EVALUATION OF THE KNOWLEDGE OF NURSES WORKING IN THE OBSTETRICS AREA ON SHOULDER DYSTOCIA

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ABSTRACT

Shoulder dystocia is an obstetric emergency and can bring serious complications for both the mother and the newborn, and it is extremely important that the doctor and their team are prepared to recognize and treat this situation in the best possible way. Therefore, the objective of the study was defined as evaluating the knowledge of nurses working in the obstetrics area on the conduct and management of shoulder dystocia. This work is a cross-sectional, descriptive, and quantitative study, conducted in maternity hospitals and hospitals in the cities of Anápolis and Goiânia-Goiás. Data were collected through an authorial questionnaire applied to obstetric nurses. For analysis, Pearson's chi-square and Fisher's exact test were used. Of the 29 participants, 93.1% had undergone practical training. Only 9 had taken the Advanced Life Support in Obstetrics course, but 68.96% of the total participants had satisfactory knowledge of the ALEERTA mnemonic. The most applied maneuvers were McRoberts and Rubin I, with an average resolution time for shoulder dystocia of 2.31 minutes. Comparing nurses who took the course and those who did not, *p*=1.000 was observed in the comparison of the confidence level in managing shoulder dystocia between the subgroups and *p*>0.05 in the percentage of correct answers for all 3 parts of the questionnaire. It is concluded that, in the present sample, no significant difference (*p*<0.05) was observed between the subgroups of obstetric nurses in the knowledge of shoulder dystocia and in the training for its management.

Keywords: Shoulder Dystocia; Health Professionals; Simulation Training.

INTRODUCTION

Shoulder dystocia (SD) is an obstetric emergency and occurs due to the impaction of the fetal anterior shoulder behind the maternal pubic symphysis after the delivery of the head. This situation is caused by a failure in the normal rotation of the shoulders to the oblique diameter during the moment the biparietal diameter enters the pelvis, which causes the anterior and posterior shoulders to remain in the anteroposterior diameter of the maternal pelvis during descent, altering the physiological process of the passage of the posterior shoulder in front of the anterior shoulder obliquely. It can occur in 0.2-3% of vaginal births, with an estimate that for every 22,000 vaginal births, 1 newborn will have ischemic hypoxia secondary to shoulder dystocia (ALVES *et al*., 2022).

Among the risk factors related to SD are fetal macrosomia, gestational diabetes, post-term pregnancy, maternal obesity/excessive weight gain during pregnancy,

advanced maternal age, male fetus, instrumental delivery, and a history of previous pregnancy with complication from this event. Its main manifestation is the turtle sign, which consists of the retraction of the fetal head onto the maternal perineum after the delivery of the head during labor (MATTHES, 2010; ALVES *et al*., 2022). The main complication for the mother is postpartum hemorrhage. For the fetus, there is a risk of brachial plexus injuries (BPI), clavicle and/or humerus fracture, perinatal asphyxia, hypoxemic complications, and even mortality (SENTILHES *et al*., 2016). BPIs are, most of the time, Erb's palsies and occur in up to 20% of SD cases, being permanent in about 3-10% of cases (HILL; COHEN, 2016).

In this sense, it is extremely important that the teams responsible for delivery are always prepared to recognize and treat this emergency. Training and simulation exercises considerably improve the team's performance in the face of an SD, allowing for early identification of the event and the effective use of necessary maneuvers, such as the McRoberts maneuver (knee to chest), suprapubic pressure, posterior release of the arm or shoulder, and internal rotation maneuvers (HILL; LENSE; ROEPCKE, 2020). It was demonstrated in the study by Jevitt, Morse and O'Donnell (2008) that nurses play a vital role in obtaining assistance during an SD, keeping time and assisting in maneuvers. Therefore, their training through courses such as Advanced Life Support in Obstetrics (ALSO) is essential to better manage this obstetric condition (MCGREADY *et al*., 2021).

Given this scenario, the present study is of great value, as the level of knowledge about SD can be decisive for the prevention and management of complications arising from this obstetric emergency. In this sense, the objective of the study was defined as evaluating the knowledge of nurses working in the obstetrics area on the conduct and management of shoulder dystocia.

METHODOLOGY

This is a cross-sectional, descriptive, and quantitative study conducted in the municipalities of Goiânia and Anápolis - Goiás. The research sites were: Hospital Estadual da Mulher, in Goiânia; Hospital e Maternidade Dona Íris, in Goiânia; Maternidade Nascer Cidadão, in Goiânia; Maternidade Dr. Adalberto Pereira da Silva, in Anápolis; Hospital Santa Casa da Misericórdia de Anápolis. The study population

consisted of nurses working in the obstetrics area, who signed the Free and Informed Consent Form and satisfactorily answered the questionnaire. For data collection, a questionnaire composed of 3 parts was applied: part 1 - identification and technical training of the participant; part 2 - illustrative identification of SD maneuvers; part 3 - theoretical knowledge (first section) and descriptions of SD maneuvers (second section). Data were tabulated in Excel and worked using mean and standard deviation. For analysis, participants who had participated in the ALSO course were compared with those who had not. These data were analyzed with Pearson's chi-square test and Fisher's exact test, with *p*<0.05 indicating statistical significance. The project was executed in accordance with Resolution 466/2012 of the National Health Council. The research was submitted and approved by the Research Ethics Committee under: CAAE 81935624.6.0000.5076 with opinion number 7.021.190.

RESULTS

For the present study, 29 nurses working in the obstetric area were included, with the mean and standard deviation of age being 35.13 ± 8.17 years. Of the sample, 93.1% (n=27) of the participants had already undergone some practical training, mainly in postpartum hemorrhage (81.4%), shoulder dystocia (81.4%), and assisted vaginal delivery (59.2%).

It was observed that 25 study participants knew about the (ALSO) training course, but only 36% (n=9) of them had already participated in the course. When verifying the level of knowledge of the ALEERTA mnemonic, used by ALSO to guide the conduct of SD, it was observed that 6.89% of the participants left this part of the questionnaire blank and only 1 participant got less than 3 of the 7 letters in the mnemonic correct, with 68.96% getting more than 5 of the 7 letters correct.

When analyzing the individuals who witnessed an SD (n=27), it was seen that less than half stated they had used the ALEERTA mnemonic to guide their conduct. Furthermore, it was observed that the most used maneuvers were McRoberts (88.8%), Rubin I (81.4%), Gaskin (59.25%) and Rubin II (33.3%). Additionally, it was reported that the majority (51.85%) of the population that witnessed the SD managed to resolve the case with 2 maneuvers, and that the average resolution time for the SD was 2.31 minutes.

Regarding part 2, which analyzed the identification of maneuvers in practice, the average percentage of correct answers was 73%. In the first section of part 3 of the questionnaire, the average percentage of correct answers was 71%, while in the second section 10, the average percentage of correct answers was 70%.

In the comparative analysis between nurses who participated in the ALSO course and those who did not take the course, no statistically significant difference was observed between the two groups in the confidence level for managing SD (*p*=1.000). Furthermore, no significant difference was found between participants who got 5 or more letters of the mnemonic correct (*p*=0.642). Regarding the comparison of the two groups for the percentage of correct answers in part 2 of the questionnaire, in the first section of part 3 and in the second section of part 3, the statistical analysis did not show a considerable level of significance, with values of *p*>0.05 for all analyzed criteria (*p*=0.677; *p*=0.227; *p*=0.177, respectively).

CONCLUSION

It is concluded that the majority of obstetric nurses know about the ALSO course and its mnemonic, but only 36% of them have effectively participated in trainings. Despite good theoretical knowledge, less than half applied the mnemonic in practice during SD cases. The most applied maneuvers were McRoberts and Rubin I, with an average resolution time of 2.31 minutes and using 2 maneuvers. Regarding the comparative analysis, it is noted that there was no significant difference (*p*<0.05) between obstetric nurses who took the ALSO course and those who did not in any of the criteria evaluated for managing SD, differing from the literature. However, even in dissonance, the objective of this study was fulfilled.

Some limitations affected the validation of the results, such as the reduced sample, in addition to incompletely filled questionnaires. One challenge encountered was adherence to the research due to the complicated questionnaire, and the low availability and receptiveness during the applications.

Finally, the need for new studies that analyze the management of SD in the population of obstetric nurses is notable, comparing the performance of professionals who have taken training courses, such as ALSO, with those who have not. More comprehensive samples, with minimized biases, will allow for more complete health

information and the development of more effective training strategies, aiming for greater knowledge of professionals on the subject and, thus, better outcomes in SD being achieved.

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REFERENCES

ALVES, A.L.L. *et al.* Management of shoulder dystocia. **Revista brasileira de Ginecologia e Obstetrícia**, v. 44, n. 7, p. 723-736, 2022.

HILL, M.G.; COHEN, W. R. Shoulder dystocia: prediction and management. **Women's health**, vol. 12, n.2, p. 251-256, 2016.

HILL, D.A.; LENSE J.; ROEPCKE F. Shoulder Dystocia: Managing an Obstetric Emergency. **American family physician**, v. 102, n. 2, p. 84-90, 2020.

JEVITT, C.M.; MORSE, S. O'DONNELL, Y. S. Shoulder dystocia: nursing prevention and posttrauna care. **The Journal of Perinatal & Neonatal Nursing,** v. 22, n. 1, p 14-20, 2008.

MATTHES, A.C.S. Distocia de ombro: erro médico? Subsídios da literatura médica para uma defesa. **Femina**, v. 38, n. 3, p. 155-159, 2010.

MCGREADY, R. *et al*. A mixed methods evaluation of Advanced Life Support in Obstetrics and Basic Life Support in Obstetrics in a resource-limited setting on the Thailand-Myanmar border. **Wellcome Open Res**., v.6, n.94, p.1-27, 2021.

SENTILHES, L. *et al*. Shoulder dystocia: guidelines for clinical practice from the French College of Gynecologists and Obstetricians (CNGOF). **European Journal of Obstetrics and Gynecology and Reproductive Biology**, v. 203, p. 156-161, 2016.