**Review of Pelvic Muscle trauma and effects of Pelvic floor muscle Exercise and Sex-based differences in outcomes after severe injury articles**

**Introduction**

Perineal trauma is common in vaginal births with a global record of about 85%. The article reports that the rate of perineal trauma varies due to inconsistency in injury definition and reporting. Even though the number of episiotomies has declined globally, it remains high in countries, such as Spain. Episiotomy rates, as shown by the data collected in Catalonia reveals the varying number of women admitted to private and public hospitals (Leon-Larios, Gutierrez, Mejía& Suarez, 2017). Different methods are used during labor to avoid an episiotomy. Such techniques include immersion in water during labor, warm compresses and maternal upright position in the second stage of labor for women, who lack epidural anesthesia, which reduces episiotomies.

**Review of the Literature**

The article evaluates the effects of perineal trauma, which causes short-term, and long-term pain for women thus may affect early mothering. The study identifies perineal massage as beneficial to pain reduction in primiparous women and a decline in postpartum pain in multiparous women, especially when it is done between the 34th and 36th week (Leon-Larios et al., 2017). The authors also relied on the report that indicates that pelvic floor exercises are significant in strengthening of perineal muscle during pregnancy and after birth. Pelvic floor exercise helps protect the damage of urinary, dyspareunia and anal incontinence (Leon-Larioset al., 2017). The article also focused on the importance of antenatal pelvic floor muscle exercise, which may shorten the 1st and 2nd stage of labor in primiparous women.

**Discussion of Methodology**

The study focused on a quasi-random trial. It involves allocation of participants to different health care but is not random since it allocates patients based on the date of birth, week of admission or height. The article used three primary care centers that were attached to one maternity hospital in Seville (Leon-Larios et al., 2017). This method posed a risk of cross-contamination during their interaction, hence the need for a non-randomized approach to ensure the credibility of the results. The study was based on women, who were 32nd weeks pregnant and were approached to participate in the research.

Women, who were likely to deliver through the caesarian procedure, were excluded from the research. Women were made to understand their rights and consent requirement, as all these were explained to them in their local language -Spanish. Pelvic muscle training was conducted twice daily, and perineal massage carried out once a day by the pregnant woman or her partner (Leon-Larios et al., 2017). The research was conducted between September 2010 to December 2011 with a sample size of 254 women in the intervention group and 212 on the controlled group.

**Data Analysis**

The authors analyzed the data collected using the 193 samples in the intervention group and 160 in the controlled group that completed the research. The data was analyzed based on the successful completion of the study. In the intervention group, there was a higher rate of intact perineum as compared to the control group (Leon-Larios et al., 2017). Women, who participated in the perineal/ pelvic floor muscle training, had a 31.34% reduction in episiotomies during labor. The intervention group had an increased rate of laceration since the rate of episiotomies was lower. The use of primiparous women in the study was critical since it was aimed at reducing the variables associated with previous birth/s (Leon-Larios et al., 2017). The data collected revealed that women, who carried out pelvic muscle massage and pelvic floor exercises, had a more than 30% reduction in episiotomy as compared to the women in the controlled group.

**Researchers’ conclusion**

The researchers concluded that primiparous women, who were in the intervention group and completed the research, had a 30% reduction in episiotomies compared to the women in the controlled group. The study also revealed that primiparous women, who participated in the research, had much less post birth pains. Therefore, the researchers determined that perineal massage and pelvic floor exercise are critical to the reduction in episiotomy in primiparous women when conducted between 32nd and 36th weeks of pregnancy. The research also revealed that perineal massage help in reducing severe perineal trauma and intact of the perineum.

**Lesson learnt**

The article is relevant since it explains the significance of perineal massage and pelvic floor exercise as a way of reducing perineal trauma in women, who are having their first born. The study also is important to the nursing profession as nurses can educate the pregnant women on the perineal trauma and how to reduce the pain as concluded in the research.

**Strengths and limitations**

The power of the article was that the author's selected primiparous women to avoid large variables due to complications from previous births had they used multiparous women. One major limitation was the withdrawal by primiparous women, who cited lack of time as the primary reason. Another reason the women gave was the discomfort, pain and unpleasant feeling they felt during the first stages of the massage and exercise. The research also failed to use the randomized trial, which was a golden standard due to the women's attendance at antenatal clinics. Other limitations include cultural beliefs, which prohibit touching of the vagina because it may cause infection and lack of a measure of the perineum and pelvic floor to determine the strength of the muscles before birth.

**Qualitative Research Method – Article by Zhu, Shang, Qi, and Ma (2017)**

**Background/Introduction**

The authors give an informed background about the research topic. They describe the influence of hormones on sex mortality after severe injury. The authors state that estrogen and testosterone play a significant role in the recovery of severely injured patients. The authors assert that female patients recover faster and are more likely to live longer as compared to their male counterparts in line with the research topic (Zhu, Shang, Qi & Ma, 2017). The thesis statement points evidence through increasing investigations that have been conducted. Consequently, the authors state that altering T helper determines the release and synthesis of cytokines.

**Review of the Literature**

The research relies heavily on animal-based literature. The authors identify that many animal types of research reveal that estrogen is responsible for the protection of immune cell effector. Hence, it proves that women recover well from severe trauma and can live longer as compared to men (Zhu et al., 2017). The literature review also states that testosterone in males is responsible for the suppression of immunity cells. Hence, this explains the high mortality rates in men when they suffer severe injuries. The authors also relied on the studies that show that female hormones are responsible for maintaining and improving organ functions, such as liver, lungs and the heart.

**Discussion of Methodology**

The qualitative nature of sampling different age groups was ideal in the sense that the severity was to refer to young people to avoid age disparity claims (Zhu et al., 2017). Equally, the recording of the seriousness at the point of trauma or accident was essential for the success of the study. Consequently, the casualty under 24hours was not considered for the research shows the accuracy of data since such patients would not give a conclusive evidence. The 1789 patients sampled showed a broad range of demography (Zhu et al., 2017). The use of multiple regression analysis employed by the authors in order identifies predictive mortality, and Chi-square test was used to compare such factors.

**Data Analysis**

Data collected was analyzed by the complainants using t-test and mean to compare the data from different age groups among women. Qualitative variables were also analyzed as proportions, which put them on independent data. Premenopausal and postmenopausal women were key variables examined to ascertain estrogen level effect on immunity, and overall organs protection based on age (Zhu et al., 2017). Consequently, the data analyzed revealed that both men and women over 50 years have no significant difference in mortality. However, between the age of 13 to 45, women had lower death rate as compared to men of the same age group. Data analyzed also shows women under 50 years had longer stays in the intensive care unit than people (Zhu et al., 2017). Therefore, the authors’ data analysis is in line with the conclusion but is limited to women below 50 years.

**Researchers’ conclusion**

The conclusion is not weak and is not in line with the data analysis since the authors did not perform research on other races. Hence, they cannot deduce the conclusion that race can be a factor that may influence results. The researchers deviated from the topic statement. The introduction of patient history as another factor is misplaced in the context that it was not considered during the study. The conclusion draws different factors that might contribute to mortality for patients with trauma.

**Ethical consideration**

The researchers explained the reason for the study and informed the patients’ of their rights. The researchers also treated the patients’ information with confidentiality hence following the ethical guidelines set out. The study was conducted with the consent of all the patients who participated, and no patient reported unethical procedure. Therefore, during the research, human protection was put above the research.

**Lessons learnt**

The study is important for healthcare in that younger females, who have a higher survival chance as compared to men, who can be informed during treatment as therapeutically process, which may assist them in recovery. The lesson I learned from the research is that the response time for trauma patients can be the determinant whether they live due to the level of injury. Overall, I learned that different factors play to the recovery of trauma and more evidence-based research should be carried out to determine such factors.

**Strengths and limitations**

The research has a positive attribute since the seriousness of the injury was recorded at the scene of an accident; this ensured the credibility of data. Consequently, the patients were from different age groups thus providing a final report that covers all ages of both male and female patients. However, the research had a limitation of race. Failing to identify or have patients from different races to participate gives a limited study that leaves out crucial findings.

**References**

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