



# Awareness of prenatal anxiety disorders among Obstetricians and General Practitioners in Poland – A cross-sectional study

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## Abstract

**Introduction.** Mental health disorders are more prevalent in pregnancy than in the general population. Anxiety disorders in pregnancy, particularly Pregnancy-Related Anxiety (PrA) have multiple negative consequences for the mother and her child. Pregnant patients have multiple visits with their Obstetric-Gynaecologist or General Practitioner, who can start the necessary treatment or refer them to a psychiatrist.

**Objective.** The aim of the study is to evaluate the knowledge of General Practitioners and Obstetrician-Gynaecologists about mental health disorders in pregnancy, and to suggest areas of improvement in clinical practice.

**Materials and method.** General Practitioners and Obstetricians-Gynaecologists in Poland were asked to complete an online survey consisting of a socio-demographic questionnaire. The questionnaire regarded mental health disorders in pregnancy, and questions regarding anxiety disorders in pregnancy. The results were analysed separately using Pearson correlation calculations for General Practitioners and Obstetrician-Gynaecologists.

**Results.** One hundred-one respondents completed an online survey. When asked about the most common disorders in pregnancy, psychiatric conditions were only 5% and 2% of the listed conditions listed by Obstetrician-Gynaecologists and General Practitioners, respectively. 50% of Obstetrician-Gynaecologists and 25% of General Practitioners claimed they were unaware of such conditions as PrA.

**Conclusions.** The awareness of mental health disorders, especially Pregnancy-Related Anxiety, among General Practitioners and Obstetricians-Gynaecologists, is inadequate. Improvement in knowledge about antenatal psychiatric conditions is crucial for the well-being of pregnant women and their children.

## Key words

mental health in pregnancy, prenatal anxiety, Pregnancy-Related Anxiety, obstetrics, general practice

## INTRODUCTION

Anxiety disorders are believed to be more widespread among pregnant women than more frequently in the general population [1]. Moreover, in pregnancy, anxiety symptoms are more prevalent than depressive symptoms [2]. Research shows that even 70% of women may suffer from some anxiety symptoms during pregnancy [3]. Most studies indicate the prevalence of clinically significant anxiety disorders in pregnancy as around 30% [4–6]. These numbers are even higher when screening with proper tools, devised particularly for use in pregnancy to test for Pregnancy-Related Anxiety (PrA) [7, 8]. Pregnancy-Related Anxiety is thus a distinctive disorder, with symptoms specific to the period of pregnancy, needing measurements sensitive to its features [9–11].

Research has proven that anxiety disorders in pregnancy, particularly Pregnancy-Related Anxiety, have multiple negative consequences for both the mother and the foetus. As for pregnant women, antenatal anxiety may result in the development of medical conditions, such as, e.g., hypertension and preeclampsia [12, 13], disturbances in mental and social functioning [14–17] and poor maternal-foetal attachment

[18–20]. Furthermore, children of anxious mothers tend to have a lower birth weight [21, 22], preterm birth [23, 24], higher risk of being diagnosed with behavioural disorders and affective disorders [25–27]. There is a strong correlation between antenatal anxiety and brain development alterations in children, which can be visualised with brain imaging or EEG [28–30].

Given the great frequency and multiple consequences of Pregnancy-Related Anxiety, the early diagnosis and treatment of this disorder are crucial for maintaining the good health of the pregnant woman and her child.

During pregnancy, patients attend appointments with medical practitioners several times. Most pregnant women will be reviewed by their General Practitioners (GPs) and Gynecologists-Obstetricians (Ob-Gyns), with no need to see other specialists. In Poland, the doctors, not the midwives or nurses, supervise prenatal care; hence, the burden of diagnosing common psychiatric conditions in the pregnant population lies on these doctors. Ververs et al. point out that GPs might not have broad experience in this field compared to psychiatrists. However, they are the ones who often decide on the initial treatment of mental health disturbances in pregnancy [31]. It is crucial that they have basic knowledge about antenatal anxiety, as otherwise, they may overlook the symptoms and not provide their pregnant patients with appropriate help.

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Several research papers provide knowledge about anxiety disorders in pregnancy among healthcare providers. Some researchers propose midwives as experts in holistic maternal care, suggesting they should have the greatest expertise in approaching mental health difficulties during pregnancy [32]. The study by Phillips reveals a good level of knowledge about psychiatric disorders in pregnancy among midwives [33]. He shows that even midwifery students can formulate the correct diagnosis and refer patients to specialist services. McGookin et al. indicate the various level of knowledge among student midwives, yet claim that most were at least basically aware of mental conditions in pregnancy [34]. On the contrary, the research by Carroll et al. indicates very deficient knowledge among these healthcare workers [35].

In studies regarding Gynecologists-Obstetricians, most researchers show a deficient level of services concerning mental health. According to Coleman et al., only 20% of respondents screen for antenatal anxiety. The study shows a significant correlation between comprehensive training concerning psychiatric conditions in pregnancy and the right approach for patients suffering from these disorders [36].

General practitioners' knowledge about common antenatal psychiatric disorders seems to be low. A study conducted by Ververs et al. shows significant differences in managing psychiatric disorders. Extreme answers, such as advising on the termination of a pregnancy or never using psychopharmacology, indicate the respondents lack basic knowledge of the subject [31]. This may result in pregnant patients receiving poor help and their confusion from receiving contradictory recommendations from several healthcare providers, leading to poor adherence and lack of trust towards the doctors.

## OBJECTIVE

This study aims to:

- 1) assess the level of awareness of Gynaecologists-Obstetricians and General Practitioners in Poland about mental health issues and anxiety disorders in pregnancy;
- 2) compare the level of awareness about prenatal anxiety among Gynaecologists-Obstetricians with the level of understanding about prenatal anxiety among General Practitioners;
- 3) propose the direction of changes in approaching mental health issues in pregnant patients.

## MATERIALS AND METHOD

**Group sample.** The study included Gynaecologists-Obstetricians and General Practitioners in Poland. The respondents were asked to complete an online survey. The survey link was posted in several social media groups dedicated to medical practitioners. Doctors participating in the study were asked for consent to the study. They were instructed to complete all questions. The inclusion criteria were to understand the Polish language, have active registration within the Polish Medical Council, and employed in Poland as either a Gynaecologist-Obstetrician or a General Practitioner.

**Instruments.** The online survey consisted of three parts:

- 1) A socio-demographic part which included questions about age, place of residence (divided into five groups: a village, a town under 20.000 inhabitants, a town with 20.000 – 100.000 inhabitants, a town with 100.000 – 300.000 inhabitants and a city over 300.000 inhabitants), specialisation (Gynaecologist-Obstetrician or General Practitioner). The respondent were also asked if had already finished specialist training, if so, how many years they have been employed within their current specialisation.
- 2) The respondents answered general questions regarding psychiatric disorders in pregnancy. At first, they were asked an open question, 'Please name the five most common disorders comorbid with pregnancy, in the order of their frequency'. The respondents were then asked how prevalent, in their opinion, psychiatric disorders are in pregnancy (with answers divided into five ranges: >75% of patients, 50–75%, 25–50%, 10–25% and <10%). Next, participants were asked to name the three most common psychiatric disorders in pregnancy. Subsequently, they were asked about a screening tool that might be used regarding psychiatric conditions in pregnancy – first, 'Do you know and use any screening tools for psychiatric conditions in pregnancy?' There were four possible answers: I know, and I use them; I know them, but I do not use them; I don't know them, but I'd use them if I knew; I do not know them, and I wouldn't use them. Finally, the respondents were asked to name their clinical practice screening tools (if they know any).
- 3) Concerned anxiety disorders in pregnancy particularly, and asked asked a yes/no question: 'Do you know the term 'Pregnancy-Related Anxiety'?'. The respondents were then asked what, in their opinion, is the prevalence of Pregnancy-Related Anxiety (with answers divided into five ranges: >75% of patients, 50–75%, 25–50%, 10–25% and <10%). Subsequently, the respondents were asked to name the five most common symptoms of Pregnancy-Related Anxiety. Finally, the participants were presented with a list of possible conditions and asked to tick those that might be consequences of Pregnancy-Related Anxiety (e.g. post-partum depression, affective disorders in a child, preterm labour, etc.).

**Statistical analysis.** All calculations were conducted using IBM SPSS. Descriptive statistics were calculated to describe the group sample. Pearson's correlation was calculated for several research questions:

1. Is there a correlation between age and:
  - a. presumed prevalence of psychiatric disorders in pregnancy;
  - b. knowledge about the existence of PrA;
  - c. presumed prevalence of PrA.
2. Is there a correlation between the place of residence and:
  - a. presumed prevalence of psychiatric disorders in pregnancy;
  - b. knowledge about the existence of PrA;
  - c. presumed prevalence of PrA.
3. Is there a correlation between time spent working in the speciality and:
  - a. presumed prevalence of psychiatric disorders in pregnancy;
  - b. knowledge about the existence of PrA;
  - c. presumed prevalence of PrA.

4. Is there a correlation between claiming to know PrA and:
- presumed prevalence of psychiatric disorders in pregnancy;
  - Presumed prevalence of PrA.

Pearson's correlation was used as we operated on non-parametrical data.

## RESULTS

**Group sample.** One hundred-one respondents filled in the online survey. Sixty-two claimed to work as Gynaecologists-Obstetricians (61%), and 39 as General Practitioners (39%). Of the Ob-Gyn doctors, 28 were specialists (45%), and 34 were still undergoing specialist training (55%). The average age of respondents was 36 years (distribution 26 – 63 years old). The average experience in an Ob-Gyn job was 8.5 years. Seven respondents (11%) lived in a village, three respondents (5%) in a town with less than 20,000 inhabitants, five respondents (8%) in a town with 20,000 – 100,000 inhabitants, 13 respondents (21%) in a town with 100,000 – 300,000 inhabitants, and 34 respondents (55%) in a city with over 300,000 inhabitants.

As for GP doctors, 13 (33%) were specialists, and 26 (67%) were still undergoing specialist training. The average age of respondents was 33 years (distribution 26 – 56 years old). The average experience of a GP job was 5.3 years. Eight respondents (21%) lived in a village, two respondents (5%) in a town with less than 20,000 inhabitants, four respondents (10%) in a town with 20,000 – 100,000 inhabitants, three respondents (8%) in a town with 100,000 – 300,000 inhabitants, and 22 respondents (56%) in a city with over 300,000 inhabitants.

**Gynaecologists-Obstetricians.** The most common diseases comorbid with pregnancy named by these doctors is listed in Table 1.

**Table 1.** Most common diseases comorbid with pregnancy, as listed by Gynaecologists-Obstetricians

| Disease                      | Frequency of being listed by Ob-Gyns [%] |
|------------------------------|--|
| Diabetes                     | 87                                       |
| Hypertensive disorder        | 84                                       |
| Hypothyroidism               | 68                                       |
| Anaemia                      | 35                                       |
| UTIs                         | 29                                       |
| Genital infections           | 26                                       |
| Cholestasis                  | 23                                       |
| Depression                   | 15                                       |
| Obesity                      | 11                                       |
| Nephrological diseases       | 10                                       |
| Anxiety disorders            | 8  |
| Chronic venous insufficiency | 8  |
| Gastrointestinal disorders   | 8  |
| Arrhythmias                  | 6  |
| Hyperemesis gravidarum       | 6  |
| Lumbalgia                    | 6  |
| Preterm birth                | 6  |
| Sleep disorders              | 2  |

Physical conditions were listed 285 times (95%), and psychiatric disorders 15 times (5%). Fifteen respondents listed any psychiatric illness (24%).

When asked what the prevalence of psychiatric disorders is in pregnancy, one respondent (2%) chose the answer '>75%', three respondents (5%) chose the answer '50–75%', nine respondents (15%) chose answer '25–50%', 34 respondents (55%) chose answer '10–25%', and 15 respondents (24%) chose the answer '<10%'. The most common psychiatric disorders comorbid with pregnancy named by these doctors is listed in Table 2.

**Table 2.** Most common psychiatric disorders comorbid with pregnancy, as listed by Gynaecologists-Obstetricians

| Psychiatric disorder   | Frequency of being listed by Ob-Gyns [%] |
|------------------------|--|
| Depression             | 97                                       |
| Anxiety disorders      | 74                                       |
| BPAD                   | 19                                       |
| Schizophrenia          | 19                                       |
| Specific phobias       | 13                                       |
| Insomnia               | 13                                       |
| Psychotic disorders    | 8  |
| Eating disorders       | 5  |
| Adjustment disorders   | 3  |
| Dissociative disorders | 2  |
| Learning disabilities  | 2  |
| Manic episode          | 2  |
| OCD                    | 2  |
| Tokophobia             | 2  |

When asked about the knowledge and routine use of screening tools for psychiatric disorders in pregnancy, 46 respondents (74%) answered, 'I know and use at least one screening tool', and five respondents (8%) replied, 'I know at least one screening tool, but I do not use it', nine respondents (15%) answered 'I do not know any screening tools, but If I did, I would use them, and two respondents (3%) answered 'I do not know any screening tools and I wouldn't use them even if I did. Beck's Depression Inventory and Edinburgh Postnatal Depression Scale were the most commonly listed screening tools. None of the respondents named any screening tool for anxiety disorders.

Thirty-one respondents (50%) claimed to know the concept of Pregnancy-Related Anxiety, and 31 (50%) denied knowing this disorder.

For the question 'What is the prevalence of PrA?', two respondents (3%) answered '>75%', six respondents (10%) answered '50–75%', 14 respondents (23%) answered '25–50%', 25 respondents (40%) answered '10–25%', and 15 respondents (24%) answered '<10%'. Table 3 shows what the respondents listed as the most common symptoms of PrA.

Respondents were presented with a list of possible complications of PrA and asked in which of those could PrA result. Table 4 shows the respondents' answers in the Ob-Gyn doctors' group.

**General Practitioners.** The list of the most common diseases comorbid with pregnancy named by these doctors is listed in Table 6.

**Table 3.** Most common symptoms of PrA, as listed by Gynaecologists-Obstetricians.

| Symptom of PrA                             | Frequency of being listed by Ob-Gyns [%] |
|--|--|
| Sleep disturbance                          | 37                                       |
| Low mood                                   | 27                                       |
| Being scared of giving birth               | 26                                       |
| Feeling worried                            | 21                                       |
| Tachycardia                                | 16                                       |
| Nausea/vomiting                            | 15                                       |
| Worrying about a child's health            | 11                                       |
| Tearfulness                                | 10                                       |
| Abdominal pain                             | 8  |
| Headaches/vertigo                          | 8  |
| Aggravation/agitation                      | 8  |
| Hypochondriacal disorder                   | 6  |
| Heart pounding                             | 6  |
| Being scared of miscarriage/<br>stillbirth | 6  |
| Hypertensive disorder                      | 6  |
| Somatisation disorder                      | 6  |
| Social isolation                           | 6  |
| Decreased/increased appetite               | 6  |

**Table 4.** List of possible complications of PrA with the percentage of Gynaecologists-Obstetrician who identified the condition as a potential complication of PrA

| Conditions                                       | Percentage of Gynaecologists-Obstetrician, who identified the condition as a possible complication of PrA |
|--|---|
| Pos-partum depression                            | 87  |
| Prenatal depression                              | 84  |
| Distress   | 84  |
| Disturbed maternal relationship with a child     | 77  |
| Caesarian section                                | 74  |
| Decreased tendency to breastfeed                 | 74  |
| Anxiety disorder later in life                   | 73  |
| Disturbed maternal-foetal bonding                | 69  |
| Nausea   | 53  |
| Excessive weight gain                            | 53  |
| Pre-term birth                                   | 50  |
| Perinatal complications                          | 47  |
| Disorders in social communication                | 44  |
| Hypertensive disorder                            | 42  |
| Affective disorders                              | 31  |
| Other psychiatric disorders not listed elsewhere | 29  |
| Low birth weight                                 | 24  |
| EEG abnormalities                                | 18  |
| Low APGAR score                                  | 16  |
| Abnormal brain structure in image diagnostics    | 15  |
| Gastrointestinal disorders                       | 13  |
| Immunological diseases                           | 13  |
| Cardiovascular disorders                         | 10  |

**Table 5.** Correlations between age, place of residence, time spent employed in the specialty, and knowledge of anxiety disorders in pregnancy

|   |                     | Age   | Place of residence | How long employed in the speciality? | Knows PrA? |
|---|---------------------|-------|--------------------|--------------------------------------|------------|
| Presumed prevalence of psychiatric disorders in pregnancy | Pearson Correlation | -.059 | -.141              | -.140                                | .133       |
|   | Sig. (2-tailed)     | .646  | .274               | .276                                 | .304       |
|   | N                   | 62    | 62                 | 62                                   | 62         |
| Knows PrA?  | Pearson Correlation | .068  | .143               | .042                                 |            |
|   | Sig. (2-tailed)     | .600  | .268               | .745                                 |            |
|   | N                   | 62    | 62                 | 62                                   |            |
| Presumed prevalence of PrA                                | Pearson Correlation | -.061 | -.064              | -.070                                | -.047      |
|   | Sig. (2-tailed)     | .640  | .622               | .589                                 | .718       |
|   | N                   | 62    | 62                 | 62                                   | 62         |

No significant correlations were noted.

**Table 6.** Most common diseases comorbid with pregnancy listed by General Practitioners

| Disease                         | Frequency of being listed by GPs [%] |
|---------------------------------|--------------------------------------|
| Hypertensive disorder           | 81                                   |
| Diabetes                        | 77                                   |
| Hypothyroidism                  | 61                                   |
| UTIs                            | 51                                   |
| Anaemia                         | 36                                   |
| Respiratory infections          | 33                                   |
| Lumbago                         | 23                                   |
| Chronic venous insufficiency    | 21                                   |
| Obesity                         | 15                                   |
| Gastroesophageal reflux disease | 13                                   |
| Cholestasis                     | 10                                   |
| Hyperemesis gravidarum          | 10                                   |
| Skin lesions                    | 10                                   |
| Oedemas                         | 8                                    |
| Anxiety disorders               | 5                                    |
| Cervical incompetence           | 5                                    |
| Depression                      | 5                                    |

**Table 7.** Most common psychiatric disorders comorbid with pregnancy, as listed by General Practitioners

| Psychiatric disorder  | Frequency of being listed by GPs [%] |
|-----------------------|--------------------------------------|
| Depression            | 97                                   |
| Anxiety disorders     | 77                                   |
| Insomnia              | 36                                   |
| Psychotic disorders   | 10                                   |
| OCD                   | 5                                    |
| Personality disorders | 5                                    |
| BPAD                  | 3                                    |
| Eating disorders      | 3                                    |
| Schizophrenia         | 3                                    |
| Specific phobias      | 3                                    |

Physical conditions were listed 180 times (98%), psychiatric disorders four times (2%), and four respondents listed any psychiatric illness (10%).

When asked about the prevalence of psychiatric disorders in pregnancy, no respondents chose the answer '>75%', two respondents (5%) chose the answer '50–75%', 11 respondents (28%) chose the answer '25–50%', 15 respondents (38%) chose answer '10–25%', and 11 respondents (28%) chose answer '<10%'.

The list of the most common psychiatric disorders comorbid with pregnancy named by these doctors is listed in Table 7.

When asked about knowledge and routine use of screening tools for psychiatric disorders in pregnancy, four respondents (10%) answered: 'I know and use at least one screening tool', two respondents (5%) replied: 'I know at least one screening tool, but I do not use it', 31 respondents (79%) answered: 'I do not know any screening tools, but if I did, I would use it', and two respondents (5%) answered: 'I do not know any screening tools, and I wouldn't use them even if I did'. Beck's Depression Inventory and Edinburgh Postnatal Depression Scale were the most commonly listed screening tools. None of the respondents named any screening tool for anxiety disorders.

Twenty-nine respondents (74%) claimed to know the concept of Pregnancy-Related Anxiety, and 10 (26%) denied knowing about this disorder.

For the question: 'What is the prevalence of PrA?', none of the respondents answered: '>75%', four respondents (10%) answered: '50–75%', 13 respondents (33%) answered: '25–50%', 17 respondents (44%) answered: '10–25%', and five respondents (13%) answered: '<10%'. Table 8 shows what the respondents listed as the most common symptoms of PrA.

**Table 8.** The most common symptoms of PrA listed by General Practitioners

| Symptom of PrA                  | Frequency of being listed by GPs [%] |
|---------------------------------|--------------------------------------|
| Sleep disturbance               | 62                                   |
| Tachycardia                     | 36                                   |
| Decreased/increased appetite    | 15                                   |
| Panic attacks                   | 15                                   |
| Hyperhidrosis                   | 13                                   |
| Low mood                        | 13                                   |
| Nausea/vomiting                 | 13                                   |
| Abdominal pain                  | 10                                   |
| Chest pain                      | 10                                   |
| Feeling worried                 | 10                                   |
| Heart pounding                  | 10                                   |
| Hypertensive disorder           | 10                                   |
| Poor concentration              | 10                                   |
| Tearfulness                     | 10                                   |
| Irritability                    | 8                                    |
| Social isolation                | 8                                    |
| Worrying about a child's health | 8                                    |

Respondents were presented with a list of possible complications of PrA. They were asked in which could PrA result. Table 9 shows the respondents' answers in the GP doctors group.

**Table 9.** List of possible complications of PrA with the percentage of GPs who identified the condition as a potential complication of PrA

| Conditions                                       | Percentage of GPs who identified the condition as a possible complication of PrA |
|--|--|
| Post-partum depression                           | 95   |
| Disturbed maternal relationship with a child     | 90   |
| Distress   | 87   |
| Prenatal depression                              | 82   |
| Disturbed maternal-foetal bonding                | 79   |
| Anxiety disorder later in life                   | 77   |
| Decreased tendency to breastfeed                 | 77   |
| Pre-term birth                                   | 69   |
| Perinatal complications                          | 67   |
| Caesarian section                                | 62   |
| Excessive weight gain                            | 62   |
| Nausea   | 59   |
| Hypertensive disorder                            | 56   |
| Disorders of social communication                | 49   |
| Low birth weight                                 | 38   |
| Other psychiatric disorders not listed elsewhere | 38   |
| Affective disorders                              | 31   |
| Low APGAR score                                  | 31   |
| Gastrointestinal disorders                       | 21   |
| Abnormal brain structure in image diagnostics    | 15   |
| EEG abnormalities                                | 15   |
| Immunological diseases                           | 13   |
| Cardiovascular disorders                         | 10   |

**Table 10.** Correlations between age, place of residence, time employed in a speciality, and knowledge of anxiety disorders in pregnancy

|   |                     | Age     | Place of residence | How long employ in the speciality? | Knows PrA? |
|---|---------------------|---------|--------------------|------------------------------------|------------|
| Presumed prevalence of psychiatric disorders in pregnancy | Pearson Correlation | -.449** | .019               | -.403*                             | .335*      |
|   | Sig. (2-tailed)     | .004    | .911               | .011                               | .037       |
|   | N                   | 39      | 39                 | 39                                 | 39         |
| Knows PrA?  | Pearson Correlation | -.308   | -.052              | -.273                              |            |
|   | Sig. (2-tailed)     | .056    | .754               | .093                               |            |
|   | N                   | 39      | 39                 | 39                                 |            |
| Presumed prevalence of PrA                                | Pearson Correlation | -.509** | .265               | -.474**                            | .063       |
|   | Sig. (2-tailed)     | .001    | .103               | .002                               | .704       |
|   | N                   | 39      | 39                 | 39                                 | 39         |

\* Significant correlation.  $p < 0.05$

\*\* Significant correlation.  $p < 0.01$

**Significant negative and positive correlations.** A significant negative correlation ( $p < 0.01$ ) was observed between the respondents' age and the presumed prevalence of psychiatric disorders in pregnancy. A significant negative correlation ( $p < 0.01$ ) was observed between the respondents' age and the presumed prevalence of PrA. A significant negative correlation ( $p < 0.05$ ) was observed between working time in the respondents' speciality and the presumed prevalence of

psychiatric disorders in pregnancy. A significant negative correlation ( $p < 0.01$ ) was observed between time spent working in the respondents' speciality and the presumed prevalence of PrA.

A significant positive correlation ( $p < 0.05$ ) was observed between the respondent's claimed knowledge of PrA and the presumed prevalence of psychiatric disorders in pregnancy.

## DISCUSSION

This survey is the first to assess knowledge of anxiety disorders in pregnancy and the use of screening tools among General Practitioners and Gynaecology-Obstetricians in Poland. The involved 101 doctors working in these fields – 62 Gyn-Ob doctors and 38 GPs, and involved both specialists and doctors still undergoing specialist training.

The most current research regarding psychiatric disorders in pregnancy shows that 17–23.4% of women suffer from prenatal depression [37]. Data collected during the COVID-19 pandemic indicates an even higher prevalence of prenatal depression – 25.6% (38). Anxiety disorders are believed to be even more common in pregnancy, with a prevalence of 30.5%–70% [3, 38]. According to Abdelhai et al., 60% of pregnant women suffer from simultaneous depression and anxiety [39]. Common mental disorders rank third in the burden of diseases globally, and by 2030 are believed to outrank road accidents and heart disease [40]. Given that most of the respondents believe that the prevalence of psychiatric disorders in pregnancy is below 25%, with an actual prevalence of even 60%, and these conditions being listed as only 5% of all listed conditions, it is believed that psychiatric disorders in pregnancy might be highly under-diagnosed by Gynaecologists-Obstetricians.

Optimistically, almost three-quarters of Gyn-Ob claimed to know and use at least one screening tool for prenatal psychiatric conditions. Unfortunately, General Practitioners rarely claimed to know and use such tools, but the great majority claimed they would use screening tools if they knew about them. None of the respondents were aware of any screening tool specific to ante-natal anxiety disorders. The results obtained in the current study regarding General Practitioners are in agreement with the literature. McCauley et al. have proved that doctors do not screen pregnant patients for psychiatric disorders due to a lack of knowledge and training in this area [41]. Moreover, even though some physicians claim to use the Beck Depression Inventory (BDI), which is a useful tool for screening prenatal depression, the authors of the current study believe it is crucial that patients are screened for anxiety, given its even greater prevalence.

It is not surprising that screening tools for PrA are not widely used since half of Gyn-Obs were unaware that there is such a disorder as Pregnancy-Related Anxiety (PrA). Respondents were asked about the most common symptoms of PrA; optimistically, most of their answers were concordant with actual signs of PrA. Nonetheless, some respondents provided answers that were not in line with the symptomatology of the disorder, such as hyperhidrosis, aggression, vaginal pain or paranoia. Moreover, most of the responses list the physical symptoms of anxiety and lack any focus on the psychological distress specific to the disorder. Knowledge of symptoms characteristic of the disease is a key to diagnosis. Deficient knowledge about the symptomatology

of PrA is a significant obstacle to a correct diagnosis and efficient treatment.

All participants in the study were also presented with a list of consequences and asked to mark those that may result from untreated pre-natal anxiety. All listed items were proven to be associated with PrA. Post-partum depression [42], prenatal depression [43], disturbed maternal relationship with the child [44], disturbed maternal-foetal bonding distress [19], anxiety disorder later in life [45], and decreased tendency to breastfeed [17] were correctly identified by more than 75% of GPs. Similarly, more than 70% of Ob-Gyns identified only post-partum depression, prenatal depression, distress, disturbed maternal relationship with the child, Caesarean section, decreased tendency to breastfeed, and anxiety disorders later in life. The respondents did not believe the other consequences associated with PrA to be related to prenatal anxiety.

The current study indicates that for Ob-Gyns, age, place of residence, and time employed in the speciality of the respondents, are not related to the prevalence of prenatal psychiatric disorders presumed by them, including PrA or awareness of such illnesses as PrA. Contrarily, older GPs assumed a lower prevalence of psychiatric disorders in pregnancy, including PrA. Also, doctors who had been employed longer in general medicine presumed a lower prevalence of psychiatric disorders and PrA. These results indicate that older GPs who had been employed longer in their speciality may underestimate the prevalence of prenatal psychiatric diseases, including PrA. This may mean that even though there is a growing knowledge and understanding of the burden of such conditions among students and young doctors, the older doctors might not be up-to-date with the most current literature as PrA is a relatively recently described disorder [11].

The results of this study are in line with the literature. As for the Ob-Gyn., research shows they do not feel competent with pre-natal psychiatric disorders, claiming that they lack the appropriate training. Younger doctors also felt better equipped with knowledge than their older colleagues [46]. Similarly, GPs may lack adequate knowledge about pre-natal psychiatric conditions – one study showed that they were reluctant to treat pregnant women with depression, may not refer them to specialist services, and are unaware of the risks and consequences of such disorders [47]. Other studies also point to inadequate knowledge which results in the poor management of pregnant women with mental health issues [48, 49]. Awareness of anxiety disorders seems to be even lower than depression [50]. Only one study claims that GPs demonstrate a good understanding and knowledge in this field [51]. It is very disturbing that research shows that inappropriate and stigmatising approaches toward mental health issues may start as early as during the educational programme [52].

Considering the inadequate knowledge about psychiatric disorders in pregnancy, it would not be surprising that pregnant women with no severe mental health issues do not receive any psychiatric care [32]. There is a rationale for a holistic model of care with the great prevalence and severe consequences of prenatal anxiety [53] – there are no formal ante-natal screening protocols [54] and the mental health of pregnant women seems to be largely ignored [55].

Despite frequent contact with healthcare services, women tend not to seek help for psychiatric issues [56]. The unhelpful, stigmatising beliefs of medical staff can hinder seeking for help [49]. Therefore, it is vital that doctors understand

mental health issues and do not stigmatise patients with such problems. The responsibility of healthcare providers is to be aware of possible symptoms and provide patients with psychiatric disorders equal care.

The current study shows that the awareness of psychiatric disorders in pregnancy, especially prenatal anxiety, is inadequate, and the lack of appropriate training is of significant importance [41, 48]. Although PrA is a common condition with many severe consequences, it is underdiagnosed. Pregnant women with mental health issues may not be linked with a specialist psychiatric service, and therefore it is crucial for GPs and Ob-Gyns to be able to diagnose and treat this condition.

It was found in the current study that none of the doctors who participated knew any screening tools for anxiety disorders during pregnancy. The authors therefore believe that screening tools should be used for every pregnant woman, preferably at least twice during pregnancy (e.g. in the first and third trimester). In the opinion of the authors, PRAQ-R2 would be a quick and reliable screening tool for use in clinical practice [57], and they are currently working on a Polish adaptation of the questionnaire. Mandatory training should also be organised for all doctors working in GP and in the Ob-Gyn speciality, and cover the management of mental health issues in pregnancy. Such training should be a part of specialist training and mandatory for all GP and Ob-Gyn doctors who have already worked as specialists.

## CONCLUSIONS

This study indicates that awareness of the mental health disorders, especially of Pregnancy-Related Anxiety, among General Practitioners and Obstetricians-Gynaecologists is inadequate. Doctors in these specialities are the ones who most frequently review pregnant women, and should therefore be responsible for diagnosing and recommending first-line treatment of psychiatric disorders during pregnancy. Despite its great prevalence and severe consequences, there are no screening tools for prenatal anxiety. The authors believe that mandatory training covering mental health issues management should be a part of specialist training and training programmes for doctors who are already specialists in the field. Screening tools for anxiety, such as the PRAQ-R2 questionnaire, should be routinely used for each pregnant patient.

**Limitations of the study.** The doctors who completed the survey might differ from the population of General Practitioners and Obstetricians-Gynaecologist who did not participate. Nonetheless, it was believed that the participants would have more interest in mental health issues overall than the non-participants, since they contributed their time to complete the survey. Furthermore, the study included only doctors practising in Poland, hence the results might not be generally applicable to doctors working in other countries.

## DECLARATIONS

**Ethics approval and consent to participate.** The study was approved by the Ethical Committee of Wroclaw Medical University (Approval No.: KB – 621/2020). All participants gave their informed consent to participate.

**Availability of data and materials.** The dataset supporting the conclusions of this article is included within the additional file.

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