

KNOWLEDGE ON THE TECHNIQUE OF ANTENATAL PERINEAL MASSAGE AMONG ANTENATAL MOTHERS: A DESCRIPTIVE STUDY

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ABSTRACT

This study aims to assess antenatal mothers' familiarity with the technique of antenatal perineal massage (APM) and its potential impact on mitigating the risk of perineal trauma and episiotomy during labor. The absence of APM explanation in antenatal sessions has resulted in mothers experiencing perineal trauma and other complications post-birth due to a lack of awareness. Employing a descriptive quantitative approach, the research utilized questionnaires for data collection from 100 respondents, comprising primigravida and multigravida mothers at a selected Public Health Clinic, selected through simple random sampling. Findings disclosed that 77% of respondents were acquainted with APM, while 33% had never encountered it. Information sources varied, with 59.7% obtaining knowledge from pamphlets and 22.1% from the internet. Significantly, 46.5% expressed a preference for antenatal classes as a medium for disseminating APM information. An overwhelming 99% of mothers expressed interest in learning the APM technique. The ensuing discussion

focuses on the identified knowledge levels among antenatal mothers at the public health clinic. In terms of nursing implications, APM emerges as a preventive measure against perineal trauma during childbirth, highlighting the imperative for nurse midwives to enhance their understanding and convey this knowledge to antenatal mothers, thus averting the risk of perineal trauma.

Keywords: Antenatal Mother, Antenatal, Knowledge, Antenatal Perineal Massage.

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1. INTRODUCTION

One of the objectives outlined in Millennium Development Goal 5 is the enhancement of maternal health. According to the World Health Organization (WHO, 2015), there was a 45% reduction in maternal deaths during pregnancy and childbirth from 1990 to 2013, totaling an estimated 289,000 deaths. Despite the primary cause of maternal mortality being limited access to essential and emergency care, post-childbirth perineal trauma poses a significant threat to maternal health, leading to both short and long-term morbidity (Abdelhakim et al., 2020; Dean & Meghan, 2014; Thomas et al., 2014). Perineal trauma severity varies, encompassing different wound types and tissue layers (Siti Mariam Muda, 2014).

Studies indicate that antenatal perineal massage offers benefits in diminishing tears, episiotomies, and assisted deliveries, especially among first-time mothers aged over 30 (Beckmann & Stock, 2013). The Cochrane Library also concurs, highlighting the effectiveness of antenatal perineal massage in reducing

both perineal traumas during birth and postpartum pain (Aasheim et al., 2017). However, despite its proven benefits, this technique is often not addressed in antenatal education classes, leading to a lack of awareness among mothers and contributing to instances of perineal trauma and related complications postpartum.

In recent years, there has been a significant rise in perineal trauma and episiotomy incidents during childbirth, affecting maternal health worldwide. Traditional routine episiotomy, particularly in primigravida mothers, has been linked to perineal infection, diminished sexual satisfaction, and urinary problems. Hence, the adoption of antenatal perineal massage is widely accepted among pregnant women and is seen as a crucial approach in lowering episiotomy risks, especially for primigravida mothers (Ismail & Emery, 2013). Perineal massage recipients experience less perineal trauma, fewer sutures, and, in some cases, avoid episiotomy altogether (Aasheim et al., 2017). Prenatal perineal massage can reduce the risk of perineal injury, the incidence of lateral perineal resection, and the incidence of long-term pain (Chen et al., 2022).

In Malaysia, where hospitals are mandated to maintain episiotomy rates below 30%, studies reveal rates ranging from 15% to 47% in specialist hospitals and higher averages, particularly in district hospitals, reaching 50% (MOH Circular letter, 1/2008). Primigravida routinely undergo episiotomy at rates of 57% in specialist hospitals and 70% in non-specialist hospitals (KKM 87/A3/11/9). Kuala Lumpur Maternity Hospital, one of the world's largest and busiest maternity hospitals, as highlighted by Siti Mariam Muda (2014), recorded

varying episiotomy rates. The total births at the hospital in 2009 and 2012, emphasizing the need for addressing and reducing episiotomy incidents for improved maternal outcomes (See Table 1, Appendix 1).

According to Siti Mariam Muda (2014), Kuala Lumpur Maternity Hospital reported a high incidence of perineal trauma (57% in 2011), a concern reflected in the Birth Statistic of 2012. In Malaysia, perineal massage during the second stage of labor is common, with midwives and doctors advocating its practice to reduce tearing severity. The routine episiotomy rate for primigravida women ranges from 57% to 70% in Malaysian hospitals, significantly higher than Australia's 17.2% rate (Ministry of Health Malaysia, 2012). The Ministry of Health Malaysia issued a 2008 policy targeting a reduction in episiotomy rates to not exceed 30% in each hospital (Ministry of Health Malaysia, 2008). Antenatal perineal massage has been implemented since 2007 at Hospital Raja Perempuan Zainab II in Kelantan Darul Naim, evident in brochures distributed during antenatal classes. Hospital Ampang adopted the practice since 2010, verbally presented in antenatal classes by the head nurse, lacking documented evidence. Kuala Lumpur Maternity Hospital recently introduced perineal massage, although not supported by research or journals; education is provided during antenatal classes, and practical sessions are conducted during the second stage of labor.

2. REVIEW OF LITERATURE

Perineal trauma during childbirth remains a significant concern, particularly given its potential long-term physical and psychological effects on women. Various studies have explored

interventions aimed at reducing perineal trauma, with antenatal perineal massage emerging as a promising technique. This literature review examines the evidence surrounding perineal trauma prevention strategies, focusing on antenatal perineal massage, its effectiveness, and the factors influencing its acceptance and implementation.

2.1 Risk Factors for Perineal Trauma

Certain risk factors for perineal trauma, such as ethnicity, parity, and infant birth weight, are well-established in the literature. These factors are often beyond the scope of intervention, yet they significantly impact the likelihood of severe perineal injuries. For instance, Abdelhakim et al. (2020) and Groutz et al. (2011) identify that women of certain ethnicities and those experiencing their first childbirth (nulliparous women) are at higher risk of severe perineal trauma. Moreover, infants with higher birth weights are more likely to cause perineal injuries during delivery (Bączek et al., 2022; Smith et al., 2013). While these factors are non-modifiable, understanding them is crucial for developing targeted interventions that can mitigate their impact.

2.2 Antenatal Perineal Massage: A Preventive Strategy

Antenatal perineal massage has been proposed as an effective method to reduce the incidence of perineal trauma during childbirth (Álvarez-González et al., 2022; Abdelhakim et al., 2020; Aasheim et al., 2017). This technique involves massaging the perineum and vaginal walls during the final weeks of pregnancy to increase tissue elasticity and reduce the likelihood of tearing during delivery. Several studies have explored the

efficacy of this intervention, with mixed but generally positive results. Chen et al. (2022) discuss the acceptability of antenatal perineal massage among pregnant women, noting that while many women find the technique acceptable, several challenges can hinder its practice. Discomfort during the massage, health problems, lack of partner involvement, and difficulties with the technique are among the most commonly reported barriers (Abdelhakim et al., 2020; Chen et al., 2022). These findings highlight the need for comprehensive education and support to ensure that women are adequately prepared to perform the massage effectively.

2.3 Awareness and Acceptance of Perineal Massage

The success of antenatal perineal massage largely depends on awareness and acceptance among pregnant women. Ismail and Emery (2013) conducted a study involving 113 first-time mothers, which revealed low levels of awareness regarding perineal massage. Their findings underscore the importance of education and encouragement from healthcare providers, particularly midwives, who play a crucial role in antenatal care. Thompson (2015) also emphasizes the role of midwives in promoting perineal massage, particularly among women who have experienced an episiotomy in previous births. Thompson's study found that 80% of women who had an episiotomy reported perineal pain, suggesting that increased awareness and use of perineal massage could potentially reduce the need for episiotomies and the associated discomfort.

2.4 Cultural and Regional Variations in Perineal Massage Practice

The practice of perineal massage and its acceptance can vary significantly across different cultural and regional contexts. For example, Karacam et al. (2012) conducted a study in Turkey and found that antenatal perineal massage during labor significantly reduced perineal trauma, decreased the need for episiotomy, and minimized the use of suture materials. These findings suggest that antenatal perineal massage could be particularly beneficial in regions where episiotomy rates are high. However, cultural attitudes towards childbirth and bodily autonomy can influence the acceptance of such practices. In some cultures, women may be less likely to engage in perineal massage due to modesty concerns or a lack of support from their partners or healthcare providers.

2.5 Psychological and Emotional Considerations

The psychological and emotional impact of perineal trauma is another important consideration. Women who experience severe perineal trauma during childbirth may suffer from long-term physical and emotional consequences, including chronic pain, sexual dysfunction, and postpartum depression. Antenatal perineal massage has been shown to reduce the incidence of severe perineal injuries, which in turn can mitigate these negative outcomes. Furthermore, the act of performing perineal massage can empower women, giving them a sense of control over their childbirth experience (Thompson, 2015). However, the emotional response to perineal massage can vary. While some women report feeling more prepared for childbirth after practicing perineal massage, others may find the practice

uncomfortable or anxiety-inducing. It is essential for healthcare providers to address these concerns and provide reassurance, emphasizing the potential benefits of the technique. Additionally, involving partners in the process can enhance the emotional support system for pregnant women, making them more likely to continue with the massage throughout their pregnancy (Chen et al., 2022).

2.6 Role of healthcare providers

Given the potential benefits of antenatal perineal massage, there are several recommendations for practice and future research. First, healthcare providers should incorporate antenatal perineal massage into routine antenatal care, offering visual instruction and hands-on guidance to pregnant women. This approach can help overcome the barriers identified in previous studies, such as discomfort and lack of technique. Additionally, midwives and other healthcare professionals should be trained to promote perineal massage effectively, highlighting its benefits and addressing any concerns that women may have. Future research should focus on long-term outcomes associated with perineal massage, including its impact on postpartum recovery and maternal mental health. There is also a need for more culturally sensitive studies that explore the acceptability and effectiveness of perineal massage in diverse populations. Understanding how cultural attitudes influence the practice of perineal massage can help tailor interventions to meet the needs of different communities.

Therefore, antenatal perineal massage emerges as a promising intervention to reduce perineal trauma during childbirth. While certain risk factors for perineal trauma, such as ethnicity, parity,

and infant birth weight, cannot be modified, antenatal perineal massage offers a proactive approach to enhancing tissue elasticity and reducing the likelihood of severe injuries. Despite the challenges associated with the technique, including discomfort and lack of awareness, the practice has been found to be generally acceptable among pregnant women, particularly when supported by healthcare providers and partners. The benefits of perineal massage extend beyond the physical, offering psychological and emotional support that can empower women and improve their childbirth experience. By integrating perineal massage into routine antenatal care and addressing the barriers to its practice, healthcare providers can contribute to better maternal outcomes during childbirth. Future research should continue to explore the long-term effects of perineal massage, as well as its acceptability in different cultural contexts, to further refine and promote this valuable intervention.

3. RESEARCH METHODOLOGY

3.1 Design, Sampling and sample size

A descriptive cross-sectional study design was used in this survey among mothers in a selected CH Public Health Clinic, Kuala Lumpur, Malaysia. 100 respondents were selected to participate in this research which were 50 of primigravida and another 50 of multigravida.

3.2 Research Instrument

The survey questionnaires were presented in both English and Bahasa Malaysia to ensure ease of comprehension, catering to a diverse participant pool representing multiple ethnicities. This

approach was adopted to guarantee that all participants, irrespective of their racial backgrounds, could easily understand each questionnaire, thereby enhancing the accuracy of the collected data. The tool was derived from current standards of World Health Organization (WHO). Section A consisted of 6 (six) demographic data included age, race, education, pregnancy, period of gestation and occupation. In Section B, consists 12 items using Likert scale according to the questionnaires statement which correspond most closely to desire respond and can tick one answer only such as 1-strongly disagree; 2-disagree; 3-uncertain; 4-agree; and 5-strongly agree.

3.3 Reliability and Validity

Three expert panels (Supervisor, matron and head nurse) evaluated the research instruments for content validity. The Cronbach alpha for this study was 0.879.

3.4 Ethical Considerations

Ensure ethical compliance by securing approval from Ethics Committee of the National Malaysian Research (NMRR, Research ID: 31240) and Open University Malaysia. Participants, meeting inclusion criteria, received information about the study's purpose and were guaranteed confidentiality through a consent form distributed alongside the questionnaire via face-to-face before the study commenced.

4. RESULTS

4.1 Demographic Data

Table 2 presents the socio-demographic details of the respondents, encompassing age, ethnicity, education, and occupation. Among the 100 participants, 64% fell within the 26-35 age group, 27% were aged 16-25, and 9% were in the 36-45 age range. The majority were Malay (74%), with 19% Chinese and 7% from other ethnicities. Regarding education, 43% had primary education, 40% held diplomas, and 17% had degrees. Occupationally, 4% were students, 32% housewives, 35% employed in the private sector, and 29% government servants. In terms of obstetric history, 50% were primigravida, and 50% were multigravida. Most respondents (49%) were in the gestational age range of 25-34 weeks, followed by 22% at 13-24 weeks, 17% at ≤ 12 weeks, and 12% at ≥ 34 weeks.

Table 2. Demographic distribution of respondents (n = 100)

Demographic	Frequency (n)	Percentage (%)
Age		
16-25	27	27.0
26-35	64	64.0
36-45	9	9.0
Race		
Malay	74	74.0
Chinese	19	19.0
Others	7	7.0
Educational level		
Primary education	43	43.0
Diploma	40	40.0
Degree	17	17.0
Occupation		
Housewife	32	32.0

Government	29	29.0
Private	35	35.0
Student	4	4.0
Number of Pregnancy		
Prime gravida	50	50.0
Multi gravida	50	50.0
Period of gestation		
≤ 12 weeks	17	17.0
13-24 weeks	22	22.0
25-34 weeks	49	49.0
≥ 34 weeks	12	12.0

4.2 Source and the effective method on disseminating the information regarding antenatal perineal massage

The questionnaire included inquiries on sources and effective methods for disseminating information about antenatal perineal massage. Out of the respondents, 77 participants affirmed prior awareness of antenatal perineal massage, while 33 indicated unfamiliarity. Among those who were informed, 59.7% primarily acquired knowledge from pamphlets, 22.1% from the internet, 11.7% from friends, and 6.5% from antenatal classes. When asked about their interest in learning more about the benefits of antenatal perineal massage, 99% expressed affirmative interest, with only one participant expressing disinterest. The final question gauged participants' preferences for information dissemination, revealing that 46.5% favored antenatal classes, 36.4% preferred health education, and 17.1% wished for information through multi-lingual pamphlets.

Table 3. Source and the effective method on disseminating the information regarding antenatal perineal massage (n = 100)

Information on antenatal perineal massage	Frequency (n)	Percentage (%)
Have participants heard about the antenatal perineal massage? (n=100)		
Yes	77	77.0
No	23	23.0
How they get the information? (n=77)		
Internet	17	22.1
Antenatal class	5	6.5
Pamphlet	46	59.7
Friends	9	11.7
Does the participants have any interest to know further about the benefit of antenatal perineal massage? (n=100)		
Yes	99	99.0
No	1	1.0
How participants want the information regarding antenatal perineal massage to be disseminated? (n=99)		
Antenatal class	46	46.5
Health education	36	36.4
Multi-lingual pamphlet	17	17.1

4.3 Knowledge regarding antenatal perineal massage

In this section, 13 questions were posed. The initial 6 focused on information and understanding of antenatal perineal massage, while the subsequent 7 inquired about the massage instructions. Responses were rated on a 1 to 5 Likert scale, from strongly disagree to strongly agree. All statements were positively framed, and scores were tallied, yielding a knowledge range of 20-100%. Participants' mean knowledge score was 83.06, with a standard deviation of 11.65. Notably, 9 participants achieved a perfect score of 100%, while the lowest score observed was 20%. Details on participants' knowledge levels are outlined in Table 4.

Table 4. Knowledge regarding perineal massage (n = 100)

Knowledge regarding perineal massage	Possible score	Minimum score	Maximum score	Mean (SD)
Total knowledge	20-100	40	100	83.06 (11.65)
Information	20-100	33.33	100	83.90 (12.56)
Instruction	20-100	31.43	100	82.34 (12.09)

Table 5 presents the distribution of responses regarding knowledge of antenatal perineal massage. For Question 1, 16 participants disagreed or were unsure about perineum anatomy. 99% recognized the perineum's significance in the delivery process (Q2) and understood that perianal massage aids in perineal preparation for easier stretching during delivery (Q3). 86% acknowledged the role of perineal massage in

reducing trauma risk (Q4). Notably, 25% were unaware of the link between a weak pelvic floor and bowel/bladder incontinence, and 32% were unaware of avoiding perineal massage with vaginal infections. Regarding massage instructions, 81% knew to commence at 34 weeks, 73% were aware of the frequency, and only 2 participants disagreed on using olive oil for comfort. Eighty-two percent were attentive to massage movements, 86% knew the optimal time, and 93% recognized that partners could perform the massage.

Table 5. Answers distribution on knowledge regarding perineal massage (n = 100)

Questions	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
	n(%)				
1. Perineum is located between the vagina and anus	4(4.0)	2(2.0)	10(10.0)	34(34.0)	50(50.0)
2.Perineum is important part in delivery process.	1(1.0)	0	10(10.0)	42(42.0)	47(47.0)
3.Perineal massage is way of preparing the perineum to stretch more easily during delivery.	1(1.0)	0	4(4.0)	46(46.0)	49(49.0)
4.Perineal massage reduces the risk of perineal trauma from episiotomy and tears.	0	1(1.0)	13 (13.0)	46(46.0)	40(40.0)
5.A weak pelvic floor will result in bladder and bowel incontinence.	3(3.0)	2 (2.0)	20(20.0)	39(39.0)	36(36.0)
6.Perineal massage is not advisable when you are having vaginal infection	2 (2.0)	1 (1.0)	29 (29.0)	42(42.0)	26(26.0)
7.Perineal massage can be started at the age of 34 weeks of pregnancy.	1(1.0)	3(3.0)	15(15.0)	54(54.0)	27(27.0)
8.Perineal massage should be done at least once a day and	4 (4.0)	7 (7.0)	16(16.0)	49(49.0)	24(24.0)

around 5 minutes on each session.					
9.Olive oil is used as a lubricant for perineal massage.	1(1.0)	1(1.0)	9(9.0)	51(51.0)	38(38.0)
10.Perineal massage technique should be comfortable.	1(1.0)	1(1.0)	5(5.0)	63(63.0)	30(30.0)
11.Place 1 or both thumbs within back of vaginal wall. Gently massage by moving the thumbs in a rhythmic movement from 3 o'clock to 9 o'clock and back again.	3 (3.0)	2(2.0)	13(13.0)	51(51.0)	31(31.0)
12.The best time to do perineal massage is during or after bath as the blood vessels are dilated and perineum is soft.	1(1.0)	4(4.0)	9(9.0)	49(49.0)	37(37.0)
13.Perineal massage can be done yourself or your partner.	2(2.0)	1(1.0)	4(4.0)	50(50.0)	43(43.0)

5. DISCUSSION

The study reveals that a majority (59.7%) of participants accessed information on antenatal perineal massage through pamphlets, suggesting its efficacy given the participants' high mean knowledge. Despite this, when participants were queried about their preferred information dissemination method, a significant proportion (46.5%) expressed a preference for antenatal classes. The preference for face-to-face sessions was driven by the opportunity for direct interaction, allowing participants to seek clarifications and witness clear demonstrations, thereby enhancing understanding and correct massage practice.

Traditionally, midwives have employed face-to-face education for antenatal perineal massage. Although technology, particularly the internet, is increasingly used for education,

Dennison et al. reported interest in smartphone applications for health-related behavior change among young adults. However, Takeuchi and Horiuchi's (2016) recent study found no significant difference in the evaluation of perineal massage between those educated via smartphone websites and leaflets. Despite technological advancements, some individuals still prefer traditional methods due to their practicality and reliability.

In Malaysia, limited research exists on perineal massage among pregnant women. Hospital Raja Perempuan Zainab II in Kelantan Darul Naim pioneered perineal massage since 2012, and recently, Hospital Bersalin Kuala Lumpur and Hospital Ampang introduced the technique. However, there's a lack of evidence from research or journals. Perineal massage is relatively new and not extensively taught in antenatal education. With easy internet access, pregnant women turn to social media for information, but discerning accurate sources is crucial. Midwives play a vital role in promoting evidence-based perineal massage during antenatal classes or check-ups. The study's results indicate that respondents generally understood perineal massage but had uncertainties about the correct techniques. Many preferred obtaining further information during antenatal classes. Apart from medical techniques, traditional beliefs about perineal massage exist, sometimes conflicting with modern practices. The need for evidence-based guidance underscores the importance of enforcing correct techniques in perineal massage to ensure maternal well-being.

6. CONCLUSION AND RECOMMENDATIONS

This study emphasizes the importance of effectively educating pregnant women about antenatal perineal massage. While 59.7% of participants obtained information from pamphlets, nearly half (46.5%) preferred antenatal classes, valuing the opportunity for direct interaction with healthcare providers. This preference highlights the benefits of face-to-face learning, where women can ask questions and observe practical demonstrations, leading to better understanding and correct application of perineal massage techniques. Despite the increasing use of digital tools, traditional in-person education by midwives remains highly effective. The study aligns with findings by other study, which indicate no significant difference in the effectiveness of digital versus traditional education, showing that many women still favor direct, personal instruction for its clarity and reliability. Midwives play a crucial role in bridging gaps in understanding by promoting perineal massage during antenatal care and providing accurate, evidence-based guidance. While women generally grasp the concept, uncertainties about the correct techniques persist, highlighting the need for comprehensive, face-to-face education to ensure the safe and effective use of perineal massage.

Based on the findings of this study, several key recommendations can be made to improve the education and practice of antenatal perineal massage among pregnant women.

Enhance Antenatal Education Programs: Given that nearly half of the participants expressed a preference for learning about perineal massage through antenatal classes, it is recommended

that healthcare providers, particularly midwives, integrate comprehensive perineal massage education into routine antenatal care. This should include detailed demonstrations, opportunities for questions, and practical guidance to ensure that women understand and can correctly perform the technique. To address the widespread use of pamphlets as an information source, it is crucial to ensure that these materials are clear, comprehensive, and based on the latest evidence. Visual aids and step-by-step guides can help women better understand and apply the techniques. Additionally, these materials should be made available in multiple languages and culturally sensitive formats to reach a broader audience.

Incorporate Multiple Learning Modalities: While traditional face-to-face education remains highly effective, the integration of digital tools such as smartphone apps and online resources should not be overlooked. These tools can complement in-person sessions by providing women with additional resources that they can access at their convenience. This blended approach caters to diverse learning preferences and ensures that women have continuous access to accurate information.

Promote the Role of Midwives: Midwives play a central role in educating pregnant women about perineal massage. Ongoing professional development and training should be provided to midwives to keep them updated on the latest research and best practices in antenatal care. By empowering midwives with the knowledge and skills they need, they can more effectively promote and teach perineal massage as a routine part of antenatal care. By implementing these recommendations, healthcare providers can enhance the education and practice of antenatal perineal massage, ultimately improving maternal outcomes during childbirth.

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APPENDIX 1

Table 1. Birth Statistics at Kuala Lumpur Maternity Hospital 2009 and 2012

Type of Birth	2009	2012
Spontaneous Vaginal Birth (SVD)	8749	7865
Caesarean (LSCS)	3674	4199
TOTAL	12423	12064

Source: Birth Statistic, 2012.