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Knowledgeable are women of childbearing age regarding labour – women's attitudes to delivery routes

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SUMMARY

Introduction. Pregnancy is a condition desired by women but at the same time it often causes concern and anxiety. The concern is most often related to labour. The purpose of the study was to evaluate the knowledge that women of childbearing age have on issues related to vaginal delivery and Caesarean section, as well as to identify their attitudes and preferences concerning delivery.
Materials and methods. The study was carried out as a diagnostic survey. The study material was developed based on questionnaires obtained from childless women of childbearing age. A total of 321 questionnaires was collected, of which 313 were analysed.
Results. The greatest concerns in the sample of women were related to vaginal delivery, including: pain (82%), long labour (74%) and damage to the perineal tissues (65%). Every third respondent was certain that analgesia/anaesthesia during labour would be indispensable for her. Over half of the respondents did not know that Caesarean section is not performed at the patient's request. A comparable number of women imagined their vaginal delivery in a recumbent position or through Caesarean section (recumbent position 20% vs Caesarean section 21%)
Conclusions. This study has revealed that respondents had high awareness of labour physiology but that their knowledge of the impact of labour medicalisation on women and newborns was insufficient.Vaginal delivery, including vertical positions, was the preferred delivery route among the women participating in the study but a comparable group of respondents was interested in Caesarean section and vaginal delivery in a recumbent position.
Key words: vaginal delivery; caesarean section; attitude; knowledge

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INTRODUCTION

Labour is an interdisciplinary phenomenon, which can be analysed on different levels. The anxiety that women experience relates to a number of labour-related aspects. Fear of pain is the most common, and does not apply only to pregnant women. Young women who have no childbearing plans are convinced that labour pain is unbearable. The abovementioned group of women has no motivation to seek knowledge and support, though the concerns are related to the planned delivery method.

Caesarean section has gradually become the most commonly performed operation in obstetrics to end the pregnancy and labour. The reasons for the procedure, methods and end-results have evolved. A rapid increase in the number of Caesarean sections performed in recent years is the result of progress in medicine, improved operation techniques, and pregnancy and labour monitoring methods. Other important factors include the increasingly higher age of primiparae and extending the number of reasons for having a Caesarean section, including Caesarean section „on request" by the childbearing woman. It should be added that, currently, the medical world is concerned about lawsuits related to perinatal complications. Consequently, in order to avoid these complications, Caesarean sections are performed, which are an antidote for failures, in the public opinion. The percentage of Caesarean sections in Poland increased from 23% in 2002 to 43.5% in 2016. Detailed data are presented in figue1.

The Organisation for Economic Cooperation and Development (OECD), in a document entitled 'Health at a Glance 2017. OECD Indicators' presented data illustrating the steady increase in the number of Caesarean sections performed worldwide [2]. The percentage of Caesarean sections in 2015 was the lowest in the Nordic states (Iceland, Finland, Sweden,

Norway), Israel and the Netherlands, with the Caesarean section index ranging between 15.5% and 17.3%. Countries such as Turkey, Mexico and Chile, where nearly one out of two labours ended with a Caesarean section, are ranked at the top of the list. Poland was ranked sixth on the OECD index.

Researchers define antenatal care in different ways. For example, 'antenatal care means care before birth and includes education, counselling, screening and treatment to monitor and to promote the well-being of the mother and foetus' [3]. Nowadays, educating women of childbearing age is significant, not only for pregnant women but also for the ones who do not have children yet. Women tend to seek information about labour when they are pregnant but perceptions regarding labour develop earlier, affecting women's preferences concerning delivery.

The purpose of the study is to evaluate the knowledge that women of childbearing age have on selected issues related to labour, as well as their labour-related attitude and preferences.

MATERIAL AND METHODS

Studies conducted by means of a diagnostic survey were carried out using web interviews (CAWI – *Computer-Assisted Web Interview*). The nature of the study was diagnostic and participation was voluntary. The selected method was appropriate because the respondents could answer the questions and point out the most important issues freely.

A questionnaire with 22 closed and semi-open questions was used as the study tool. The questions related to vaginal delivery physiology, Caesarean section, analgesia/anaesthesia during delivery, episiotomy and the preferred delivery method. The answers to closed questions were evaluated on a Likert scale with the possibility to choose one out of five options. The questionnaire was completed with demographic questions concerning age, marital status, education and place of residence.

A statistical analysis was carried out using Microsoft Excel and SAS Enterprise Guide 9.3. The results of statistical significance were obtained by means of Student's t-test. The assumed significance level was $\alpha=0.05$.

RESULTS

General information

Women aged 18–24 formed the largest group. Reaching women under 18 and over 35 years of age turned out to be a challenge because the administrators of forums intended for those reference age groups declined to publish the questionnaires and refused to participate in the study. The age range of the respondents is presented in figure 2.

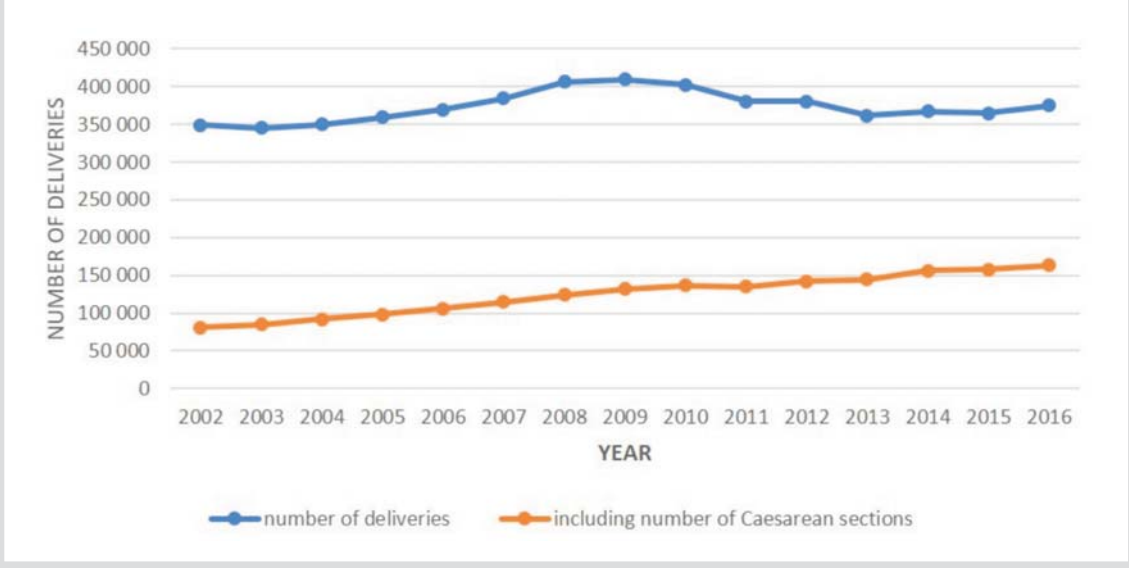


Fig. 1. Caesarean sections vs total number of deliveries in Poland between 2002 and 2016 [1]. (Source: "*Operation of gynaecology and obstetrics departments in hospitals according to regions and voivodships in Poland between 2012 and 2016",* pp. 88–128. Statistical Bulletin of the Ministry of Health published by the Health Care IT Systems Centre)

Women with university degrees formed the largest group (192 – 61%) in the sample, while 96 (31%) of the respondents had secondary degrees. It should be pointed out that the majority of the study participants were educated above the level of the general population of Polish women (Fig.3.).

Knowledge, attitude and preferences concerning delivery

The greatest concerns related to vaginal delivery among the respondents included pain (82%), long labour (74%) and damage to the perineum tissues (65%). It is interesting to note that nearly 1/3 of the respondents were afraid of coming into contact with medical staff. The „other" answers included: episiotomy, defaecation during delivery, postpartum urinary incontinence and pubic symphesis diastasis. Women also pointed out a sense of helplessness during labour and fear that intervention may come too late if a hazard to the parturient's or baby's health or life presents itself (Tab.1.).

The knowledge of the respondents on variables characteristic of different ways of delivering a baby was examined by asking questions about the frequency of specific complications. For instance, 51% of respondents said that breathing impairment was more often observed in newborns after vaginal delivery than after Caesarean sections (the result is statistically negligible). Attention should be paid to minor differences regarding blood loss during delivery. Other indices were interpreted correctly by the respondents and the obtained results are statistically significant. The data presented in Table 2. demonstrates that women are generally aware of the complications of each delivery method.

The respondents' opinions on selected aspects of labour were rated on a Likert's scale (Tab.3.). Over half of the surveyed women claimed that episiotomy was an intrinsic component of vaginal delivery ($p<0.0001$). Almost half of the respondents disagreed with the statement that Caesarean section was made on the

Fig. 2. Age structure of the females participating in the study

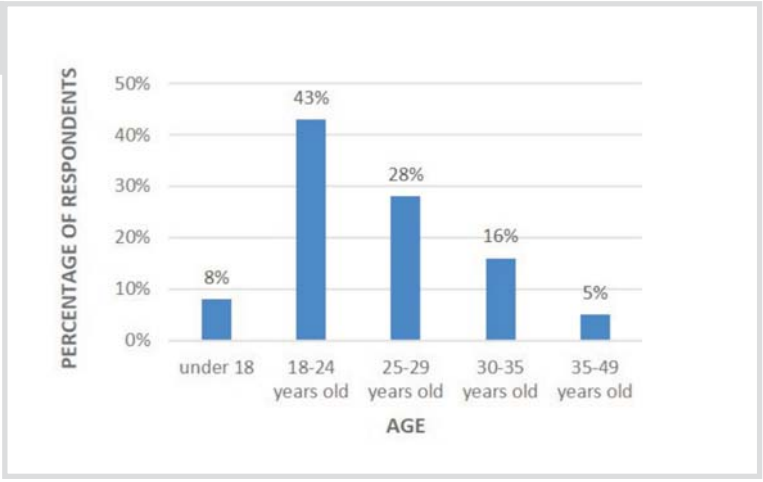
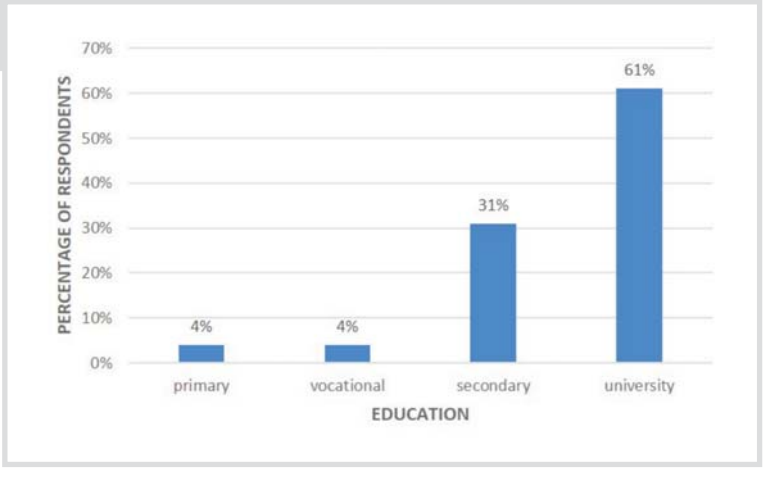


Fig. 3. Respondents' education structure



Tab. 1. Respondents' concerns related to vaginal delivery

Concerns related to vaginal delivery	Response percentage % (n)
1. Pain	82 % (265)
2. Long labour	74 % (233)
3. Damage to perineal tissues	65 % (204)
4. Concern about own health	33 % (103)
5. Hospital environment, medical staff	31 % (96)
6. Concern about baby's health	30 % (94)
7. Inability to plan the date of labour	12 % (36)
8. No concerns	4 % (12)
9. Other	3 % (9)

Tab. 2. Frequency of specific complications depending on the delivery method according to the respondents

INDEX	VAGINAL DELIVERY n (%)	CAESAREAN SECTION n (%)	p-value
Breathing impairment of the newborn	161 (51)	152 (49)	Negligible
Smaller loss of blood	189 (60)	124 (40)	0,0002
Stronger sucking reflex of the newborn	286 (91)	27 (9)	<0.0001
Longer stay in hospital after birth	34 (11)	279 (89)	<0.0001
Possibility to eat a meal earlier after delivery	286 (91)	27 (9)	<0.0001
Difficulty in postpartum self-care	100 (32)	213 (68)	<0.0001
Quicker return to sexual activity	82 (26)	231 (74)	<0.0001
Thrombotic and embolic complications	70 (22)	243 (78)	<0.0001
Postpartum urinary incontinence	276 (88)	37 (12)	<0.0001
Quicker contact with the newborn	289 (95)	15 (5)	<0.0001

Tab. 3. Respondents' opinions on selected aspects of labour

Questions	Strongly agree n (%)	Agree n (%)	Do not know n (%)	Disagree n (%)	Strongly disagree n (%)
Vaginal delivery always requires episiotomy (n=312)	38 (12)	123 (39,5)	45 (14,5)	80 (26)	26 (8)
Patient's request is a reason to perform a Caesarean section (n=313)	52 (17)	75 (24)	36 (11)	99 (32)	51 (16)
Vaginal delivery is a possible delivery route for a woman who has had a Caesarean section before (n=312)	58 (19)	112 (36)	72 (23)	66 (21)	4 (1)
The delivery route has no impact on milk production and lactation (n=313)	42 (13)	97 (31)	104 (33)	59 (19)	11 (4)
The kind of anaesthesia/analgesia used at labour can affect the condition of the newborn (n=313)	60 (19)	102 (33)	63 (20)	83 (27)	5 (1)
I would like to use pharmacological anaesthesia/analgesia during labour (n=310)	115 (37)	90 (29)	67 (22)	26 (8)	12 (4)

patient's request (p=0.06). One third of the respondents were ignorant of the impact of the delivery route on lactation, but a similar percentage of women were aware there was such dependence. Over half of the respondents noticed a relationship between anaesthesia/analgesia and the condition of the newborn. It should be pointed out that every third respondent was convinced that anaesthesia/analgesia during labour would be indispensable in their case. The distribution presenting the growing trend in favour of anaesthesia as a method to relieve labour pain is worthy of attention.

A comparable number of women wanted to give birth in a recumbent position and by Caesarean section (recumbent position – 63 (20%), Caesarean section – 64 (21%). According to the study, 1/5 of the women of childbearing age who participated in the study, did not intend to have children.

Analysing the relationship between the respondents' education and their preferences regarding the delivery route (Fig. 5), the following can be observed:

- women of a higher education level are less willing to have children,
- women of a higher education level are less eager to opt for vaginal delivery in a recumbent position,
- delivering a baby in the vertical position was a popular option among women with university degrees,
- women of a primary, vocational or secondary education level preferred delivery in a recumbent (classical) position.

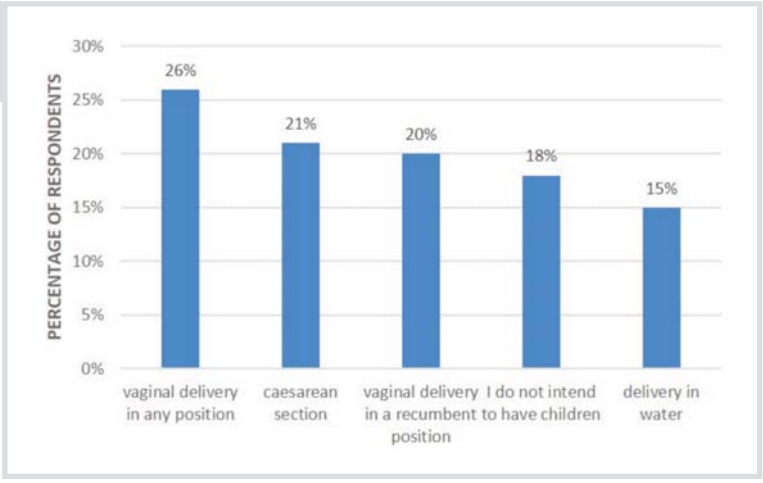


Fig. 4. Respondents' preferences concerning the delivery route (n=308)

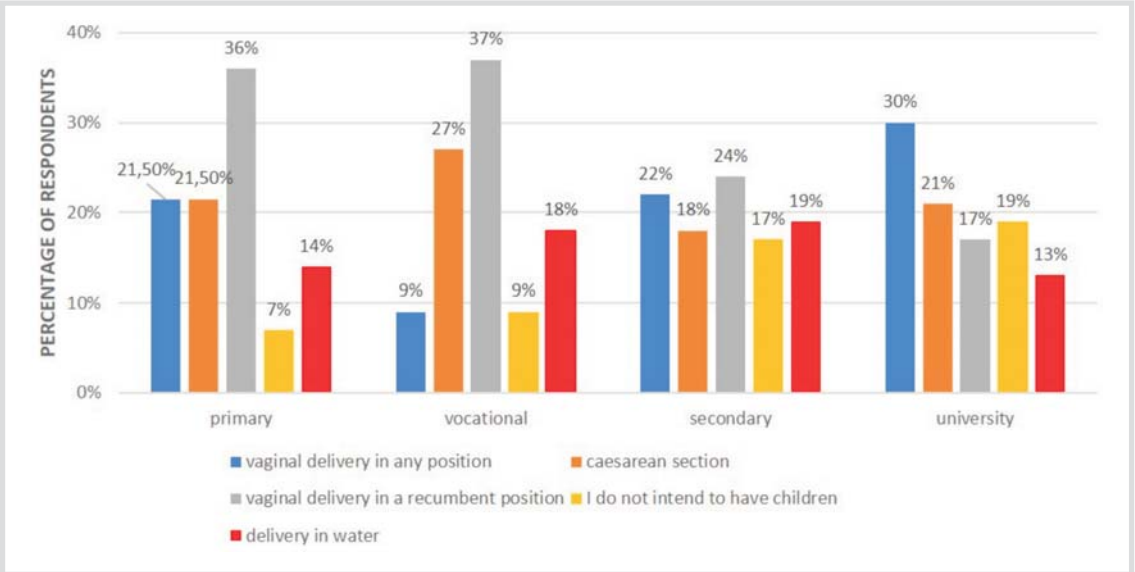


Fig. 5. Respondents' education level and delivery route preferences

DISCUSSION

The medicalisation of labour is a direct result of the development of medical technologies, and contradicts the postulates of midwives, who support methods of delivery that are friendly to both mother and child.

A number of procedures that were traumatic for parturients are no longer regularly practised. Still, labour is a cause of anxiety and, in itself, a quite unpleasant experience for many women. The advance of medicine during labour has reduced the woman's role in the event.

Progress in medical technology has changed labour from a physiological process into one regulated through the administration of pharmacological agents combined with medical interventions and procedures.

The increase in the number of Caesarean sections, in particular, begs the question of identifying those factors which contribute to the growth of its popularity. There are two groups of women who can have a significant impact on the current statistics: parturients who do not consent to vaginal delivery after a Caesarean section, and parturients who request a Caesarean section because of their fear of labour pain.

Studies conducted in the 1st Department and Clinic of Obstetrics and Gynaecology at Warsaw Medical University, revealed that in a group of women who had Caesarean sections performed in 2010, the most common reason behind the operation included the patient's lack of consent to vaginal delivery after a Caesarean section. For this reason, the percentage of women opting for a Caesarean increased significantly compared to the period between 2000 and 2001 [4].

Pawelec et al. carried out a study in a group of primiparae on their due date, pointing out ways to reduce the number of Caesarean sections. The women participating in the study, opting for a Caesarean section, presented different reasons for their preference depending on who they were talking to, i.e. their partners, physicians and more distant relatives. All the women described labour pain as extremely strong, despite their lack of experience. Interestingly, 42% of the women in the group were prepared to give up the Caesarean section option in favour of vaginal delivery with epidural analgesia, once they were informed about the ways to relieve labour pain [5].

The authors attempted to identify the preferred delivery route among childless women, for whom their perception of labour definitively affected their optimal delivery route. Twenty-one percent of the respondents perceived Caesarean section as the optimum solution. In the study by Gholami and Salarilak, carried out among a group of 797 primiparae, 18.6% preferred Caesarean section [6]. According to El-Aziz et al., 47.8% of the respondents preferred elective Caesarean section [7]. The reasons for their choice were based primarily on fear of vaginal delivery and on their belief that a Caesarean section was safer for the baby. Adverse feeling towards vaginal delivery revolved around the same issues, as in the present study: pain, long labour, episiotomy and damage to the perineum tissues. According to Wiklund et al., women who opted for a Caesarean were also afraid of lack of support during labour, hazard to the baby's health and life, and losing control of the situation, as also demonstrated in this study and a study by O'Donovan [8 and 9]. In the work of Ghotbi et al., carried out in Iran among 600 primiparae, 20.8% of deliveries were Caesarean sections on request, with the fear of pain cited as their main reason [10]. In the same publication, 26.4% of the respondents stated on the second day after their Caesarean section that, had they been aware of the complications of the procedure, they would have decided against it. Sedghi et al. estimated that relevant education helps to reduce the frequency of Caesarean sections without medical cause by 15% [11]. According to Tollanes et al., a low education level increases the risk of elective and emergency Caesarean section [12].

Not all obstetricians have the same views on whether to accept or reject a woman's request for a Caesarean section [13].

The present study revealed that 55% of women, over half of the respondents, thought that vaginal delivery was possible after a previous Caesarean section. It should be emphasised that 36% of women in the group were not sure of their answers. According to the data, 45% of respondents either declared lack of knowledge concerning the issue or gave wrong answers. In the study carried out by Nasir and Amir, 50.7% of the women claimed that VBAC (Vaginal Birth After Caesarean) was possible, which the authors considered a wrong answer [14].

Fear of labour pain is a common phenomenon that can be approached from a biological, psychological and social angle. It applies to women who have never given birth before but also to women who have had experiences re-

lated to pregnancy and labour. It is also often related to the woman's sense of low pain tolerance.

Women usually search for information about labour actively when they are pregnant. Still, perceptions of labour develop earlier, affecting a woman's preferences for delivery route.

In the course of this study, it was clear from the outset that there was lack of interest on the issue among women under 18 and over 35. These were women who were not planning on having children at the time or were not planning any more pregnancies. Authors have assumed a lack of basic information. A study performed by Bączyk et al. revealed that the intensity of fear of labour in a group of women over 35 years of age was significantly higher than in other age groups [15].

In this study, the preferred delivery route among women was vaginal delivery including vertical positions, but a comparable group of women was interested in Caesarean section and vaginal delivery in a recumbent position.

Recently, family members are invited to experience pregnancy and labour together with the mother, which gives the woman a sense of safety, acceptance and proximity. Awareness of the available methods, which have a positive impact on the course of labour (also by limiting fear), increases the parturient's and her companion's satisfaction level [16].

Knowledge is evolutionary and is affected by intra- and extra-individual factors. Adequate motivation is required in order to extend knowledge. It appears that planned, ongoing education which focuses on the women's needs and fears, offered by appropriately trained and motivated midwives, is the key to implementing changes in women's attitude to labour.

Reliable knowledge definitely adds to a sense of safety. To that end, it is important to use appropriate sources to acquire information. Education for women of childbearing age should be a valuable tool in contemporary obstetrics/midwifery, helping to reduce fear of labour. In the long-run, it should become a factor which guarantees labour satisfaction. Therefore, it is extremely important to create an understanding surrounding labour that does not promote fear and determines the effective cooperation between the patient and medical staff. Educating women of childbearing age is then particularly important in ensuring safety and comfort during labour, through increasing awareness and strengthening trust in the natural female instinct.

CONCLUSIONS

1. This study has revealed that respondents had high awareness of labour physiology but that their knowledge of the impact of labour medicalisation on women and newborns was insufficient.
2. Vaginal delivery, including vertical positions, was the preferred delivery route among the women participating in the study but a comparable group of respondents was interested in Caesarean section and vaginal delivery in a recumbent position.

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