[Post-print Version]

Depression literacy and awareness of psychopathological symptoms during the perinatal period

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Abstract

Objective: This study aimed to characterize women's depression literacy during the perinatal period, *including their ability to recognize clinically significant symptoms of depression*.

Design: A quantitative, cross-sectional, survey design.

Setting: Internet communities and websites focused on the topics of pregnancy and motherhood.

Participants: A total of 194 women during the perinatal period (32.5% pregnant, 67.5% postnatal) completed the survey, with 34.0% presenting clinically significant psychopathological symptoms. Most women were married/cohabiting (82.0%) and employed (71.8%).

Methods: Women answered self-report questionnaires to assess depression literacy, *symptoms of depression*, emotional competence, and awareness/recognition of psychopathological symptoms.

Results: Women present moderate levels of depression literacy during the perinatal period, with higher literacy levels concerning depression-related characteristics than depression-related treatments. Lower education and lower income were associated with poor depression literacy, while prior history of psychiatric problems or treatments was

associated with higher levels of depression literacy. An indirect effect *through emotional competence* in the relationship between depression literacy and awareness/recognition of symptoms was found: women presenting poor depression literacy tend to present a higher lack of emotional clarity that negatively affects their symptom' awareness and recognition.

Conclusion: Our results support the need to improve women's mental health literacy during the perinatal period. Education on mental health topics in the context of a trusting relationship with health professionals may contribute to promote both women's depression literacy and emotional competence.

Keywords: Depression Literacy, Emotional Competence, Help-seeking Process, Perinatal Period, Symptoms recognition.

Précis

Women presented moderate levels of depression literacy during the perinatal period, which may affect their emotional competence, and consequently their ability to recognize the presence of psychopathological symptoms.

Callouts

- Poor depression literacy has been considered a major barrier for seeking help for mental health problems during the perinatal period.

- Women *presented* moderate levels of depression literacy, and poor depression literacy was associated with lack of emotional clarity which, in *turn, affected* symptom recognition.

- Health professionals should systematically assess women's emotional states, provide them with information about mental health topics, and allow them to disclose their emotional difficulties.

Introduction

Women are nearly twice as likely as men to suffer from depression during their *lifetimes* (Kessler et al., 2005), and the perinatal period seems to be a time of higher risk for the development of this clinical condition. Incidence estimates show that during pregnancy and the first postpartum year, 14.5% and 49% of women, respectively, develop *symptoms of depression* (Gaynes et al., 2005). Perinatal depression is not only associated with poor maternal well-being (Muzik & Borovska, 2010) but also with

impairments in fetal development and neonatal outcomes (Field, Diego, & Hernandez-Reif, 2006) as well as disruptions in the infant's development (Kingston, Tough, & Whitfield, 2012), and in mother-child interactions (Righetti-Veltema, Conne-Perréard, Bousquet, & Manzano, 2002; Tronick & Reck, 2009).

However, few women proactively *seek professional help* for *symptoms of depression* during the perinatal period, although treatment is available (Dennis & Chung-Lee, 2006; Fonseca, Gorayeb, & Canavarro, 2015; O'Mahen & Flynn, 2008). Knowledge barriers, *such as* poor knowledge about *symptoms of depression* and treatment options, have been identified as one of the most important obstacles to seeking *professional* help during the perinatal period (Dennis & Chung-Lee, 2006; Fonseca et al., 2015), suggesting the important role of women's depression literacy in the help-seeking process. Depression literacy may be conceptualized as a specific type of mental health literacy*, defined as* the knowledge and beliefs about mental disorders, Jorm, Korten, Jacomb, Christensen, Rodgers, & Pollitt, 1997*; depression literacy refers* to the individual's ability to recognize depression and make informed decisions about depression treatments (Deen & Bridges, 2011). Several important questions remain unanswered regarding women's depression literacy during the perinatal period, such as a deeper knowledge *about depression-related symptoms and depression-related treatment options,* the role of sociodemographic and clinical correlates, and the mechanisms by which depression literacy may affect women's help-seeking behaviors.

[Insert_Callout_1_about_here]

First, it is important to better characterize women's levels of literacy *concerning* depression-related issues, particularly symptoms and treatment options. *Research findings showed that women reported* poor recognition of signs and symptoms of perinatal depression (Buist et al., 2005; Dennis & Chung-Lee, 2006) and *perceived*

difficulties in distinguishing between the normative distress associated with the transition to parenthood and *symptoms of depression* (Abrams, Dornig, & Curran, 2009; Bilszta, Ericksen, Buist, & Milgrom, 2010; McCarthy & McMahon, 2008). For example, in a study including women with *symptoms of depression* during the postpartum period, Whitton, Warner and Appleby (1996) found that although 97% of women recognized that they felt different from usual, only 25% believed that they may have postpartum depression, and most of them (55%) felt that their symptoms were not severe enough to be considered *symptoms of depression*. Moreover, women reported having scarce knowledge about available services and professionals that may help them deal with mental health difficulties during the perinatal period as well as about the various treatment options and their benefits (Abrams et al., 2009; Bilszta et al., 2010; Nancy Byatt et al., 2012; Henshaw, Sabourin, & Warning, 2013; O'Mahen & Flynn, 2008). To develop mental health literacy programs that are suited to women's needs during this period, a broad understanding of women's literacy levels concerning different depression-related issues is essential.

Second, research focusing on women's depression literacy during the perinatal period has failed to provide clear information about the role of socio-demographic and clinical variables. Whitton et al. (1996) found that primiparous women and women with higher socioeconomic levels were less able to recognize their *symptoms of depression* during the postpartum period, suggesting that these women may present lower levels of depression literacy. *Moreover, findings from studies targeting* the general population suggested that older people (Highet, Gemmill, & Milgrom, 2011; Kingston et al., 2014) and those with lower education (Kingston et al., 2014) presented poor mental health literacy about perinatal depression. The identification of a socio-demographic and clinical profile of women who present poor levels of depression literacy during the

perinatal period may allow the early identification of target populations that will benefit most from mental health literacy programs.

Third, further research is needed to clarify the mechanisms by which depression literacy may affect help-seeking behavior, namely women's awareness or recognition of their *symptoms of depression*, which is the first step in the help-seeking process (Rickwood, Deane, Wilson, & Ciarrochi, 2005). There is some evidence that poor levels of depression literacy during the perinatal period may hinder women's recognition of their symptoms, which may compromise their ability to identify the need for help (Goodman & Tyer-Viola, 2010). Congruently, the promotion of depression literacy has been considered a facilitator of women's recognition of their emotional state during the perinatal period (Buist et al., 2007; Dennis & Chung-Lee, 2006). In fact, *research findings suggested* that women with poor depression literacy may be unable to independently recognize the occurrence of changes in their symptoms and behavior (Guy, Sterling, Walker, & Harrison, 2014; Letourneau et al., 2007). Poor depression literacy may lead women to minimize or normalize their *symptoms of depression* and to attribute their causes to environmental changes, such as fatigue, problems with other family members (Bilszta et al., 2010; Callister, Beckstrand, & Corbett, 2011), or the changes and stress of the transition to parenthood (Abrams et al., 2009).

Moreover, there is some evidence that women with poor levels of depression literacy may have difficulties in dealing proactively with their symptoms and may engage in emotion regulation strategies, *such as alcohol consumption,* that may be maladaptive (Guy et al., 2014). In fact, the regulation and understanding of one's emotions play an important role not only in individual's adaptation, but also can influence how they experience the different emotions, *that is,* if they choose to avoid or being aware of emotions (Gross, 2002), suggesting that women's emotional regulation

strategies may influence their awareness/recognition of an ongoing psychological problem, and consequently compromise further help-seeking steps. Moreover, there is also evidence that individual differences in their emotional regulation abilities may be understood in terms of individuals' emotional competence, *defined as* the ability to identify and describe emotions, to understand emotions, and to manage emotions in an effective and non-defensive manner (Mayer, Caruso, & Salovey, 1999). Individuals with high emotional competence presented more efficient emotional regulation strategies when necessary (Peña-Sarrionandia, Mikolajczak, & Gross, 2015).

Therefore, the *minimal* existing evidence allow us to hypothesize that depression literacy may influence women's emotional competence, observed in their emotional regulation strategies, and that this may be an important mechanism in explaining the relationship between poor depression literacy and women's recognition of their symptoms. However, this topic should be further explored because the existing knowledge is scarce and largely based on qualitative (Bilszta et al., 2010; Dennis & Chung-Lee, 2006; Guy et al., 2014) and descriptive (Buist et al., 2005) data.

Based on *these research* gaps, this study focused on women during the perinatal period with three main goals: a) to characterize and compare women's literacy levels concerning depression-related characteristics and depression-related treatments; b) to examine the sociodemographic and clinical correlates of women's depression literacy; and c) to examine the direct and indirect effects, via emotional competence, of women's depression literacy on their symptom recognition when presenting clinically significant *symptoms of depression*.

Methods

Procedure

This study was part of a cross-sectional Internet survey conducted in Portugal to describe women's help-seeking behaviors for mental health problems during the perinatal period. This study was approved by the Ethics Committee of (Blind for Review).

Eligibility criteria to participate in the study were as follows: 1) being a woman; 2) being 18 years or older; and 3) being currently pregnant or having given birth during the previous 12 months. The participants were a self-selected online sample who replied to advertisements posted on social media websites (e.g., Facebook) and on websites and forums focusing on pregnancy and childbirth, which contained a web link to the Internet survey hosted by http://www.limesurvey.com/. Data collection occurred between November 2014 and March 2015.

After accessing the web link, participants were given information about the study goals, about the participants' and the researchers' roles, and the consent to participate in the study was provided, by answering the question, "*Do you agree to participate in this study?*". The participants were then given access to the self-report questionnaires. The survey software prevented the same user from completing the survey more than once and ensured the anonymity of the participants.

Measures

Sociodemographic and clinical data. The participants were asked for information concerning the sociodemographic variables of age, educational level, marital status, family household income, and place of residence; *and concerning the clinical data, namely* perinatal period [pregnancy vs. postpartum period], parity, history of psychological/psychiatric problems, history of psychological/psychiatric treatments, and length of psychological/psychiatric treatments.

Symptoms of depression. The Portuguese version of the Edinburgh Postnatal Depression Scale (EPDS; Areias, Kumar, Barros, & Figueiredo, 1996; Augusto, Kumar, Calheiros, Matos, & Figueiredo, 1996; Cox, Holden, & Sagovsky, 1987) was used to assess the presence of clinically significant psychopathological symptoms. The EPDS is a 10-item screening scale for *symptoms of* antenatal and postnatal depression, in which women were asked to consider how they *felt* over the previous seven days, and rate their emotions (e.g., sadness, tearfulness) using a four-point Likert scale. In the Portuguese validation studies (Areias et al., 1996; Augusto et al., 1996), a score of 9 or higher *indicated* a possible depressive disorder. In our sample, *the Cronbach's alpha coefficient estimate of internal consistency* was .91.

Depression literacy. The Portuguese version of the Depression Literacy Questionnaire (D-Lit; Griffiths, Christensen, Jorm, Evans, & Groves, 2004) was used to assess knowledge about depression. The D-Lit consists of 22 items *with which to assess* depression-related characteristics (*People with depression often speak in a rambling and disjointed way; Loss of confidence and poor self-esteem may be a symptoms of depression*) and depression-related treatments (*Most people with depression need to be hospitalized; Cognitive-Behavioral Therapy is as effective as antidepressants for mild to moderate depression*). Items can be answered with three possible answers: "*True*", "*False*", and "*Do not Know*". Each correct answer is scored with one point, and the total score ranges from 0 to 22 points. Higher scores indicate higher depression literacy. The Cronbach's alpha coefficient *estimate of internal consistency* in our study was .77.

Emotional competence. Emotional competence was assessed using the Portuguese version of the Difficulties in Emotion Regulation Scale (DERS; Coutinho, Ribeiro, Ferreirinha, & Dias, 2007; Gratz & Roemer, 2004), which is a self-report questionnaire developed to assess clinically significant emotional regulation difficulties.

The DERS consists of 36 items, answered on a 5-point Likert scale (from *1 = Almost Never Applies to Me* to *5 = Almost Always Applies to Me*), organized into six dimensions: nonacceptance of emotional responses (nonacceptance; 6 items), difficulties engaging in goal directed behavior (goals; 5 items), impulse control difficulties (impulse; 6 items), lack of emotional awareness (awareness; 6 items), limited access to emotion regulation strategies (strategies; 8 items), and lack of emotional clarity (clarity; 5 items). Higher scores indicate more difficulties in using adaptive emotional regulation strategies. The Portuguese version of the DERS showed good reliability *(subscales Cronbach's alphas ≥ .75)* and *construct and concurrent* validity (Coutinho et al., 2007). In our study, Cronbach's alpha *coefficient estimates of internal consistency* ranged from .81 (goals) to .93 (nonacceptance).

Awareness/Recognition of psychopathological symptoms. Women's awareness/recognition of their depressive symptoms was assessed with the question: "*Do you think you may be suffering from some psychological problem (e.g., depression, anxiety, stress)?*", which was answered using a dichotomous scale (yes vs. no).

Statistical Analyses

Statistical analyses were performed using the Statistical Package for the Social Sciences (IBM SPSS, version 22.0; IBM SPSS, Armonk, NY). *Descriptive statistics, comparison tests (chi-square tests and non-parametric Wilcoxon test), and correlation tests (Spearman correlations and Pearson correlations) were used for sample characterization purposes and to characterize the study variables.*

To explore the direct and indirect effects of depression literacy on women's awareness of psychopathological symptoms *in the subgroup of women with a positive*

screen for symptoms of depression (EPDS > 9), a mediation model was estimated using the SPSS version of the PROCESS macro (Hayes, 2013). The mediation model (model 4) was estimated using a procedure that relies on nonparametric bootstrapping, which is considered a valid and powerful method to test intervening variable models (mediation models), *and* indicated for small samples and does not require the assumption of normality of the sampling distribution (Hayes, 2009). Given the small sample size ($n = 66$ of women presenting clinically significant psychopathological symptoms) the dimensions of emotional competence were introduced in the model only if they were significantly associated with both depression literacy and awareness of psychopathological symptoms. Bias-corrected and accelerated confidence intervals (BCCI) were created. An indirect effect was significant if zero was not included within the lower and upper CIs. Significance was set at the .05 level, but marginally significant effects ($p < .10$) were also reported.

Results

Participants

A total of 194 women completed the survey. In our sample, the average depressive scores were 7.51 ($SD = 5.71$). When considering the cutoff scores, 66 women (34.0%) presented clinically significant psychopathological symptoms (i.e., EPDS > 9), with 65.15% ($n = 43$) presenting EPDS scores > 12. 59.1% of women ($n = 39$) presenting clinically significant psychopathological symptoms were aware of their psychopathological symptoms. *The sample sociodemographic characteristics are presented on Table 1.*

[Insert Table 1 about here]

Most women were married/cohabiting, were currently employed, had higher education levels, and had a household income of 1000€-2000€. The majority of the women were primiparous, and had given birth in the last 12 months (M = 5.75 months, SD = 4.02 months). Women presenting clinically significant psychopathological symptoms were more frequently single/divorced, unemployed, and reported lower education and income than women without clinically significant psychopathological symptoms. Moreover, women presenting clinically significant psychopathological symptoms more frequently had history of psychiatric/psychological problems.

Depression Literacy: What women Know During the Perinatal Period

The women presented moderate levels of depression literacy during the perinatal period (*median* = 13, *interquartile range* = 10-15). Only two women (1%) correctly answered all the questions about depression, and one woman (0.5%) failed all the questions. Globally, women reported higher literacy levels concerning depression-related characteristics (*median* = 9, *interquartile range* = 7-10) than concerning depression-related treatments (*median* = 4, *interquartile range* = 2-5, *Z* = -12.08, *p* < .001).

Table 2 presents the proportion of women who correctly answered several questions about depression characteristics and treatments, as well as the proportion of women who answered incorrectly or who reported not knowing the correct answer. Regarding depression-related characteristics, most of the women (>79%) correctly identified the symptoms of depression (guilt; loss of confidence and poor self-esteem; changes in sleep and feeding patterns; memory and concentration difficulties), whereas a lower proportion of women (<45%) correctly identified symptoms that are not

associated with depression (speaking in a disjointed way, reckless behavior, having several distinct personalities).

[Insert Table *2* about here]

Concerning depression-related treatments, a large proportion of women (>50%) incorrectly answered questions comparing different treatment options. For example, 55.7% of women did not consider cognitive-behavioral therapy as effective as antidepressants for mild to moderate depression, and 57.7% of women considered vitamins are the most helpful alternative treatment for depression. Moreover, a high proportion of women (>50%) reported that they did not know whether other treatments were more effective for depression than antidepressants or whether antidepressants are addictive (see *Table 2*).

Depression Literacy: Women's Sociodemographic and Clinical Profile

As seen in *Table 3*, women's depression literacy concerning depression-related characteristics was significantly correlated with education *($\rho = .28$),* psychiatric history *($\rho = .18$)* and psychiatric treatments *($\rho = .36$)*; specifically, the women presented poorer levels of literacy concerning depression-related characteristics when they were less educated, and when they had no prior history of psychiatric/psychological problems or treatments. Moreover, women's depression literacy concerning depression-related treatments was significantly correlated with education ($\rho = .40$), income ($\rho = .26$), psychiatric history *($\rho = .18$)* and psychiatric treatments *($\rho = .24$);* specifically, poorer levels of literacy concerning depression-related treatments were found when women were less educated and had a lower household income, and when they had no prior history of psychiatric/psychological problems or treatments. Poorer levels of depression

literacy concerning both depression-related characteristics and treatment were correlated with shorter psychiatric treatment length.

[Insert Table 3 about here]

Depression Literacy: Effects on Women's Awareness of Depressive Symptoms

Table 4 presents the correlations among women's depression literacy, emotional competence, and awareness/recognition of their psychopathological symptoms. *Women's levels* of depression literacy were not directly correlated with their awareness/recognition of the presence of clinically significant psychopathological symptoms. However, higher levels of depression literacy were significantly correlated with higher levels of emotional competence, namely emotional clarity and emotional awareness. Moreover, significant correlations were found between the dimensions of emotional competence (limited access to emotion regulation strategies and lack of emotional clarity) and women's awareness of their psychopathological symptoms.

[Insert *Table 4* about here]

An indirect effect model exploring the relationship between women's depression literacy and awareness of psychopathological symptoms, through lack of emotional clarity, is presented in Figure 1. The bootstrap confidence intervals of the indirect effects indicated a significant indirect effect on the relationship between depression literacy and awareness of psychopathological symptoms (95% BCCI -.24, -.01). This effect occurred through a lack of emotional clarity.

[Insert Figure 1 about here]

[Insert_Callout_2_about_here]

Discussion

Our findings add to the existing knowledge concerning women's depression literacy during the perinatal period by exploring similarities and differences in women's knowledge concerning several depression-related topics and providing some insights on how women's depression literacy affects their awareness/recognition of psychopathological symptoms during the perinatal period. Our results *showed* that a significant proportion of women presenting clinically significant psychopathological symptoms did not recognize the presence of an emotional problem, highlighting the need to understand the mechanisms and variables affecting women's awareness of their emotional problems, such as the role of depression literacy.

Our results showed that women presented moderate levels of depression literacy during the perinatal period, with only two women answering all the questions correctly. This finding suggests that the perinatal population is still far from an optimal level of knowledge about depression, which can further compromise the help-seeking process when *women present clinically significant psychopathological symptoms*. Moreover, our results highlight some specific gaps in depression literacy that may compromise the help-seeking process. First, our results show that although most of the women correctly identified depression symptoms, *such as* guilt, loss of confidence and poor self-esteem, changes in sleep and feeding patterns, memory and concentration difficulties, they were less able to distinguish symptoms that were not associated with depression, *namely* speaking in a disjointed way, reckless behavior, and having several distinct personalities. The fact that the majority of women could not identify these symptoms as not associated with depression may lead them to adopt more negative and stigmatizing attitudes concerning mental illness, which is one important barrier that prevents women

from seeking help during the perinatal period (Abrams et al., 2009; Bilszta et al., 2010; Dennis & Chung-Lee, 2006).

Second, and *consistent* with prior studies (Abrams et al., 2009; Byatt et al., 2012; Henshaw et al., 2013), our results *showed* that women presented significantly lower literacy levels concerning depression-related treatments. Specifically, they had difficulties in comparing the effectiveness and benefits of different treatment options, *such as* antidepressants and cognitive behavioral therapy. These results suggest that women's lower levels of depression literacy may compromise their ability to recognize their symptoms, seek help (Goodman & Tyer-Viola, 2010), and their confidence in their ability to decide among different treatment options. Moreover, health professionals may have more difficulties in implementing evidence-based treatment options if women do not believe in the effectiveness and benefits of the interventions offered (Jorm, 2000).

Concerning the sociodemographic and clinical profile, our results were congruent with the results found by Kingston et al. (2014) in the general population, showing that lower educational levels were associated with poor depression literacy in women during the perinatal period. Moreover, a lower household income was also associated with poor depression literacy, suggesting that women's lower socioeconomic status may be associated with fewer learning opportunities about *mental health topics and reflected* in poor depression literacy.

Additionally, our results suggest that prior *experiences with mental health problems and treatments* were associated with higher levels of literacy regarding both depression-related characteristics and treatment. These results were consistent with previous studies with the general population, *indicating* that prior experience in treatment for depression was associated with the individual's recognition of *symptoms of depression* (Mnich, Makowski, Lambert, Angermeyer, & Knesebeck, 2014).

However, other *researchers* (Dahlberg, Waern, & Runeson, 2008) noted that previous experience with psychiatric problems and treatments is not associated with greater knowledge about psychopathological symptoms, *although previous experience was* associated with better identification of treatment options and with fewer positive beliefs about full spontaneous recovery from mental health problems. Taken together, these results suggest that some factors that put women at risk for perinatal depression, *such as* low socioeconomic status and psychiatric history (Robertson, Grace, Wallington, & Stewart, 2004), also put women at higher risk of poor depression literacy and, consequently, *may* compromise the women's help-seeking process.

    The results of our study provided some insights into the mechanisms through which women's depression literacy *affects their ability to recognize the presence of clinically significant psychopathological symptoms*. In fact, awareness/recognition of symptoms has been considered the first step of the help-seeking process (Rickwood et al., 2005), and the failure to recognize changes in a person's behavior as a mental disorder is significantly associated with delays in seeking professional help (Thompson, Issakidis, & Hunt, 2008). In our study, women's levels of depression literacy were not directly associated with their awareness/recognition of psychopathological symptoms. However, women's depression literacy was found to indirectly affect their awareness/recognition of psychopathological symptoms through emotional clarity: women who presented poorer levels of depression literacy seemed to present a greater lack of emotional clarity, *that is,* less ability to understand, label and identify their specific emotions, which may translate to a poorer awareness and recognition of their psychopathological symptoms. In fact, a lack of emotional competence seems to put women at higher risk of not recognizing the presence of their

psychopathological symptoms, suggesting that both depression literacy and emotional competence should be targets of specialized interventions.

Limitations

Despite the relevant findings, the present study has some limitations. First, the identification of women presenting clinically significant psychopathological symptoms was based on self-reported questionnaires (EPDS), which does not ensure a clinical diagnosis of depression. Future studies should include clinically depressed women to better understand the processes underlying women's awareness/recognition of their psychopathological symptoms. Second, *our design* was cross-sectional, which compromises the establishment of a clear directionality in the relationship between the study variables, concerning the awareness/recognition of symptoms. Moreover, despite the considerable size of the total sample, the proportion of the sample presenting clinically significant psychopathological symptoms was substantially lower. Future studies should aim to replicate the study findings using larger samples. Third, although our sample was similar, in sociodemographic and clinical terms, to other samples of the perinatal population, our sample was a self-selected sample that comprised mostly married/cohabiting women with higher educational levels and income. Future studies should include a more sociodemographically diverse sample.

[Insert_Callout_3_about_here]

Implications

Several implications for practice may be derived from our results. First, our results globally support the need to improve women's mental health literacy during the perinatal period, *as identified* in prior studies (Buist et al., 2007; Byatt, Biebel, Friedman, Debordes-Jackson, & Ziedonis, 2013). Education on mental health topics should be provided by introducing the theme of mental health in childbirth classes and

in healthcare appointments during pregnancy and the childbearing years (Callister et al., 2011). Health professionals should consistently provide women with clear information on the symptoms of perinatal depression and treatment possibilities (Goodman, 2009), and should include a systematic assessment of women's *mental health* in obstetric/neonatal care appointments*, by openly questioning women about their emotional difficulties and emotional and behavioral changes during the perinatal period. A trusting, non-judgmental and empathic relation between women and their healthcare providers will facilitate not only* the promotion of mental health literacy but also the promotion of women's emotional competence, namely their ability to identify, describe and understand emotions and to manage them in an effective and non-defensive manner (Mayer et al., 1999).

The development of educational campaigns to promote depression literacy in the general population may also facilitate the improvement of women's depression literacy levels and the improvement in the depression literacy levels of women's social networks, *such as the partner and the family.* Improving the depression literacy levels of women's social network seem to be particularly important, as women tend to discuss their emotional experience primarily with *these individuals* (Henshaw et al., 2013). Henshaw et al. (2013) found that 83% of women with clinical levels of anxiety or depression discussed the possibility of having an emotional problem with members of their social networks. Therefore, if the women's social network has more knowledge about depression symptoms and treatments, they may be more aware of the women's emotional state and facilitate symptom recognition (Guy et al., 2014) and the subsequent help-seeking process.

Conclusion

Women's depression literacy may affect their ability to recognize the presence of clinically significant psychopathological symptoms. Therefore, women's depression literacy and emotional competence should be improved during the perinatal period, namely in the context of trusting and empathic relationships with health professionals.

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Table 1.

Sociodemographic and clinical characterization of the sample

	Total sample (*n* = 194)	EPDS < 9 group (*n* = 128)	EPDS > 9 group (*n* = 66)	t/X^2
Sociodemographic characteristics				
Age (in years), M (SD)	30.07 (4.73)	30.48 (4.17)	29.26 (5.60)	1.72
Marital status, n (%)				
Married/living together	159 (82.0)	112 (87.5)	47 (71.2)	7.83*
Single/divorced	35 (18.0)	16 (12.5)	19 (28.8)	
Educational level, n (%)				
Middle school	14 (7.2)	8 (6.3)	6 (9.1)	
High school	67 (34.5)	35 (27.3)	32 (48.5)	12.94*
Higher education	113 (58.3)	85 (66.4)	28 (42.4)	
Professional status, n (%)				
Employed	135 (71.8)	98 (79.0)	37 (57.8)	11.47**
Unemployed	53 (28.2)	26 (21.0)	27 (42.2)	
Monthly Household income, n (%)				
< 500€	11 (5.7)	4 (3.1)	7 (10.6)	
500-1,000€	51 (26.3)	25 (19.5)	26 (39.4)	
1,000-2,000€	88 (45.4)	69 (53.9)	19 (28.8)	17.35**
2,000-3,500€	31 (16.0)	22 (17.2)	9 (13.6)	
> 3,500€	13 (6.7)	8 (6.3)	5 (7.6)	

Residence, *n* (%)

Urban	154 (79.4)	102 (79.7)	52 (78.8)	0.02
Rural	40 (20.6)	26 (20.3)	14 (21.2)	

Clinical characteristics

Perinatal period, n (%)

Pregnancy	63 (32.5)	47 (36.7)	16 (24.2)	3.09
Postpartum	131 (67.5)	81 (63.3)	50 (75.8)	

Parity, n (%)

Primiparity	128 (66.0)	84 (65.6)	44 (66.7)	0.02
Multiparity	66 (34.0)	44 (34.4)	22 (33.3)	

Psychiatric history, *n* (%)

History of psychiatric/psychological problems (Yes)	71 (36.6)	36 (28.1)	35 (53.0)	11.64**
History of psychiatric/psychological treatment (Yes)	61 (31.4)	35 (27.3)	26 (39.4)	2.93

*p < .05. ** p < .01

Table 2.

Women's depression literacy during the perinatal period

	Correct answer	Incorrect answer	Do not know
	n, %	*n, %*	*n, %*
Depression-related characteristics			
1. People with depression often speak in a rambling and disjointed way.	77, 39.7%	66, 34%	51, 26,3%
2. People with depression may feel guilty when they are not at fault.	182, 93.8%	7, 2,6%	5, 3,6%
3. Reckless and foolhardy behavior is a common sign of depression.	63, 32.5%	87, 44.8%	44, 22.7%
4. Loss of confidence and poor self-esteem may be a symptom of depression.	188, 96.9%	5 (2.6%)	1 (0,5%)
5. Not stepping on cracks in the footpath may be a sign of depression.	130, 67.0%	7 (3.6%)	57 (29.4%)
6. People with depression often hear voices that are not there.	133, 68.6%	12, 6.2%	49, 25.3%
7. Sleeping too much or too little may be a sign of depression.	158, 81.4%	15 (7.7)	21 (10.8)
8. Eating too much or losing interest in food may be a sign of depression.	166, 85.6%	12, 6.2%	16, 8.2%
9. Depression does not affect your memory and concentration.	79,4%, 154	17, 8.8%	23, 11.9
10. Having several distinct personalities may be a sign of depression.	45.4%, 88	39, 20.1%	67, 34.5%
11. People may move more slowly or become agitated as a result of their depression.	119, 61.3%	21, 10.8%	54, 27.8%

13. Moderate depression disrupts a person's life as much as multiple sclerosis or deafness.	83, 42.8%	28, 14.4%	83, 42.8%
15. Many famous people have suffered from depression.	129, 66.5%	3, 1.5%	62, 32%
Depression-related treatments			
12.Clinical psychologists can prescribe antidepressants	104, 53.6%	43, 22.2%	47, 24.2%
14. Most people with depression need to be hospitalized.	159, 82.0%	5, 2.6%	30, 15.5%
16. Many treatments for depression are more effective than antidepressants.	8, 4.1%	100, 51,5%	86, 44.3%
17. Counselling is as effective as cognitive behavioral therapy for depression.	20, 10.3%	69, 35.6%	105, 54.1%
18. Cognitive behavioral therapy is as effective as antidepressants for mild to moderate depression.	69, 35.6%	17, 8.8%	108, 55.7%
19. Of all the alternative and lifestyle treatments for depression, vitamins are likely to be the most helpful.	71, 36.6%	11, 5.7%	112, 57.7%
20. People with depression should stop taking antidepressants as soon as they feel better.	139, 71.6%	13, 6.7%	42, 21.6%
21.Antidepressants are addictive.	21, 10.8%	129, 66.5%	44, 22.7%
22. Antidepressant medications usually work straight away.	127, 65.5%	14, 7.2%	53, 27.3%

Table 3.

Sociodemographic and clinical correlates of women's depression literacy

	Literacy about depression-related characteristics	Literacy about depression-related treatments	Depression Literacy (Total)
Sociodemographic characteristics			
Age	.05	.14	.12
Marital status (0: single/divorced; 1: married/cohabiting)	.07	.04	.06
Education level	.28***	.40***	.39***
Professional status (0: unemployed; 1: employed)	.11	.11	.12
Monthly income	.12	.26**	.21**
Residence (0: rural; 1: urban)	.05	.02	.04
Clinical characteristics			
Perinatal period (0: postpartum; 1: pregnancy)	.12	.11	.14
Parity (0: Multiparous; 1: Primiparous)	.03	.03	.05
Psychiatric history (0: No; 1: Yes)	.18*	.18*	.20**
Psychiatric/psychological treatment (0: No; 1: Yes)	.36***	.24**	.35***
Length of psychiatric/psychological treatment	.24*	.40**	.40**

* p < .05. ** p < .01. *** p < .001.

Table 4

Associations between depression literacy, emotional competence and awareness of psychopathological symptoms in women presenting clinically significant psychopathological symptoms (N = 66).

	Depression Literacy			Awareness of
	Total	Depression-related characteristics	Depression-related treatments	**psychopathological symptoms**
Nonacceptance of emotional responses	-.17	-.17	-.14	-.26
Difficulties engaging in goal directed behavior	-.02	-.07	.03	-.23
Impulse control difficulties	-.11	-.15	-.04	-.22
Lack of emotional awareness	-.33[*]	-.33[*]	-.27[*]	-.12
Limited access to emotion regulation strategies	-.06	-.10	-.00	-.31[*]
Lack of emotional clarity	-.28[*]	-.26	-.26	-.34[*]
Awareness of psychopathological symptoms	.05	.02	.07	

[*] $p < .05$.