Ondo state and they were randomly allocated to intervention(n=86) and control group (n=86). The intervention group underwent a four week structured training programme on antenatal psychosocial care using WHO 2016 ANC model and the Antenatal Psychosocial Health Assessment (ALPHA) Framework. A validated 55 items structured questionnaire (Cronbach's α =0.82) was used for data collection at baseline, 6 weeks and 12 weeks post intervention. Competence was operationalized as a composite of

knowledge, attitude and self-reported practice skills. data was analyzed using Wilcoxon test at $p < 0.05$ level of significance.

Result: The results of the study revealed that at baseline, only 10.5% of midwives in the intervention group possessed high competence level for psychosocial care. The competence level increased to 27.2% post - intervention, attitudes of midwives improved, and screening of women for depression and IPV increased post intervention. At the end of the intervention, there were statistically significant increase in knowledge, practices, and competency scores among the intervention group compared to the control group ($p < 0.001$).

Conclusion: It was evident from the findings that structured education programme can significantly enhance the psychosocial competencies of midwives. Therefore, it is essential for Midwifery educational curricula to be redesigned to incorporate systematic training of future and practicing midwives in psychosocial care, as part of pre-service and ongoing continuing professional education to strengthen maternal health service.

Keywords: Midwifery, Psychosocial Risk Assessment, Antenatal Care, Educational Intervention, Maternal Mental Health, Ondo State, Nigeria.

Background

Ante Natal Care (ANC) is receiving global and local recognition as a vital part of holistic ante-natal services that needs integration of care beyond physical issues, and thus addressing maternal mental health. However, there seems to be under integration of this into existing ante-natal care (ANC) services, particularly in low and middle income countries (LMICs) including Nigeria. Ante-natal risk factors, psychosocial issues such as depression, anxiety, low social support and intimate partner violence (IPV) are recognized to influence several negative outcomes such as pre-term birth, low birth weight, failure of bonding between the mother and the infant and subsequent poor maternal/child outcome including Postpartum disorders. [1–3] Despite growing global awareness, antenatal services in many LMICs continue to prioritise physical health, with limited integration of psychosocial assessment and support [4].

Perinatal mental health problems affect roughly 10% of pregnant women in high-income countries, however, studies indicate increased prevalence between 20% and 30% in LMICs, where services to manage those conditions often remain underdeveloped, insufficient and inaccessible. [5] In sub-Saharan Africa, the issues are often made worse by societal dynamics of class and gender-based violence, stigmatisation, and culturally driven views on mental health as well as challenges associated with under-utilization of health services. [6] Existing studies in Nigeria, have shown high prevalence of ante-natal Depression, Anxiety and Intimate Partner Violence(IPV) with estimates of IPV among pregnant women

ranging from 11% to 41%, [7,8] however; under-reporting is a known limitation for all of these, and it could be higher given current poor detection rates, stigma and the lack of a standardized screening procedure during ANC services. [9].

The increasing recognition globally of these challenges led to a WHO framework on ANC aimed to ensure not only the health of mothers, but also the psychosocial well-being [10]. This model stresses the importance of routine risk assessments of the pregnant mothers at various stages of their ANC service, effective monitoring and timely referrals in addition to prevention strategies to identify and manage psychosocial issues such as depression and anxiety that may arise during pregnancy. Despite its inclusion in the global model of ANC, and emphasis from various organizations on integrated ante-natal care services, many ANC facilities, mostly in LMICs have continued to provide biomedical-focused care for ANC with very little inclusion of psychosocial assessment. [11]

Midwives are important providers of antenatal care and usually are the first point of contact with the pregnant women, thus, are best positioned to recognize potential psychosocial risk. [11] Nevertheless, research has indicated that most Midwives have poor knowledge, skills and confidence in assessing psychosocial risks of pregnant women [12, 13]. These gaps were identified at the levels of screening for depression, Intimate Partner Violence (IPV), counselling abilities, and referrals to tertiary levels of care.

This is generally thought to stem from a lack of focus on maternal mental health in pre-service education, insufficient opportunities for continuous professional development [14].

Antenatal care practices in Nigeria, are mostly biophysical, focused on examinations such as measurement of blood pressure, examination of foetal growth, and routine laboratory test. The psychosocial element of antenatal care has been relegated to the background, and sometimes informal care has to cover, thus leading to delays in the management of psychosocial issues [15]. Additionally, patient: providers' ratio, limited available time and the prevailing healthcare structure does not favour and or make it easy for midwives to integrate the psychosocial care delivery in to daily practice.

Although, maternal health programs in Ondo State, Nigeria have improved service access for antenatal care and helped reduce maternal mortality [16]. The ABIYE program, for example has increased service utilization and physical health outcomes, but not given significant consideration to the psychosocial aspects of care; resulting in inadequate addressing of psychosocial risks faced by pregnant women, hence posing quality deficits in antenatal care services.

Evidence suggest that healthcare providers can be equipped with better competence and clinical practices through different interventions like the structured training programs that could influence knowledge, attitude and application of best evidence in clinical Practice. [17] Training for Maternal mental health interventions involving the use of Standardized framework tools such as Antenatal psychosocial health

assessment (ALPHA) have showed good prospects in enhancing detection and management of psychosocial risks in pregnant women [18]. But paucity of evidence is still a concern about such interventions among midwives in the secondary level of healthcare facilities in Nigeria.

Given that midwives have played predominant role in the antenatal care service provision, the identified competence gap towards antenatal care with regard to the assessment of psychosocial risk necessitates that some targeted interventions are designed and implemented to enhance competence among these midwives for holistic antenatal care practice. It is equally important that the impact of these targeted interventions is assessed to help formulate effective policies, aid the design of education program, and provide for effective delivery of integrated psychosocial care in antenatal clinics.

Therefore, the objective of this study was to evaluate the impact of an educational intervention on the competence of midwives (in terms of knowledge, attitude, practice) in assessing antenatal psychosocial risks among pregnant women in Ondo State, Nigeria.

Methodology

Study aim

The objective of the quasi-experimental research study was to assess the effect of the education intervention on the competence of midwives (knowledge, attitude and practice) of providing antenatal psychosocial risk assessment and support services.

Design & Methodology

This study employed a quasi-experimental methodology, using a non-equivalent control group, with pre and post-tests assessment. This design has allowed comparison between an intervention and control groups at 3 time points during the research period (baseline, 6-weeks and 12-weeks post intervention measures). It was not possible to randomise individuals given the potential of contamination within midwives working in the same facilities, thus the research group has been based upon facility-based recruitment.

Settings

Government owned secondary level healthcare facilities were utilized because they provide comprehensive ANC services to a significant number of pregnant women and function as a referral center

for primary health care centers in Ondo North and Ondo Central senatorial districts of Ondo State.

Participants and eligibility criteria

This study involved registered nurses and midwives working in the antenatal clinics of the selected health facilities. Any midwife who is registered and qualified to practice, has a minimum of one-year experience in antenatal care, is involved in the provision of ANC services, and has willingly given an informed consent for this study was eligible for inclusion in the study. However, the researcher excluded any midwife on leave, administrative and managerial nurses, clerks, student nurses and interns.

Sample size determination and sampling technique

The sample size for this study was calculated using a formula designed for comparing two independent groups, as described by [19,20] The following parameters were used for the sample size calculation:

Significance Level (α): 5% ($Z_{\alpha/2} = 1.96$)

Power ($1-\beta$): 80% ($Z_{\beta} = 0.84$)

n is the sample size required

P1 is the Proportion of competence in pre-intervention group: 53.3% (estimated from previous studies on midwifery competence in psychosocial support) [21]

P2 is the Proportion of competence in post-intervention group: 75% (expected improvement in competence post-intervention)

Pooled Proportion (p): The average of P1 and P2, calculated as

$$(P1 + P2)/2 = (0.533+0.75)/2 = 0.6415$$

The formula used to calculate the sample size (n) is:

$$n = \frac{2 \times (Z\alpha/2 + Z\beta)^2 \times p(1-p)}{(P1 - P2)^2}$$

Substituting the values:

$$n = \frac{2 \times (1.96 + 0.84)^2 \times 0.6415 (1-0.6415)}{(0.533-0.75)^2}$$

$$n = \frac{2 \times (2.8)^2 \times 0.6415 \times 0.3585}{(-0.217)^2}$$

$$n = \frac{2 \times 7.84 \times 0.6415 \times 0.3585}{0.0471}$$

$$n = \frac{3.6061}{0.0471}$$

$$n = 77$$

To account for an estimated 10% attrition rate or loss to follow-up, the adjusted sample size was calculated as follows:

$$n = \frac{N}{1 - \text{attrition rate}}$$

1 – attrition rate

$$n = \frac{77}{1 - 0.1}$$

$$1 - 0.1$$

$$n = 86$$

Thus, the minimum sample size for each group in the study was 86, resulting in a total sample size of 172 midwives/nurses (86 per group).

Sampling Technique

A multistage stratified purposive sampling technique was employed to select the study sites; then by allocation process, four primary study sites (facilities) were categorized into intervention or control; afterwards, a stratified random sampling technique was used to ensure representation across various levels of professional experience including; head / senior nurse/ registered nurse and midwives in each facility.

Intervention

A four- week structured training program was developed to equip midwives with better competence in the assessment and support of psychosocial risk during pregnancy. The training content was based on the new WHO (2016) guideline for antenatal care and the guidelines laid down by the 'ALPHA' framework (Antenatal Psychosocial Health Assessment). Given that midwives were engaged with regular work duties;

the intervention approach was structured in such a way that it did not interrupt with the daily functions of participants while ensuring they receive training on required aspects. Thus, a blended approach was utilized consisting of:

- Short lectures and interactive class work
- Self-directed study using various media
- Hands-on practicum using patients' interaction

Power points, handouts and case studies were used.

The training curriculum contained 8 modules:

identification of psychosocial risk factor during pregnancy, use of screening tools like ALPHA tool, communication skills with pregnant women, counselling skills, information on depression, anxiety, intimate partner violence(IPV), pathways for psychosocial intervention and multidisciplinary collaborative care.

The teaching methodologies adopted in this training included lectures, discussion, role play, case demonstration and practical participation. In contrast, the control group of midwives did not receive training.

Data Collection Instrument

The data was collected through the questionnaire developed based on literature review and current psychosocial assessment tools which contained socio-demographic data, 30 knowledge questions, 10 attitude questions and 15 practice questions on assessment and management of psychosocial risk in pregnancy. The items in the questionnaire consisted of Likert scales and selected response type questions

for knowledge on specific aspect, closed- and open-ended questions for attitude towards and practice during screening. The validity and reliability of the questionnaire were tested among nurses not in the study sites prior to commencement. Its reliability using Cronbach's alpha yielded 0.82 which demonstrate good internal consistency.

Data Collection Procedures

Data was collected in two phases (pre-intervention and post-intervention stage). All midwives (intervention and control groups) in the selected clinics were approached at their workplace at the baseline and requested to complete the study questionnaire, which lasted approximately 30 minutes. Training was performed for the intervention group while the control group continued with normal ANC routine, and data collected at the baseline, 6 weeks and 12 weeks using questionnaire developed from relevant literature. The researchers managed data collection to ensure uniformity across different study sites. All data collected were kept confidential.

Outcome Measure

The outcome of this study was measured as level of competency of midwives in psychosocial risk assessment and psychosocial support during antenatal care, which was aggregated from the three constructs (knowledge, attitude, and practice). Higher mean score indicates increased competence.

Data Analysis

Statistical analysis was carried out using STATA 17 Statistical Software. Descriptive statistic, frequencies and percentage, mean, interquartile range, and standard deviation, as applicable, was used to summarize socio-demographic characteristics of the participants and assess baseline comparability. Wilcoxon test was used to determine the effectiveness of the intervention in improving the competencies among the midwives in the intervention group and between intervention and control groups, respectively, at $p < 0.05$ level of significance.

Ethical Considerations

The study received institutional Review Board/Ethics Committee Approval from Ondo State Health Research Ethics Committee (OSH Ministry of Health), Ondo State [OSHREC/31/01/2025/801]. All participating midwives have also obtained their written informed consent prior to their enrollment in the study. Confidentiality of the information provided by respondents was assured throughout the study. Participation in the study was voluntary and participants have been informed of their rights to abstain or discontinue their participation without prejudice.

Results

Participants' socio-demographic characteristics

A total of 172 midwives were recruited and equally divided into the intervention (n=86) and control (n=86) groups. Socio-demographic characteristics of participants were well balanced between groups at baseline with no significant differences ($p > 0.05$). The majority were in childbearing age and had varying experience in providing antenatal care (Table 1).

The Attitude / Behavioural Risk Factors among IG and CG at Baseline and PIs

The Behavioural perceptions and psychosocial care practices The overall perception about provision of psychosocial care was positive by participants in the control and intervention groups in all time points. At baseline, a larger percentage of participants in the control group felt they have skills and knowledge to assess psychosocial risks than their intervention counterpart (86. 0% vs 73. 3%; $\chi^2=4.34$, $P=0. 04$) which continued to remain statistically significant at 6 weeks and 12 weeks post interventions ($p=0. 05$). However, high confidence level in performing Psychosocial care, to witness others performing Psychosocial care and a positive outcome for Psychosocial care was perceived in both study groups with no statistically significant differences between them over all time points ($p > 0.05$) (Table 2).

Baseline midwife competency

Antenatal psychosocial risk assessment and support competence was found to be low in both groups at baseline. Mean values for knowledge, attitude and practice were statistically similar between the intervention and control group at baseline, with no significant differences ($p > 0.05$) (Table3).

Effect of intervention on midwives' knowledge

At baseline, there were no statistically significant differences between the control and intervention groups across all knowledge items ($p > 0.05$). However, at 6-weeks post-intervention, significant improvements were observed in the intervention group across several domains of psychosocial risk identification, including recognition of lack of emotional support, history of mental health problems, and exposure to stressors ($p < 0.05$). Overall mean knowledge scores of the intervention group improved significantly after education interventions (Table 4). Additionally, the respondent's overall practice of psychosocial assessment increased from 45.3 % at baseline to 81.5 % post-intervention, ($p < 0.001$). However, there was no change in the mean score of control group during this period (Fig. 1).

Influence of the intervention on midwives' practices

A significant improvement in practice scores among intervention midwives after intervention was observed with a high self-rated antenatal psychosocial risk assessment practice, screening for depression and intimate partner violence. The mean practice scores increased significantly from baseline to 12-weeks

post intervention ($p < 0.05$) (Table 5). Additionally, the respondent's overall practice of psychosocial assessment increased from 43.0 % at baseline to 77.8 % post intervention, ($p < 0.001$). In contrast, no significant improvement in the practice score was observed in the control group (Fig 2).

Overall outcomes of midwife competence

The scores on knowledge, and practice were combined to assess overall midwife competence. A significant increased competence score was recorded in the intervention group, with a high proportion of participants showing high competence both at 6 and 12-weeks post-intervention. In contrast, no improved competence score was recorded in the control group during the study period ($p < 0.001$) (Table 6). Additionally, the competency level of the intervention group increased significantly from the 10.5% at baseline (Fig 3) to 27.2% post intervention (Fig 4).

Sustainability of intervention

The post-intervention improvements gained in the intervention group were maintained during the 12-week follow-up and there was no significant difference between mean scores at 6- and 12- weeks of post-intervention period. This provides evidence of a sustainability effect of the intervention.

Discussion

This study investigated the effect of an educational intervention on midwives' competence in antenatal psychosocial risk assessment and support in Ondo State, Nigeria. The results demonstrate that the intervention led to significant improvements in midwives' knowledge, attitudes, and self-reported practices, with sustained positive effects over the 12-week period. This evidence points to the efficacy of structured training programmes in improving midwives' abilities to provide comprehensive antenatal care.

The baseline results, indicating low levels of competence in both intervention and control groups, are congruent with previous literature that suggests maternal mental health issues have not been adequately integrated into standard antenatal care in many low-and middle-income countries [4,6]. Prior research shows a disparity in the training and confidence of health professionals when discussing psychosocial problems with pregnant women, which in turn can hinder the identification of mental health conditions [12,14]. Low levels of knowledge and inadequate practice of psychosocial screening found in this study reiterate this gap in maternal health services.

After the intervention, knowledge scores increased considerably in midwives in the intervention group. This is congruent to previous findings which revealed that education can positively improve healthcare workers' knowledge and ability to manage antenatal and postpartum mental disorders [17,18]. The

organized manner of training and the introduction of practical assessment tools like the Antenatal Psychosocial Health Assessment (ALPHA) framework might also be responsible for the improved psychosocial screening knowledge and skill. It is evident that integrating academic training and practical training helps to improve the clinical ability [18].

In addition to knowledge gains, the intervention resulted in significant improvements in attitudes toward psychosocial care. Midwives in the intervention group demonstrated more positive perceptions and reduced stigma toward maternal mental health conditions. This is consistent with previous findings indicating that targeted training can influence healthcare providers' attitudes and enhance their willingness to engage with psychosocial issues [11,14]. Given that stigma and cultural perceptions are recognised barriers to mental health care in sub-Saharan Africa, improving attitudes among healthcare providers is essential for effective service delivery [6].

The study also demonstrated significant improvements in self-reported practice among midwives who received the intervention. Increased engagement in psychosocial risk assessment, including screening for depression and intimate partner violence, suggests that the intervention translated into measurable changes in clinical behaviour. Similar findings have been reported in studies where training interventions improved the uptake of mental health screening in antenatal settings [13,17]. However, the improvement in practice was less pronounced compared to knowledge and attitude domains. This discrepancy may be

explained by structural and systemic barriers that limit the application of newly acquired skills in clinical settings [11].

Both groups of subjects expressed favourable beliefs towards psychosocial care particularly in the areas of confidence to support and expected good outcomes of care. The level of confidence was maintained despite improved competence over the study for those attending the training session. Conclusion: confidence is not a valid indicator of competence for the psychosocial assessment.

Also, the intensity of healthcare professionals' exposure to witnessing psychosocial support practices is evidence that there are probably psychosocial interventions being delivered implicitly at the current time in antenatal care. The existence of institution and organisation challenges from both quantitative and qualitative analysis means that even if there were positive attitudes towards psychosocial support then there would still need to be some more support to provide the service adequately.

The sustained improvement observed at 12 weeks after intervention indicates that the effects of training are enduring. Consistent with what the existing research evidence shows, that properly constructed educational interventions may lead to durable positive outcomes in professional proficiency, especially if these approaches are interactive or practice based [17]. However, for the effects to remain over the long-term, a period of maintenance training and supportive supervision may need to be provided for professionals.

While it is encouraging that many positive changes occurred, the results also revealed ongoing system level problems that likely act as obstacles to the complete embedding of psychosocial care in everyday antenatal care. Common obstacles mentioned include busy workloads, shortage of staff, absence of standard procedures for screening and poor referral mechanisms to support women experiencing maternal depression [6,11]. It is possible these conditions are contributing to the small, although positive, improvements to practice when set against both knowledge and attitude.

Strengths and limitations

The study design, quasi-experimental study, with inclusion of a control group provided for comparison of changes that occurred in response to the intervention. The repeated measures at three different points (pretest, 6 weeks and 12 weeks' post-intervention) allowed for comparison between groups and assessment of the sustainability of the training intervention. The use of a widely validated instrument which has good internal consistency (Cronbach's alpha 0.82) enhanced the reliability of the findings.

Limitations include the non-randomised design, which could allow for selection bias. However, baseline comparability was established between the intervention and control groups. The reliance on self-reported practices is more vulnerable to social desirability response bias than observational methods, potentially leading to overestimation of actual behaviours. Lastly, the study population was drawn from

several secondary care facilities located within Ondo State, Nigeria, which may limit the generalisability of the findings to other settings.

Implication for practice and policy

There are various implications of the study's findings for the policy and practice of maternal health care.

An attempt to integrate psychosocial skills training in the curriculum of pre-service midwifery training and during the ongoing professional development programmes may bring out substantial changes that could enhance the delivery of quality antenatal care to pregnant women. In view of this, policy makers may consider in their guidelines on the care for pregnant women in the country the provision of structured tools to assess the psychosocial wellbeing of expectant mothers. Health system capacity strengthening, through staffing, availability of standardized screening tools and well defined referral mechanisms for pregnant women with serious psychosocial challenges must also take cognisance to allow midwives and other health workers offer psychosocial care in the Nigerian context.

Conclusion

The results of this study confirmed the effectiveness of structured educational intervention in improving midwife competency for the assessment of and provision of psychosocial risk support in the antenatal period. This improvement in competency was reflected by improvements in knowledge score, favourable attitude change, and a self-reported improvement in practice. The sustainability of intervention effects demonstrated over the study's follow-up period suggest a lasting change in practice competency could be achieved. However, the study has also revealed systemic and organisational factors in the practice settings that might interfere with the total translation of learned skills into effective practice, and it would need to be dealt with. In spite of midwives' generally favourable attitudes to and high confidence in offering psychosocial care, these attitudes were not enough to surmount systemic and institutional obstacles to comprehensive provision of psychosocial risk assessment and support services. For better successful psychosocial care for the mothers, the integration of formal training programmes in the pre-service midwifery education, and the continuous development programmes, while improving support from the health systems through standardised screening, staffing and referral system would be vital.

List of Abbreviations

ANC – Antenatal Care

IPV – Intimate Partner Violence

KII – Key Informant Interview

LMICs – Low- and Middle-Income Countries

WHO – World Health Organization

Declarations

Ethics approval and consent to participate

Ethical approval for this study was granted by the Ondo State Health Research Ethics Committee (OSH Ministry of Health), Ondo State, under approval number [OSHREC/31/01/2025/801]. Further permission was granted by the heads of the selected facilities.

Written informed consent was obtained from all study participants before the commencement of data collection. All participants participated in the study voluntarily. The participants were informed of the importance of their participation, that they could refuse to participate or withdraw from the study at any time without any repercussions and also assured of their anonymity and confidentiality at all levels.

Consent for publication

Not applicable.

Availability of data and materials

The data that were generated and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that there are no competing interests.

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Contribution Details

Contribution	OA	FA	CM	EO
Design	✓	✓	✓	✓
Definition of intellectual content	✓	✓	✓	✓
Literature search	✓	✓	✓	✓
Data acquisition	✓			
Data analysis	✓			
Statistical analysis	✓			
Manuscript preparation	✓			✓
Manuscript editing	✓	✓	✓	✓
Manuscript review	✓	✓	✓	✓
Guarantor	✓			

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Table 1: Socio-demographic characteristics of participants in the control group (CG) and Intervention group (IG)

Variable	CG	IG	χ ²	P value
Age group				
20-30 years	20(23.3)	13(15.1)	6.15	0.11
31-40 years	18(20.9)	19(22.1)		
41-50 years	39(45.3)	34(39.5)		
51-68 years	9(10.5)	20(23.3)		
Gender				
Male	9(10.5)	3(3.5)	3.23	0.07
Female	77(89.5)	83(96.5)		
Religion				
Christianity	77(89.5)	85(98.8)	6.80	0.01
Islam	9(10.5)	1(1.2)		
Marital status				
Single	15(17.4)	10(11.6)	1.17	0.28
Married	71(82.6)	76(88.4)		
Ethnic group				
Yoruba	84(97.7)	85(98.8)	0.00	1.00
Igbo	2(2.3)	1(1.2)		
Level of education				
Diploma	17(19.8)	11(12.8)	8.50	0.04
BNSc	65(75.6)	63(73.3)		
Masters	3(3.5)	12(14.0)		
PhD	1(1.2)	0(0.0)		

* P0- pre-intervention, p1- 6-weeks' post-intervention, p2- 12-weeks' post-intervention, CG = Control group, IG

=Intervention group

Table 2: The Attitude towards Psychosocial Risk Assessment among the Respondents at Baseline, 6-weeks and 12-weeks

Variable	P0			P1			P2		
	CG	IG	X ² (P value)	CG	IG	X ² (P value)	CG	IG	X ² (P value)
I feel I have the necessary skills and knowledge to perform psychosocial risk assessments									
Yes	74(86.0)	63(73.3)	4.34(0.04)	71 (85.5)	59 (72.8)	4.03(0.05)	71 (85.5)	59 (72.8)	4.03(0.05)
No	12(14.0)	23(26.7)		12 (14.5)	22 (27.2)		12 (14.5)	22 (27.2)	
I feel confident in my ability to provide psychosocial support									
Yes	74(86.0)	78(90.7)	0.91(0.34)	72 (86.7)	73 (90.1)	0.46(0.50)	72 (86.7)	73 (90.1)	0.46(0.50)
No	12(14.0)	8(9.3)		11 (13.3)	8 (9.9)		11 (13.3)	8 (9.9)	
I have seen other midwives or healthcare professionals providing psychosocial support									
Yes	80(93.0)	75(87.2)	1.63(0.20)	78 (94.0)	71 (87.7)	1.97(0.16)	78 (94.0)	71 (87.7)	1.97(0.16)
No	6(7.0)	11(12.8)		5 (6.0)	10 (12.3)		5 (6.0)	10 (12.3)	
I expect a positive outcome from providing psychosocial support to patients									
Yes	80(93.0)	82(95.3)	0.43(0.52)	78 (94.0)	77 (95.1)	0.09(0.76)	78 (94.0)	77 (95.1)	0.09(0.76)
No	6(7.0)	4(4.7)		5 (6.0)	4 (4.9)		5 (6.0)	4 (4.9)	

P0-pre-intervention, P1-6-weeks post-intervention, P2- 12-weeks post-intervention, CG=Control group, IG=Intervention group

** Table 2 shows the attitude among participants in the CG and IG at baseline (P0), 6 weeks' post-intervention (P1), and 12-weeks post-intervention (P2).

Table 3: Mean Knowledge, Competency and Practice of Respondents at Baseline between groups

Variable	Control group (mean)	Intervention group (mean)
Knowledge score	5.99	6.28
Competency score	12.31	13.61
Practice score	7.31	6.88

*** Table 3 shows the mean score of respondents' knowledge, practice, and competency at baseline.

Table 4: Differences in Mean of Respondents Knowledge on Psychosocial Risk Within Groups (Pre-intervention vs Post-intervention)

	CG	IG
P0		
Mean	5.99	6.28
P1		
Mean	5.95	8.16
P2		
Mean	6.25	7.42
Wilcoxon test (X^2)	6.15	38.81
p value	0.05	< 0.001

P0- Pre-intervention, P1 – 6-weeks post-intervention, P2 – 12-weeks post-intervention

**** Table 4 shows the difference in respondents' knowledge of psychosocial risk between groups at post-intervention. There was a significant difference in the knowledge of respondents in the CG compared to those in the IG with higher knowledge score.

Table 5: Differences in Mean of Respondents Practice on Psychosocial Risk Assessment Within-Groups (Pre-intervention vs. Post-intervention)

	CG	IG
P0		
Mean	7.31	6.88
P1		
Mean	7.81	9.07
P2		
Mean	7.47	8.33
χ^2	12.53	35.70
P value	0.002	< 0.001

Po-Pre-intervention, P1- 6-weeks post-intervention, p2 -12-weeks post-intervention

***** Table 5 shows the difference in respondents' practice of psychosocial risk assessment between groups at post-intervention. There was a significant difference in the practice of respondents in the CG compared to those in the IG with higher practice score.

Table 6: Differences in Mean of Respondents' Competency on Psychosocial Risk and Support Within-Group (Pre-intervention vs. Post-intervention)

	CG	IG

P0		
Mean	12.31	13.69
P1		
Mean	11.63	21.27
P2		
Mean	11.30	17.43
χ^2	3.70	117.56
p value	0.157	< 0.001

P0- Pre-intervention, P1- 6-weeks post-intervention, P2- 12-weeks post-intervention

***** Table 6 shows the difference in respondents' competency of psychosocial care support between groups at post-intervention. There was a significant difference in the competency level of respondents in the CG compared to those in the IG with higher competency score.

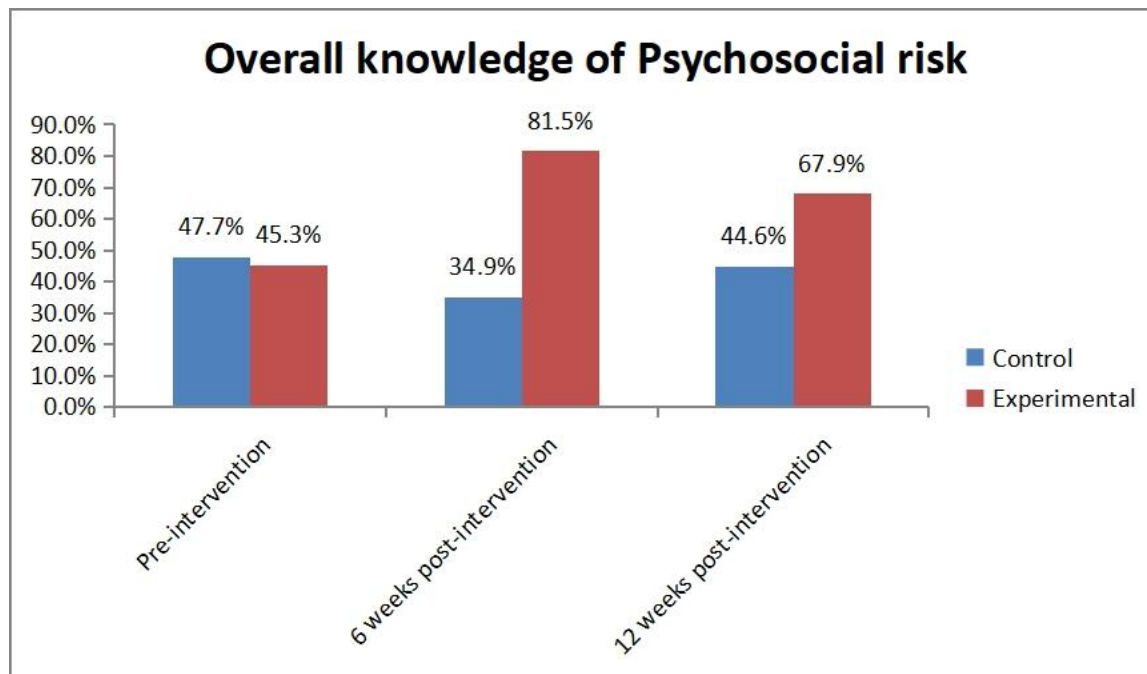


Figure 1: Assessment of the knowledge level of midwives on psychosocial risk

Figure 1 shows respondents' knowledge of psychosocial risk assessment at pre-intervention, 6-weeks post-intervention, and 12-weeks post-intervention.

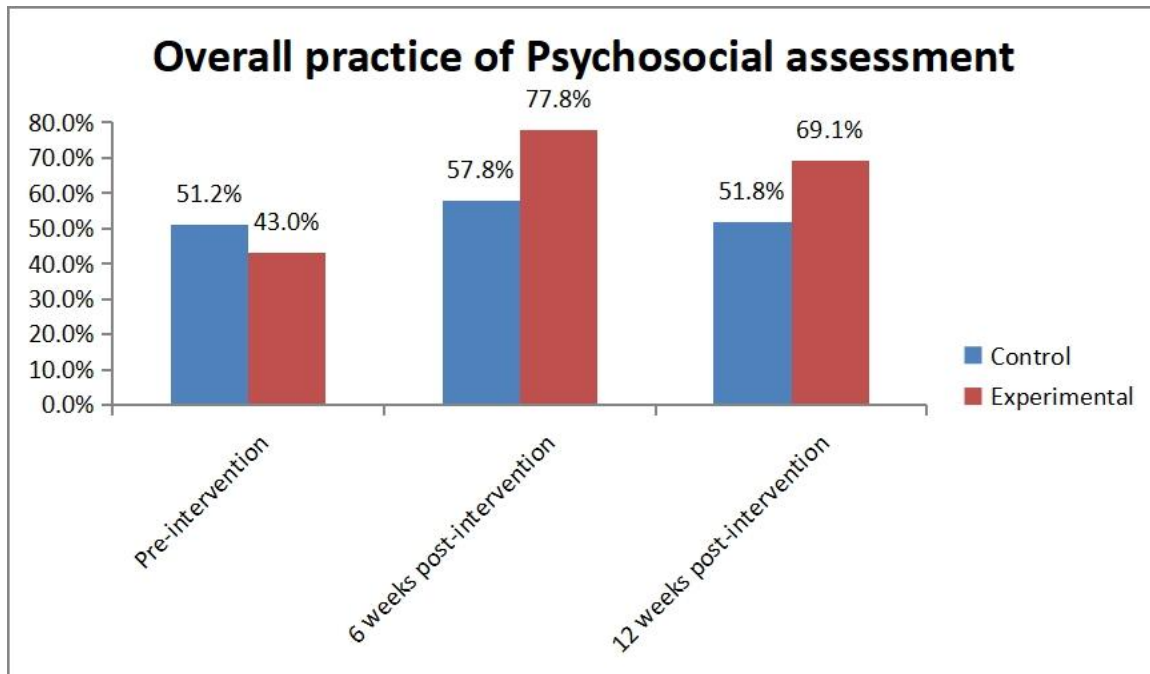


Figure 2: Categorized practice of psychosocial assessment- pre-intervention

Figure 2 shows respondents' practice of psychosocial risk support at pre-intervention, 6-weeks post-intervention, and 12-weeks post-intervention.

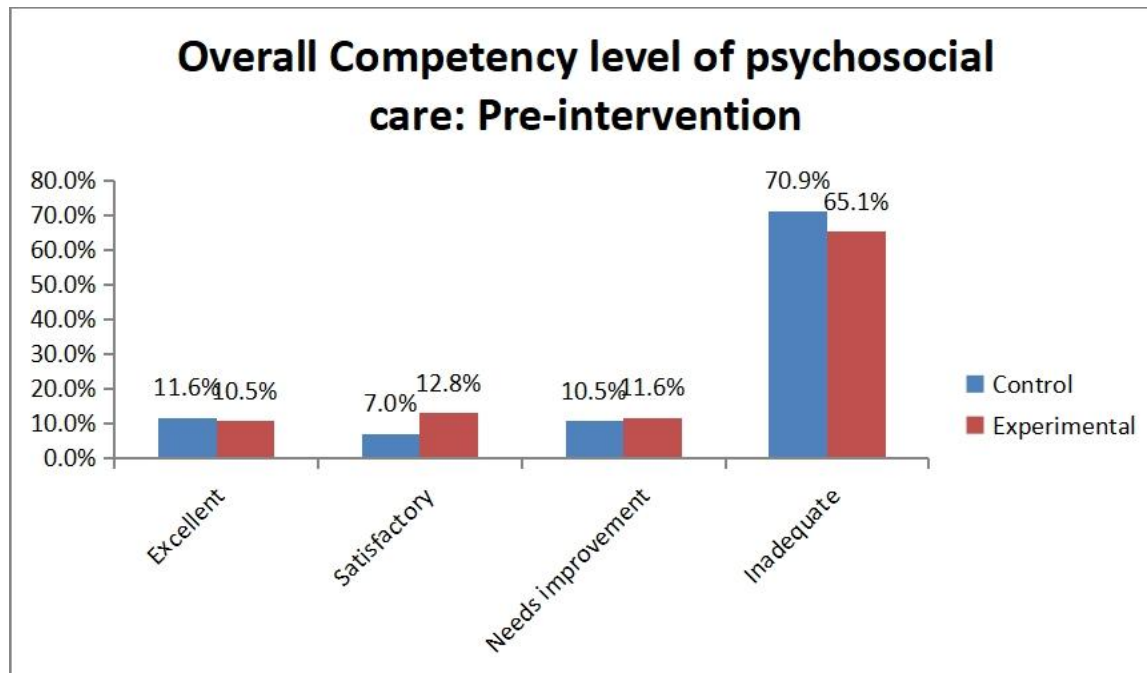


Figure 3. Respondents' overall competency level of psychosocial care: At Pre-intervention

Figure 3 shows respondents' competency level of psychosocial care at pre-intervention. About 11.6% of those in the CG had excellent competency level compared to 10.5% in the IG. Majority of the participants in the CG had inadequate competency (70.95). Similarly, a higher proportion of the respondents in the IG also have inadequate competency level of psychosocial care.

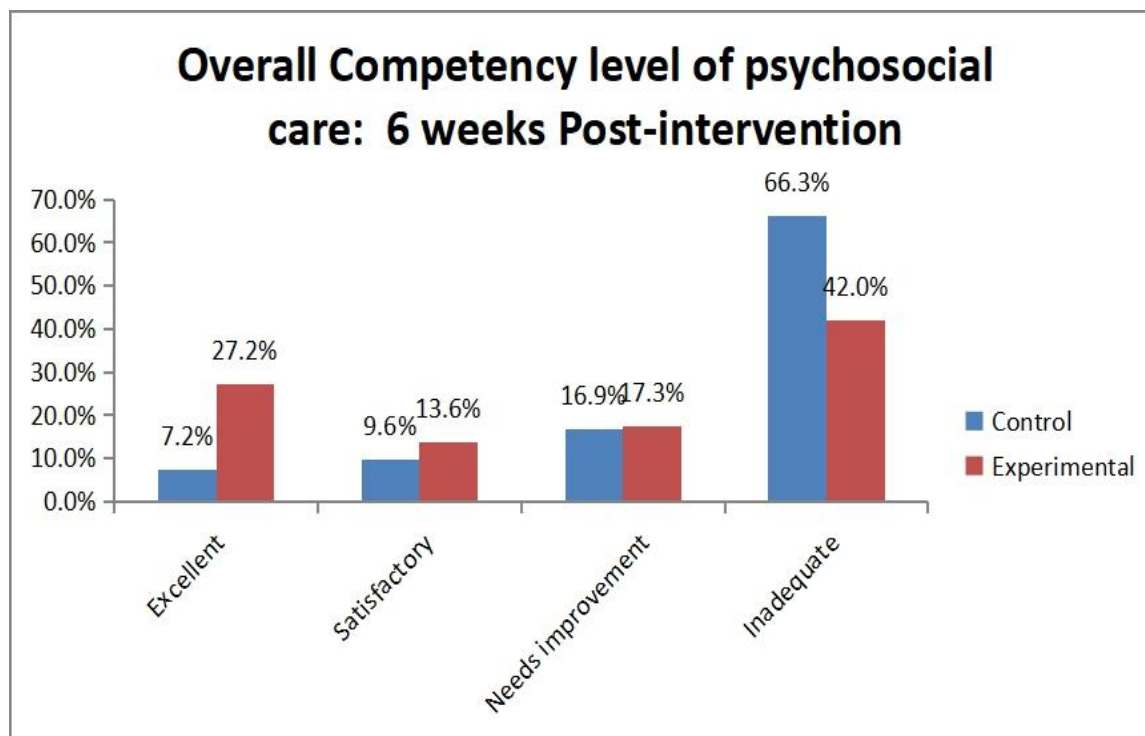


Figure 4: Respondents' overall competency level of psychosocial care: 6-weeks Post-intervention

Figure 4 shows respondents' competency level of psychosocial care at post-intervention. About 7.2% of those in the CG had an excellent competency level compared to 27.2% in the IG. About two-thirds of those in the CG had an inadequate competency level, while 42% of those in the IG had an inadequate competency level of psychosocial care.