

Research Article

Efficient Perineal Management: Knowledge, Confidence and Competence of Midwives During Labour in Hospitals in Rivers State, Nigeria

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Abstract: Background: Midwives are health care practitioners who provide invaluable services to women during their reproductive years. One of the major problems they may encounter while taking deliveries is perineal trauma. A knowledgeable confident and competent midwife who can manage the entire labour process expertly is an asset to maternity services. The study aimed at assessing midwives' knowledge, competence, and confidence for efficient perineal management during labour at selected hospitals in Rivers State, Nigeria.

Methodology: A cross-sectional study design was used for the study and midwives working in government tertiary secondary hospitals in River State were recruited. Ninety registered midwives participated, twenty-seven from UPTH, eleven from RSUTH, and 52 from General Hospitals. The instruments adopted for the study were a semi – structured questionnaire and an observational checklist.

Results: Majority 70 (77.8%) of the midwives had good knowledge of perineal management, with most of the respondents 75 (83.3%) reporting high confidence in identifying anatomical structures of the perineum; 82 (91.1%) expressed high confidence in identifying perineal trauma during childbirth and 79 (87.8%) reported high confidence in performing second-degree perineal repair and episiotomy. This study noticed no statistical difference in confidence among midwives working in general hospitals and those in tertiary hospitals ($p = 0.239$). Competence assessment

showed that more than half 49 (54.4%) were competent in techniques for prevention of perineal tear during labour, and **47 (52.2%)** were competent in repairing second degree perineal tear and episiotomy. There was a statistically significant difference in competence with secondary level (general) hospitals midwives having higher competence than tertiary hospitals midwives in the observational checklist competence score (**p = 0.001**).

Conclusion: The study highlighted the need for knowledge, high level of confidence, and competence by midwives to be able to carry out perineal wound assessment and repair. This implies that the educational qualification of the midwives is crucial if they would be confident in their abilities to carry out perineal assessment and repair across healthcare facilities in Rivers State.

1. Introduction

Perineal assessment and suturing are competencies needed to recognize and suture the perineal traumas acquired during physiologic vaginal delivery. Midwives believe that they should be responsible for suturing second-degree tear and episiotomies as these are part of their professional roles [1,2]. Furthermore, the NICE Guidelines for Intrapartum Care recommends that perineal repair should be carried out immediately delivery is completed to minimize the likelihood of infection and haemorrhage [3]. This can be achieved when the midwife that conducts the delivery repairs her clients' episiotomy and injury immediately after the delivery of the baby so as to avoid waiting for the obstetrician [3]. Gillman [4], revealed that midwives in an international study showed inadequate level of knowledge in the assessment and repair of perineal trauma. This led to poor level of confidence among the midwives. This lack of confidence led to reduction in the quality of care provided by midwives, as more knowledgeable midwives or obstetricians must carry out the perineal repair in the end.

Confidence simply put, is a feeling of safety and security; it can be expressed as a feeling of being able and finding fulfillment with one's abilities [5]. Confidence as a feeling of security is linked to the word "self-assurance" meaning that the person expresses in depth belief in the things he/she does or says, reason being that he is satisfied with his achievements [6]. It is one of the vital elements that are useful for the application of knowledge and competence. Experiencing confidence means having a form of self-esteem and there are four processes for strengthening confidence including; feeling, knowing, doing, and reflecting as recorded in literature [6]. When midwives are helped through these processes, they develop a sense of confidence to assume larger roles in health care [7]. Confidence is very vital when it comes to its application to teaching context, and there are some vital elements that are linked to confidence. These are that it is situational, which shows that it relies on time and opportunities, it has an institutional structure, which hinges on what educational attainment the learner has, and it is connected to personal attributes such as judgment, viewpoints, and motive [8]. In essence, high level of confidence does not need to be directly proportional to high competence, but a low degree of confidence may be linked to a reduction in competence [9].

Competence as defined by Epstein and Hundert, [17] "is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and the community being served". Knowledge is a bedrock for competence, and experience is the usual way one deals with acquired and continuously

changing knowledge. Thus, competence is always more than just knowledge or just experience”. Since a high level of confidence is not directly proportionate to a high level of competence, it behooves the midwives to strive to acquire the needed training on perineal management to be able to deliver competent and quality perineal care. Selo-Ojeme et al., [1] reported that midwives who received adequate perineal management training were four times more competent in conducting perineal evaluation and repair than their counterpart with less training. Therefore, education plays an important role in preparing midwives for competency in perineal management.

2. Materials and Methods

2.1. Research Design

Descriptive cross cross-sectional study design employed for the study.

2.2. Study Area

The study was conducted in twenty- two Government tertiary and General (secondary level) Hospitals in Rivers State, Nigeria. There are 23 Local Government Areas (LGAs) in the State with two Government Tertiary Hospitals and 33 Government Secondary Hospitals as well as over 346 Primary Health Facilities located within the State.

2.3. Population of the Study

All registered and licensed midwives working in the labour wards of the selected government tertiary and secondary hospitals in Rivers State. There were about 129 midwives working in the labour wards across the 33 secondary hospitals labour wards and 39 midwives working in the two tertiary hospitals labour wards, making a total of 168 midwives working in the 35 maternity wards. All midwives working in the labour wards of selected hospitals were recruited for the study.

2.4. Sample and Sampling Techniques

Sample Size Determination

The sample size was determined using the Cochran formula.

$$n = z^2Pq/e^2$$

The proportion of the attribute of interest which is the current prevalence of Severe Obstetric Perineal Tear in a study 5.6% of 82 [19].

For non-response, it was increased by 10% = $82 + 8.2 = 90.2$ approximately 90 midwives were recruited. Therefore, ninety midwives working at the selected hospitals' labour wards in Rivers State were recruited for the study and questionnaire was administered to all the participants.

Sampling Technique

Purposive sampling method was used as all the midwives on duty in all twenty-two labour wards were recruited after consent to participate in the study was sought and granted by all the participants.

Method of Data Collection

A semi-structured questionnaire was administered by the researcher to all the participants recruited for the study. Questionnaire administration and observational checklists were done within a period of two months.

Instrument for Data Collection

The first instrument used for data collection was adapted semi-structured questionnaire comprising of four sections; section A covered demographic characteristics of the participants; section B midwives' knowledge for efficient perineal management during labour and section C covered midwives' confidence for efficient perineal management. An Observational Checklist adapted from NICE Guideline for intrapartum Care and Royal College of Obstetrics and Gynecology Guideline was used by the researcher to assess the midwives while conducting labour to determine if they followed current evidence-based practice.

Validity of Instrument

In order to ensure the validity of the instrument used for data collection for this study, face validity and content validity were carried out. To ensure face validity, the researcher tried to maintain the clarity of purpose of the instruments so that the questions were understood and clear to the participants. This was achieved as the researcher used experts in midwifery and gynecology of which the researcher's supervisors were used for this purpose to determine whether the instrument has met the criteria of measuring the attributes purportedly measured. Additionally, three experts in Midwifery and Child Health Nursing as well as Obstetrics and Gynecology were given the questionnaire for content review and they ascertained that it was adequate enough to answer the research questions thereafter, it was administered to the study participants. Secondly, the questionnaire was pretested among 10 midwives working in a tertiary hospital in Abia State to determine if the instrument was able to measure what it was set to measure. After the pretest, the instrument was corrected and questions not clearly understood were rephrased for clarity. Following the correction of the questions after the pretest, the questionnaire was self-administered.

Reliability of Instrument

Test-Retest reliability was done by administering the same questionnaire to ten midwives working in a tertiary hospital in South-East Nigeria at two different times. The calculation of the correlations between the two scores was achieved with the scores of correlation coefficient as .845. This revealed good reliability of the instrument. Thus, the questionnaire was finally self-administered to all the participants recruited for the study.

Method of Data Analysis

Data from both questionnaire and observational checklist were coded and entered into the Microsoft Excel Sheet and then moved into SPSS version 26 for data analysis. Data was cleaned before analysis. Frequency distribution table and cross tabulation were used for data presentation. Summary statistics were obtained and test of association was done by using chi square and logistic regression to test for relationship and the strength of association between the demographic findings and midwives' professional characteristics.

The midwives' knowledge of perineal assessment and repair presented a set of twelve questions covering the anatomy of the perineum, types of repair and choice of suture materials used to test for knowledge. Participants who answered eight to ten questions correctly had good knowledge, those

that answered five to seven questions correctly had moderate knowledge while those that answered four questions and below had poor knowledge of perineal management.

Competence for efficient perineal management was assessed with the use of a checklist containing 23 questions and same was used to observe midwives while they conducted delivery in the labour wards. The checklist was analyzed using frequency distribution table and test of association was done to identify if there was any difference in competence on perineal management among midwives working in general hospitals and those working in tertiary hospitals. Competence score was used to categorize midwives into very competent, competent, and poorly competent in efficient perineal management.

2.5. Ethical Approval

Ethical Clearance: The ethical approval was obtained from the Research Ethics Committees of the University of Port Harcourt, Rivers State University Teaching Hospital and University of Port Harcourt Teaching Hospital.

Permission and Consent: Permission was taken from the Heads of Nursing Services, Assistant Director of Nursing Services and Matrons in-charge of labour wards where participants for the study were recruited. Consent was obtained from all the participants before administration of instruments.

3. Results

3.1. Response Rate/Completeness of Data

A total of 90 questionnaires were distributed to 90 midwives recruited for the study and all were retrieved giving a 100% response rate.

Table 1. Socio-Demographic Characteristics of Respondents

Variable	Frequency (n=90)	Percentage (%)
Gender		
Male	0	0.0
Female	90	100.0
Age (years)		
26-30	9	10.0
31-35	11	12.2
36-40	12	13.3
41-45	35	38.9
46-50	16	17.8
51-55	5	5.6
56-60	2	2.2
Religion		
Christianity	89	98.9
Islam	1	1.1
Marital Status		
Single	14	15.6
Married	75	83.3
Widowed	1	1.1
Level of Education		
Diploma	33	36.7

BSc in Nursing/ Midwifery	45	50.0
MSc.	9	10.0
PhD.	3	3.3
Work Location		
General hospital	52	57.8
Teaching hospital (UPTH)	27	30.0
Teaching hospital (RSUTH)	11	12.2

3.2. Socio-Demographic Characteristics of Respondents

Table 1 above showed that of the 90 midwives studied, all (100%) were females; in terms of age, 35 (38.9%) fell within the age group 41-45 years; as regards religion, majority 89 (98.9%) were Christian. In addition, many 75 (83.3%) are married; for level of education, majority 45 (50%) had B.Sc. in Nursing and Midwifery, and only 3 (3.3%) are Ph. D holders. In terms of work location, majority 52 (58.7%) are of the General Hospital.

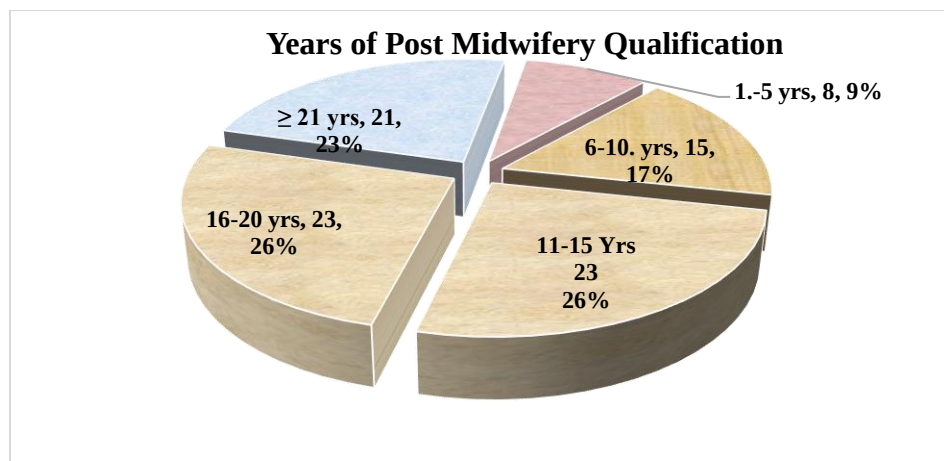


Figure 1. Years of Post - Midwifery Qualification

Figure 1 above showed the years of post - midwifery qualification, reflecting that majority 23 (26%) and 23 (26%) had 11-15 and 16-20 years' post – midwifery qualification.

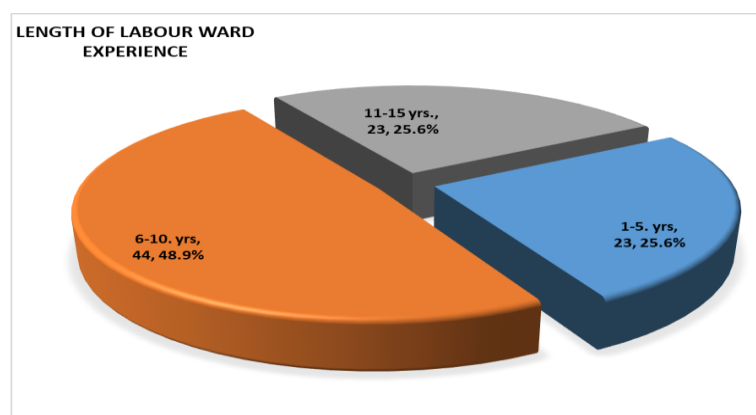


Figure 2. Length of Labour Ward Experience

Figure 2 above showed the length of midwives' labour ward experience, revealing that majority of the midwives 44 (48.9%) had 6 – 10 years labour ward experience.

Table 2. Midwives' Confidence in Performing Efficient Perineal Management. Frequency (n = 90), Percentage (%)

Variables	Very high	High	Unsure	Low	Very low	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Rated perception of the level of confidence on how to appropriately identify the anatomical structures of the perineum and their functions	4 (4.4)	75 (83.3)	7 (7.8)	2 (2.2)	2 (2.2)	90 (100)
Rated perception of the level of confidence on how to assess and recognize perineal trauma sustained during childbirth	3 (3.3)	82 (91.1)	2 (2.2)	3 (3.3)	0 (0.0)	90 (100)
Rated perception of the level of confidence at performing second-degree perineal repair and episiotomy	3 (3.3)	74 (82.2)	8 (8.9)	3 (3.3)	2 (2.2)	90 (100)
Overall level of confidence						
High						79 (87.8)
Moderate						10 (11.1)
Poor						1 (1.1)

Table 2 above showed that, majority 75 (83.3%) of the midwives rated the level of confidence on how to appropriately identify the anatomical structures of the perineum and their functions as high; majority 82 (91.1%) rated level of confidence on how to assess and recognize perineal trauma sustained during childbirth as high. In addition, most of the respondents 74 (82.2%) rated their level of confidence at performing second-degree perineal repair and episiotomy as high. Overall, as high as 79 (87.8%) of the midwives manifested a high level of confidence in perineal management.

Midwives' Educational Needs for Efficient Perineal Management

Concerning the educational needs for efficient perineal management among the midwives, their knowledge of perineal assessment and repair was evaluated as shown in Table 3. It was identified that majority 87 (96.7%) knew about perineal tear classification; most of the respondents 80 (88.9%) knew the definition of 1st degree perineal tear; also, majority 82 (91.1%) could define 2nd degree perineal tear; many knew the definition of 3rd 68 (75.6%) and 4th 76 (84.4%) degrees perineal tears. Majority 66 (73.3%) also knew about 3rd degree perineal tear sub-classification, while many respondents 60 (66.7%) knew that Vicryl Rapide 2/0 was the recommended suture material for 2nd degree perineal tear repair, and that this should be done using loose, continuous non-locking suturing technique 74 (82.2%). Most of the midwives 76 (84.4%) also knew that they should be responsible for repairing episiotomy and second-degree tears.

Table 3. Midwives' Knowledge for Efficient Perineal Management

Items	True n (%)	False n (%)	Total n (%)
Perineal tear (PT) classification knowledge	87 (96.7)	3 (3.3)	90 (100)
1 st degree PT is any tear directly on the vaginal mucosa	80 (88.9)	10 (11.1)	90 (100)
2 nd degree PT is any trauma that affects the vaginal mucosa and perineal body	82 (91.1)	8 (8.9)	90 (100)
3 rd degree PT is any tear involving the vaginal mucosa, perineal body and the anal sphincter	68 (75.6)	22 (24.4)	90 (100)
4 th degree PT injury is similar to a third-degree laceration as well as stretching to the rectal mucosa	76 (84.4)	14 (15.6)	90 (100)
3 rd degree PT classification into Category A when lower than 50% of the anal sphincter is torn, B if higher than 50% of the anal sphincter is torn and C when the external and internal anal sphincters are torn	66 (73.3)	24 (26.7)	90 (100)
Vicryl Rapide 2/0 recommended suture material for 2 nd PT repair	60 (66.7)	30 (33.3)	90 (100)
Loose, continuous non-locking suturing technique, recommended for perineal repair	74 (82.2)	16 (17.8)	90 (100)
Traditional interrupted method for PT repair	16 (17.8)	74 (82.2)	90 (100)
Midwife should repair episiotomy and second-degree tears	76 (84.4)	14 (15.6)	90 (100)

3.3. Midwives' Educational Needs for Efficient Perineal Management (continued).

Table 4 showed that, majority 76 (84.4%) self-rated their level of knowledge of the anatomical structures of the perineum and their functions as high; most of the respondents 75 (84.4%) self-rated their level of knowledge on how to assess and recognize perineal trauma sustained during childbirth as high; while only 65 (72.2%) rated their level of knowledge on how to repair perineal trauma sustained during childbirth as high. Overall, majority 70 (77.8%) had a good level of knowledge of perineal assessment and repair.

Table 4. Midwives' Knowledge for Efficient Perineal Management (continued).

Variables	Very High	High	Unsure	Low	Very	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Self-rating of level of knowledge of the anatomical structures of the perineum and their functions	5 (5.6)	76 (84.4)	7 (7.8)	1 (1.1)	1 (1.1)	90 (100)
Self-rating of level of knowledge on how to assess and recognize perineal trauma sustained in childbirth	9 (10.0)	75 (84.4)	3 (3.3)	2 (2.2)	1 (1.1)	90 (100)
Self-rating of level of knowledge on how to repair perineal trauma sustained during childbirth	13 (14.4)	65 (72.2)	9 (10.0)	1 (1.1)	2 (2.2)	90 (100)
Overall level of knowledge of perineal assessment and repair						
Good						70(77.8)
Moderate						20(22.2)
Poor						0 (0.0)

3.4. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill

Using an observational checklist to assess midwives' level of competence for efficient perineal trauma management as shown in table 5, majority 89 (98.9%) exhibited good perineal management techniques to protect the perineum from tearing; majority 51 (56.7%) had good competence in suturing the perineum as soon as possible after delivery; and also, most of the respondents 86 (95.5%) exhibited poor competence in infiltration of the perineum with 1% lignocaine before giving an episiotomy. However, majority 54 (60.0%) performed routine episiotomy which revealed poor competence in this midwifery skill. Additionally, most of the respondents 74 (82.2%) manifested good competence in their ability to identify the degree of perineal tear, while only 52 (57.8%) manifested good competence in undertaking the repair of episiotomy and second-degree perineal tear. Sadly, majority 66 (73.3%) exhibited poor competence in obtaining consent from women before performing an episiotomy or repair.

Table 5. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill

Items	Good n (%)	Fair n (%)	Poor n (%)	Total n (%)
Applied perineal management techniques to protect the perineum from tearing	89 (98.9)	1 (1.1)	0 (0.0)	90 (100)
Perineal suturing as soon as possible following delivery	51 (56.7)	3 (3.3)	36 (40.0)	90 (100)
Infiltration of the perineum with 1% lignocaine before giving an episiotomy	2 (2.2)	2 (2.2)	86 (95.6)	90 (100)
Midwife performed routine episiotomy	25 (27.8)	11 (12.2)	54 (60.0)	90 (100)
Midwife's ability to identify the degree of perineal tear	74 (82.2)	10 (11.1)	6 (6.7)	90 (100)
Midwife undertakes the repair of episiotomy and second-degree perineal tear	52 (57.8)	0 (0.0)	38 (42.2)	90 (100)
Asks for woman's consent before performing an episiotomy or repair	24 (26.7)	0 (0.0)	66 (73.3)	90 (100)

3.5. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (continued).

Table 6 showed that majority 47 (52.2%) and 78 (86.7%) manifested poor competence in explaining the purpose for performing episiotomy to women, and in the use of Vicryle 2.0 TM (Polylactin) sutures to repair episiotomies and perineal tears respectively. However, majority 46 (51.1%) showed good competence in using continuous uninterrupted suturing methods to repair the perineum, while most of the respondents 46 (51.1%) exhibited fair suturing skill. Furthermore, while majority 88 (97.8%) used hands on the perineum to protect the perineum during the second stage of labour, most of the respondents 51 (56.7%) manifested poor competence in performing rectal assessment before and after perineal repair. In addition, majority 78 (86.7%) also performed poorly in conducting perineal massage during the second stage of labour which is not a recommended practice.

Table 6. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (Continued)

Items	Good n (%)	Fair n (%)	Poor n (%)	Total n (%)
Explains the purpose and the need for performing an episiotomy	40(44.4)	3 (3.3)	47(52.2)	90 (100)
Use Vicryle 2.0 TM (Polylactin) sutures to repair episiotomy and perineal tear	10 (11.1)	2 (2.2)	78 (86.7)	90 (100)
Uses continuous uninterrupted suturing method to repair the perineum	46(51.1)	1 (1.1)	43 (47.8)	90 (100)

Suturing skills of midwife	21 (23.3)	46 (51.1)	23 (25.6)	90 (100)
Use hands on the perineum to protect the perineum during second stage of labour	88 (97.8)	0(0.0)	2 (2.2)	90 (100)
Performs rectal assessment before and after perineal repair	39 (43.3)	0 (0.0)	51 (56.7)	90 (100)
Performs perineal massage during second stage of labour	11 (12.2)	1(1.1)	78(86.7)	90 (100)

3.6. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (continued).

Table 7 revealed that majority 49 (54.4%) performed poorly in identifying the apex of the wound and placing the first stitch approximately 0.5cm beyond the apex. Secondly, most of the respondents 48 (53.3%) exhibited poor competence in inserting the anchoring suture above the apex, while majority 50 (55.6%) carried out the repair from the apex to the introitus, ensuring that the sutures were not placed in the hymenal remnants. Additionally, majority 50 (55.6%) showed good competence in the repair of perineal muscles in one or two layers with the same continuous stitch, and many 51 (56.7%) also showed good competence in using side-to-side technique when suturing subcutaneously (1/2cm bites). Unfortunately, majority 73 (81.1%) exhibited poor competence in sweeping the needle behind the fourchette back into the vagina, however many 65 (72.2%) showed good competence in removing the tampon or swab used, and accounted for all used swabs and needles.

Table 7. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (continued).

Items	Good n (%)	Fair n (%)	Poor n (%)	Total n (%)
Identifies the apex of the wound and places the first stitch approximately 0.5cm beyond the apex	40 (44.4)	1 (1.1)	49(54.4)	90 (100)
Inserted the anchoring suture above the apex	41 (45.6)	1 (1.1)	48 (53.3)	90 (100)
Carries out the repair from apex to the introitus, ensuring sutures are not placed in the hymenal remnants	50 (55.6%)	1 (1.1)	39 (43.3)	90 (100)
Repairs the perineal muscles in one or two layers with the same continuous stitch	50 (55.6)	0 (0.0)	40 (44.4)	90 (100)
Use a side-to-side technique when suturing subcutaneously (1/2cm bites)	51 (56.7)	1 (1.1)	38 (42.2)	90 (100)
Sweeps the needle behind the fourchette back into the vagina	17 (18.9)	0 (0.0)	73 (81.1)	90 (100)
Removes the tampon or swab, if used, and account for all swabs and needles	65 (72.2)	2 (2.2)	23 (25.6)	90 (100)

3.7. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (continued).

Finally, table 8 on the use of the observational checklist in assessing midwives' competence in perineal management, it was identified that majority 55 (61.1%) competently performed vaginal and rectal examination to confirm that no stitch had penetrated the rectal mucosa. Most of the respondents 87 (96.7%) showed good competence in cleaning and drying the perineal area after carrying out the repair; while majority 87 (96.7%) were competent in applying sterile pad after cleaning. Good competence was also shown by majority as 87 (96.7%) recorded the number of swabs, needles, instruments and tampons used during the procedure and documented all these in the appropriate records. All the midwives however showed good competence in completing the appropriate documentation, as well as supporting the women into a position of her choice and explaining the repair procedure to them. Overall, only 47 (52.2%) of the midwives showed high level of competence in perineal trauma management (using the observational checklist).

Table 8. Observational Checklist Assessing Midwives' Competence for Efficient Perineal Management Skill (continued).

Items	Good n (%)	Fair n (%)	Poor n (%)	Total n (%)
Performs a final vaginal examination and a rectal examination to confirm that no stitch has penetrated the rectal mucosa	55 (61.1)	2 (2.2)	33 (36.7)	90 (100)
Midwife cleanses and dry the perineal area after repair	87 (96.7)	0 (0.0)	3 (3.3)	90 (100)
Midwife applied a sterile pad after cleaning	87 (96.7)	0 (0.0)	3 (3.3)	90 (100)
Checks and record number of swabs, needles, instruments and tampon following the procedure and document in records	87(96.7)	0 (0.0)	3 (3.3)	90 (100)
Supports the woman into a position of her choice and explain about the repair	90 (100)	0 (0.0)	0 (0.0)	90 (100)
Midwife completes the appropriate documentation	90 (100)	0 (0.0)	0 (0.0)	90 (100)
Overall level of competence in perineal management (using the observational checklist)				
Poor				10 (11.1)
Moderate				33 (36.7)
High				47 (52.2)

Poor: 0-17, Moderate: 18-35, High: 36-52

3.8. Association Between Midwives' Level of Confidence in Perineal Management and their Workplaces

Assessment of the difference in the level of confidence of the midwives in perineal management according to their workplaces (general and teaching hospitals), revealed that no significant difference existed in the confidence of the respondents in perineal management (**p-value: 0.239**). This is shown

in table 9. Therefore, the null hypothesis that states that there is no significant difference in midwives' confidence for efficient perineal management and their workplaces is accepted.

Table 9. Association Between Midwives' Level of Confidence in Perineal Management and their Workplaces

Variables	Level of Confidence (n=90)		Total f (%)	Chi-square (p-value)
	Not confident f (%)	Confident f (%)		
Type of workplace				
General hospitals	0 (0.0)	52 (100.0)	52 (100.0)	1.384 (0.239)
Tertiary hospitals	1 (2.6)	37 (97.4)	38 (100.0)	

3.9. Association Between Midwives' Level of Competence in Perineal Management (Using Observational Checklist) and their Workplaces

In addition to the previous table on competence, assessment of the difference in the level of competence (using the observational checklist) of the midwives in perineal management according to their workplaces (general and teaching hospitals), it was however identified that a significant difference existed in their competence in perineal management. Midwives working in Teaching Hospitals had a greater proportion of midwives considered incompetent in perineal management, when compared with midwives the General Hospitals (**p-value: 0.001**). This is shown in table 10. Therefore, the null hypothesis that states that there is no significant difference in midwives' competence for efficient perineal management and their workplaces is rejected. Thus, the alternate hypothesis that states that there is a significant difference in midwives' competence for efficient perineal management and their workplaces is accepted.

Table 10. Association Between Midwives' Level of Competence in Perineal Management (Using the Observational Checklist) and their Workplaces

Variables	Level of competence (n=90)		Total f (%)	Chi-square (p-value)
	Incompetent f (%)	Competent f (%)		
Type of workplace				
General hospitals	1 (1.9)	51 (98.1)	52 (100.0)	10.527 (0.001) *
Tertiary hospitals	9 (23.7)	29 (76.3)	38 (100.0)	

4. Discussion of Findings

4.1. Midwives' Knowledge of Perineal Assessment and Repair

The assessment of midwives' knowledge regarding perineal assessment and repair, as shown in Table 4, highlights the educational gaps and strengths among healthcare professionals responsible for maternal care. The ability of midwives to accurately classify and manage perineal tears is crucial in preventing complications such as infection, prolonged healing, and postpartum morbidity.

A significant proportion of the midwives 87 (96.7%) correctly classified perineal tears (PT), demonstrating a strong foundational knowledge of perineal trauma. This finding aligns with study, which reported that midwives were able to classify perineal tears after receiving training and thus emphasized the importance of structured training in midwifery education.

The midwives' understanding of the different degrees of perineal tears varied across classifications. While 80 (88.9%) and 82 (91.1%) correctly identified first- and second-degree tears, the knowledge of third- and fourth-degree tears was lower at 68 (75.6%) and 76 (84.4%), respectively. These results suggest that while midwives are proficient in recognizing less severe perineal trauma, they may require further training in identifying and managing severe perineal injuries. According Hammound and Naidoo [10], third- and fourth-degree tears require specialized management to prevent long-term complications such as anal incontinence and chronic pain as midwives in the study found it challenging to classify severe perineal tears.

The classification of third-degree perineal tears into further subcategories (3a, 3b, and 3c) is essential for appropriate clinical intervention. Only 66 (73.3%) of midwives demonstrated accurate knowledge in this area, while 24 (26.7%) had incorrect classifications. This gap may lead to inconsistencies in clinical practice and highlights the need for continuous education and hands-on training in perineal trauma management. Zimmo et al [18], in six Palestinian Government hospitals reported that only (11.4%) midwives had adequate knowledge of perineal anatomy before undergoing training and so they had challenges with classification of severe perineal tears.

The knowledge of using Vicryl Rapide 2/0 as the recommended suture material for second-degree perineal tear repair was correctly identified by 60 (66.7%) of the midwives, while 30 (33.3%) had misconceptions. Incorrect suture selection can lead to poor wound healing and increased postpartum discomfort. Hammound and Naidoo [10], supported this finding as midwives reported using Vicryl suture for perineal repair. Additionally, 82.2% of the midwives recognized the benefits of the loose, continuous non-locking suturing technique, which has been shown to reduce pain and improve healing outcomes compared to traditional interrupted sutures. However, 16 (17.8%) still believed in the traditional interrupted method, reflecting the persistence of outdated practices in clinical settings. This is also in line with a South African study which reported that midwives adopted continuous suturing method [10].

The majority of midwives 76 (84.4%) acknowledged their responsibility to repair episiotomies and second-degree tears which aligns with professional midwifery guidelines. This finding is in harmony with Abela and Spiriteri (2021) study which reported that midwives should be responsible for repairing second degree tears and episiotomy. However, 14 (15.6%) were unaware of this responsibility, highlighting the need for targeted professional development programmes to reinforce their role in perineal care.

While the findings indicate that midwives possess a strong foundation in perineal assessment and repair, gaps remain in the classification of severe perineal tears and the application of best practices in suturing techniques. Continuous professional education, simulation-based training, and adherence to updated clinical guidelines are necessary to enhance midwives' competencies in perineal management. Addressing these educational gaps will contribute to improved maternal health outcomes and reduced postpartum complications.

4.2. Midwives' Rating of Knowledge on Perineal Assessment and Repair

Table 3 presents data on midwives' self-rated knowledge of perineal assessment and repair, highlighting their confidence levels in various aspects of perineal care. This table provides insight into the overall competency of midwives regarding perineal trauma management and their perceived educational gaps. The results show that 70 out of 90 midwives (77.8%) rated their overall knowledge of perineal assessment and repair as good, while 20 (22.2%) rated it as moderate. Notably, none of the respondents rated their knowledge as poor. This suggests that the majority of midwives feel

confident in their understanding and skills regarding perineal management. This high self-reported knowledge level aligns with findings from previous study indicating that midwives, due to their training and clinical exposure, generally possess a solid foundation in perineal assessment and repair. Selo-Ojeme et al., [1], in a United Kingdom study revealed that midwives who felt that they had adequate knowledge on perineal anatomy were more likely to provide efficient perineal care.

A significant proportion of midwives 76 (84.4%) rated their knowledge of perineal anatomy and function as high, while 5 (5.6%) considered it very high. However, 7 (7.8%) were unsure, and 1 (1.1%) rated their knowledge as low or very low. Understanding the anatomical structures of the perineum is vital for accurate assessment and effective repair of perineal trauma. Midwives with a high level of anatomical knowledge are better equipped to identify trauma and choose appropriate repair techniques, leading to improved maternal outcomes. The presence of midwives who are unsure or have low knowledge levels suggests a need for targeted educational interventions to reinforce anatomical education. According to Diaz et al., [11] exposure of midwives to perineal management training improved knowledge and thus enhanced perineal practice. This is in line with the current findings.

The ability to assess and recognize perineal trauma is fundamental in preventing complications such as infection, improper healing, and long-term morbidity. The result showed that 75 (84.4%) of midwives rated their knowledge in this area as high, with 9 (10%) rating it as very high. However, 5 (5.6%) were unsure, and 1 (1.1%) rated their knowledge as very low. These findings indicate that most midwives feel competent in assessing perineal trauma, which is consistent with research highlighting the importance of practical training in improving midwifery skills. Diaz et al., [11], upheld these findings as trained midwives reported having quality perineal management skills. The presence of midwives who are unsure or have very low confidence suggests that additional hands-on training and simulation exercises may be necessary to reinforce clinical competencies.

When asked about their knowledge of repairing perineal trauma, 65 (72.2%) rated it as high, and 13 (14.4%) as very high. However, 9 (10%) were unsure, 1 (1.1%) rated it as low, and 2 (2.2%) as very low. Effective perineal repair requires proficiency in suturing techniques, selection of appropriate suture materials, and understanding of wound healing principles. Studies have shown that midwives with higher exposure to hands-on repair training demonstrate greater confidence and competence in performing perineal suturing Diaz et al., [11]. The presence of midwives who are unsure or have low self-rated knowledge suggests the need for continuous professional development programmes focusing on practical perineal repair skills.

The findings indicate that while the majority of midwives rate their knowledge of perineal assessment and repair as good there are areas where knowledge levels vary. Notably, a small percentage of midwives expressed uncertainty or very low knowledge, particularly in anatomical knowledge, trauma assessment, and repair techniques. To address these gaps, structured training programmes, clinical workshops, and refresher courses should be implemented. Institutions should also consider integrating simulation-based training to enhance midwives' practical skills and boost their knowledge in perineal management.

By addressing these educational needs, midwives can improve maternal outcomes, reduce complications associated with perineal trauma, and enhance overall maternity care services. Further studies should explore the effectiveness of targeted training programmes in bridging knowledge gaps and ensuring optimal perineal care in clinical practice.

4.3. Comprehensive Analysis of Observational Checklist Results on Midwives' Competence in Perineal Management

The assessment of midwives' competence in perineal management skills, as presented in Table 6 to Table 9 showing the researchers' observational checklist used to assess midwives while conducting delivery in the labour ward, highlights various strengths and deficiencies in clinical practice. The findings provide a critical insight into midwives' proficiency in executing essential perineal care procedures, including perineal protection, suturing, episiotomy performance, and post-repair care.

An overwhelming 98.9% of midwives demonstrated competence in applying perineal management techniques to protect the perineum from tearing, indicating strong adherence to best practices in perineal care. Additionally, 82.2% exhibited the ability to accurately identify the degree of perineal tears, an essential skill in determining the appropriate management strategy. However, the remaining 17.8% of midwives had only fair or poor performance in tear identification, which could result in inadequate treatment and complications. This finding is not consistent with a Portugal study conducted by Rodrigues et al., [12], which reported that midwives in the study adopted hands-off the perineum as a technique to protect the perineum from tearing suggesting that this method causes minimal irritation to the perineum.

The study revealed considerable variations in midwives' suturing skills. While 56.7% of midwives sutured perineal tears promptly after delivery, 40% performed poorly in this regard. Additionally, only 2 (2.2%) infiltrated the perineum with 1% lignocaine before performing an episiotomy while as high as 86 (95.6%) did not carry out this skill, suggesting inadequate pain management practices. Furthermore, a significant proportion (60%) of midwives performed routine episiotomies poorly, indicating that episiotomy may not be universally practiced according to guidelines recommending its selective use rather than routine application. These findings are at variance with the recommendation study by [12].

A major ethical concern highlighted in the study is the failure to obtain informed consent before performing episiotomies or repairs. Alarming, 66 (73.3%) of midwives failed to seek consent, and 47 (52.2%) did not explain the purpose of episiotomies to the women. This lack of patient involvement violates ethical and professional standards, which emphasize shared decision-making in maternity care. Diorgu et al., [13], study in Nigeria aligns with these findings as midwives in the study did not seek consent from women and did not explain the purpose of episiotomy before performing the procedure.

The researcher observed with dismay that only 10 (11.1%) of midwives used Vicryl 2.0 (Polylactin) sutures for perineal repair, while 78 (86.7%) performed poorly in this aspect. Continuous uninterrupted suturing was employed by 51.1%, whereas 47.8% failed to use this technique. Additionally, only 23.3% of midwives had good suturing skills, with 51.1% exhibiting fair competency, indicating a need for further training. An international study by Rodrigues et al., [12] agrees with this finding.

Encouragingly, 96.7% of midwives effectively cleaned, dried, and applied sterile pads post-repair. Similarly, 90 (100%) of midwives ensured that women were supported into comfortable positions and completed the necessary documentation. However, only 43.3% performed rectal assessments post-repair, raising concerns about the completeness of care and the risk of missed rectal injuries. These findings are in line with the recommendations by Royal College of Obstetrician except for the poor compliance with rectal examination.

The overall competence assessment from the observational checklist categorized 47 (52.2%) of midwives as highly competent, while 33 (36.7%) demonstrated moderate competence. However, 10

(11.1%) had poor competence, highlighting a critical need for targeted training and continuous professional development programmes to address gaps in knowledge and practice. An international study by Lee et al., [14], agrees with these findings as the study revealed variations in midwives' perineal management skills.

While the majority of midwives' exhibit competence in fundamental aspects of perineal management, significant gaps remain in suturing techniques, pain management, informed consent, and episiotomy practice. Addressing these deficiencies through structured training, mentorship, and adherence to updated clinical guidelines will enhance midwifery care quality and maternal health outcomes.

4.4. Midwives' Confidence in Perineal Management

Midwives play a crucial role in maternal healthcare, particularly in managing perineal trauma, performing episiotomies and perineal repairs during childbirth. Their competence, confidence, and educational needs significantly influence the quality of care provided to mothers, affecting both maternal outcomes and overall satisfaction with childbirth experiences. The assessment of midwives' confidence in performing perineal management procedures, as presented in the data, provides valuable insights into their self-perceived abilities and areas that require further training and development.

The results indicate that midwives in the selected hospitals in Rivers State generally exhibit a high level of confidence in their ability to identify the anatomical structures of the perineum and understand their functions. Out of 90 respondents, 75 (83.3%) rated their confidence as high, while 4 (4.4%) rated it as very high. This suggests that the majority of midwives feel adequately knowledgeable about perineal anatomy, which is a fundamental requirement for effective perineal management. However, 7 (7.8%) of the midwives reported being unsure of their confidence, while 2 (2.2%) rated their confidence as low and another 2 (2.2%) as very low. This indicates that while most midwives possess the required anatomical knowledge, a small proportion still requires further training and reinforcement in this area. An understanding of perineal structures is critical as it directly affects the accuracy and safety of perineal repairs and episiotomies. An international study conducted by Diaz et al., [11] is in line with this research finding as they reported that poor understanding of the anatomical structures of the perineum by midwives led to inaccurate classification of perineal injuries which invariably affected the efficiency of perineal management. Webb et al., [15] affirms this finding as the researchers clearly reported variations in midwives' confidence in that, while some of the participants were confident about their perineal management skills, others had lower confidence level in their understanding of perineal anatomy.

When assessing their confidence in recognizing perineal trauma sustained during childbirth, an even higher level of confidence was reported. A remarkable 82 (91.1%) of midwives rated their confidence as high, while 3 (3.3%) reported very high confidence levels. Only 2 (2.2%) of respondents were unsure, and 3 (3.3%) reported low confidence. No midwife rated their confidence as very low. This suggests that the majority of midwives feel competent in identifying perineal trauma, an essential skill in ensuring timely and appropriate interventions. The ability to recognize perineal trauma is a fundamental aspect of maternal care, as missed or misdiagnosed injuries can lead to severe complications such as infection, incontinence, and chronic pain. The low percentage of midwives who are unsure or lack confidence in trauma recognition highlights a need for targeted training programmes to ensure that all midwives can accurately assess and manage perineal injuries.

This finding is not in agreement with the finding by Webb et al., [14] as only (20%) of the participant had confidence in their perineal classification skill.

Regarding the confidence level in performing second-degree perineal repairs and episiotomies, 74 (82.2%) of midwives rated their confidence as high, while 3.3% rated it as very high. However, 8 (8.9%) of midwives reported being unsure about their ability to perform these procedures, while 3 (3.3%) rated their confidence as low and 2 (2.2%) as very low. These findings highlight that while most midwives feel confident in executing perineal repairs and episiotomies, a notable percentage still experience uncertainty or lack confidence. Given the critical nature of these procedures in preventing long-term perineal damage, structured training programmes focusing on hands-on practice and real-life case scenarios may be necessary to enhance the confidence and competence of midwives in this aspect of perineal management. Similarly, a study conducted by Bick & Keighley, [16] in United Kingdom found that while some midwives exhibited significantly higher confidence in perineal repair, others showed low level of confidence. The researchers identified reasonable breach in the execution of procedure using evidence based perineal management practice and thus recommended further training and more hands-on practice to enhance the overall confidence of midwives which will be beneficial to women.

The overall assessment of midwives' confidence in perineal management further confirms the general trend of high confidence levels among the respondents. A significant 79 (87.8%) of midwives rated their overall confidence as high, while 10 (11.1%) rated it as moderate. Only one midwife, accounting for 1 (1.1%) of the respondents rated their confidence as poor. This overall high level of confidence is encouraging as it suggests that midwives in these selected hospitals feel equipped to handle perineal management effectively. However, the presence of midwives who rated their confidence as moderate or poor highlights the importance of continuous professional development and refresher courses to address knowledge gaps and ensure that all midwives achieve a consistently high level of confidence. The results of the current study find support in international research. A study by Lee et al., [13], in Australia examined the present level of perineal management skills among midwives and to determine their level of confidence in perineal repair. The findings revealed that midwives with higher exposure to perineal suturing during their training and clinical practice reported significantly greater confidence levels compared to those with limited experience. This study underscores the importance of frequent hands-on practice in building midwives' confidence, which is evident in Rivers State, where midwives in general hospitals perform perineal repair more frequently and consequently exhibit higher confidence levels.

The findings from this study highlight that while most midwives in the selected hospitals in Rivers State exhibit a high level of confidence in perineal management, there remains a subset of practitioners who require further education and training. Ensuring that all midwives, regardless of their years of experience, maintain up-to-date knowledge and skills is vital in preventing perineal trauma and improving maternal outcomes. By implementing targeted training, mentorship, and continuous professional development programmes, healthcare institutions can bridge the gap in confidence and competence, ultimately leading to better maternal and neonatal care in Rivers State.

While confidence is a critical component of effective clinical practice, it is important to ensure that it is backed by actual competence and adherence to best practices. Over confidence without adequate knowledge and skills can lead to poor clinical outcomes. Therefore, ongoing assessments, competency-based training, and practical workshops should be integrated into midwifery education to reinforce both theoretical knowledge and practical application. Given the data, it is evident that

some midwives require further training, particularly those who expressed uncertainty or low confidence in specific aspects of perineal management.

Limitation

The study was limited by the fact that the observational checklist demanded that the researcher must be in the labour room during every delivery to observe the midwife while conducting delivery. As a result, the researcher spent so much time in completing the checklist assessment thereby delaying the time of completion of the study.

5. Conclusion

In conclusion, perineal management is a very vital role of midwifery care as midwives protect the perineum during delivery by using different techniques. When a tear occurs as well as episiotomy cut is given in the course of conducting delivery, midwives are required to assess the degree of tear sustained and repair immediately to prevent excessive bleeding and prevent risk for infection if it is a second-degree tear or episiotomy without waiting for doctor's arrival.

Institutional policies and resource availability play a crucial role in midwives' ability to implement best practices. Healthcare facilities should ensure that essential supplies such as warm compress materials are readily accessible to midwives. Furthermore, standardized protocols should be established to encourage the consistent use of effective perineal management techniques. Clinical workshops, mentorship programmes, and refresher courses should be introduced to reinforce midwives' knowledge and practical skills in preventing perineal trauma.

Ethical Approval.

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Clinical Trial Registry

Not applicable.

Declaration of Competing Interest

None declared.

Authorship contribution statement

Uzoma-Nwosi Esther Christiana: Conceptualization, Methodology, Validation, Investigation, Writing – original draft, Visualization, Supervision, Project administration. **Robinson-Bassey Grace:** Methodology, Software, Validation, Formal analysis, Writing – review & editing, Resources. **Oranu Emmanuel:** Data curation, Formal analysis, Writing – review & editing, Visualization, Funding acquisition. **Ojule, I.N:** Review of manuscript for publication.

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