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Health anxiety and oppressive support: their impact on decisions for non-urgent use of the emergency department of obstetrics and gynecology

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Abstract
The high number of non-urgent visits to the emergency departments of obstetrics and gynecology (EDOG) is receiving increasing attention from researchers and public health professionals. The decision to access the EDOG is the result of a decision-making process based on three phases, from the problem recognition to the intention to seek medical care, and the decision to visit the EDOG. Each stage may depend on different psychological and social factors, but their specific role is still unclear. The aim of this study was to investigate the psychological and social factors which are implied in the decision-making process leading to non-urgent visits to the emergency department. A questionnaire was administered to 280 women between the 10th and the 14th week of pregnancy. Results showed that health anxiety had a positive effect on all three stages of the decision-making process (problem recognition, seeking medical care, and visiting the emergency department). Satisfaction with the prenatal care service showed a positive effect on the first two stages, while oppressive support had a positive effect on visiting the emergency department. We suggest that educational interventions for patients and family members aimed at reducing health anxiety and oppressive support during pregnancy could reduce the number of inappropriate accesses to the emergency department, with a beneficial effect on its functioning, patient-and-caregiver relationship, and the healthcare system costs.

Keywords Health anxiety · Oppressive support · Social support · Pregnancy · Emergency department

Introduction

In most high-income countries, the increasing care demands for hospital emergency departments aroused attention over years, with a large amount of research focusing on the role played by non-urgent visits (Berchet, 2015; Bianco et al, 2003; Mautner et al., 2017). As a definition, non-urgent visits are conditions for which a delay of several hours would not increase the likelihood of adverse and severe health outcomes (Barbadoro et al., 2015; Uscher-Pines et al., 2013a, b). In the attempt to explain this phenomenon, researchers focused not only on trends in emergency department use (Pines et al., 2013), but also on the visitors' characteristics, non-urgent visits consequences and possible solutions (Hoot & Aronsky, 2008; Bahadori et al., 2020).

Literature evidenced some typical characteristics of non-urgent visits: younger age of attendees, referral to an urgent visit by a physician, lack of knowledge beliefs of available alternatives, and/or individuals' perception of convenience and reliability in comparison to other healthcare settings (e.g., physician's office or a retail clinic) (Al-Otmy et al., 2020; Saban & Shachar, 2020). Accordingly, a well-established model by Andersen (2008) evidenced some relevant patient characteristics, such as the individual propensity to health service use (predisposing factor), community resources (enabling factor),

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and the need for care (need factor). Moreover, patients who seek care in an emergency department generally perceive acute and severe symptoms (e.g., a flare-up of a chronic condition or clear emergency symptoms, such as signs of stroke) or the inadequacy of prior health interventions (Idil et al., 2018; McIntyre et al., 2022; Raivio et al., 2014).

It is paramount to note that non-urgent visits to emergency departments generally lead to negative outcomes, such as overcrowding associated with long waiting times and less efficient healthcare professionals. As a consequence, literature reported low quality of healthcare outcomes, which damaged the overall individuals' satisfaction for the healthcare system and increase patients' distress (Di Somma et al., 2015; Flores-Mateo et al., 2012; McHale et al., 2013; Pines et al., 2011). Furthermore, excessive healthcare costs because of unnecessary testing and treatment are observed (Uscher-Pines et al., 2013a, b).

This way, there is widespread interest in interventions to discourage non-urgent visits, adopting different approaches (Jiang et al., 2020; Legoete, 2015; Matifary et al., 2021). In this regard, in their interview study with emergency medicine professionals, Bahadori et al. (2020) identified four main strategies: 1) regulatory plans (giving authority to the triage nurses and EMSs, creating the culture of accountability among physicians, effective M&E of healthcare centers, and setting rules and regulations to prevent NU visits), 2) awareness-raising plans (increasing the awareness of public, patients and physicians as well), 3) reforms in payment mechanisms (removal of financial incentives for admitting NU patients, developing an appropriate payment system, and hiking the fees for NU cases), and 4) organizational arrangements (setting up 24-h and mobile clinics, improving the quality of care in other military hospitals, strengthening paraclinical departments to perform all diagnostic procedures, and strengthening the referral system).

While much of the above reported evidence refers to the general emergency department, in the next paragraph we will focus our attention on similarities and specificities of non-urgent access of pregnant women to the emergency department of obstetrics and gynecology (EDOG).

Non-urgent visits to the emergency department of obstetrics and gynecology

Many recent studies showed that many of the concerns and reflections about the non-urgent visits to the emergency department are largely applicable also for the non-urgent access of pregnant women to the emergency department of obstetrics and gynecology (EDOG) (Aksoy et al., 2015; Ferriols Pérez et al., 2018; Kilfoyle et al., 2017; Matteson et al., 2008). In this regard, to some estimates, the percentage of inadequate and moderately adequate visits to the EDOG is more than 60% (Ferriols Pérez et al., 2018; Figueiroa et al, 2017). One of the possible explanations is that provided by from the study by Aksoy et al. (2015), showing that pregnant women decide to visit the emergency department to receive care in a setting in which it is possible to do laboratory and other gynecological tests since their beliefs that emergency room services can solve complex health problems (i.e., more complex than in other settings).

The present paper focuses on the investigation on the processes leading to the decision of pregnant women for non-urgent visits to the EDOG. Indeed, rather than putting on the stage the attendees' characteristics or the consequences non-urgent visits (e.g., Barker et al., 2021; Varner et al., 2020), our work extends the previous literature considering the factors behind the pregnant women's motivation. Indeed, we strongly believe that focusing on modifiable (psychosocial) factors influencing the decision to visit the EDOG for non-urgent reasons, could inform interventions aimed at contrasting inappropriate accesses, thus reducing the health spending in this specific health sector (Schramm et al., 2020).

A three-stage decision-making model to visit the emergency department

Accessing the EDOG is the result of a complex decision-making process (Riva et al., 2015). Adapting a previous model developed by Goldsmith et al. (1988) to predict help-seeking behavior, a literature review by Padgett and Brodsky (1992) proposed a three-stage model explaining the decision to visit the emergency department. In this decision-making process, the individual proceeds from *problem recognition* (i.e., recognizing a symptom as worthy of attention) to the *decision to seek medical care* (i.e., contacting a doctor), to the final *decision to visit the emergency department* (rather than alternative ambulatories). One of the advantages of this model is that the decision-making process considers several factors at multiple levels, including sociodemographic, psychological, and social variables. Regarding the non-urgent use of the EDOG, we suggest that at least three psychological and social factors may play an important role in each of the three stages for pregnant women.

First, the individuals' anxiety about their health could affect the problem recognition stage. Anxiety is a multidimensional and complex construct conceptualized as "fundamentally subjective" (Corr, 2011, p. 889). In general, the literature suggests that the attentional system of anxious individuals may be distinctively sensitive to and biased in favor of threat-related stimuli (Bar-Haim et al., 2007). Particularly, authors reported that attentional bias is of comparable magnitude across populations with different characteristics (e.g., people who show different types of clinical disorders or high-anxious non-clinical individuals). With specific regard to pregnancy, some authors have effectively illustrated the rationale for the increased levels of anxiety in pregnant women

who perceive a high level of vulnerability due to intense physical and psychological changes daily (Savron et al., 1989; Kowalyk et al., 2009; Prescott et al., 2018; Rathbone & Prescott, 2019; Sinesi et al., 2019). For instance, concerns about bodily sensations and health-related fears, and worry about maternal negative outcomes arise strongly during pregnancy (Bayrampour et al., 2016; Brunton et al., 2015; Reiser & Wright, 2019). Thus, high health anxiety is associated with the consideration of any symptom as worthy of attention (Salkovskis & Warwick, 1986; Roostaei et al., 2022), making it difficult in defining specific issues during the problem-recognition stage.

Second, the perceived support from the partner, relatives, and friends, plays a role in the decision to seek medical care (Veazie & Denham, 2021). Literature showed that social support may support patients in preventing a medical consultation, both through its association with reduced morbidity and its influence on the individual's perceptions of the need for medical care (Pilisuk et al., 1987; Roberts, 1988; Dunkel-Schetter et al., 1996). Consistently, perceiving positive support during pregnancy predicts women's well-being (Ilska & Przybyła-Basista, 2017) and provides a buffering mechanism between stress and preterm birth (Hetherington et al., 2015). In this sense, the presence of positive social support (e.g., from friends and family) could prevent the intention to seek professional support for minor issues.

However, not all types of social support are perceived as really 'supportive' (Sebri et al., 2021a, b). According to this, several authors sustain the importance of considering the perception of "positive social support" together with other negative influences of social ties (Bertera, 2005). Indeed, the perceived adequacy of social support is conditioned to the satisfaction of the individual's needs (Mazzoni & Cicognani, 2014; Rook, 1984). For example, when the expressions of support are too frequent and *oppressive*, resulting in excessive attention to the patient's health (Mazzoni & Cicognani, 2016), we can suppose they lead to an increase in seeking medical care, rather than the opposite.

Finally, opting for the EDOG for non-urgent problems may depend on whether the individual finds alternative ambulatories less satisfactory. For instance, it is likely that pregnant women access EOG if they are unsatisfied with their non-emergency prenatal care service where they are in care. According to previous research, patient satisfaction may depend on different dimensions, including accessibility (e.g., institute location, costs, waiting time), medical skills (e.g., warmth and healthcare competences), and the equipment quality (e.g., technological instruments and devices) (Frichi et al., 2020; Handler et al., 1996; Novick, 2009). The low patients' satisfaction in these dimensions may be associated with their tendency to opt for the EDOG, even in case of a non-urgent problem.

Aims and hypotheses

The present work aimed at investigating the psychological and social factors which are implied in the three stages of the decision-making process that leads to non-urgent access to the EDOG. When facing a non-urgent problem during pregnancy, we hypothesized that: (Hp1) health anxiety would be positively associated with problem recognition; (Hp2) perceiving social support would strongly affect the seek of medical care, specifically: (Hp2a) the perception of positive social support from relatives and friends would be negatively associated with seeking medical support, (Hp2b) while the presence of oppressive support would be positively linked to seeking medical support; (Hp3) the lack of satisfaction for the prenatal care service would predict the intention to inappropriately access to the EDOG (Fig. 1).

Method

The study followed the international ethical standard and the research protocol was approved by the ethics committee of the University of Eastern Piedmont. Three hundred and fifteen pregnant women, who accessed the Department of Obstetrics of a city in northern Italy for a routine screening test related to Down's, Edwards', and Patau's syndromes, were invited to take part in the study. Such screening tests are usually conducted in the hospital between weeks 10 and 14 of pregnancy (Ministero della Salute, 2015). Twenty-eight refused to participate and seven were excluded because of the high rates of missing values (more than 30% of the questionnaire). Thus, the final sample consisted of 280 patients. After accepting to participate and signing informed consent, a researcher described to participants a text introduction with the general aim of the research, issues of confidentiality, the use of data, and the right to withdraw from the study at any time. Then, participants filled in a paper questionnaire. Reading and completing the consent form and the research questionnaire required about 15 min. The following variables were assessed.

Participants were firstly asked to report their *age* and the *number of previous pregnancies*.

Health anxiety was measured with the four items originally developed by Salkovskis et al. (2002) and adapted by Lagoe and Atkin (2015) for assessing this construct. These items focus both on the increased attention for bodily sensations and the related worries, as follows: (a) "I am always afraid that I have a serious illness", (b) "I usually feel at high risk for developing a serious illness", (c) "If I have a body sensation or change, I must know what it means", and (d) "I am aware of aches/pains in my body all the time". Answers were provided along a 7-point scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Higher scores

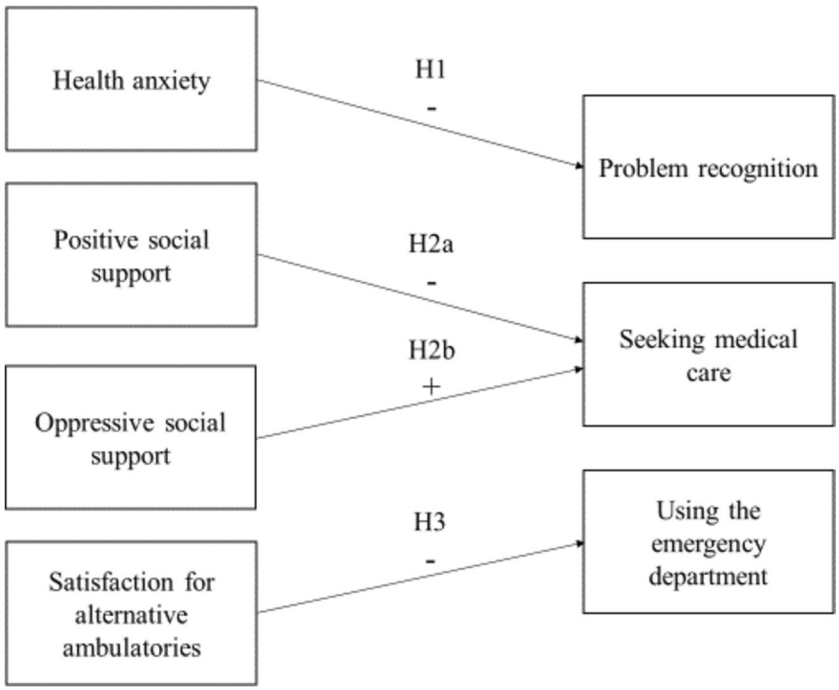

Fig. 1 The hypothesized model

were indicative of increased levels of health anxiety. In the present study, the reliability of the scale was acceptable and a mean index was used in the analyses (Table 1).

Positive social support was measured through the 12 items of the Multidimensional Scale of Perceived Social Support (Zimet et al., 1988; validation: Prezza & Principato, 2002; De Maria et al., 2018), that were specifically designed to assess the subjective perception of social support. Examples of items were "I can count on my friends when things go wrong" and "I can talk about my problems with my family". The respondents were asked to indicate their level of agreement with each item by using a 7-point scale ranging from 1 "strongly disagree" to 7 "strongly agree". Higher scores were indicative of higher positive social support. This questionnaire has been validated in the Italian language (De Maria et al., 2018; Prezza & Principato, 2002). In this study, the reliability of the scale was acceptable and a mean index was used in the analyses (Table 1).

Oppressive support was assessed with the 4 items of the Oppressive Support sub-scale by Mazzoni and Cicognani (2016; Mazzoni et al., 2017), which describe social support offers that are perceived as excessive and oppressive. An example item is "Your relatives are too present and overprotective of you". Possible answers range from 1 ("strongly disagree") to 7 ("strongly agree"). Higher scores were indicative of higher oppressive social support. In this study, the reliability of the scale was acceptable, and a mean index was used in the analyses (Table 1).

Patients' satisfaction with alternative ambulatories was assessed by asking participants to evaluate satisfaction with the doctor/gynecologist/obstetrician who is taking care of their pregnancy. The questions explicitly required to refer to

Table 1 Descriptive statistics and correlations between the key-variables

	α	M	SD	Min–Max	1.	2.	3.	4.	5.	6.	7.	8.
1. N previous pregnancies		0.95	1.16	0–6	–							
2. Health anxiety	.74	3.05	1.26	1.00–7.00	.03	–						
3. Positive social support	.95	6.18	1.07	1.83–7.00	−.31***	.04	–					
4. Oppressive social support	.85	3.82	1.66	1.00–7.00	−.11	.22***	21***	–				
5. Satisfaction for alternative ambulatories	.92	5.54	1.34	1.00–7.00	−.19**	.07	.27***	−.03	–			
6. Paying attention to the symptom	.90	3.22	1.43	1.00–6.88	.02	.34***	.06	.01	.26***	–		
7. Contacting a doctor	.89	3.74	1.50	1.00–7.00	−.05	.32***	.07	.00	.29***	.69***	–	
8. Visiting the emergency department	.91	2.28	1.31	1.00–7.00	−.06	.26***	.01	.21***	.07	.49***	.57***	–

* $p < .05$; ** $p < .01$; *** $p < .001$

the (private or public) ambulatory where they were in care (not to the EDOG). Respondents were asked to express their satisfaction on a scale from 1 ("not at all)" to 7 ("extremely") on six ad-hoc questions about physical accessibility (i.e., distance from home and transport), economic accessibility (i.e., cost adequacy and payment methods), hours (i.e., opening hours and flexibility in appointments), staff sensitivity (i.e., respect and empathy), staff competence (i.e., the effectiveness of the services and staff's skills), adequacy of resources (i.e., rooms and equipment). Higher scores were indicative of higher satisfaction with the received care. In the present study, the reliability of the scale was acceptable and a mean index was used in the analyses (Table 1).

The three stages of the decision-making to visit the EDOG for non-urgent reasons were measured through 24 ad-hoc items inspired by the three-stages model by Padgett and Brodsky (1992). We identified 8 symptoms that corresponded to minor diseases in the triage protocol of code assignment and should be addressed by other ambulatories or healthcare facilities, different from the emergency department (ACOG, 2016). Visiting the EDOG for one of these symptoms would correspond to a non-urgent use, thus inappropriate. The complete list of these "white code" symptoms is reported in the supplementary materials. More specifically, in the questionnaire, the 8-symptoms list was presented three times. First, respondents were asked to indicate the probability they will consider each of the 8 symptoms as a "problem worthy of attention" (*problem recognition*). Second, they were asked to indicate the probability that they would "contact a doctor" because of each of the 8 symptoms (*seeking medical care*). Finally, the respondents were asked to indicate the probability they would "*visit the emergency department*" because of those symptoms. All the answers were provided along a 7-point scale ranging from 1 to 7. In this study, the reliability of each of the three scales was acceptable and three mean indexes were used in the analyses (Table 1).

Data analysis

First, descriptive statistics were used to describe the characteristics of the sample. Pearson correlations was thus computed to assess interrelations among focal constructs. Lastly, our main hypotheses were tested through multivariate regression analysis. One of the advantages of this technique is that it allows considering multiple outcomes in the same model. Correlations results and the variance inflation factor (VIF) indicators suggest the absence of multicollinearity problems (Shrestha, 2020). Health anxiety, positive and oppressive support, and satisfaction with alternative ambulatory were inserted as independent variables. The three variables (problem recognition, seeking medical care, and visiting the emergency department) corresponding to the stages of decision-making were assessed as dependent outcomes. The number of previous pregnancies was inserted as covariate. As a measure of effect size, we used partial eta squared (partial η^2). Cohen (1988) suggested values that correspond to values of partial η^2 of 0.01, 0.06, and 0.14 (rounded to two decimal places) to indicate small, medium, or large effects. All the analyses were conducted with the IBM SPSS software platform, version 25.

Results

Descriptive statistics and correlations

The mean age of our sample was 31.67 years (SD = 5.49). Referring to correlations of the key-variables (Table 1), we obtained positive and strong associations between health anxiety and oppressive social support, paying attention to symptoms, contacting a doctor, and visiting the emergency department. Moreover, positive social support was positively and strongly linked to oppressive social support and satisfaction for alternative ambulatories variables. Oppressive social support also correlated to visiting the emergency department positively, while satisfaction with alternatives was linked to both paying attention to symptoms and contacting a doctor. Lastly, paying attention to symptoms was positively and strongly linked to contacting a doctor and visiting the emergency department as well as there is an association between paying attention to symptoms and contacting a doctor. The number of previous pregnancies did not significantly correlate with any of the outcome variables.

In order to assess a possible single-source bias in the data, we used Harman's one-factor test (Podsakoff et al., 2003). The results show that the total variance extracted by one factor is 31.89%, that is less than the 50% threshold. Means, standard deviations, reliabilities, and correlations among the key variables are displayed in Table 1.

Regression analyses

Multiple regression analysis was run using health anxiety, positive and oppressive support, and satisfaction with alternative ambulatory as predictor variables and the stages of decision-making as outcome variables. The R^2 values were satisfactory for all the three dependent variables (problem recognition, seeking medical care, visiting EDOG). Respectively: $R^2 = 0.177$ (adjusted $R^2 = 0.162$), $R^2 = 179$ (adjusted $R^2 = 0.164$) and $R^2 = 0.109$ (adjusted $R^2 = 0.092$). Detailed results and coefficient values of the multivariate model are shown in Table 2.

The regression model was significant and all the independent variables significantly contributed to explain the variance of the three stage of decisions in pregnant women,

Table 2 Effects of the psychosocial factors on the willingness to pay attention to the symptoms, to contact a doctor and to visit the emergency service

Dependent variables	Independent variables	β	p	95% C.I	partial η^2
Paying attention to the symptom	Number of previous pregnancies	.08	.279	−.065; .225	.004
	Health anxiety	.38	< .001	.250; .506	.112
	Positive social support	.02	.835	−.144; .178	.000
	Oppressive social support	−.05	.340	−.148; .051	.003
	Satisfaction for alternative ambulatories	.26	< .001	.137; .382	.061
Contacting a doctor	Number of previous pregnancies	−.00	.970	−.156; .150	.000
	Health anxiety	.38	< .001	.250; .520	.106
	Positive social support	−.00	.965	−.173; .166	.000
	Oppressive social support	−.05	.369	−.153; .057	.003
	Satisfaction for alternative ambulatories	.29	< .001	.164; .422	.069
Visiting the emergency department	Number of previous pregnancies	−.04	.545	−.180; .095	.001
	Health anxiety	.24	< .001	.116; .359	.052
	Positive social support	−.08	.278	−.237; .068	.004
	Oppressive social support	.14	.004	.047; .236	.031
	Satisfaction for alternative ambulatories	.08	.159	−.033; .200	.007

except for previous pregnancies and positive support. Additionally, satisfaction for alternative ambulatories did not predict the intention to visit the EDOG. Specifically, health anxiety shows a positive and significant effect on all the three dependent variables, which is particularly large for problem recognition and for seeking medical care. Positive support did not show any significant effect, while oppressive support showed a significant effect on the intention to visit the EDOG. Finally, satisfaction for the alternative obstetric ambulatory showed a positive effect on problem recognition and on seeking medical care, but the effect was non-significant for the intention to visit the EDOG.

Discussion

Through this paper, we aimed to investigate the psychological and social factors associated with the non-urgent use of the EDOG, which represent a novelty topic for the current literature. The study results only partially supported our research hypotheses. Particularly, health anxiety, social support, and satisfaction with the non-urgent prenatal care service play an important role in the decisional process to visit the emergency department. However, the specific effect was often a non-hypothesized one.

First, health anxiety showed a positive and significant effect on all three dependent variables of decision. This result went beyond our hypothesis (Hp1) and supported that anxiety predicts the tendency of focusing attention on any kind of symptoms, even if not associated with several clinical outcomes. Accordingly, the recent literature demonstrated that individuals who show high bodily-self focus have high interoceptive abilities, promoting awareness of inner sensations (Sebri et al., 2021a, b). Thus, perceiving sensations associated with illness could increase emotional issues due to the exacerbation of anxiety and distress (Raimo et al., 2021).

In this sense, pregnant women with high health anxiety would seek medical care visiting the EDOG because they focused on their bodily symptoms consistently. Accordingly, Bottemanne et al. (2022) showed that some amount of attention to physical health has a functional side during pregnancy, making it more difficult to ignore potentially relevant symptoms. Specifically, some authors evidenced that interoceptive signals are fundamental to detect perinatal phenomenology and psychopathology (e.g., maternal perception of fetal movements, maternal-infant bonding, and denial of pregnancy). However, other studies emphasized the negative consequences of a high level of anxiety, in terms of obstetric complications and preterm birth (Johnson & Slade, 2003; Smorti et al., 2019; Staneva et al., 2015). Health anxiety may indeed aliment the decision-making process that leads women to inappropriately use the EDOG.

Second, positive support did not show any significant effect on our dependent variables (Hp2b). Our interpretation is based on the multiple roles that social support may play, in terms of benefits and dysfunctional approaches (Sebri et al., 2021a, b). On one hand, being supported by family and friends may reduce the need for professional support, providing timing assistance to the pregnant woman. For example, the study conducted by Lenferink et al. (2018) demonstrated the role of social support on health outcomes, adherence to treatments, and healthier behaviors. Authors reported that the provision of instrumental (e.g., providing

material resources on the topic of interest) as well as emotional support (e.g., sharing life experiences with significant others and an empathetic relationship) can improve people's abilities to cope with their difficulties optimizing self-management, also in a chronic condition of illness. However, it is also possible that the nature of positive support that pregnant women receive from family and friends is perceived as qualitatively different from the one that is possible to receive in a qualified EDOG, and this could explain the nonsignificant effect. For example, in a study by Ahn et al. (2017), dysfunctional types of social support from family and friends significantly strengthened the depressive symptoms of patients.

Third, we found an interesting effect of oppressive support on women's intention to access the EDOG. This result, which is quite new for the literature in the field, emphasizes the importance of external pressures on pregnant women's behavior. In our clinical practice, pregnant women often report that they decided to visit the emergency department mostly because of other people's preoccupations (e.g., the partner's or the mother's worries). Rather than an internalized motivation for using the EDOG, this process resonates with the concept of compliance, as described in the classical work by Kelman (1958). According to Kelman (1958), compliance occurs when individuals adopt the induced behavior not because they believe in its content but because they expect to gain approval or avoid disapproval by conforming. Indeed, the external pressures, which can be experienced through oppressive support, have an impact on the intention to access EDOG, but not on the woman's problem recognition or intention to seek medical care. We could hypothesize that the others' influence could take place in different ways, more or less direct (e.g., with verbal suggestions or physically accompanying women to EDOG), always supporting the essential role of significant others over health behaviors and decisions (Stacey et al., 2017). Similarly, a study by Neiterman (2013) showed that significant others can influence the social value to the pregnant body. In particular, the author highlighted that social context can be central to understanding how pregnant women are perceived by others, which has a strong impact on women' experience of pregnancy and mothering at all.

Finally, satisfaction with the non-emergency prenatal care service showed a positive effect on problem recognition by paying attention to the symptoms and seeking medical care. This result is consistent with studies in which having a good relationship with doctors, based on a patient's ability to understand the information provided by the physician, as well as the need for mutual care, respect, and trust, increase the probability to seek medical support (Palmer Kelly et al., 2020). However, the effect was non-significant for the intention to visit the EDOG; thus, our hypothesis (Hp3) was not supported. Even if further studies are needed to reach an exhaustive explanation, it is possible that the decisional process that leads to the EDOG does not always imply a deep evaluation of the alternative services. Our hypothesis is that this type of decision probably depends more on other evaluations (e.g., the urgency of the symptoms, habits, and personality traits) rather than on satisfaction with other prenatal care services. Accordingly, we argue that focusing on motivation could be a promising approach to better understand pregnant women's behaviors and their related access to healthcare services.

Conclusions

In conclusion, various psychological and psycho-social factors can influence the decision to access to an EDOG during pregnancy, despite the lack of urgent and severe symptoms. In the present study, health anxiety predicted problem recognition, seeking of medical care, and the access to EDOG positively, whereas oppressive support predicted women's intention to access to EDOG. Additionally, satisfaction for the alternative obstetric ambulatory significantly predicted problem recognition and seeking medical care; however, no significant results were obtained referring to the intention to visit the EDOG. Lastly, positive social support did not show significant effects on the three decision stages.

Some limitations of the present research should be recognized. The first limitation has to do with the cross-sectional nature of the data. Due to the cross-sectional design, it is not possible to draw decisive conclusions in terms of causality. Future research should clarify the relationship between the three stages of the decision-making process through longitudinal studies.

Second, in our study data on the real access to the emergency department were not available, as well as other potential factors that could contribute to better explaining the inappropriate use of the emergency department. For example, sociodemographic factors (e.g., education, occupation, cultural background, etc.) or other past behaviors (e.g., seeking information on the web, previous use of health services) could be considered in future research to test possible interactions and effects on pregnant women's decisions and emotional outcomes. Similarly, in this study we did not assess the outcomes of the previous pregnancies (more or less positive), and this could play a key-role in the explanation of the null effect of the number of previous pregnancies in our model.

Third, the present study does not assess the actual women's behavior but their behavioral intention only (i.e., intention to visit the EDOG). Future research could register the actual behavior during pregnancy (e.g., number of visits to EDOG and related reasons) and testing the role of different predictors of such behavior.

Despite these limits, our study has some important implications for clinical settings. A large number of studies showed that educational interventions have potentially a huge impact on the cisits to the emergency department (Van den Heede and Van de Voorde, 2016). Moreover, pregnant women are the primary beneficiaries of many programs and interventions, in which health anxiety reduction and partners' education to provide more functional (i.e., not oppressive) support could be included (Amadori et al., 2019; Guardino et al., 2014). In this sense, the results of this study may contribute to the development of more efficacious interventions aimed at promoting appropriate access to the EDOG.

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Declarations

Conflict of interest disclosure The authors have no conflict of interest to declare.

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