

FACTORS AFFECTING PERINEAL MASSAGE ADOPTION AMONG MOTHERS AND MIDWIVES AT FEDERAL MEDICAL CENTRE, YENAGOA, BAYELSA STATE

Chijioke Emmanuel Ibe

Africa Centre of Excellence for Public Health and Toxicological Research University of Port Harcourt,
Nigeria

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Abstract

This study investigated perception and factors impeding perineal massage among mothers and midwives in Federal Medical Centre, Yenagoa, Bayelsa State. Four research questions and a hypothesis were formulated to guide the study. The study adopted a mixed methods approach with explanatory sequential research design. A total of 219 respondents (182 mothers and 37 midwives) were selected as sample of the study through Purposive sampling technique. Simple random sampling method was used to select thirty respondents (10 midwives and 20 mothers for in-depth interview in the qualitative study. Two sets of validated questionnaires (one for mothers and one for midwives) and in-depth interview guide were the instruments of data collections. Data collected were analyzed using quantitative and qualitative analysis. Quantitative data was analyzed using descriptive statistics, tables, charts, frequencies and percentages. The hypothesis was tested for significance at 0.05 level of significance, using the chi-square (X²) test. Qualitative data was analyzed using open coding and thematic analytical method, which revealed four major themes (perceptions, barriers, relationship and benefits), and eight sub-themes. Finding from the study revealed that most mothers (57.1%) have negative perceptions about practice of perineal massage; while majority of midwives (99.2%) have positive perceptions about the practice. The major factors impeding practice of perineal massage among mothers are: low awareness, negative perception, poor knowledge, negative attitude, lack of information, commitment, and being a single mother. The factors impeding provision of perineal massage care among midwives are: shortage of midwives, negative attitude, late presentation of mothers to healthcare facility, poor implementation of health policy on provision of perineal massage care, and lack of commitment to provision of perineal massage care. There is a significant relationship between practice of perineal massage and occurrence of perineal injuries in mothers. The benefits of perineal massage include: prevention/reduction in the risk of perineal tears, reduction in the use of episiotomy, prevention of postpartum haemorrhage, reduction in time of hospital stay after delivery. The study concluded that although practice/provision of perineal massage is an effective way of preventing and reducing perineal pain, episiotomy and trauma. It was recommended that mothers should be educated on the benefits of perineal massage and midwives are advised to be committed to provision of perineal massage.

Keywords: Perception, Perineal, Massage, Mothers.

1.0 NTRODUCTION

It is a known fact that women die of pregnancy-related complications which can be prevented. Globally, about 830 women and about 145 mothers in Nigeria die daily of childbirth complications (The Guardian, 2019), which includes postpartum haemorrhage which occupies about 20.3% maternal mortality (Beckmann & Stock, 2013; Achadi, 2019 cited in Aidha et al, 2021). In performing a perineal, it has been recommended that a mother or her spouse get a massage a few weeks before giving birth to promote flexibility and lower the risk of perineal injuries from episiotomy or spontaneous tears.

Evidence has shown that about 85% of all women who had vaginal deliveries suffered perineal tear or trauma (Hajela, Turner, Roos & Rivera, 2021); and more than two third of these affected women will require repair of the perineum for which these tears could have been prevented through perineal massage. The perineum is the diamond-shaped area between the thighs and the buttocks, which includes the area around the vagina and anus. It is the little region with thick skin and muscles that is in between the vagina and the anus.

The perineum is composed of muscular tissues which connect with pelvic floor muscles, offering support to the pelvic organs. The perineum plays an important role in women's reproductive health by working extra hard during pregnancy due to the extra weight it bears. A torn perineum during childbirth might reduce this support, increasing the risk of pelvic floor issues or uterine prolapse in the future. (Yate, 2022). Perineal trauma can be categorized into different degrees first, second, third and fourth.

The most frequent tears are first-degree (involve skin but not muscle) and second-degree (involve perineal muscles). The third and fourth degree tears, which is generally referred to. Because they also affect the anal region, severe perineal injuries are more dangerous and can have long-term effects like discomfort and incontinence for women. (Dahlen, Rubertsson & Edqvist, 2022). Different procedures and practices have been recommended to prevent or reduce the occurrence of perineal injuries and trauma.

These include: practicing perineal self-massage or pelvic floor muscle training during pregnancy, and during the second stage of labor, administering warm compresses to the perineum having perineal massage performed by a medical expert during the second stage of labor. Perineal massage is a technique used during pregnancy and childbirth (from 35 weeks of pregnancy) to help stretch the perineum, and prepare the pelvic floor muscles, the skin, and the connective tissue.

It is an act that manipulates and stretches the tissue around the perineum using one or two fingers. It is designed to prepare these tissues to stretch over the baby's head and body during vaginal birth (Toomey, 2021). The perineum is massaged for 510 minutes each day during perineal massage. Women may be urged to massage their perineum with oil starting at 34 weeks to improve flexibility and elasticity. This might assist patients avoid

needing an episiotomy by preventing ripping during delivery, according to research, therefore it's worth recommending to patients.

According to Hypnobambinos, (2017), the act of perineal massage helps to increase the elasticity of muscles and tissue around the perineum, making it easier for a woman to avoid tearing during a vaginal delivery. Howland & Mason (2020) in a study reported that perineal massage during pregnancy reduced episiotomies in first time mothers by 16%. In a related study, Wallis & Marcin (2019) posited that perineal massage reduces the need for suturing after a tear by 10% and that one in every fifteen women who had perineal massage regularly during pregnancy will require an episiotomy or is likely to have a tear that will require suturing.

They further reported that women who had perineal massage during the second stage of labour were less likely to have Third- and fourth-degree lacerations to occur during and after pushing. Perineal massage increases the likelihood that the perineum will remain intact and lowers the risk of tears, according to a statement from the World Health Organization from 2018 that was quoted by Hajela et al. in their article from 2021.

Perineal massage can help avoid episiotomy, which is described as the surgical construction of a second-degree incision or tear of perineal muscles, involving tear of skin, mucosa, and also injury to perineal muscles. A cost-free procedure, perineal massage improves the course of labor and the health of the mother and fetus with the goal of lowering maternal morbidity and mortality (Magon, 2016). Because European mothers prefer to give birth in a lateral position, which allows the perineum to gradually stretch and extend and also has a lower frequency of episiotomy, it is more common in America and Canada than in Europe.

The research that is currently available clearly shows that routine episiotomy is not only ineffective but also detrimental (Hartman et al., 2005; Tayrac et al., 2006; Macleod et al., 2008; and Fritel et al., 2008; referenced in Zare et al., 2014).

Because episiotomies are rarely used, 51% to 77% of women said they still need to have the harms repaired. To lower the risk of episiotomy and perineal tear, some procedures are required.

Women who experienced an intact perineal birth reported having less discomfort right away after giving birth and possibly having better sex as well (Mei-dan et al., 2008; Attarha et al., 2009 cited in Zare et al., 2014). Limited episiotomy is supported by rigorous randomized clinical trials. Hajela et al, (2021) posited that there was an obvious reduction statistically in the risk in 3rd and 4th degree tears by instituting perineal massage, which supports the fact that women who applied perineal massage had 21% less likelihood of suffering third and fourth degree perineal lacerations; a finding that is laudable, as the care of third and fourth degree tears or lacerations require surgical emergency under anaesthesia to repair the perineum.

Beckmann & Garrett (2009) reported that perineal massage done during antenatal period was related to an encouraging reduction in the prevalence of perineal injury requiring surgical intervention, number needed to treat, and mothers applying the technique of perineal massage has the less likelihood of having a surgical incision

known as an episiotomy. Nigeria ranks the second highest in maternal mortality in Sub Saharan Africa; in 2015, report revealed that 1540 deaths were recorded in 100,000 live births North East region (African Population and Health Research Centre (APHRC), 2017 cited in Awolayo, 2019), a figure that remains unacceptable.

Studies on perineal massage are few (John, et al, 2017) but like other low and middle income countries, the use of episiotomies is still common and high in births occurring in medical facilities and among primiparous mothers who are having their first vaginal births, which may lead to about 70% of women having various forms of tears in relation to the perineum (Aguiar,et al, 2019). As important and cost free as the practice of perineal massage is in the prevention of perineal injuries and episiotomy, practice and performance may be impeded by several factors including sociocultural factors, poor knowledge and awareness and poor practice skill.

The perception and factors that may impede the utilization of perineal massage may include socio-cultural factors which has influenced the overall perception and health related actions and activities and which has also impacted maternal mortality and morbidity (Awolayo, 2019). It is of utmost concern to investigate the perception and factors impeding perineal massage among mothers and midwives so as to contribute to reduction in the complications related to its non - utilization.

1.1 Aim of the study

This study hopes to investigate the perception and factors impeding perineal massage among mothers and midwives in Federal Medical Centre, Yenagoa, Bayelsa State.

1.1.1 Objectives of the study

This study hopes to achieve its aim using the following objectives:

- i. To examine the perceptions of mothers and midwives on the use of perineal massage in the prevention of perineal injuries in Federal Medical Centre, Yenagoa.
- ii. To identify the factors impeding practice of perineal massage to prevent perineal injuries among mothers and midwives in Federal Medical Centre, Yenagoa.

1.2 Hypotheses

There is no significant relationship between practice of perineal massage and occurrence of perineal injuries among mothers receiving maternity care at Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria.

2.0 METHODOLOGY

The research design that was employed in this study is cross-sectional study using mixed methods. The total population of Yenagoa according to the 2006 population was estimated at 352,285 with the male and female percentage distribution as 51.7% and 48.3%. National Population Commission in 2006 projected that by 2016, the population of Yenagoa will be estimated at 470,800. The population of this study consisted of all pregnant women receiving antenatal and postnatal care at Federal Medical Centre, Ovom, Yenagoa and all registered midwives (RM) working in the maternity unit made up of antenatal, labour and postnatal wards in the health

facility. There are a total of fifty (50) midwives working in the health facility and a total of about two hundred and fifty (250) women receiving antenatal care and postnatal care in the facility, bringing the population of the study to three hundred (300). The determined sample size that was used for this study is 219 respondents, comprising 37 midwives and 182 mothers. The study sample size is 219 respondents. The sample comprised 182 mothers and 37 midwives. The method of sampling technique that shall be employed is purposive sampling technique. Purposive sampling was used to select the sample, this is a non-probability sampling technique which assumes that with good judgment the researcher can include individuals that possess the characteristics of the population of study in his sample. Each of the respondents was selected as they present. In this way, a total of 219 respondents (182 mothers and 34 midwives) as calculated using the formula for sample size calculation were selected for the study. Data for this study were collected from primary sources. The primary sources of data are questionnaire and in-depth interview. The primary data were collected directly from study participants in the course of four (4) weeks. Data collected for quantitative analysis were analyzed using descriptive and inferential statistics. The Statistical Package for Social Sciences (SPSS) software version 22 was used to analyze the data. The confidence limit for the study was set at 95% reflecting 0.05 level of significance. The questionnaires were retrieved and assessed for completeness and consistency. Results from analyzed data were presented in frequency tables and charts.

Data collected for qualitative analysis through in-depth interviews were summarized using an open coding method. Also, the data were analyzed using thematic analytical method to capture recurrent themes in the data and presented in a narrative format to support the quantitative results.

2.0.1 Steps in thematic analysis

Finding information about people's ideas, opinions, knowledge, experiences, or values from a collection of qualitative data, such as interview transcripts, social media profiles, or survey results, is the goal of the flexible data gathering method known as thematic analysis. Braun and Clarke's (2007) six steps—familiarization, coding, generating themes, assessing themes, defining and labelling themes—were used to conduct the thematic analysis.

Familiarization (Step 1): Transcribing audio files, reading through the text, making preliminary notes, and looking through the data to become comfortable with it allowed the researcher to acquire a full overview of all the information gathered.

Step 2 - Coding: Data were coded by highlighting sections of the statements made by respondents and coming up with labels or codes to describe their content. **Step 3 - Generating themes:** The researcher generated themes from the codes. In most cases, the researcher combined several codes into a single theme.

Step 4 -Reviewing themes: The researcher reviewed the themes generated to make sure that the themes are accurate representations of the data. This was achieved by returning to the data set and making comparison

between the themes and the transcribed texts. **Step 5** -Defining and naming themes: The researcher clearly defined and came up with easy names for each theme.

Step 6 - Writing up: The researcher wrote and presented the result of data analysis with the results or findings addressing each theme in turn.

3.0 RESULTS

Results and Analysis

Socio-Demographic Characteristics

The results of Socio-demographic data presented in Table 4.1 showed that majority, 21 (99.1%) of the respondents were females, while 2 (0.9%) respondents were males. Also, most of the respondents, 54 (24.7%) were aged 31 40 years; 48 (21.9%) respondents were aged between 41 - 50 years; 45 (20.5%) respondents were aged 51 years and above; 43 (19.6%) respondents were aged 21 30 years, while 29 (13.2%) respondents were aged below 21 years.

The table shows that most of the respondents, 188 (85.8%) were married, 23 (10.5%) respondents were single, 3 (1.4%) were divorced, while 5 (2.3%) respondents were widows. Regarding educational qualification, 12 (5.5%) respondents had no formal education, 17 (7.8%) respondents had primary education, 78 (35.6%) respondents had secondary education, while 112 (51.1%) respondents had secondary tertiary education.

Out of the 37 midwives who all had tertiary education, 16 (43.2%) respondents were registered nurses and midwives (RN, RM), 18 (48.7%) respondents had B.Sc. degrees in Nursing, 7 (5.1%) had Masters' degrees, while 3 (0.7%) respondent had M.Sc. degrees in Nursing. The table further revealed that most of the respondent, 59 (26.9%) were petty traders, 48 (21.9%) respondents were housewives, 44 (20.1%) respondents were civil servants, 37 (16.9%) respondents were Midwives, while 31 (14.2%) respondents were artisans.

Lastly, majority of the respondents 211 (96.35%) were Christians, 3 (1.4%) respondents were Moslems, 2 (0.9%) respondents were Traditional African Religion worshippers, while 3 (1.4%) respondents were members of other religions like AMORC and ECKANKA.

Table 1: Socio-Demographic Characteristics of Respondents (n = 219)

Variables	Frequency	Percentage (%)
Gender		
Male	2	0.9
Female	217	99.1
Age:		
Below 21 years	29	13.2

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21 - 30 years	43	19.6
31- 40 years	54	24.7
41 - 50 years	48	21.9
51 years & above	45	20.5
Marital status		
Single	23	10.5
Married	188	85.8
Divorced	3	1.4
Widow(er)	5	2.3
Educational Qualification		
RM/RN	16	43.2
B.sc.	18	48.7
M.Sc.	3	8.1
Educational Qualification		
No formal education	12	5.5
Primary education	17	7.8
Secondary education	78	35.6
Tertiary education	112	51.1
Occupation		
Midwife	37	16.9
Petty trader	59	26.9
Civil servant	44	20.1
House wife	48	221.9
Artisan	31	14.2
Religion		
Christians	211	96.3
Islam	3	1.4
African Traditional Religion	2	0.9
Others	3	1.4

Research Question 1: What are the perceptions of mothers and midwives towards practice of perineal massage in Federal Medical CenteeYenagoa, Bayelsa State, Nigeria?

To provide answer to the above question, responses to items 8-17 of questionnaires for mothers and midwives were analyzed using quantitative analysis. Responses to all positively worded statements scored as follows: strongly agreed (SA) = 4 point; agreed (A) = 3 points; disagreed (D) = 2 points and strongly disagreed (SA) = 1 point. Responses to all negatively worded statements were scored as follows: strongly agreed (SA) = 1 point; agreed (A) = 2 points; disagreed (D) = 3 points and strongly disagreed (SA) = 4 point. The data were presented separately (in Tables 4.3 and 4.4) for mothers and midwives using frequencies and interpreted using percentages. Table 4.3 revealed that out of the 182 mothers that participated in the study, 88 (48.3%) respondents strongly agreed that practice of perineal massage is sexually erotic and increases the desire for sex, 65 (35.7%) respondents agreed, 17 (9.3%) respondents disagreed, while 12 (6.6%) respondents strongly disagreed. Also, 63 (34.6%) respondents strongly agreed that perineal massage should be practiced because it is efficient in reducing perineal tears and trauma, 77 (42.3%) respondents agreed, 30 (16.5%) respondent disagreed, while 12 (6.6%) respondents strongly disagreed.

In addition, 69 (37.9%) respondents strongly agreed that performing perineal massage is against traditional beliefs and cultural norms, 73 (40.1%) respondents agreed, 26 (14.3%) respondents disagreed, while 14 (7.7%) respondents strongly disagreed.

Furthermore, 66 (36.3%) respondents strongly agreed that perineal massage is a controversial health care practice that infringes a woman's privacy, 65 (35.7%) respondents agreed, 23 (12.6%) respondents disagreed, while 20 (11.0%) respondents strongly disagreed.

Seventy-four, 74 (40.7%) respondents strongly agreed that performing perineal massage is irritating because it fiddles with and stimulates the genitalia, 65 (35.7%) respondents agreed; 23 (12.6%) respondents disagreed; while 20 (11.0%) respondents strongly disagreed. Again, 85 (46.7%) respondents strongly agreed that perineal massage makes one feels like indulging in masturbation, 74 (40.7%) respondents agreed, 13 (7.1%) respondents disagreed, while 10 (5.5%) respondents strongly disagreed.

Sixty-six (36.2%) respondents strongly agreed that perineal massage should only be performed by a woman and her husband in the home and not in healthcare facility, 62 (34.1%) respondent agreed, 21 (11.5%) respondents disagreed, while 33 (18.1%) respondents strongly disagreed. Also, 68 (37.4%) respondents strongly agreed that receiving perineal massage care violates religious principles, 6 (16.2%) respondents agreed, 61 (33.5%) respondents disagreed, 21 (11.5%) respondents disagreed, while 32 (17.6%) respondents strongly disagreed.

In addition, 70 (38.5%) respondent strongly agreed that perineal massage is against morality and ethical values, 59 (32.4%) respondents agreed, 21 (11.5%) respondents disagreed, while 32 (17.6%) respondents strongly disagreed. Lastly, 88 (48.4%) respondents strongly agreed that Perineal massage should be practiced since it is said to prevent perineal tears and trauma, 66 (36.2%) respondents agreed, 15 (8.2%) respondents disagree, while 13 (7.1%) respondents strongly disagreed.

Following results in Table 4.3, majority of the respondents have mean scores lower than the 2.5 average. This is an indication that majority of the respondents have negative perceptions about practice of perineal massage to prevent perineal injuries. Total mean (SD) scores obtained by the respondents is 24.88 as already shown in Table 4.4. The respondents who had mean score above 25.0 were 78 (42.9%), while those who scored below 25.0 were 104 (57.1%). Thus, 104 (57.1%) mothers had positive perceptions about provision of practice of perineal massage to prevent perineal injuries.

The item with the highest mean score (3.28) is questionnaire item seventeen (13), while the item with the lowest mean score (2.92) are questionnaire items ten (10).

Table 2: Perceptions of mothers towards practice of perineal massage in Federal Medical Centre Yenagoa, Bayelsa State, Nigeria (n = 182)

Perception variables	SA	A	D	SD	–				
Freq %		Freq %	Freq %	Freq %	X				
Practice of perineal massage is sexually erotic and increases the desire for sex.	88	48.3	65	35.7	17	9.3	12	6.6	3.26
Perineal massage should be practiced because it is efficient in reducing perineal tears and trauma.	63	34.6	77	42.3	30	16.5	12	6.6	3.05
Performing perineal massage is against traditional beliefs and cultural norms.	69	37.9	73	40.1	26	14.3	14	7.7	1.82
Perineal massage is a controversial health care practice that infringes a woman’s privacy.	66	36.3	70	38.4	29	15.9	17	9.3	1.98
Performing perineal massage is irritating because it fiddles with and stimulates the genitalia.	74	40.7	65	35.7	23	12.6	20	11.0	1.93

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Perineal massage makes one feels like indulging in maturbation.	85	46.7	74	40.7	13	7.1	10	5.5	3.28
Perineal massage should only be performed by a woman and her husband in the home and not in healthcare facility.	66	36.2	62	34.1	21	11.5	33	18.1	2.12
Receiving perineal massage care violates religious principles.	68	37.4	61	33.5	21	11.5	32	17.6	2.09
Perineal massage is against morality and ethical values.	70	38.5	59	32.4	21	11.5	32	17.6	2.09
Perineal massage should be practiced since it is said to prevent perineal tears and trauma.	88	48.4	66	36.2	15	8.2	13	7.1	3.26

Sum of Mean score	24.88
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Table 2 revealed that out of the 37 midwives that participated in the study, 19 (51.4%) respondents strongly agreed that perineal massage is very important in saving the lives of women, 12 (32.4%) respondents agreed, 4 (10.8%) respondents disagreed, while 20 (5.4%) respondents strongly disagreed. Also, 21 (56.8%) respondents strongly agreed that perineal massage should be provided because it is efficient in reducing perineal tears and trauma, 13 (35.1%) respondents agreed, 1 (2.7%) respondent disagreed, while 2 (5.4%) respondents strongly disagreed.

In addition, 3 (8.1%) respondents strongly agreed that they were not comfortable providing post abortion care because it is against traditional beliefs and cultural norms, 42 (30.4%) respondents agreed, 27 (19.6%) respondents disagreed, while 31 (22.5%) respondents strongly disagreed. Furthermore, 24 (17.4%) respondents strongly agreed that they are not comfortable providing perineal massage because it is against traditional beliefs and cultural norms, 5 (13.5%) respondents agreed, 11 (29.7%) respondents disagreed, while 16 (43.2%) respondents strongly disagreed.

Six, 6 (16.2%) respondents strongly agreed that perineal massage is a controversial health care practice, 5 (31.5%) respondents agreed; 12 (32.4%) respondents disagreed; while 14 (37.8%) respondents strongly disagreed. Again, 14 (37.8%) respondents strongly agreed that they do not like providing perineal massage because it fiddles with

and stimulates the genitalia, 11 (29.7%) respondents agreed, 7 (18.9%) respondents disagreed, while 5 (13.5%) respondents strongly disagreed.

Two (5.4%) respondents strongly agreed that performing perineal massage makes one feels like indulging in lesbianism, 1 (2.7%) respondent agreed, 15 (40.5%) respondents disagreed, while 19 (51.4%) respondents strongly disagreed. Also, 3 (8.1%) respondents strongly agreed that perineal massage should only be performed by couples in their respective homes, 6 (16.2%) respondents agreed, 14 (37.8%) respondents disagreed, while 14 (37.8%) respondents strongly disagreed.

In addition, 1 (2.7%) respondent strongly agreed that the dislike perineal massage because it violates my religious principles, 3 (8.1%) respondents agreed, 13 (35.1%) respondents disagreed, while 20 (54.1%) respondents strongly disagreed. Three, 3 (8.1%) respondent strongly agreed that Perineal massage is against morality and ethical values, 2 (2.7%) respondents agreed, 15 (40.5%) respondents disagreed, while 17 (45.9%) respondents strongly disagreed.

Lastly, 22 (59.5%) respondents strongly agreed that perineal massage should be provided to women no matter what, 14 (37.8%) respondents agreed, while 1 (2.7%) respondents disagreed. Following results in Table 4.4, majority of the respondents have high mean score regarding. This is an indication that majority of the respondents have positive perceptions towards provision of perineal massage care to prevent perineal injuries. Total mean (SD) scores obtained by the respondents is 32.14 as already shown in Table 4.4.

The respondents who had mean score above 25.0 were 126 (91.3%), while those who scored below 25.0 were 12 (8.7%). Thus, 126 (91.3%) respondents had positive perceptions about provision of post abortion care in tertiary health care facilities in Rivers State. The item with the highest mean score (3.57) is questionnaire item seventeen (17), while the item with the lowest mean score (2.92) are questionnaire items nine (9) and ten (10).

Table 3: Perceptions of midwives towards provision of perineal massage care in Federal Medical Centee Yenagoo, Bayelsa State, Nigeria (n = 37)

Perception variables	SA		A		D		SD		
Perineal massage is very important in saving the lives of women.	Freq	%	Freq	%	Freq	%	Freq	%	$\bar{X}$
	19	51.4	12	32.4	4	10.8	2	5.4	3.30
Perineal massage should be provided because it is efficient in reducing perineal tears and trauma.	21	56.8	13	35.1	1	2.7	2	5.4	3.43

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Perineal massage is against traditional beliefs and cultural norms.	3	8.1	5	13.5	11	29.7	16	43.2	2.97
Perineal massage is a controversial health care practice.	6	16.2	5	13.5	12	32.4	14	37.8	2.92
Perineal massage care should not be provided because it fiddles with and stimulates the genitalia.	14	37.8	11	29.7	7	18.9	5	13.5	2.92
Perineal massage makes one feels like indulging in lesbianism.	2	5.4	1	2.7	15	40.5	19	51.4	3.38
Perineal massage should only be performed by couples in their respective homes.	3	8.1	6	16.2	14	37.8	14	37.8	3.05
Providing perineal massage care violates my religious principles.	1	2.7	3	8.1	13	35.1	20	54.1	3.41
Perineal massage is against morality and ethical values.	3	8.1	2	5.4	15	40.5	17	45.9	3.19
Perineal massage care should be provided to women no matter what.	22	59.5	14	37.8	1	2.7	0	0.0	3.57

Sum of Mean score	32.14
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Research Question 2: What are the factors impeding practice of perineal massage among mothers and midwives in Federal Medical Centre, Yenagoa?

In order to provide answer to this research question, responses to items 16-25 of questionnaires for mothers and midwives were analyzed separately using quantitative analysis. All responses that are strongly agreed (SA) and agreed (A) were taken as positive assertions indicating that the factor impedes practice/performance of perineal

massage, while responses that were disagreed (D) and strongly agreed (SD) were taken as negative assertions indicating that the factor does not impede practice/performance of perineal massage. The data were presented in Table 4.5 for mothers and Table 4.6 for midwives, and then interpreted using percentages.

Table 4.5 presents results on factors impeding practice of perineal massage among mothers. The table revealed that 33 (18.1%) respondents agreed that mothers avoid practicing perineal massage because they see it as a sexually erotic practice that increases the desire for sex, but majority the respondents, 149 (81.9%) disagreed. Also, majority of the respondents, 136 (74.7%) agreed that some mothers do not practice perineal massage because low awareness of the practice, but 46 (25.3%) respondents disagreed.

The table revealed that majority of the respondents, 144 (79.1%) affirmed that practice of perineal massage is low because women have negative perception about the practice, but 38 (20.9%) respondents did not. Furthermore, the table showed that majority, 150 (82.4%) of the respondents posited that poor knowledge of how to perform perineal massage is a factor that prevents mothers from performing it, but 32 (17.6%) respondents did not. Again, 41 (22.5%) respondents maintained that religious belief was associated with low practice of perineal massage, but 141 (77.5%) respondents did not.

Fifty-three (29.1%) respondents asserted that mothers do not like practicing perineal massage because it fiddles with and stimulates the genitalia, but 129 (70.9%) respondents did not. Majority, 137 (75.3%) of the respondents agreed that mothers do not perform perineal massage because they do not take the practice serious, but 45 (24.7%) respondents disagreed. In addition, majority, 135 (74.2%) respondents asserted some mothers do not perform perineal massage because they do not take the practice serious, but 47 (25.8%) respondents did not.

Also, majority, 162 (89.0%) of the respondents stated that most mothers do not practice perineal massage at home because they are either not married or their husbands are not around to assist them, but 20 (11.0%) respondents did not. Lastly, 39 (21.4%) respondents agreed that mothers do not practice perineal massage due to lack of co-operation from their partners, but majority of the respondents 143 (78.6%) disagreed.

Following the results presented in Table 4.5, the factors impeding practice of perineal massage among mothers are: low awareness of the practice, negative perception about the practice, poor knowledge of how to perform perineal massage, negative attitude towards practice of perineal massage, lack of lack of information about practice of perineal massage; and lack of commitment to practice perineal massage, and being single or absence of partner.

TABLE 4: Factors impeding practice of perineal massage among mothers in Federal Medical Centre, Yenagoa (n = 182)

Factor variables	Agreed		Disagreed	
	Frequency	%	Frequency	%
Most women avoid practicing perineal massage because they see it as a sexually erotic practice that increases the desire for sex.	33	18.1	149	81.9
Some women do not practice perineal massage because low awareness of the practice.	136	74.7	46	25.3
The rate of practice of perineal massage is low because women have negative perception about the practice.	144	79.1	38	20.9
Poor knowledge of how to perform perineal massage is a factor that prevents mothers from performing it.	150	82.4	32	17.6
Many women do not perform perineal massage because they believe that only God can grant safe delivery.	41	22.5	141	77.5
Women don't like practicing perineal massage because it fiddles with and stimulates the genitalia.	53	29.1	129	70.9
Many women do not practice perineal massage due to lack of information about the practice.	137	75.3	45	24.7
Some mothers do not perform perineal massage because they do not take the practice serious.	135	74.2	47	25.8
Most mothers do not practice perineal massage at home because they are either not married or their husbands are not around to assist them.	162	89.0	20	11.0
Mothers do not practice perineal massage due to lack of co-operation from their partners.	39	21.4	143	78.6

Table 4 presents results on factors impeding provision of perineal massage among midwives. The table revealed that 7 (18.9%) respondents agreed that low utilization of antenatal and postnatal care services by mothers affects provision of perineal massage among midwives, but majority the respondents, 30 (81.1%) disagreed. Also, 4

(10.8%) respondents agreed that poor knowledge of perineal massage care was associated with lack of provision of provision of perineal massage among midwives, but majority of the respondents, 33 (89.2%) disagreed.

The Table further showed that majority of the respondents, 26 (70.3%) affirmed that shortage of midwives in the healthcare facility to perform perineal massage, but 11 (29.7%) respondents did not. Again, 31 (83.7%) respondents agreed that negative attitude of midwives was associated with poor implementation of provision of perineal massage care, but 6 (16.2%) respondents disagreed. Twenty-four (64.9%) asserted that presentation of mothers to healthcare facility for labour management affects provision of perineal massage, but 13 (35.1%) respondents did not.

Some, 10 (20.4%) respondents agreed that negative perception about provision of perineal massage care is associated with lack of implementation of perineal massage care, whereas majority [27 (73.0%)] of the respondents disagreed. Further responding, 26 (70.3%) respondents reported that lack of proper supervision of midwives monitoring labour is associated with lack of provision of perineal massage, but 11 (29.7%) respondents did not. Also, 22 (59.5%) respondents maintained that lack of proper supervision of midwives monitoring labour is associated with lack of provision of perineal massage, but 15 (40.5%) respondents did not. Moreover, 32 (86.5%) respondents stated that poor implementation of health policy on provision of perineal massage to prevent perineal injuries affects provision of perineal massage, but 5 (13.5%) respondents did not.

Lastly, 9 (24.3%) respondents agreed that mothers' unwillingness to receive perineal massage care affects provision of perineal massage care, but 28 (75.7%) respondents disagreed. Following the results presented in Table 4.6, the factors impeding provision of perineal massage care by midwives to prevent perineal injuries are: shortage of midwives in healthcare facilities, negative attitude of midwives to provision of perineal massage care, late presentation of mothers to healthcare facility for labour management; poor implementation of health policy on provision of perineal massage to prevent perineal injuries in mothers; and lack of commitment to provision of perineal massage care among midwives.

TABLE 5: Factors impeding practice of perineal massage among midwives in Federal Medical Centre, Yenagoa
(n = 37)

Factor variables	Agreed		Disagreed	
	Frequency	%	Frequency	%
Low utilization of antenatal and postnatal care services by mothers.	7	18.9	30	81.1
Poor knowledge of perineal massage care among health workers (midwives).	4	10.8	33	89.2

Shortage of midwives in the healthcare facility to perform perineal massage.	26	70.3	11	29.7
Negative attitude of midwives towards provision of perineal massage care.	31	83.7	6	16.2
Late presentation of mothers to healthcare facility for labour management.	24	64.9	13	35.1
Negative perception about provision of perineal massage care.	10	27.0	27	73.0
Lack of proper supervision of midwives monitoring labour by senior midwives.	26	70.3	11	29.7
Poor implementation of health policy on provision of perineal massage to prevent perineal injuries in mothers.	22	59.5	15	40.5
Lack of commitment to provision of perineal massage care among midwives.	32	86.5	5	13.5
Mothers' unwillingness to receive perineal massage care.	9	24.3	28	75.7

Testing for Hypothesis

There is no significant relationship between practice of perineal massage and occurrence of perineal injuries among mothers receiving maternity care at Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria. To test this hypothesis, data collected on relationship that exists between practice of perineal massage and occurrence of perineal injuries in mothers receiving maternity care at Federal Medical Centre, Yenagoa were correlated using Chi-Square (X²) test. The result is presented in Table 4.9.

The result of Chi-Square (X²) test in Table 4.9 revealed that the calculated X² value of 0.853 is higher than the critical value of 0.136 at 0.05 level of significant and 136 degrees of freedom. The result is significant; therefore, the null hypothesis which states that there is no significant relationship between practice of perineal massage and occurrence of perineal injuries among mothers receiving maternity care at Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria was rejected.

The result implies that a significant positive relationship exists between practice of perineal massage and occurrence of perineal injuries among mothers. Mothers who performed perineal massage are less likely to experience severe perineal pain, perineal tears, episiotomy and perineal trauma during childbirth and delivery.

Table 6: Chi-Square (X^2) Analysis of Relationship Between practice of perineal massage and occurrence of perineal injuries among mothers receiving maternity care at Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria

Knowledge of FANC	Perineal massage (n = 117)		No perineal massage (n = 65)		Total	df	Sig.	X^2	Cal	Decision
	Yes	No	Yes	No						
Severe perineal pain	112	5	62	3	182	1	0.05	5.29	Rejected	
Perineal tears	32	85	29	36	182					
Episiotomy	8	109	12	53	182					
Perineal trauma	8	109	12	53	182					
Prevent perineal injuries	103	14	56	9	182					
Total	263	322	171	154	910					

$P > .05$; $\alpha = .05$; $df = 4$; Critical $X^2 = 11.07$; Calculated $X^2 = 25.91^*$

4.0 Discussion

Results of socio-demographic data revealed that majority of the respondents were females, mostly in the age category of 31 40 years and 41 50 years. This perhaps is due to the study dealing with mothers and female dominance in the midwifery profession. Also, most of the respondents were married, followed by single respondents. In the educational qualification category, participants who attended tertiary education were more in number, followed by those with secondary education.

For midwives, respondents with Bachelor of Science (B.Sc.) degrees were more in number, followed by those with registered nurses and midwives (RN/RM) as their highest qualifications. Most of the respondents in the mothers' category were petty traders, followed by housewives. Lastly, the respondents were dominated by Christians, which may be due to Christianity being the main religion of the people in the research setting.

Perceptions of mothers and midwives towards practice of perineal massage in Federal Medical Centre Yenagoa, Bayelsa State, Nigeria

The findings of this study revealed that most mothers have negative perceptions about practice of perineal massage in Federal Medical Center Yenagoa, Bayelsa State, Nigeria; while majority of midwives (99.2%) have positive perceptions about the practice. It was revealed that 57.1% of mothers have negative perceptions about

practice of perineal massage, but 42.9% of the mothers have positive perceptions towards the practice. Some of the mothers have the perception that perineal massage is against traditional beliefs and cultural norms.

Some of them see perineal massage as an irritating practice because it fiddles with and stimulates the genitalia; while some perceive that perineal massage is against morality and ethical values, and violates religious principles as it makes one feels like indulging in masturbation. The reason for mothers' exhibition of negative perception towards perineal massage could be ignorance and low awareness of the practice, coupled with poor religious beliefs, which have been affecting acceptance of many maternal and reproductive healthcare services among mothers.

The finding that mothers have negative perception about perineal massage to prevent perineal injuries correspond with the result of an investigation by Stamp (2014), which revealed that more than half of mothers (55%) find the practice of perineal massage distasteful, while only a few mothers liked it. However, the finding is different from those of studies by several studies. For instance, the result is different from that of a study by Ismail and Emery (2013), which revealed that majority (72.3%) of mothers had positive views and opinions about perineal massage. Like the result of this study, some mothers in Ismail and Emery (2013) study also felt the practice was embarrassing. Also, the finding differ from finding by Dahlen, et al. (2017), which revealed that majority of women (85.7%) had positive perception about perineal massage, and indicated that they would like to use perineal it during their next childbirth. Also, the result of this study revealed that majority of midwives (97.3%) have positive perception about provision of perineal massage care to prevent perineal injuries in mothers during delivery.

Majority of the midwives believe that perineal massage is very important in saving the lives of women; prevents or reduces perineal pain, as well as prevents perineal injuries and perineal trauma. The result agrees with that of a study by East, Lau and Biro (2015), which revealed that majority of midwives (97%) had positive perception about provision of perineal massage care to prevent oerineal injuries. Similarly, the finding agrees with study by Carroll, et al. (2020), which revealed that majority (81.2%) of midwives had higher levels of confidence in the use of perineal massage as a technique for preventing perineal trauma during labour and birth.

Factors Impeding Perineal Massage among Mothers and Midwives in Federal Medical Centre Yenagoo, Bayelsa State, Nigeria

It was also revealed in this study that major factors impeding practice of perineal massage among mothers are: low awareness of the practice, negative perception about the practice, poor knowledge of how to perform perineal massage, negative attitude towards practice of perineal massage, lack of lack of information about practice of perineal massage; and lack of commitment to practice perineal massage, and being single or absence of partner. Many mothers do not practice perineal massage because of low awareness of the practice. Some mothers have poor knowledge of the practice, as well as exhibit negative perception towards it. Consequently, these mothers

may not practice perineal massage because they lack adequate knowledge and awareness of the benefits of perineal massage. This finding agrees with Baffour-Awuah, et al. (2015), who reported that client and care related factors like poor knowledge and low awareness are major barriers to implementation of maternal and child health care services like perineal massage.

Also, study findings revealed that factors impeding provision of perineal massage care by midwives to prevent perineal injuries are: shortage of midwives in healthcare facilities, negative attitude of midwives to provision of perineal massage care, late presentation of mothers to healthcare facility for labour management; poor implementation of health policy on provision of perineal massage to prevent perineal injuries in mothers; and lack of commitment to provision of perineal massage care among midwives.

Some midwives may not be comfortable providing perineal massage as a result of negative attitude and lack of commitment to perineal massage care. These findings correspond with an earlier study conducted by Mathibe-Neke, Lebeko and Motupa (2013) in Gauteng Province, South Africa, which revealed that lack of commitment and negative attitude to work among midwives were factors affecting provision of perineal massage care among midwives. Similarly, the findings agree with an earlier study by Odoko (2019), which revealed that late presentation for both antenatal care and childbirth affect provision of perineal massage care by midwives. When mothers present late for childbirth, midwives find it difficult to perform perineal massage effectively because some of them are already in the third or fourth stage of labour.

5.0 Conclusion

In conclusion, although practice/provision of perineal massage care is an effective way of preventing and reducing perineal pain, injuries, episiotomy and trauma, mothers and midwives have different perception about the practice. This study revealed that most mothers have negative perceptions, while majority of midwives have positive perceptions about provision of perineal massage care in Federal Medical Centre, Yenagoa, Bayelsa State, Nigeria. Some of the factors impeding practice of perineal massage among mothers are: low awareness of the practice, negative perception and attitude towards the practice, poor knowledge of how to perform perineal massage. Also, major factors impeding performance of perineal massage among midwives are: negative attitude of midwives to provision of perineal massage care, late presentation of mothers to healthcare facility for labour management; poor implementation of health policy on provision of perineal massage care; and lack of commitment to provision of perineal massage.

Public health workers, hospital managements and nurse leaders should ensure that midwives responsible for post abortion care consistently and correctly practice it in all healthcare facilities.

6.0 Recommendations

Based on the study findings, the following recommendations were given:

1. Mothers should learn to exhibit positive perception about practice of perineal massage because it is a life - saving healthcare practice designed to prevent and reduce perineal injuries and postpartum haemorrhage as a result of childbirth.
2. Mothers should be educated on the benefits of perineal massage during antenatal visits in order to increase knowledge and awareness of perineal massage as a technique that prevents and reduces the risk of perineal pain, injuries and postpartum haemorrhage.
3. Public health workers, hospital managements and midwife leaders should ensure that midwives consistently provide perineal massage care to mothers during labour in all healthcare facilities.
4. Midwives should continue to exhibit positive perceptions and attitude towards provision of perineal massage care, knowing that the practice has the potential to prevent and reduce perineal injuries among birthing mothers.
5. Midwives should be committed to provision of perineal massage care, knowing that prevention and reduction of perineal injuries and postpartum haemorrhage depends on their commitment.
6. Public health workers, hospital managements, midwives leaders and educators should organize seminars and workshops for midwives responsible for post abortion care to educate them in order to have 100 percent positive perception and attitude to post abortion care.
7. More midwives should be recruited into healthcare facilities since shortage of midwives was observed to be one of the factors inhibiting provision of perineal massage care among midwives.
8. Hospitals that provide antenatal and post natal care to pregnant women should ensure that the policy on perineal massage care is adhered to and implemented by midwives irrespective of their perceptions, attitude personal beliefs and religious beliefs.
9. Midwives should be properly supervised while providing perineal massage care in healthcare facilities to ensure that policy on provision of such services is adhered to.

7.0 Implication to Midwifery Practice

Maternal mortality and morbidity due to abortion is still high, and has often been attributed to factors such as lack of provision of quality PAC services by midwives. The implication of this study to midwifery is that it will create more consciousness in midwives, mothers, pregnant women and women of reproductive health in general on the need to exhibit positive perceptions and attitude towards perineal massage, as well as help them to be more committed to the practice. This will help to prevent and reduce rates of perineal injuries and its associated trauma and postpartum haemorrhage, thereby assist in the attainment of goal three (3) of the Sustainable Development Goals (SDGs), which is to reduce mortality rate and raise life expectancy. Also, health policy makers and management will be motivated to effectively strategize towards ameliorating the factors impeding provision of perineal massage care by midwives. They will make sure that healthcare facilities that provide maternity care

implement policy on provision of perineal massage care to women during childbirth and delivery by ensuring midwives are committed to practice.

REFERENCES

- Aasheim, V., Nilsen, A. b. V., Reinar, L. M, & Lukasse, M. (2017). Perineal techniques during the second stage of labour for reducing perineal trauma. Cochrane Database of Systematic Reviews, 7;(12),CD006672. DOI: 10.1002/14651858.CD006672.pub2
- Aguiar, M., Farley, A., Hope, L., Amin, A. Shah, P. & Manaseki-Holland, S. (2019). BirthRelated Perineal Trauma in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis. Maternal & Child Health Journal, 23(8):1048-1070. doi: 10.1007/s10995-019-02732-5.
- Aidha R., Rizka E. S., Endah M., Siti M., &Luluk Y. (2021) Analysis of factors affecting pregnant women to perform perineal massage, Journal UMGESHIC; 1(1), pp 121 – 126
- Ajayi, I. O., Osakinle, D. C. &Osakinle, E. O. (2013). Quality assessment of the practice of focused antenatal care (FANC) in rural and urban primary health centres in Ekiti State. Open Journal of Obstetrics and Gynecology 3(3), 319-326.
- Akhlaghi, A., Baygi, Z. S., Miri, SM. & Najafi, M. N. (2019). Effect of Perineal Massage on the Rate of Episiotomy. Journal of Family Reproductive Health, 13(3): 160–166. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7072029/>
- Albers, L. L., Sedler, K. D., Bedrick, E. J., Teaf, D. & Peralta, P. (2015). Midwifery care measures in the second stage of labor and reduction of genital tract trauma at birth: A randomized trial. Journal of Midwifery & Women's Health, 50(5),365–72. doi: 10.1016/j.jmwh.2005.05.012.
- Arnold, M. J. (2021). Obstetric lacerations: prevention and repair. American Family Physician. Retrieved from <https://www.sciencedirect.com/topics/medicine-and-dentistry/perinealmassage>
- Awolayo O. A. (2019) Impact of select sociocultural practices on maternal mortality in Gondim, E. J. L., Moreira, M. A., Lima, A. C., De Aquino, P., Nascimento, S. L. (2022). Women know about perineal trauma risk

but do not know how to prevent it: Knowledge, attitude, and practice. *Gynecology & Obstetrics*. Retrieved from <https://obgyn.onlinelibrary.wiley.com/doi/10.1002/ijgo.14526?af=R>

Gondim, E. J. L., Moreira, M. A., Lima, A. C., de Aquino, P. & do Nascimento, S. L. (2022). Women know about perineal trauma risk but do not know how to prevent it: Knowledge, attitude, and practice. *International Online Journal of Gynecology & Obstetrics*. <https://doi.org/10.1002/ijgo.14526>

Hajela N., Turner K. A., Roos J., & Rivera M. (2021) Effectiveness of prenatal perineal massage in reducing the risk of perineal trauma during vagina; delivery in nulliparous women: A meta – analysis and evidence based review, *Journal of women's Health Development*; 4(4), pp 136 – 150

Machi, L. A. & McEvoy, B. T. (2016). *The literature review : six steps to success*. Thousand Oaks, California: Corwin, a SAGE Company

Metwally, A. & Attas, R. (2020). Mothers' awareness and acceptability of antenatal perineal massage: a cross-sectional study. *International Journal of Medicine in Developing*

Countries, 4(10):1645–1651. <https://doi.org/10.24911/IJMDC.51-1599046205>

Monguilhott, J. J., Brüggemann, O. M., Velho, M. B., Knobel, R. & Costa, R. (2022). Antenatal perineal massage for trauma prevention: a pilot randomized clinical trial. *Acta Paul Enferm.* 22, 35-45. Doi: <https://dx.doi.org/10.37689/acta-ape/2022AO03813459>

Naidoo, T. D. & Moodley, J. (2015). Obstetric perineal injury: risk factors and prevalence in a resource-constrained setting. *Trop Doct.* 45(4), 252-4. doi: 10.1177/0049475513515214.

Ojule, J. D., Oriji, V. K. & Georgewill, K. N. (2012). Perineal trauma in Port Harcourt, South Nigeria. *Niger J Med.* 21(1):36-40. PMID: 23301445.

Oyira, E. J. & Essien, N. C. (2016). Birth complications control between midwives among women in Cross River States-Nigeria. *Global Journal Of Pure And Applied Sciences*, 23, 177-186. DOI: <https://dx.doi.org/10.4314/gjpas.v23i1.18>

Phommachanh, S., Essink, D. R., Jansen, M., Broerse, J. E. W., Wright, P., & Mayzay, M. (2019). Improvement of quality of antenatal care (ANC) service provision at the public health facilities in Lao PDR: Perspective

and experiences of supply and demand sides. BMC Pregnancy Childbirth, 19, 255. <https://doi.org/10.1186/s12884-019-2345-0>

Rachmawati, A., Safriana, R. S., Mulyani, E., Mudlikah, S. & Yulianti, L. (2021). Analysis of Factors Affecting Pregnant Women to Perform Perineal Massage. Journal

UMGESHIC Universitas Muhammadiyah Gresik Engineering, Social Science, and Health International Conference, 1(1) 21-31. Retrieved from <https://www.academia.edu/67001505/>

Raja, A., Pallavee, P. & Samal, R. (2017). Effect of perineal massage in the second stage of labour, on the incidence of episiotomy and perineal tears. International Journal of Reproductive, Contraception, Obstetrics and Gynecology, 8(4), 12-22. DOI: <https://doi.org/10.18203/2320-1770.ijrcog20191186>

Smith, L. A., Price, N., Simonite, V. & Burns, E. E. (2013). Incidence of and risk factors for perineal trauma: a prospective observational study. BMC Pregnancy Childbirth. 13 (7), 13,59. doi: 10.1186/1471-2393-13-59.

Solanke, B. L. (2018). Factors associated with use of maternal healthcare services during the Boko Haram insurgency in North-East Nigeria. Medicine, Conflict and Survival, 34(3), 158-184, DOI: 10.1080/13623699.2018.1511358.

Stamp, G. E. (2014). Care of the perineum in the second stage of labour: a study of views and practices of Australian midwives. Midwifery, 13(2):100-4. doi: 10.1016/s02666138(97)90063-2.

Stamp, G., Kruzins, G. & Crowther, C. (2014). Perineal massage in labour and prevention of perineal trauma: randomised controlled trial. British Medical Journal, 322(7297):127780. doi: 10.1136/bmj.322.7297.1277.

Venugopal, V., Deenadayalan, B., Maheshkumar, K., Yogapriva, C., Akila, A., Pandiaraja, M., Poonguzhali, S. & Poornima, R. (2022). Perineal massage for prevention of perineal trauma and episiotomy during labor: A systematic review and meta-analysis. J Family Reprod Health, 16(3):162-169. doi: 10.18502/jfrh.v16i3.10575.

Victorian Department of Health and Human Services (2020). Perineal massage. Retrieved from <https://brochures.mater.org.au/brochures/mater-mothers-hospital/perineal-massage>

- Williams, A., Herron-Marx, S. & Knibb R. (2017). The prevalence of enduring postnatal perineal morbidity and its relationship to type of birth and birth risk factors. *Journal of Clinical Nursing*, 16(3):549–61.
- World Physiotherapy (2022). Perineal laceration. Retrieved from https://www.physiopedia.com/Perineal_Laceration.
- Yates, S. (2022). How to perform perineal massage and why. Retrieved from <https://www.weleda.co.uk/magazine/perineal-massage>
- Zileaaake, D., Kayiira, A. & Namagembe, I. (2019). Perceptions, expectations and challenges associated with practice of perineal massage among pregnant women in a low resource setting: a qualitative study. *Fertil Res and Pract* 5, 6. <https://doi.org/10.1186/s40738019-0058-8>.