Summary

Out-of-hospital deliveries can classically be divided into planned and unplanned deliveries. Expert positions often differ in planned births, and the incidence of such births varies significantly between countries. [1] However, there is no doubt that in order for a planned out-of-hospital delivery to be safe, the patient must be appropriately qualified with a low-risk pregnancy, i.e., full term, single vertex fetus, and no previous cesarean delivery [2,3] Such childbirth can only take place assisted by a qualified practitioner, and transport to a higher level of care must be provided promptly. [4-7] In the case of unplanned out-of-hospital deliveries, there is a lack of clear guidelines, which causes an understandable concern among practitioners. [8] Perinatal mortality for such births is 2-3 times higher than for hospital births. [9] Regarding the fact that emergency medical teams can provide rapid assistance in such cases, the topic discussed is of inexorably important practical significance.

In the study entitled *Determinants of place of delivery during the COVID-19 pandemic - internet survey in Polish pregnant women*, I investigated the factors that determined the choice of place of delivery by pregnant patients during the COVID-19 pandemic. The study included 517 respondents and was conducted using an originally designed questionnaire distributed via the Internet from June 8 to 23, 2021. A total of 74 patients (14.3%) considered home delivery, and the most significant factors prompting their decision were fear of isolation of the mother from the baby, lack of sufficiently intimate conditions for delivery, and too much medicalization in hospitals. In contrast, the most significant factors discouraging home births were the lack of professional medical care and the lack of anaesthesia options. Factors influencing the choice of the place of delivery were also examined, where the most important was the possibility of the presence of a partner, excellent sanitary and hygienic conditions, optimal distance from the hospital and the availability of epidural anaesthesia during delivery.

In the paper titled *EMS Interventions During Planned Out-Of-Hospital Births with a Midwife. A Retrospective Analysis over Four Years in the Polish Population*, I examined the frequency and reasons for emergency medical teams being called to patients who had planned out-of-hospital births assisted by a midwife. The retrospective study was based on data from the Polish National Emergency Center and included all emergency medical system interventions for pregnant women between 2018 and 2022. There were 60 interventions for elective home births assisted by a midwife. The most common reasons for the calls were the

absence of a born afterbirth or incomplete afterbirth (18 cases; 30%), followed by post-traumatic haemorrhage (12 cases; 20%) and deterioration of the condition of the newborn (8 cases; 13%). Also noteworthy is the information that once there was a situation in which the midwife was unable to complete the delivery due to shoulder dystocia, and on three occasions, the paramedic team was called due to the detected fetal heart abnormalities. It was shown that childbirth is an unpredictable phenomenon, and any physiological birth can quickly turn into a pathological one, threatening the life of the mother and/or child.

In the study titled *Emergency medical team interventions in Poland during out-of-hospital deliveries: A retrospective analysis*, I examined the frequency and extent of emergency medical interventions performed by emergency medical teams for out-of-hospital deliveries. Data obtained from the Polish National Emergency Medical Center for the years 2018-2022, in this case, included patients whose deliveries were attended by the direct assistance of the emergency medical team personnel. The survey included 879 interventions, and the most frequently reported procedures (their codes are given in the bracket) performed by them were manual assistance for spontaneous labour (73,531), pulse oximetry (89,602), physical examination (89.79), blood pressure check (89.61), and gynaecological examination (89.26). Based on the data obtained, there is a problem in interpreting some of the ICD-9 codes, especially the specialized ones, as in as many as 815 cases, the code 73.531 was entered, which is reserved for pelvic birth. In addition, the deficiencies in the documentation, i.e. the lack of information on the newborn's condition immediately after birth, the number of past pregnancies, or the week of the current pregnancy, drew particular attention. The analysis of errors resulted in creating a proposal for changes to the chart of Medical Emergency Procedures, which was sent to the National Center for Emergency Medical Services and is attached as an appendix to this document.

Based on the above studies, I have shown the incidence of out-of-hospital deliveries and the rate of emergency medical procedures that are most often performed by emergency medical teams when caring for a woman in labour. I have shown the errors and deficiencies in the documentation and presented the solution that should be introduced to avoid these errors in the future. It also seems inevitable to consider the need to complete the medications that paramedics can use independently without consulting a physician. Analysis of the curriculum and post-graduate training of paramedics in the field of emergencies in pregnant

women and newborns may help to better apply them to the changing realities of the work of paramedic teams and new challenges and avoid typical errors in undertaking and documenting emergency medical procedures.

References:

1. Galková G, Böhm P, Hon Z, Heřman T, Doubrava R, Navrátil L. Comparison of Frequency of Home Births in the Member States of the EU Between 2015 and 2019. *Glob Pediatr Heal*. 2022;9.

2. Bryant AS, Borders AE. ACOG COMMITTEE OPINION Number 766:Approaches to Limit Intervention during Labor and Birth. *Obstet Gynecol*. 2019;133(2):E164-E173.

3. Armstrong J, McDermott P, Saade GR, Srinivas SK. Coding update of the SMFM definition of low risk for cesarean delivery from ICD-9-CM to ICD-10-CM. *Am J Obstet Gynecol*. 2017;217(1):B2-B12.e56.

4. American Academy of Pediatrics Committee on Fetus and Newborn. Planned home birth. *Pediatrics.* 2013;131(5):1016-1020.

5. American College of Nurse-Midwives. Midwifery provision of home birth services: American College of Nurse-Midwives [published correction appears in *J Midwifery Womens Health*. 2016;61(4):538]. *J Midwifery Womens Health.* 2016;61(1):127-133.

6. American College of Nurse-Midwives. Position statement. Planned home birth. Accessed April 10, 2020. https://www.midwife.org/acnm/files/ACNMLibraryData/UPLOADFILENAME/000000000251/Planned-Home-Birth-Dec-2016.pdf

7. Olsen O, Clausen JA. Planned hospital birth versus planned home birth. *Cochrane Database Syst Rev.* 2012(9):CD000352.

8. Sheiner E, Shoham-Vardi I, Hadar A, Hershkovitz R, Sheiner EK, Mazor M. Accidental out-of-hospital delivery as an independent risk factor for perinatal mortality. *J Reprod Med*. 2002;47(8):625-630.

9. Gunnarsson B, Smárason AK, Skogvoll E, Fasting S. Characteristics and outcome of unplanned out-of-institution births in Norway from 1999 to 2013: a cross-sectional study. *Acta Obstet Gynecol Scand*. 2014;93(10):1003-1010. doi:10.1111/aogs.12450