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Future anxiety as a predictor of the fear of childbirth

Lęk porodowy jako predyktor lęku porodowego

Abstract

The fear of childbirth is an emotional phenomenon, the mild symptoms of which are felt by most women, independently of their condition and stage of their pregnancy. The fear of childbirth is a variable which according to most research results has a negative influence on procreation decisions, the course of pregnancy and the childbirth. A group of Polish women (N = 350) was examined. Woman participants were invited for research by gynaecological clinics. They filled in the questionnaire which includes Fear of Childbirth (Putyński, 1997), Future anxiety (Zaleski, 1996) Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999), obstetric and sociodemographic questions. The regression analysis has been made testing to what extent the obstetric, sociodemographic and psychological factors explain the occurrence of the fear of childbirth. The obtained data make it possible to differentiate the temporal orientation, future anxiety, as psychological variables having the biggest influence on the fear of childbirth.

Keywords: *fear of childbirth, time perspective, future anxiety, pregnancy, child.*

Abstrakt

Lęk przed porodem jest zjawiskiem emocjonalnym, którego łagodnych objawów doświadcza większość kobiet, niezależnie od stanu i etapu ciąży. Lęk przed porodem jest zmienną według większości badań oddziałującą na decyzje prokreacyjne, przebieg ciąży i porodu. Lęk przed porodem jako zmienna silnie wpływa na deklarowanie chęci cesarskiego cięcia. Przebadano grupę (N = 350) polskich kobiet, które były zapraszane do badań poprzez przychodnie ginekologiczne. Kobiety wypełniały ankietę mierzącą następujące konstrukty: lęk przed porodem (Putyński, 1997), lęk przed przyszłością (Zaleski, 1996), orientację tempo-

ralną (Zimbardo i Boyd, 1999) oraz metryczkę mierzącą zmienne położnicze i demograficzne. Wykonano analizę regresji, testując, na ile czynniki socjodemograficzne, położnicze oraz psychologiczne wyjaśniają występowanie lęku porodowego. Uzyskane dane pozwalają na wyróżnienie orientacji, a w szczególności lęku przed przyszłością, jako zmiennych mających największy wpływ na lęk przed porodem.

Słowa kluczowe: *strach przed porodem, perspektywa czasu, przyszły niepokój, ciąża, dziecko.*

Introduction

The fear of the course of pregnancy and childbirth is an indispensable element connected with the experience of this state by the woman. The fear of pregnancy and childbirth to some extent mobilizes to undertake action, however, when its intensity exceeds certain limits, it can have a negative effect on the decision itself to have children, and the one concerning the course of pregnancy and the childbirth. There are, however, some women for whom the intensity of anxiety about the pregnancy is so big that it impedes their daily life and becomes the basis of mental disorders.

Ekman (1998) highlights the fact that the fear is the main emotional response to a hazard of harm as well as physical and mental pain. It can be a source of a positive experience for a woman and it can be considered to be a positive experience but, on the other hand, it can be connected with experiencing worries and anxieties (Bhatia & Jhanjee, 2012).

The fear of childbirth has been defined as an anxiety disorder or a phobic fear manifesting itself in nightmares, physical disorders, concentration problems, and seldom as a need of a Caesarean section (CS). The fear of childbirth is a problem connected with the personality of a woman who experiences this feeling, however, it is mainly connected with her general level of experiencing the fear. It is more frequent among women with *low self-esteem*, suffering from depression, who experience the lack of social support and the relationships of whom are defined as unsatisfactory (Saisto & Halmesmäki, 2003).

The fear of childbirth is considered to be a frequent phenomenon occurring in case of about 20% of women (Saisto & Halmesmäki, 2003; Zar, Wijma, & Wijma, 2002), however, according to rough estimates as many as 80% of pregnant women might experience its mild symptoms (Hanna-Leena Melender, 2002). In case of 6-10% of women everyday activities are troublesome as a result of a larger intensity of their fear (Kjærgaard, Wijma, Dykes, & Alehagen, 2008). The inten-

sified fear of childbirth has been stated in case of 11% of pregnant women in the third trimester of pregnancy, including 2.4% of those in case of whom the fear has been phobic (Zar et al., 2002). Other surveys show that 2.3% of women at the end of pregnancy have suffered from a post-traumatic stress disorder where the incoming birth and expectation connected with it were the traumatic factors (Söderquist, Wijma, & Wijma, 2006). Some women can resign from pregnancy, decide to abort their child or make a Caesarean section due to the fear of childbirth (Zar et al., 2002). Women who experience anxiety disorders during their pregnancy most often experience them again in the post-natal period (Heron et al., 2004). It is possible to encounter data suggesting the occurrence of complications in relation to the fear of childbirth. There have been stated pregnancy complications: miscarriages, premature childbirths, disorders and foetal growth retardation (Intrauterine *Growth Restriction*; Mulder et al., 2002). The research shows that the fact of experiencing fear during the pregnancy is an important predictor of premature births, whilst the decrease in fear during the pregnancy can help to protect both the mother and the foetus (Martini, Knappe, Beesdo-Baum, Lieb, & Wittchen, 2010).

If a woman experiences fear during the childbirth, it can extend the duration of delivery and as a result the fear can increase, the woman giving birth can become powerless and it can eventually lead to finishing the delivery by means of a surgery (Alehagen, Wijma, & Wijma, 2001). The research is carried out in order to prove that if a pregnant woman experiences the long-lasting stress, it can be reflected in the developmental disorders of her child (Talge, Neal, & Glover, 2007), including behavioural or emotional disorders (O'Connor, Heron, Golding, & Glover, 2003). The research confirms that women with high fear of childbirth intensity feel the pain earlier and the pain is more intense than in case of others during the *Cold Pressor Test* (Saisto, Kaaja, Helske, Ylikorkala, & Halmesmäki, 2004), and during the delivery itself it is more often necessary to apply pharmacological methods of pain relief (Alehagen et al., 2001). However, the research results connecting the experience of fear with the stress during the pregnancy do not give clear results. The research has shown that the fear and depression experienced during the pregnancy do not have any significant connection with the development of obstetrical complications having an influence on the course of pregnancy and the childbirth (Perkin, Bland, Peacock, & Anderson, 1993).

Determinants of the fear of childbirth

Factors predisposing to the fear of pregnancy or childbirth are as follows: the young age of the mother-to-be, low socio-economic status, low educational level, psychological problems experienced before pregnancy, including in particular sexual harassment or other problems connected with sexuality, low self-esteem and assertiveness, low pain threshold and a general fear of pain connected with it as well as a general level of anxiety, sensitivity and narcissism (Saisto & Halmesmäki, 2003). What is more, the occurrence of psychological problems during a former pregnancy, experiencing premature delivery with complications either connected with a sudden medical intervention or a sheer feeling of disappointment in relation to the premature delivery, the occurrence of the deficit in the experienced social support are also important. Moreover, other factors having a negative impact are as follows: everyday stress, the lack of knowledge on the childbirth and not taking part in psycho–prevention classes preparing for the childbirth (Saisto & Halmesmäki, 2003).

According to the research results, the participation in the psycho–prevention classes preparing for the childbirth has a positive influence on the feeling that a woman is prepared for the maternity in groups of women distinguished due to the occurrence of a very intense fear of childbirth (Salmela-Aro et al., 2012). A significant increase in fear, anxiety and depression levels has been discovered among teenage mothers for whom the pregnancy, usually unplanned, was connected with a strong future anxiety, especially in case of the lack of support of their families and their partners (Coley & Chase-Lansdale, 1998). A similar situation took place in the group of over 35-year-old women (Bączyk, Karoń, & Krokowicz, 2011). The lack of the partner's support during the pregnancy is connected with experiencing negative emotions and depression during this period (O'Hara, 1986). Besides, the fear can be more intense in case of women who had experienced procreation failures earlier or in case of those who had undergone abortion. The risk of developing a phobic fear of childbirth is especially strong in case of these women (Hofberg & Ward, 2003). The awareness that the foetus is in a good state has a strong influence on emotions during the pregnancy. The level of fear rises in case of women the pregnancy of whom was qualified to be endangered and who have been hospitalized (Mercer & Ferketich, 1988). The fact whether a given woman is preparing herself for her first delivery or for a subsequent one is of similar significance. The fear of the first childbirth is usually connected with the fear of the unknown. However, before giving a birth to another child, if the former childbirth was a traumatic experience for the woman, the subsequent childbirth can cause a strong anx-

iety about the fact that the unpleasant experience can reoccur (Hanna-Leena Melender, 2002).

Temporal orientation

Independently of the fact what time it is by the clock, in our heads we are functioning in three subjective psychological time perspectives concerning the past, the present and the future (Zimbardo, Sword, & Sword, 2012). They are in some way dependent on cultural factors, challenges, dreams and our past experiences. The following six time perspectives were enumerated in the concept of psychological time (Zimbardo & Boyd, 1999b): a past positive, a past negative, a present hedonistic, a present fatalistic, a future and a transcendental future.

People focused on the past, value the past more than the present or the future. A past positive time perspective is connected with remembering the past as a very positive and joyful period. People who are oriented in such a way usually willingly recall past events, keep old photos connected with these events and are glad to celebrate traditional anniversaries and holidays. A past negative time perspective is a contrary of a past positive, analysing unpleasant past experiences is characteristic of people oriented in such a way (Zimbardo et al., 2012).

Present-oriented people seldom act under the influence of past experiences and seldom take future consequences into consideration. For them the most important is what is happening now. A present hedonistic is a typical orientation for people seizing the day. It is related to looking for new experiences, impressions but only the pleasant ones. A moderate level of hedonistic orientation and its chosen features can be positive. These people are usually happier and more creative than people oriented into the present fatalistic. People focused on the future hedonistic time perspective feel that they are rulers of their own fate, whilst those oriented into the present fatalistic one are convinced that whatever they do, it does not have any influence on their life and happiness which are only up to the chance and fate (P. Zimbardo & Boyd, 2008).

Future-oriented people are assumed to cope well with their lives. They are described as those who pay a lot of attention to planning their future, can control their impulses, believe in their abilities, are not depression-prone or violence-prone. Those people do not pay attention to past events and present events do not matter to them. Future is a time perspective characteristic for people convinced that their present decisions will be connected with pleasant

experiences in the future. Those people are usually diligent, which is reflected in behaviours favouring keeping in good health and a longer-lasting life (P. Zimbardo & Boyd, 2008).

The future transcendental time perspective is typical for people who are preparing for the life after death. They lead their lives in a way that is in accordance with their faith in order to ensure a successful future for them and their descendants. It is connected with thinking that a real future starts after death and this image concerning the future award motivates them to overcome everyday difficulties and sorrows. However, it is not exactly like this that you have to be a believer to be future transcendental-oriented. Lay men who act in accordance with the belief that their actions serve future generations can also be oriented in such a way (P. Zimbardo et al., 2012). *Zimbardo Time Perspective Inventory* are tools to measure individual differences including the perception of time (P.G. Zimbardo & Boyd, 1999b).

Another representation of a future perspective is proposed by Zaleski (2005). For some people the future is filled with aims which are reached and form the basis of life satisfaction. For others, the future may be represented as an unknown, unforeseeable, uncertain and dangerous ground. Instead of forming a positive hope that expectations will come true, the fear and anxiety occur. According to Zaleski, the future anxiety events form a dimension of a temporal orientation (Zaleski, 1996a). At a given time, emotionally positive and negative elements are present in the thoughts concerning the future in case of a given individual. However, one kind of thoughts usually prevails. If concerns and a negative image of the future prevail they are connected with the occurrence of the future anxiety which can be seen in the attitude and behaviour of a given individual (Zaleski, 1996b). The future in the attitude dominated by fear is connected with the feeling of the lack of influence on what will happen. A given individual states that the course of events is not dependent on their activity. The vision of the future in this sense favours the creation of a fearful attitude based on subjective criteria of expectations, hope and unpredictability of future events (Zaleski, 1996b).

Personal predispositions of a given individual are meaningful in the creation of the future anxiety, connected with a general level of tendency to react with fear to events and personal experience of a given individual. What is more, the majority of experiences assessed by the individual to be negative and a deficit of those which are considered to be pleasant are very meaningful for the predominance of the fearful attitude. Besides, experiences and trends connected with the individual's social and cultural life are also important. The future anxiety has an influence on cognitive and behavioural processes, moderating the individual's behaviour, including those aimed at decreasing

negative emotions (Zaleski, 1996). Zaleski has also elaborated a scale for the measurement of the future anxiety (Zaleski, 1996). This tool was to serve as the measurement of individual attitudes towards the future. However, as a result of a factor analysis, it turned out that the scale measures clearly only a single factor that is the level of the future anxiety understood as a generalized attitude towards the future.

The research problem and hypotheses

The temporal orientation towards the future can significantly strengthen preventive behaviours adopted in order to keep in good health. In has also an influence on behaviours of an individual in case of an illness. There is a dependence between the illness type and the temporal orientation of an individual, which results from the research (Dousti, Nozari, & Janbabai, 2013).

The connection between the temporal orientation as a construct with the fear of childbirth is a little explored topic. The aim of this article is to research if the level of FC is different in successive phases of pregnancy. The second aim is to find out if the temporal orientation can be a significant variable explaining the occurrence of the fear of childbirth. The last aim is to check if it will be possible to build the model of the relation between time perspective scales and the FC. A strong focus on the past negative and present time perspectives should strengthen the fear of childbirth. Moreover, the future understood as the future anxiety should have an influence on the strengthening of the fear of childbirth. The authors' earlier research shows that positive temporal scales can be of lower importance in explaining the fear of childbirth.

(H1) The fear of childbirth will be strengthened in the third trimester of pregnancy and then it will be stronger in comparison to the one in the first and the second trimester and the control group.

(H2) It is assumed that the connection between the negative temporal perspectives (the present fatalistic and the past negative) (Zimbardo & Boyd, 1999), the future anxiety (Zaleski, 1996) and the fear of childbirth can be important.

(H3) The fear of childbirth will be explained in an important way by the obstetric-demographic-psychological model (with taking the temporal orientation into consideration).

Method

Participants

Three hundred and fifty women took part in the survey[1]. The age of respondents ranged from 17 to 42 years (M = 28.99; SD = 4.54). The population have the following levels of education: primary (1.4%), professional (3.1%), high school (22.5%) and higher education (72.6%). 77.8% of women were professionally active, 21.4% were not professionally active and 0.9% did not answer this question. 76.9% of women were married, 19.7% live in non-formal relationship, 3.10% of the women were single and 0.3% did not answer this question. More information about participants is shown in table 1.

Table 1. The profile of respondents in the survey 1 (*N* = 350)

Education:		**Professional activity:**		**Type of relationship:**	
basic	**1.4%**	yes	**77.8%**	marriage	**76.9%**
vocational	**3.1%**	no	**21.40%**	partnership	**19.7%**
		no data	**0.9%**		
secondary	**22.5%**			single women	**3.10%**
higher	**72.6%**			no data	**0.30%**
Residence:		**Financial income:**		**Professional activity:**	
village	**34.8%**	less than1000 PLN/ person	**20.2%**	yes	**77.8%**
town up to 10,000 inhabitants	**10.5%**	1000–2000 PLN/ person	**49.3%**	no	**21.40%**
city over 10,000 inhabitants	**53.6%**	3000 PLN and more/ person	**17.4%**	no data	**0.9%**
no data	**1.1%**	no data	**0.6%**		

[1] The survey was conducted from July 2014 to February 2015 in Opole. Patients of the Pathology of Pregnancy Unit of the Center of Gynaecology, Obstetrics and Neonatology in Opole, participants of the Birthing School run by the above-mentioned center, participants of the Birthing School run by Niepubliczny Zakład Opieki Zdrowotnej "Zdrowa Rodzina" (Non-Public Healthcare Centre "Healthy Family"), patients of gynecology clinics, the services of which are reimbursed by the National Health Fund: Public Gynaecological and Obstetric Doctor's Surgery and patients of the Private Gynaecological Clinic in Opole, took part in the survey.

Psychological variables included in the research were: Fear of Childbirth (FC), *Future anxiety and Zimbardo Time Perspective Inventory with five subscales.*

The main variable indicating the level of the FC has been measured by the *Fear of childbirth* questionnaire (Putyński, 1997). This questionnaire is composed of 18 statements concerning respondents' feelings and connected with the situation of a childbirth. The factor analysis made it possible for the author to differentiate the following six components of the FC: the fear connected with the course of the delivery, the anxiety about the child's health and life, the anxiety connected with the role of a mother, the anxiety connected with the period following the childbirth (post-natal period), the anxiety about the mother's own health and life and the fear of losing control during the child's delivery (Putyński, 1997). Reliability (Cronbach's alfa) of this scale is on good level $\alpha = 0{,}90$.

Variables connected with the temporal orientation have been measured by means of two questionnaires: 1) Future anxiety (Zaleski, 1996) Cronbach's $\alpha = 0{,}92$; 2) ZPTI (Zimbardo & Boyd, 1999) reliability indicators in subscales: Present fatalistic $\alpha = 0{,}70$; Past negative $\alpha = 0{,}85$; Past Positive $\alpha = 0{,}90$; Present hedonistic $\alpha = 0{,}75$; Future $\alpha = 0{,}78$). Pearson correlation coefficients between psychological factors described above have been shown in the table 2.

Table 2. Correlation coefficients (between psychological factors)

	1	2	3	4	5	6
1. Fear of childbirth						
2. Future anxiety	,532**					
3. ZTPI Past negative	,416**	,662**				
4. ZTPI Present hedonistic	,097	−,058	,084			
5. ZTPI Future	,014	−,089	,054	−,112*		
6. ZTPI Past positive	−,186**	−,283**	−,343**	,279**	,065	
7. ZTPI Present fatalistic	,376**	,499**	,492**	,347**	−,262**	−,031

* $p < 0{,}05$; ** $p < 0{,}01$

The other variables in the research describing the respondents' sociodemographic, obstetric and psychological situation, have been measured by one question scales. **Obstetric variables** included in the research were: The number of pregnancies; The number of children; The number of natural deliveries; The number of Caesarean sections; The correctness of the course of pregnancy; Willingness to have a Caesarean section "on demand"; Participation in birthing

school classes; Willingness to avoid the natural delivery; The pregnancy phase. **Sociodemographic variables**: The age of the mother-to-be; The mother's educational level; Professional activity; Civil status; Financial income; Place of residence.

The anxiety as a state and the anxiety as a trait have been controlled in the survey -*State-Trait Anxiety Inventory in the Polish adaptation* (Spielberger, Strelau, Tysarczyk, & Wrześniewski, 1987). Women with too high level of the anxiety as a trait and anxiety as a state were excluded. Additionally, the pain coping strategies were controlled in the research CSQ (*The Pain Coping Strategies Questionnaire;* Juczyński, 2001). According to the criterion of the *Harman's single-factor test* (MacKenzie & Podsakoff, 2012) data are not subject to the error of the common method (single-factor solution explained 15.29% of variations, KMO = 0.74).

Procedure

The survey has been conducted by "paper – pencil". Women filling in the questionnaire have been invited to take part in the survey in medical facilities during their stay in hospitals, clinics and after their medical consultation. The women have taken part in the survey voluntarily and the survey has been carried out with the consent of medical centres. Research was conducted with acceptance of all medical centres and was conducted by a professional midwife.

Results

A factor analysis has been made in order to control the error of the common method. The single-factor solution explained 15.29% of variations, the ratio KMO = 0.74. According to the criterion of the *Harman's single-factor test* (MacKenzie & Podsakoff, 2012) data are not subject to the error of the common method. Besides, the following variables have been controlled in the survey 1: the anxiety as a state and the anxiety as a trait *State-Trait Anxiety Inventory in the Polish adaptation* (Spielberger, Strelau, Tysarczyk, & Wrześniewski, 1987), and the pain coping strategies CSQ (*The Pain Coping Strategies Questionnaire;* Juczyński, 2001).

The severity of anxiety in particular pregnancy phases

In order to verify the fear of childbirth severity changes in particular pregnancy phases: before the pregnancy, in each trimester of pregnancy and after the childbirth, a single-factor test of variations in the plan for independent groups has been carried out. The severity of the fear of childbirth does not depend on the trimester of pregnancy. The average severity values of the fear of childbirth has been similar: 1st trimester ($M = 30.72$; $SD = 13.07$), 2nd trimester ($M = 34.62$; $SD = 14.05$), 3rd trimester ($M = 32.04$; $SD = 18.35$), after the childbirth ($M = 31.04$; $SD = 18.35$), not pregnant women ($M = 35.35$; $SD = 15.25$).

The fear of childbirth determinants

A hierarchic regression analysis has been made in order to verify hypotheses. Its purpose has been to predict the FC level with taking into consideration factors measured in the research. In the first step variables of obstetric character, in the next step the sociodemographic ones and in the last step the psychological ones have been introduced to the analysis (see table 3).

The first step in the hierarchic regression analysis assumed an explanation of the FC by means of predictors of obstetric character. The model turned out to be statistically significant, $F(6, 232) = 7{,}13$; $p < 0.001$; $R^2 = 0.15$. The factor connected with the preference of the accessibility of a Caesarean section on the patient's demand is an important predictor making it possible to predict the level of the FC.

The second step was based on adding predictors of a sociodemographic character. The model turned out to be statistically significant, $F(11, 227) = 4{,}54$; $p < 0.001$; $R^2 = 0.18$. The factor connected with the preference of the accessibility of a Caesarean section on the patient's demand is a significant predictor making it possible to predict the level of the FC.

In the third step, variables of psychological character were added. Obstetric, sociodemographic and psychological model is significant, $F(17,221) = 9{,}55$; $p < 0.001$; $R^2 = 0.42$. After adding psychological variables to the model, the prediction of variables such as the preference of the accessibility of a Caesarean section on the patient's demand remained statistically significant. What is more, another significant predictor was the age of the mother-to-be and variables connected with the temporal orientation: future time perspective and the future anxiety.

Table 3. The FC determinants in hierarchical model of regression with obstetric, sociodemographic and psychological predictors.

	B	SEB	Beta	t
STEP 1				
Number of pregnancies	–,10	,08	–,11	–1,30
Number of Caesarean sections	–,24	,15	–,10	–1,59
Correctness of the course of pregnancy	–,02	,10	–,01	–,23
Willingness to have a Caesarean section	,10	,01	,37	5,90***
Birthing school	–,03	,09	–,02	–,37
Number of children	–,01	,10	–,01	–,17
STEP 2				
Number of pregnancies	–,10	,08	–,10	–1,24
Number of Caesarean sections	–,24	,15	–,10	–1,57
Correctness of the course of pregnancy	–,04	,10	–,02	–,39
Willingness to have a Caesarean section	,10	,01	,34	5,42***
Birthing school	–,02	,09	–,01	–,24
Number of children	–,04	,11	–,03	–,38
Place of residence	–,15	,06	–,14	–2,26**
educational level	–,05	,11	–,03	–,50
Professional activity	–,10	,15	–,04	–,70
Civil status	–,02	,15	–,01	–,12
Financial income	,07	,08	,06	,91
STEP 3				
Number of pregnancies	–,02	,07	–,03	–,41
Number of Caesarean sections	–,21	,13	–,09	–1,66*
Correctness of the course of pregnancy	,03	,09	,02	,34
Willingness to have a Caesarean section	,04	,01	,16	2,76**
Birthing school	–,08	,08	–,06	–1,05
Number of children	–,16	,09	–,12	–1,68*
Place of residence	–,09	,05	–,08	–1,54

Educational level	,00	,09	,00	,07
Professional activity	−,00	,13	−,00	−,04
Civil status	−,01	,13	−,00	−,13
Financial income	,06	,07	,05	,91
Future Anxiety	,35	,07	,35	4,56***
Past negative	,13	,07	,13	1,71*
Present hedonistic	,04	,06	,04	,65
Future	,07	,05	,07	1,19
Past positive	−,03	,06	−,03	−,55
Present fatalistic	,10	,07	,10	1,51

*** p < 0,001; ** p < 0,05; *p < 0,01

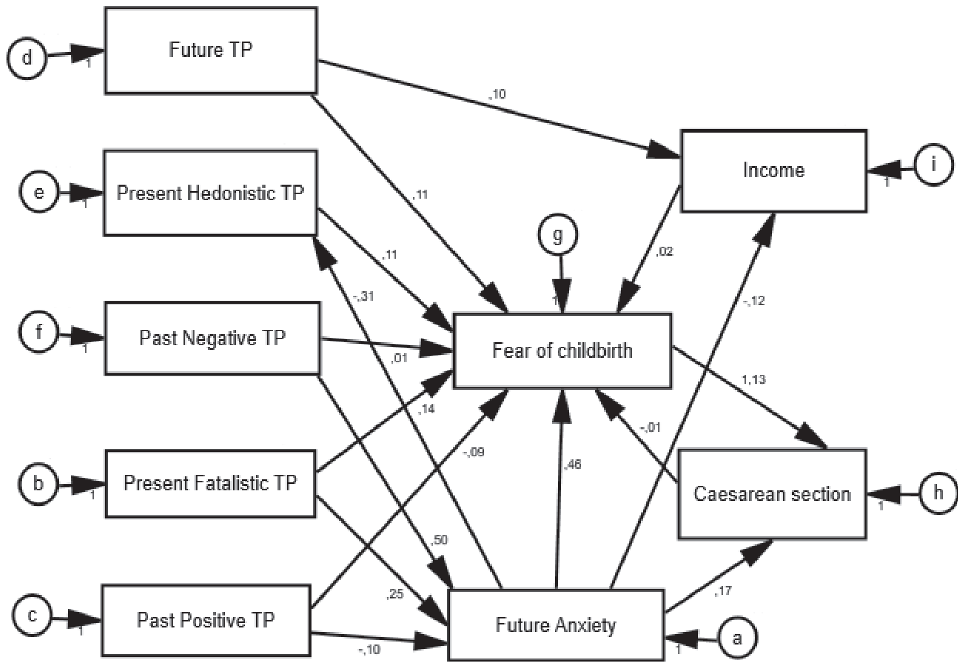
SEM model

The model has been made on the basis of the theoretical model of the dependence of the temporal orientation on the fear of childbirth, with taking into consideration results of the regression analysis. The model has good matching parameters and shows the strongest influence of the future anxiety (0.46), present fatalistic (0.14), present hedonistic (0.11) and future (0.11) on the fear of childbirth. It has been decided to make an analysis of direct and indirect effects, which are shown in table 3. According to total indicators, the strongest factors influencing the fear of childbirth are the following time perspectives: future anxiety, present fatalistic, past negative perspective. Table 4 is presenting the analysis of direct and indirect influence of researched variable in the model. The strongest direct and indirect indicator of the fear of childbirth is future anxiety.

Discussion

Verification of the first hypothesis shows that there is no difference between women in different pregnancy phase. It can suggest that the fear of childbirth can be quite stable in the time and strongly connected with the anxiety.

Saisto and Halmesmäki (2003) show that psychological factors important in explaining the problem of fear of childbirth are self-esteem, depression, the lack



The properties of the model: Chi^2 = 16,69; df = 11; p>0.05; CFI = 0.992; RMSEA = 0.039; PCCLOSE = 0.38; Standardized RMR = 0.02

Table 4. Standardized indicators of direct, indirect and total effects on the variable – the fear of childbirth in the path analysis model.

	Present fatalistic	Past positive	Past negative	Future anxiety	Future
Indirect effect	,101	–,041	,209	–,045	,001
Direct effect	,136	–,094	,007	,459	,109
Total effect	,237	–,135	,216	,414	,109

of social support and the unsatisfactory relationship. The presented study shows that temporal perspective is one of the significant factors explaining fear of childbirth and strengthens the explained variance. The result is quite new and gives an interesting approach to future researches. The path analysis shows that Future anxiety in a direct way is influencing the FC (Past negative perspective - indirect way) and probably can be important personality trait that develops the

FC. An interesting thing is the way that Zimbardo and Boyd (2008) understand the time perspective – as the one possible to change by some therapeutic procedures. Path analysis shows that Fear of childbirth is influencing the willingness of having the caesarean section by pregnant women. If we were able to reduce the level of the FC and the fear of pregnancy (see Zar et al., 2002).

The research of the above-mentioned sample shows that the FC is stable in time during the pregnancy, although it would be good to confirm it by means of longitudinal studies. Next limitations of this research is a sample (Polish women) and the way of collecting data (in medical centres). Also, our research does not include the longitudinal measure of the FC. Future researches in this field should be prepared on international sample so the results can increase the power of prediction. It would be interesting to make the replication of the research especially with other factors as self-esteem, depression, social support.

Conclusions

In the conducted model of regression analysis, the obstetric factor connected with the will of having a Caesarean section on the patient's demand turned out to be a significant predictor of the FC. Among sociodemographic variables, the respondent's age turned out to be an important predictor having an influence on the FC. Among psychological variables, only those of temporal character such as the future anxiety and the orientation towards the future time perspective prevailed. Moreover, future studies should include time perspective (future anxiety and past negative perspective) as a strong factor even in comparison with obstetric and sociodemographic factors. Presented research and the path analysis give us a stronger evidence in finding the directions of influence than traditional correlation and regression analysis.

The exploration path analysis model also shows that the fear of childbirth as a variable has a significant influence on the declared willingness of having a Caesarean section. It is thus possible to say that the anxiety component of a temporal future anxiety is the basis of the declaration of the will to have a Caesarean section on the patient's demand. The fatalist present and the past negative time perspectives have an indirect and a direct influence on the fear of childbirth.

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