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## ASSESSMENT OF OBSTETRICIAN-PATIENT RELATIONSHIP AND STRESS LEVELS EXPERIENCED BY WOMEN IN HEALTHY PREGNANCY AND PREGNANCY COMPLICATED BY MATERNAL OR FETAL FACTORS

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**Abstract:** Pregnancy is a special period in the life of a woman and her family, resulting in biological, social and psychological changes. Each pregnancy, even one non-burdened with social and obstetric risk, is a stressful situation (Dulude et al, 2002). For each pregnancy, the obstetrician-patient relationship and the level of the woman's confidence in the obstetrician become important. Patient's trust is one of the components of the satisfaction with medical care, which is a determinant as to adherence to the doctor's recommendations, leading to better clinical effects of the health care itself (Kurpas, Sapilak, Steciwko, 2006).

The aim of this study was to assess the obstetrician-patient relationship during pregnancy and the stress levels experienced in four groups of women, selected on the basis of their pregnancy – healthy pregnancy and high-risk pregnancy complicated by: a fetal factor, a maternal factor or both factors. The purpose of this study was to assess the relationship between stress and trust towards the obstetrician in the studied groups.

The research was conducted on a total of 242 women applying for follow-up examinations to the obstetrician or staying in the department of pregnancy pathology. The following measurement methods were used in the research: Global Stress Scale PSS-10 and the Trust in Physician Scale.

The analyses have shown significant differences among the studied groups regarding the assessment of the magnitude of stress experienced and the assessment of confidence level towards the obstetrician. The magnitude of stress was negatively correlated with the level of trust towards the obstetrician only in the group of women in high-risk pregnancy complicated by a fetal factor.

**Keywords:** patient trust, stress, pregnancy, fetal factor, maternal factor.

## 1. Introduction

The way the quality of medical services offered in Poland is approached has changed together with the modifications introduced to the healthcare financing system. This allowed for the patient's transition from being only a supplicant to the position of a client, for whom healthcare entities compete (Stać, Wołyniak, and Wdowiak, 2007). Competition in the healthcare sector triggers the need for success among managerial staff and other personnel of medical institutions "outperforming" their competitors (Nadziakiewicz, 2018). Nowadays, when the patient is no longer limited by region in terms of healthcare, they can choose the health facilities (both public and non-public) whose services they want to use. The increase in patients' health awareness in Poland, the availability of treatment in other countries of the European Union, the development of paid medical care, as well as the increase in the affluence of the Poles favour greater expectations as to the quality of medical services provided to them. Ensuring high quality services in this sector is particularly important because it translates not only to health, trust or safety, but, above all, to the quality of patient's life (Rybarczyk, and Marczak, 2011). The consequences of error, neglect or omission, like in no other sector, can be irreversible or even tragic.

The available literature on the subject contains factors that determine the quality of healthcare. These include, first and foremost: care reliability, personnel sensitivity, appearance of the medical facility and its employees, availability of rendered services, professional and individual competencies of the staff, as well as safety at each stage of the treatment (see Opolski, Dykowska, and Możdżonek, 2012, pp. 32-33). Shaping the doctor-patient (client) relationship does not require large financial outlays, but rather a change in the mentality of those representatives of the service provider who see in the patient (client) only a "clinical case" instead of a person with unmet medical needs and specific preferences (Rosak-Szyrocka, 2016). The Harvard T.H. Chan School of Public Health identifies three aspects adequate for open health care: accessibility of services, satisfaction and clinical quality (see Jakubek, 2012, pp. 31-32). Accessibility is the ease of obtaining healthcare by a patient notwithstanding various barriers: financial, organisational, cultural and emotional. It is usually measured by the waiting time on the appointed day, geographical location, patient/contractor ratio, the possibility of contacting the service provider via phone, working hours, cultural barriers. Satisfaction is the level to which healthcare is accepted by the patient, taking into account their expectations and needs. Clinical quality means that the service provider renders their services in a safe, competent and timely manner, corresponding to the patient's state of health. These actions lead to the desired results. The clinical quality is most difficult to measure (cf. Jakubek, 2012, pp. 27-45). According to the World Health Organization (WHO), quality is the result of the use of resources (technical quality), the way they are used (economic performance), service organization and patient satisfaction.

The main source of information about the quality of service as perceived from the patient's perspective is the assessment of their satisfaction. It should be understood as one of the components of health care quality and the main determinant as to adherence to medical recommendations that lead to better clinical effects of the healthcare itself (Kurpas, Sapilak, and Steciwko, 2006). Satisfaction is a subjective assessment resulting from the comparison of the patient's expectations and needs with the effects of medical care they observe (Krajewska-Kułałak et al., 2008). Satisfaction with medical care is a broad construct that includes both cognitive and emotional aspects, and it is affected by psychological variables (expectations, attitudes, values) (Linder-Peltz, 1982a). Past experience and expectations constitute an important element of the level of satisfaction (Linder-Peltz, 1982b). According to Lawthers (1999), patient's expectations result from: the availability of medical services, medical staff's communication skills, feedback obtained during the service, respecting patient's rights and their treatment preferences, continuation and coordination of the patient's treatment by a given doctor, mental comfort during the medical visit, individualisation of care and treatment plan. The assessment of patient satisfaction and its components (including trust in a doctor) is an increasingly used tool for improvement of efficiency and effectiveness of the healthcare system. Various institutions are interested in this issue, such as: governing bodies of medical institutions, politicians, local governments and payers. This is important because the quality of medical services translates not only to health, trust or safety, but, above all, to the quality of patient's life.

The service provider obtains information about the extent to which medical services meet the patient's expectations by measuring the patient satisfaction with those services offered to them. The service provider obtains information about the strengths and weaknesses of the industry and receives tips as to which elements are a source of patient's dissatisfaction and require change. When performing a measurement, it should be remembered that satisfaction is subjective and may relate to the feeling arising from the contact with a doctor, a nurse or any other staff member, as well as the overall satisfaction with the health facility.

The measuring of patient satisfaction is particularly important in the Anglo-Saxon countries, for which purpose a considerable amount of research and standardised tools is used. In Poland, this aspect of medical care has not been explored quite that much, although in recent years, with the increase in medical awareness and affluence of the Poles, it is more and more often used for the improvement of the quality and efficiency of the healthcare system (cf. Kurpas, Sapilak, and Steciwko, 2006; Lewandowski, 2001).

One of the determinants of the patient satisfaction with medical services received is the patient-doctor relationship. The foundation of this relationship is the patient's trust towards the doctor and vice versa. From a psychological point of view, it is important to understand this relationship in terms of interaction, i.e. the mutual influence between people, although it should be noted that the positions in this relationship are not always equivalent. In the face of a threat to health or life, helpless patients sometimes become willing to put their almost limitless trust

in doctors. This trust is a way to handle the inevitable uncertainty of the future (Głos, 2015). It enables the patient to deal with anxiety and act as if the future was not only known, but quite according to our plans and wishes. Trust also helps to cope with the inevitable risk of losing resources, in this case – health.

Trust plays a crucial role when one of the most valuable assets of a human being – health or life – is at risk. The trust put in the doctor-patient relationship refers to the expectation that the other person (in this case: a doctor) will act in a manner that is most appropriate and harmless, allowing the patient to take risk in terms of these expectations (Thom et al., 2011). Patient's trust also refers to the fact that medical staff will always do what is best for the patient in terms of saving life and health (LoCurto, and Berg, 2016). The research by Wake Forest Team defines the phenomenon of trust in a doctor as “the optimistic acceptance of a vulnerable situation in which the truster believes the trustee will care for the truster's interests” (Hall et al., 2001, p. 615). This approach is based on faith in the doctor's good will. Among the determinants of trust, the Wake Forest Team lists: fidelity, competence, honesty, confidentiality and global trust (cf. Hall et al., 2001). In the model of trust by Mechanic and Meyer (2000), the patients examined by the researchers mentioned the following elements determining trust: interpersonal competence, technical competence, agency/fiduciary responsibility, control, confidentiality and disclosure.

Back in the 1990s, attempts were made to “measure” trust in healthcare and identify its determinants. Summarising numerous, mainly worldwide, studies regarding the patient's trust towards the doctor, Lewandowski (2011) shows the crucial importance of it in the treatment process – trust positively affects: treatment results; adherence to the medical recommendations; the increase in people's motivation to seek help; the use of preventive measures (trust encourages it); the improvement of communication between the doctor and the patient (thus increasing patient satisfaction); the increase in the acceptance of medical indications and compliance with recommendations as well as with therapeutic regimen. In addition, trust makes changes of doctors less frequent; lowers patient's disappointment; heightens the effectiveness of treatment and enhances the assessment of one's own health. Furthermore, the research has also shown that a good doctor-patient relationship can also become a source of satisfaction for doctors (according to the Polish Centre for Studies, Analyses and Information of the Supreme Medical Council [OSAI], 2017).

An analysis of available studies on trust, conducted by Pearson and Raeke (2000), has shown that the trust is positively correlated with: patient assessment of the doctor's communication; level of interpersonal treatment; knowledge of the patient. Research by Kao et al. (1998; found in: Rearson, and Raeke, 2000) has discovered several factors correlated with trust. In their first study (including 292 participants), patients who reported having a broad enough choice of physicians, a longer relationship with their physician, and who trusted their physician's managed care organisation, were more likely to trust their doctor.

Patient's trust towards doctors is shaped by many factors, such as: proper communication with the patient, time devoted to them and truthfulness. Lack of trust is primarily affected by earlier misdiagnoses, incorrect/lacking medical performance and medical personnel's reticence (cf. Pawlikowska-Łagód, and Sak, 2017). The doctor's inadequate attitude towards a given patient is also an important factor undermining trust. In Poland, the paternalistic attitude of the physician towards the patient is still dominant. The consequences arising from this type of relationship impede the cooperation between the doctor and the patient because it results in a loss of trust in the physician. Such a state can cause patient's passivity, delegating their responsibility for the treatment to medical staff, treating oneself as dependent, subordinate and less competent. All this leads to a lack of partnership between the doctor and the patient thus the decline in cooperation. On the other hand, the number of patients who expect a different approach in medical care – more similar to partnership – is increasing. The increase in autonomy, an access to other sources of medical knowledge (also via the Internet), the need for being treated as a subject, as well as taking into account the emotions of the treated person, have resulted in more distrustful and pretentious patient (who gained more independence and orientation in the medical world). Increasingly, the patient does not only want to participate in the therapy recommended by the doctor passively, but they also want to take an active part in the decision-making process regarding the method of treatment. It seems that one of the basic elements of the relationship between medical staff and the patient is accurate assessment of the patient's expectations regarding the care and quality of the relationship thus the ability to flexibly adapt this relation to a given patient. A modern patient wants to be informed about what is happening to them: what their state is, what medical procedure is, and what the consequences of a given diagnosis and the offered treatment are. They also want to actively participate in the diagnostic and therapeutic processes. They have the knowledge, but sometimes only popular, coming from unreliable sources or formal one. Increasingly, the patient wants to be a partner, not just a passive participant in the treatment process.

In Poland, the discussed issue is dealt with, amongst others, by the Centre for Public Opinion Research (CBOS). The institution conducted analyses relating to trust towards doctors in years: 2001, 2007, 2009, 2010 and 2014. In years 2010 and 2014, the respondents trusted their doctors significantly – the figures were 70% and 78%, respectively (see Pawlikowska-Łagód, and Sak, 2017). Studies concerning individual medical professional groups also indicate that patients in Poland have great confidence in doctors of various specialties (see Pearson, and Raeke, 2000; Krajewska-Kulak et al., 2008; 2011; Moczydłowska et al., 2014; Plentara et al., 2015; Da-Hai, Ke-Qin, and Zhi-Ruo, 2016; Pawlikowska-Łagód, and Sak, 2017). However, assessments concerning the functioning of the health system as a whole are much worse (on a macro scale). In a survey conducted by CBOS in 2018, only three out of ten respondents assessed it positively (30%). In contrast, 66% of the respondents assessed it negatively, 27% of whom expressed a strongly negative opinion. In the same survey, the vast majority of respondents positively assessed the competence of doctors (70% of positive assessments),

the availability of primary care physicians (68%) and the involvement of doctors in their work (65%). The most negatively assessed aspects of healthcare functioning included the possibility of medical visits to specialists (83% of negative assessments) and the insufficient number of medical personnel in hospitals (70% of negative assessments) (CBOS, 2018). The above-mentioned data show a certain paradox in the Polish health system: on the one hand, the Poles exhibit fairly high trust towards the physicians, their competence and commitment to work, but, on the other hand, systemic problems related to the access to specialists and very long waiting time regarding visits to specialists do not enable a positive assessment of the whole health system.

It seems that further expanding of knowledge about the causes and correlates regarding the trust towards the Polish doctors, particularly taking into account the specificity of individual patient groups, is crucial in order to increase the number of patients who put trust not only in the doctor but also in a given institution and the whole system of medical services. Researchers note that it is necessary to know the nature and conditions of distrust in the doctor-patient relationship; otherwise, attempts at institutional strengthening of that trust may achieve the opposite result, i.e. weakening of spontaneous trust (the “crowding out” effect, Bohnet, 2001, in: Głós, 2015).

The literature on the subject contains very little research on the relationship between the pregnant woman and her obstetrician (with the specific complications experienced during pregnancy taken into consideration). The research by Krajewska-Kulak et al. (2011) assessed the trust levels in medical staff among women hospitalised in obstetrics and gynaecology wards in Poland and Greece. Of all Polish women, 90% replied that they trusted their doctor and followed their advice. In Greece, the percentage constituted 58.8%. 25.3% of the female respondents in Poland and 47.4% in Greece did not doubt the appropriateness of the medical care provided by their doctor. The international research by Paters, Benkert, Templin and Cassidy-Bushrow (2014) found that African American women reported a high level of trust in obstetric providers. That trust was not based on the type of provider (physician or midwife), but it was associated with the women's history of perceived racism and strength of their ethnic identity (Paters et al., 2014).

Pregnancy is a period of dynamic physiological, mental and social changes that affect all spheres of a woman's life. Psychological aspects of the functioning of pregnant women are an important factor in the inception, development and treatment of various gynaecological diseases and pregnancy pathologies. In addition, studies confirm the relationship of the mother's emotional state with the course of pregnancy as well as the occurrence of developmental disorders in children with stress and restlessness levels playing a significant role (Mulder et al., 2002; Billert et al., 2007). A particular situation is the high-risk pregnancy, during which a woman experiences difficulties and problems with her own health and health of her unborn child. Experiencing of a high-risk pregnancy is conducive to the emergence of fears or uncertainty related to the future course of pregnancy; it is also a risk factor for postpartum

affective disorders (Kossakowska-Petrycka, and Walecka-Matyja, 2007; Kosińska-Kaczyńska et al., 2008). The multitude of biological and social changes experienced by a pregnant woman, anxiety and worrying about her own health and that of her unborn child foster uncertainty, which may result in: seeking information about the course of pregnancy and possible complications in various, often unverified, sources (e.g. Internet forums). The quality of the relationship between the pregnant woman and her obstetrician, and, above all, the level of trust that a woman has in her obstetrician, seem to be crucial in managing pregnancy and successful delivery, especially in pregnancies with complications caused by diseases arising from maternal or fetal factors.

## 2. Methods

The main purpose of this study was to assess the trust that pregnant women have in their obstetrician and their level of perceived stress. The women were divided into the following groups: those whose pregnancy had no complications and those whose pregnancy was complicated by fetal and/or maternal factors. The specific goal was to assess the interrelationships between stress and trust in the obstetrician in the studied groups.

The study group included 242 pregnant women from southern Poland. The research was conducted in obstetrics and gynaecology clinics and in the department of pregnancy pathology.

Pregnant women, who agreed to participate in the study, received a small pencil and paper set enclosed in an envelope which they could seal to preserve anonymity and confidentiality after filling in the questionnaires. It took them about 10-15 minutes to complete the set of questionnaires and the survey. All respondents had been informed that the survey was completely voluntary, anonymous, and that they could withdraw from the study at any time. They also received written instructions explaining the purpose of the study, introducing the researcher and highlighting the anonymous aspect of the study. After reading the instruction, the subjects submitted their written consent or lack thereof to participate in the study.

The pregnant women participating in the study were divided into four groups in accordance with the course of pregnancy and its risk factors, such as: fetal factors (genetic disorders, heart defects, urinary tract defects, etc.) ( $N = 50$ ); maternal factors (hypertension, diabetes, cervical insufficiency, etc.) ( $N = 68$ ); both maternal and fetal factors ( $N = 25$ ); or lack of risk factors ( $N = 98$ ). Inclusion in particular groups was made by an obstetrician on the basis of the medical criteria (maternal or fetal). The inclusion criterion for the study group was the presence of a minimum of one fetal and/or maternal factor. The research was approved by the ethics committee at the Institute of Psychology of the University of Silesia, Katowice (No. 3/2017).



To assess the intensity of global stress, the study made use of: the PSS-10 scale (Juczyński, and Ogińska-Bulik, 2009) and the Trust in Physician Scale (Anderson, and Dedrick, 1990; in: Krajewska-Kułak, 2008).

The PSS-10 scale (Cohen, Kamarck, and Mermelstein, adapted to Polish version by: Juczyński, and Ogińska-Bulik, 2009) is used to assess the intensity of stress related to one's life situation over the last month. It contains 10 questions about various subjective feelings associated with personal problems and events, behaviour and coping mechanisms. The reliability of the PSS-10 scale in the presented analyses was 0.88.

The Trust in Physician Scale (Anderson, and Dedrick, 1990; in: Krajewska-Kułak et al., 2008) includes 11 statements, assessed by the respondent on a 5-point scale. The theoretical scale range is 11-55 points. The subjects evaluated their the then physician. Cronbach's  $\alpha$  reliability of the scale in the presented analyses equalled 0.90.

A statistical analysis was conducted using the PS Imago program (SPSS for Windows 25.0). The non-parametric Kruskal-Wallis Test was used to assess the significance of intergroup differences; the assessment was corrected for post hoc analyses using the Bonferroni method.

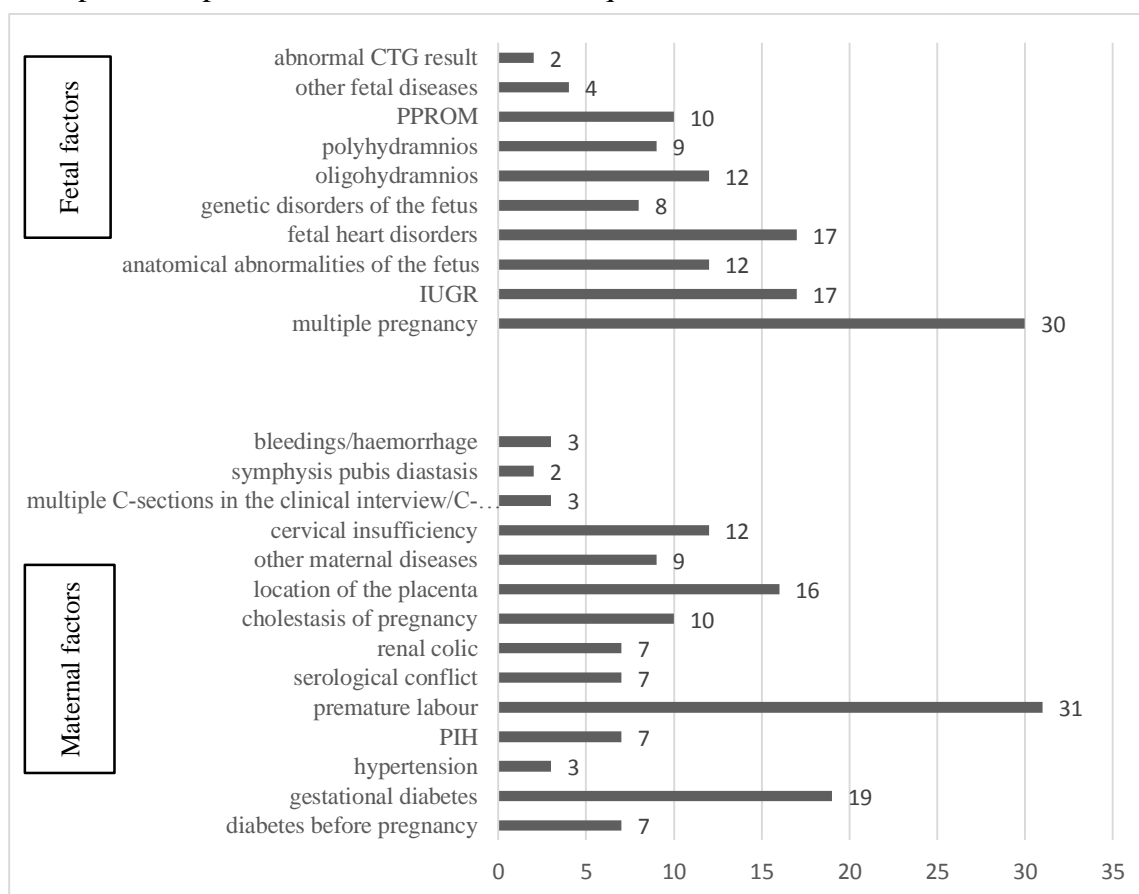
### 3. Results

The age of the subjects ranged from 18-42 years; the average age of women was approximately 30 years ( $M = 30.06$ ;  $SD = 5.08$ ). The women came mostly from medium-sized (61.8%) or large cities (13.3%). Most of them were employed (84.9%), had higher (58.5%) or secondary (32.4%) education, and they were married (78.4%). The average duration of the respondent's relationship was 5 years ( $M = 4.83$ ;  $SD = 3.77$ ).

The pregnant women were in their second and third trimesters (27.4% and 71.4%, respectively), in the thirty-first week of pregnancy on average ( $M = 30.54$ ;  $SD = 4.91$ ). Slightly more than half of the women were roots (57.3%). Most of the women surveyed assessed their pregnancy as planned and expected (75.5%). One fifth of the pregnant women (20.7%) had problems with getting pregnant or had experienced pregnancy loss (22.8%).

The subjects also answered questions about medical risk factors (maternal and fetal) that they experienced in the then pregnancy. 39% of women declared the presence of a minimum of one maternal factor (e.g. a primary or secondary psychosomatic disorder – resulting from pregnancy, serological conflict, or cervical insufficiency), 31.5% of women declared a minimum of one fetal factor (e.g. abnormalities in the structure of particular fetal systems, fetal genetic defects), premature rupture of membranes and leakage of amniotic fluid, multiple pregnancy, etc.). A complete recapitulation of individual risk factors is shown in Figure 1.

The analysis of individual questions from the Trust in Physician Scale enabled to find out the percentage of women who trusted or did not trust their obstetrician. The answers to question 3 – “I trust my doctor very much and that is why I always follow their advice” – were as follows: 79.7% of the total number of women responded to this question positively; the positive answer was given by 1) 72% of women in pregnancy complicated by the fetal factor; 2) 78% – by the maternal factor; 3) 80% – by both fetal and maternal factors; and 4) 84.7% of women whose pregnancy was normal. Question 5 – “I sometimes do not trust my doctor” – was answered positively by 15% of the studied women, including: 1) 22% of women in pregnancy complicated by the fetal factor; 2) 20.9% – by the maternal factor; 3) 20% – by both fetal and maternal factors; and 4) 6.1% of women whose pregnancy was normal. However, question 10 – “I can tell it to my doctor if they make a mistake” – was answered positively by 43.1% of the female respondents and 31% of them were undecided. Considering the percentage results in the studied groups, it can be noted that the positive answer to that question was given by: 1) 36% of women in pregnancy complicated by the fetal factor; 2) 38.2% – by the maternal factor; 3) 24% – by both fetal and maternal factors; and 4) 55.1% of women whose pregnancy was normal. In all these groups, a large group of undecided women remain. Table 1 presents a complete recapitulation of the answers to all questions.



PPROM – Preterm Premature Rupture of the Membranes; IUGR – Intrauterine Growth Restriction; PIH – Pregnancy-Induced Hypertension.

**Figure 1.** The amount of medical factors – fetal and maternal.

**Table 1.**

*The answers (expressed as a percentage) to the TPS questionnaire in the respective groups*

Question	Answer-percentage*	Fetal factor	Maternal factor	Maternal and fetal factors	Normal pregnancy	In total
1. I doubt if my doctor really cares for me as a person.	I agree	14%	7.4%	8%	6.1%	8.3%
	Neither yes nor no	20%	7.4%	20%	13.3%	13.7%
	I disagree	66%	85.2%	72%	80.6%	78%
2. My doctor usually considers my needs and give them highest priority.	I agree	64%	60.2%	40%	76.5%	65.6%
	Neither yes nor no	26%	32.4%	40%	18.4%	26.1%
	I disagree	10%	7.4%	20%	5.1%	8.3%
3. I trust my doctor very much and that is why I always follow their advice.	I agree	72%	78%	80%	84.7%	79.7%
	Neither yes nor no	20%	13.2%	0%	10.2%	13.7%
	I disagree	8%	8.8%	8%	4.1%	6.6%
4. If my doctor says something it must always be true.	I agree	60%	60.3%	48%	68.3%	62.2%
	Neither yes nor no	28%	33.5%	40%	23.5%	26.2%
	I disagree	12%	16.2%	12%	8.2%	11.6%
5. I sometimes do not trust my doctor.	I agree	22%	20.9%	20%	6.1%	15%
	Neither yes nor no	20%	14.4%	32%	11.3%	16.1%
	I disagree	58%	64.7%	48%	82.6%	68.9%
6. I trust the reports and opinions issued by my doctor.	I agree	68%	67.7%	60%	85.7%	64.3%
	Neither yes nor no	28%	20.4%	28%	11.2	29%
	I disagree	4%	11.9%	12%	3.1%	6.7%
7. I feel that not everything that my doctor does is to provide me with medical care.	I agree	16%	14.9%	2%	5.1%	11.7%
	Neither yes nor no	20%	14.5%	30%	10.2%	13.7%
	I disagree	64%	70.6%	68%	84.7%	74.6%
8. I trust my doctor as to the pregnancy-related therapy.	I agree	78%	78%	84%	80.9%	83.8%
	Neither yes nor no	0%	14.5%	12%	17.1%	11.2%
	I disagree	22%	7.5%	4%	2%	5%
9. My doctor is a true expert in treating pregnancy-related diseases.	I agree	58%	64.7%	60%	83.6%	70.5%
	Neither yes nor no	30%	30.8%	28%	14.4%	23.7%
	I disagree	12%	4.5%	12%	2%	5.8%
10. I can tell it to my doctor if they make a mistake.	I agree	36%	38.2%	24%	55.1%	43.1%
	Neither yes nor no	42%	46.9%	60%	40.8%	44.8%
	I disagree	22%	14.9%	16%	4.1%	12.1%
11. I sometimes fear that my doctor will break the doctor-patient confidentiality.	I agree	2%	2.9%	4%	0%	11.7%
	Neither yes nor no	16%	14.2%	16%	4.1%	0.3%
	I disagree	82%	82.9%	80%	95.9%	88%

\* "I agree" percentage is the total of "I agree" and "I strongly agree" answers; "I disagree" percentage is the total of "I disagree" and "I strongly disagree" answers

As the next step of these analyses, the results obtained from the Global Stress Scale (PSS-10) and the Trust in Physician Scale (TIP) were compared among the four analysed groups. The results have shown that women in pregnancy complicated by fetal and maternal factors experienced the most severe stress. Women in healthy pregnancy reported the lowest magnitude of stress. The highest trust was noted in the group of women in normal pregnancy, and the lowest one in the group of women in pregnancy complicated by both maternal and fetal factors.

Table 2 presents a complete set of data from a statistical description of the PSS-10 and TIP scales.

**Table 2.**

*A recapitulation of descriptive data from the TPS questionnaire for all the analysed study groups*

Tools	Studied groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>min.</i>	<i>max.</i>
PSS	Fetal factor	50	19.90	7.21	4.00	34.00
	Maternal factor	67	18.29	6.60	6.00	33.00
	Maternal and fetal factors	25	23.80	5.90	14.00	32.00
	Normal pregnancy	98	15.78	5.31	3.00	29.00
	In total	240	18.17	6.63	3.00	34.00
TPS	Fetal factor	50	41.08	7.43	22.00	55.00
	Maternal factor	68	41.83	8.20	13.00	55.00
	Maternal and fetal factors	25	40.08	7.48	24.00	54.00
	Normal pregnancy	98	44.70	5.91	26.00	55.00
	In total	241	42.66	7.27	13.00	55.00

In order to verify whether experiencing one's own and/or fetal disease affects the magnitude of the global stress perceived, comparative analyses were conducted using the Kruskal-Wallis test (Table 3). These analyses proved to be statistically significant ( $H(3) = 32.683$ ;  $p = .001$ ). An additional analysis of the post hoc tests has shown that statistically significant differences occur between the groups of: 1) women in pregnancy complicated by the fetal factor vs. women in normal pregnancy ( $M_{rank} = 140.69$  vs.  $M_{rank} = 95.98$ ;  $p = .001$ ); 2) women in pregnancy complicated by fetal and maternal factors vs. women in normal pregnancy ( $M_{rank} = 176.32$  vs.  $M_{rank} = 95.98$ ;  $p = .001$ ); 3) women in pregnancy complicated by the fetal and maternal factors vs. women in pregnancy complicated by the maternal factor ( $M_{rank} = 176.32$  vs.  $M_{rank} = 120.46$ ;  $p = .004$ ).

In the next step, it was verified whether trust towards the obstetrician was differentiated in terms of experiencing one's own and/or fetal disease; these analyses have proved to be significant (see Table 2). An additional analysis of post hoc tests has shown that statistically significant differences occur between the groups of: 1) women in pregnancy complicated by fetal and maternal factors vs. women in normal pregnancy ( $M_{rank} = 93.68$  vs.  $M_{rank} = 140.53$ ;  $p = .016$ ); 2) women in pregnancy complicated by the fetal factor vs. women in normal pregnancy ( $M_{rank} = 104.12$  vs.  $M_{rank} = 140.53$ ;  $p = .016$ ).

**Table 3.**

Mean results presented as mean ranks in the studied groups and the results of the Kruskal-Wallis test

Tools	Studied groups	N	Mean rank	Kruskal-Wallis test
PSS-10	Fetal factor	50	140.69	$H = 32.683;$ $df = 3;$ $p = .001$
	Maternal factor	67	120.46	
	Maternal and fetal factors	25	176.32	
	Normal pregnancy	98	95.98	
	In total	240		
TPS	Fetal factor	50	104.12	$H = 14.954;$ $df = 3;$ $p = .002$
	Maternal factor	68	115.32	
	Maternal and fetal factors	25	93.68	
	Normal pregnancy	98	140.53	
	In total	241		

In the last step, correlation analyses were carried out to check whether the increase in stress experienced by pregnant women correlates with a decrease in trust towards the obstetrician in the studied groups. The obtained results have shown a significant negative relationship between stress and trust towards the obstetrician in the group of pregnant women whose pregnancy was complicated by the fetal factor only ( $r = .484; p = .001$ ). The relationship was not significant in other studied groups (maternal factor:  $r = .102; p = -.412$ ; maternal and fetal factor  $r = .002; p = -.992$ ; normal pregnancy  $r = .068; p = -.508$ ).

#### 4. Discussion

Pregnancy is a special episode in the life of a woman and her family, which brings about changes of biological, social and psychological nature. Each pregnancy, even the one not burdened with social and obstetric risk, is a stress-inducing situation (Dulude et al., 2002; Kuryś, 2010). While experiencing difficulties in the course of pregnancy, resulting both from the health of the woman and of her unborn child, the stress to which a pregnant woman is exposed is definitely greater (see Czarnecka-Iwańczuk, 2010). The research presented in this paper confirm this regularity. Women facing their own disease and/or that of the foetus experienced the most stress during pregnancy. Stress experienced by women whose pregnancy progressed normally was significantly lower.

In a situation of increased stress, the doctor-patient relationship and the woman's level of trust in the obstetrician become more important. A determinant for correcting interpersonal communication between the doctor and the patient is not only the ability of quick diagnosis but also other elements that shape the quality of medical services provided (Rosak-Szyrocka, 2016). Patient's confidence in the doctor is one of the most important elements of treatment. Both scientific research and medical practice indicate that trust in the doctor-patient relationship is advantageous to the patient's health. As already has been mentioned, patients who trust their

doctors visit them more often, disclose to them the details of their malaise more willingly, follow their recommendations more carefully and experience a steadier, more peaceful therapy. In turn, doctors who trust patients listen to their reports more carefully, they are able to better diagnose the causes of the disease and better adapt the appropriate, individual therapy to a given patient (see Pearson, and Raeke, 2000; Gopichandran, and Chetlapalli, 2013; Gopichandran, Wouters, and Chetlapalli, 2015).

In this study, patients reported a relatively high level of trust in their gynaecologists. 84.7% of studied women trust their physician significantly thus always follow their advice. However, trust in the obstetrician was differentiated by the difficulties experienced during pregnancy. Women in normal pregnancy showed the greatest trust towards the obstetrician; it was significantly lower in study groups experiencing pregnancy complicated by fetal or maternal factors. The study has found, however, that there are groups of women distrustful of obstetricians and who do not follow any medical recommendations and the majority of them was the group of women experiencing the fetal disease. Less than half of the women were willing to draw the doctor's attention to the mistake if they made one. The more numerous the complications (both maternal and fetal) during pregnancy are, the lower the latter percentage and the bigger the number of undecided respondents are. It might be that women do not have enough the courage to point out the doctor's mistake or that they are wrong about something; however, there can be many explanations for this phenomenon. On the one hand, the reasons may lie behind the pregnant patient who is in a difficult, highly stressful situation, burdened with uncertainty about the pregnancy outcome, their child's health and its further development. Strong stress, uncertainty and anxiety can mentally block a woman, create barriers in communication with their doctor, make the doctor-patient relationship uneven, and sometimes affected by unrealistic expectations about the improvements in medicine and the doctor's competence. One's own disease or a disease of the foetus complicates pregnancy, introduces uncertainty, stress, anxiety; it medicalises the pregnancy to a significant extent and introduces imbalance to the relationship with the doctor, which can hinder in reaching a mutual understanding. On the other hand, the possible explanation can be the factors lying behind the doctor. Pregnancy complicated by maternal and fetal risk factors is treated as a high-risk pregnancy – it requires a specialist competence from the doctor because they become burdened with great responsibility for the health and life of both mother and child. Therefore, it is expected from the doctor that they will have more empathy in their medical practice, that they will engage in proper communication, they will exhibit greater mindfulness and patience in the relationship with the patient and they will have the ability to deal with various fears of the pregnant woman.

The analyses presented in this paper draw attention to the need to adapt an individual approach to the patient's needs, particularly to the type of problem the patient is facing, the level of accompanying stress, as well as the future consequences that the problem entails. It seems that pregnant women exposed to complications of pregnancy – which are related to

their own health, and, above all, to the well-being of the foetus – are at a particular risk of increased stress thus reduced trust towards the obstetrician. This lack of trust may lead to: seeking medical information from other, unverified sources; searching for a second medical opinion; non-compliance with the recommendations or random adherence to them. Researchers agree that the level of trust in doctors has a significant impact on the compliance with medical recommendations and the patient's motivation to struggle with disease (Kurpas, Sapilak, and Steciwko, 2006).

The results of this study have also shown that strong stress co-occurs with lower trust towards the obstetrician, but only in the group of women whose pregnancy was complicated by the fetal factor. This is an interesting result, indicating that the group in question is in a special psychological situation, in which specific ways of coping with stress are activated. The existence of a negative relationship between stress and trust towards the obstetrician affects the context of the doctor-patient relationship and imposes completely different requirements on the analysed relationship. Considering the previous result, indicating that this group contained the largest percentage of women who did not trust their obstetrician, further exploration of this phenomenon seems to be extremely important, with an emphasis on the exploration of the direction of this relationship. This analysis shows only the coexistence of these two phenomena. It would have to be determined whether the high levels of stress in pregnant women cause a decrease in trust towards the obstetrician or maybe the lack of trust in the doctor leads to an increase in stress levels in pregnant women. In order to determine this, it would be necessary to conduct longitudinal studies and check the dynamics of these changes in the course of the whole pregnancy. Further research is also needed regarding the importance of stress in building trust in the obstetrician depending on the specificity of medical problems experienced by pregnant women. Such research could also contain methods of dealing with stress used by pregnant women, an analysis of other components of the doctor-patient relationship, e.g. quality of communication, attitudes of the doctor and the patient, existing barriers in the doctor-patient relationship, etc.

The research presented here has signalled how important it is for the medical staff to have a proper approach in the relationship with the patient, to adapt communication techniques and empathically read patient expectations. It seems that when the pregnancy is complicated by maternal and/or fetal factors, the doctors' importance arises not only from their professional competence but also from their communication skills, empathy and their ability to cope with patients' anxiety and stress. An empathetic attitude is conducive to building relationships based on partnership, facilitates mutual understanding and creates an atmosphere of openness (Gawroń 2001). The consequence of the doctor's empathetic involvement in the relationship with the patient is that the patient becomes truly a subject, which translates into an increase in their satisfaction with the treatment and care (Gaertner, 1997). However, patients usually indicate a lack of good communication with their doctor and expect more information about their illness, the possible side effects of prescribed medications and prognoses as to their health

(Jankowska, 2015). These are the challenges that contemporary physicians, as well as entire medical staff, face.

The research conclusions may also have practical application. Firstly, they can constitute tips for practitioners and specialists in various fields, who are concerned with mental health of women in pregnancy, both those with high risk and no risk of any serious complications. Pregnant women, regardless of the amount of the risk factors, often experience strong, ambivalent emotions. The knowledge about potential risk factors and factors protecting mental health in women awaiting childbirth can be used to create assistance and intervention methods, as well as psychoeducational programmes to support pregnant women more effectively. The results can also be useful for many specialists taking care of women during pregnancy: obstetricians, midwives, psychologists, educators, etc. Nowadays, the activities of medical circles are increasingly concentrated on seeking and monitoring factors that can be used in order to prevent disease symptoms (e.g. depression, anxiety) and, more importantly, to support health and well-being of individuals.

## 5. Summary

1. The specificity of medical problems experienced by pregnant women differentiates their stress levels and their trust towards the obstetrician.
2. The group of women in pregnancy complicated by fetal factors seems to be of particular interest. It seems that these cases require special attention from the medical staff in order to optimise the quality of the treatment.
3. Further research is needed in order to explain the relationship between stress and trust in obstetrician, depending on the difficulties experienced during pregnancy.
4. To maximise medical success, the effectiveness of the therapy and the compliance with the obstetrician's recommendations through increased trust in the doctor seems to be of great importance for individualising the treatment plan.



## References

1. Billert, H., Gaca, M., and Miluska, J. (2007). Ocena lęku u rodzących zdecydowanych na analgezję zewnątrzoponową. *Ginekologia Polska*, 78(7), 532-538.
2. CBOS (2018). *Komunikat z badań: „Opinie na temat funkcjonowania opieki zdrowotnej”*, no. 89.
3. Czarnecka-Iwańczuk, M. (2010). Psychologiczne aspekty ciąży wysokiego ryzyka i sytuacji utraty ciąży. In: G.H. Bręborowicz (ed.), *Ciąża wysokiego ryzyka* (pp. 1165-1186). Poznań: Ośrodek Wydawnictw Naukowych.
4. Da-Hai, Z., Ke-Qin, R., and Zhi-Ruo, Z. (2016). Patient Trust in Physicians: Empirical Evidence from Shanghai, China. *Chines Medical Journal*, 129(7), 814-818.
5. Dong, E., Liang, Y., Liu, W. (2014). Construction and Validation of a Preliminary Chinese Version of the Wake Forest Physician Trust Scale. *Medical Science Monitor*, 20, 1142-1150.
6. Dulude, D., Belanger, C., Wright, J., and Sabourin, S. (2002). High-risk Pregnancies, Psychological Distress, and Dyadic Adjustment. *Journal of Reproductive and Infant Psychology*, 20(2), 101-123.
7. Gaertner, H. (1997). Lekarz, pacjent i empatia. *Sztuka Leczenia*, 3(3).
8. Garg, R., Shen, C., Sambamoorthi, N. et al. (2016). Type of Multimorbidity and Patient-Doctor Communication and Trust among Elderly Medicare Beneficiaries. *International Journal of Family Medicine*, doi: 10.1155/2016/8747891.
9. Gawroń, M. (2001). Empatia i jej znaczenie dla relacji lekarz-pacjent. In: G. Dolińska-Zygmunt (ed.), *Podstawy psychologii zdrowia*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
10. Głos, A. (2015). Dwa modele zaufania w opiece zdrowotnej. *Diametros*, 45, 82-106.
11. Gopichandran, V., and Chetlapalli, S.K. (2013). Factors Influencing Trust in Doctors: a Community Segmentation Strategy for Quality Improvement in Healthcare. *BMJ open*, 3(12), e004115.
12. Gopichandran, V., Wouters, E., and Chetlapalli, S.K. (2015). Development and Validation of a Socioculturally Competent Trust in Physician Scale for a Developing Country Setting. *BMJ open*, 5(4), e007305.
13. Hall, M.A., Dugan, E., Zheng, B., and Mishra, A.K. (2001). Trust in Physicians and Medical Institutions: what is it, can it be measured, and does it matter? *The milbank quarterly*, 79(4), 613-639.
14. Jakubek, E. (2012). *Wpływ standaryzacji świadczeń medycznych na jakość opieki zdrowotnej (a doctoral thesis)*. Poznań: UM im. K. Marcinkowskiego, 27-41.
15. Jankowska, A.K. (2015). Pułapki komunikacji interpersonalnej w relacji lekarz-pacjent. „Medium” *Gazeta Dolnośląskiej Izby Lekarskiej*, 4(297).

16. Kosińska-Kaczyńska, K., Horosz, E., Wielgoś, M., and Szymuślik, I. (2008). Zaburzenia afektywne u położnic w pierwszym tygodniu po porodzie – analiza rozpowszechnienia i czynników ryzyka. *Ginekologia Polska*, 79, 182-185.
17. Kossakowska-Petrycka, K., and Walecka-Matyja, K. (2007). Psychologiczne uwarunkowania występowania depresji poporodowej u kobiet w ciąży o przebiegu prawidłowym i ciąży wysokiego ryzyka. *Ginekologia Polska*, 78, 544-548.
18. Krajewska-Kułak, E., Wróblewska, K., Kruszewa, R., Szpakow, A., Kułak, W., Baranowska, A., Jankowiak, B., Krajewska, K., Kondzior, D., Lewko, J., Łukaszuk C., Rolka, H., Klimaszewska, K., Kowalczyk, K., Sierakowska, M., Szyszko-Perłowska, A., van Damme-Ostapowicz, K., Jaszewski, M., Kowalewska, B., Chilińska, J., and Gołębiowska, A. (2008). Ocena zaufania pacjent-lekarz z zastosowaniem skali Anderson i Detric. *Problemy Higieny i Epidemiologii*, 89(3), 414-418.
19. Krajewska-Kułak, E., Chilicka, M., Kułak, W., Adraniotis, J., Chadzopulu, A., and Rozwadowska, E. (2011). Assessment of Physician-Patient Trust in the Obstetrics and Gynecology Departments in Poland and Greece. *Ginekologia Polska*, 82(12).
20. Krot, K., and Rudawska, I. (2013). Koncepcja zaufania w relacji lekarz-pacjent w świetle badań jakościowych. *Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie. Polityki Europejskie, Finanse i Marketing*, 10(59)
21. Kurpas, D., Sapiłak, B.J., and Steciwko, A.F. (2006). Ocena satysfakcji pacjenta dializowanego jako wykładnik jakości opieki długoterminowej świadczonej w praktyce lekarza rodzinnego. *Problemy Lekarskie*, 3, 99-100.
22. Lawthers, A.G. (1999). Pomiar jakości a manager ochrony zdrowia. *Zdrowie i Zarządzanie*, 3, 17-23.
23. Lewandowski, R.A. (2011). Zaufanie w ochronie zdrowia. *Współczesne zarządzanie*, 1, 88-96.
24. Linder-Pelz, S. (1982a). Toward a Theory of Patient Satisfaction. *Social science & medicine*, 16(5), 577-582.
25. Linder-Pelz, S. (1982b). Social Psychological Determinants of Patient Satisfaction: a Test of Five Hypotheses. *Social Science & Medicine*, 16(5), 583-589.
26. LoCurto, J., and Berg, G.M. (2016). Trust in Healthcare Settings: Scale Development, Methods, and Preliminary Determinants. *SAGE Open Medicine*, 4, doi: 2050312116664224.
27. Mechanic, D., and Meyer, S. (2000). Concepts of Trust Among Patients with Serious Illness. *Social science & medicine*, 51(5), 657-668.
28. Moczydłowska, A., Krajewska-Kułak, E., Kózka, M., and Bielski, K. (2014). Oczekiwania chorych wobec personelu lekarskiego. *Hygeia Public Health*, 49(1), 142-15.
29. Mulder, E.J., Robles de Medina, P.G., Huizink, A.C, Van den Barg, B.R.H., Builtelaar, J.K., and Visser, G.H.A. (2002). Prenatal Maternal Stress: Effects on Pregnancy and the (Unborn) Child. *Early Human Development*, 70, 3-14.

30. Nadziakiewicz, M. (2018). Marketing a jakość usług medycznych na przykładzie placówki regionu Górnego Śląska. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*, 129, 313-324.
31. Opolski, K., Dykowska, G., & Możdzonek, M. (2012). *Zarządzanie przez jakość w usługach zdrowotnych*. CeDeWu.pl Wydawnictwa Fachowe.
32. OSAI (2017). *Lekarze w badaniach opinii społecznej 2017. Raport*. Retrieved from: [https://www.nil.org.pl/\\_data/assets/pdf\\_file/0007/125566/Raport-Lekarze-w-badaniach-opinii-spoecznej-w-2017-roku.pdf](https://www.nil.org.pl/_data/assets/pdf_file/0007/125566/Raport-Lekarze-w-badaniach-opinii-spoecznej-w-2017-roku.pdf), 26.07.2019.
33. Pawlikowska-Łagód, K., and Sak, J. (2017). Trust in the Doctor-Patient Relationship in the Light of the Latest Research. *Nursing in the 21st Century*, 16(1), 62-64.
34. Pearson, S.D., and Raeke, L.H. (2000). Patients' Trust in Physicians: Many Theories, Few Measures, and Little Data. *Journal of general internal medicine*, 15(7), 509-513.
35. Peters, R.M., Benkert, R., Templin, T.N., and Cassidy-Bushrow, A.E. (2014). Measuring African American Women's Trust in Provider During Pregnancy. *Research in nursing & health*, 37(2), 144-154.
36. Plentara, R., Knyszyńska, A., Bażydło, M., Zabielska, P., Klim, A., Kotwas, A., Rotter, I., Kamola, J., and Karakiewicz, B. (2015). Satysfakcja pacjentów podstawowej opieki zdrowotnej z opieki medycznej i psychospołecznej. *Pomeranian Journal of Life Sciences*, 61(3), 335-340.
37. Rosak-Szyrocka, J. (2016). Zarządzanie relacjami pacjent-personel medyczny szpitala w zakresie jakości usług medycznych. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie*, 87, 357-367.
38. Rybarczyk, A., Marczak, M. (2011). Quality Assessment of Health Care Services in Patients' and Medical Staff's Opinion. *Zdrowie Publiczne*, 121(2), 111-116.
39. Steć, A., Wołyniak, M., Wdowiak, L. (2007). Satysfakcja pacjentów z usług świadczonych przez wybrane niepubliczne zakłady opieki zdrowotnej. *Problemy Higieny i Epidemiologii*, 88(3), 272-276.
40. Thom, D.H., Wong, S.T., Guzman, D., Wu, A., Penko, J., Miaskowski, C., and Kushel, M. (2011). Physician Trust in the Patient: Development and Validation of a New Measure. *The Annals of Family Medicine*, 9(2), 148-154.
41. WHO Working Group. Quality Ace In Heath Care (1989). 79-95.