

# Screening tools for postpartum depression: validity and cultural dimensions

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## Abstract

**Objective:** The purpose of this study is to review the main postpartum screening tools currently used in terms of their ability to screen for postnatal depression. Furthermore, the cultural characteristics of depressive postpartum symptomatology are examined.

**Method:** A systematic literature search was conducted for the period 1987-2009, using the Medline electronic database for the following keywords: postpartum depression and postnatal depression. These terms were combined with: assessment, screening and psychometric tools. **Results:** Of the four screening tools reviewed and compared, the Edinburgh Postnatal Depression Scale (EPDS) and the Postpartum Depression Screening Scale (PDSS) presented substantial sensitivity and specificity as screening tools. However, none of the instruments could be rated flawless when applied to different cultural contexts. **Conclusions:** In addition to the EPDS, a new generation of instruments is currently available. Supplementary research is needed to substantiate their use as screening tools in general practice. Additional studies are needed to adapt and test instruments to detect postnatal depression within a wider range of languages and cultures.

**Key words:** Acculturation; Postnatal depression; Postpartum depression; Scales; Screening

**Received:** 25-05-2009

**Accepted:** 14-01-2010

## Introduction

Mood disturbances represent the most frequent form of maternal psychiatric morbidity in the postpartum period<sup>1</sup>, and are traditionally divided into three categories: maternal sadness (postpartum blues), postpartum depression and puerperal psychosis.<sup>2</sup> Yet there is little written about screening for these conditions within a cultural perspective.

The concept of postpartum depression as a specific diagnosis recognized by the American Psychiatric Association prompted the creation of diagnostic criteria to be listed in the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) as referring to depression with postpartum onset that occurs during the first four weeks after birth.<sup>3</sup> However, the definition of postpartum morbidity differs among several authors, and varies from one month to one year after birth.<sup>2</sup>

Maternal sadness affects approximately 50-80% of women

in the puerperal period, with about 20% of those women developing postpartum depression.<sup>4</sup> However, there is a wide range of reported prevalence of postpartum depression from almost 0% to almost 60% in different countries. In some countries such as Singapore, Malta, Malaysia, Austria and Denmark there are very few reports of postpartum depressive symptoms, whereas in other countries (e.g. Brazil, Guyana, Costa Rica, Italy, Chile, South Africa, Taiwan and Korea) reported prevalence is high.<sup>5</sup> It has been advocated that "the widely cited mean prevalence of 10-15% for postpartum depression is not representative of the magnitude of the problem, due to the wide range of reports", which may be due to transcultural variations in reporting and interpretation of symptoms as well as distinct socio-economic variables.<sup>5</sup>

The consequences of postpartum depression affect not only the mother, but also the child and the family, and may cause matrimonial conflict and damage the child's social and cognitive development.<sup>4</sup> Postpartum depression is infrequently diagnosed and indeed treated, despite its significant incidence and morbidity.<sup>6</sup> The diagnosis is often masked by normal postpartum behaviors such as the mother's reactions during the adjustment period to the new physiological, social

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and behavioral conditions, including anxiety and fatigue.<sup>7</sup> Moreover, the lack of clear information, as well as the lack of programs of appropriate training for the health professionals, often results in an imprecise diagnosis.<sup>6</sup>

The routine use of screening scales for the purpose of identifying symptoms of depression is an effective, simple and economical way to identify women at risk.<sup>8</sup> Timely opportunities for routine and longitudinal screening for depression occur during the postpartum visits for maternal and pediatric re-assessment in the local health clinic.<sup>8,9</sup> Postpartum visits are generally conducted by obstetricians, family physician, nurses and midwives, while the well-child visits, usually conducted by pediatricians and nurses.<sup>10</sup> Evidence from several studies indicate that formal screening for depression is not only feasible in the outpatient setting but also improves rates of detection and treatment of depressive disorders, whereas informal or irregular interventions result in detection of fewer than half of cases revealed via formal and structured screening.<sup>10-12</sup>

In addition, questionnaires that are not specifically designed for the screening of postnatal depression fail to differentiate the affective from the physical symptoms and physiological changes that are typical of the puerperium, such as fatigue and changes of sleep and eating habits.<sup>13</sup>

The range and variability of validation studies undertaken with regard to the use of screening scales for postpartum depression are prolific and beg analytic interpretation before recommending their use in general (medical, midwifery or nursing) practice. In this paper commonly available scales specifically designed for screening for postpartum depression are critically analyzed. In our study, particular emphasis was given to the cultural aspects of postpartum depression.

## Method

A systematic literature search was conducted using the Medline electronic database, with the following Mesh terms: postpartum depression and postnatal depression. These terms were combined with assessment, screening and psychometric tools. The literature search focused on publications from 1987 to 2009. The articles selected presented at least one topic related to maternal postpartum depression, including epidemiologic data, clinical and cultural aspects of depressive symptomatology and consequences for the offspring and the family. Additional articles specifically related to psychometric properties of screening tools were also examined.

## Results

Several measures have been used for the assessment of depressive symptoms in the postpartum period.<sup>14</sup> However, some of these instruments were not specifically designed to measure PPD. This is the case of the Beck Depression Inventory (BDI and BDI-II)<sup>15,16</sup>, the General Health Questionnaire (GHQ)<sup>17</sup>, the Zung Self-Rating Depression Scale (Zung SDS)<sup>18</sup>, the Center for Epidemiological Studies Depression Scale (CES-D)<sup>19</sup> and the Inventory of Depressive Symptomatology (IDS).<sup>20</sup> These are in fact instruments that measure general symptoms of depression and associated distress. In addition, the psychometric properties of some of the instruments used to measure depressive symptoms have not been completely characterized and some tools have been used infrequently.<sup>21</sup> On the other hand, a series of other

studies have tested specific screening tools to investigate depressive disorders in the postpartum period. Table I presents the different validated versions of the Edinburgh Postnatal Depression Scale (EPDS), whereas Table II presents the available versions of the Postpartum Depression Screening Scale (PDSS) in different languages.

In the postpartum period, the EPDS has been the most widely used scale to identify postpartum depression. It was developed to assist health professionals to screen community samples of postnatal mothers for depressive symptoms following childbirth and has been extensively studied and used in a number of countries due to its good sensitivity, specificity and positive predictive values.<sup>14</sup>

The PDSS is a more recent instrument also developed specifically to identify postpartum depression. A series of studies have demonstrated the reliability, construct validity, and sound psychometric properties of the PDSS, which is considered an effective instrument for identifying minor and major depression.<sup>54,59,60</sup> The short-form version of the above-mentioned questionnaire is called PDSS-SF and it consists of seven items, which were extracted from the PDSS 35-item scale, each one representing a dimension evaluated by the PDSS.<sup>61</sup> The PDSS-SF is considered advantageous because it provides a "quick, but accurate, overall level of postpartum depression symptomatology".<sup>59</sup>

Finally, the Bromley Postnatal Depression Scale (BPDS) is also included here due to its specific conception and design for postpartum depression. However, there is still limited evidence on the reliability of this instrument, particularly across different cultural parameters.<sup>13,62</sup>

The specific screening tools, as mentioned above, differ conceptually from predictive inventories, which identify risk factors for postnatal depression and therefore can be used prenatally.<sup>63</sup> There are several instruments within this class, and most of them have not been tested extensively across different cultures. This review focuses exclusively on the specific postnatal screening tools. Research evidence on the use of postpartum depression screening instruments as well as their respective psychometric data are presented here. The Transcultural usefulness of these tools are also addressed in this review.

## Discussion

### *Edinburgh Postnatal Depression Scale – EPDS*

The Edinburgh Postnatal Depression Scale (EPDS) is the most well-known and evaluated instrument for postpartum depression.<sup>64</sup> The development of the EPDS was described firstly by Cox et al in 1987, and subsequently by Cox and Holden.<sup>30,65</sup> The EPDS was developed firstly with 13 items, six of these being adapted from pre-existent questionnaires, and its original validation study was published in 1986.<sup>21</sup> Later, the scale was reduced to the current 10 items and validated in a sample of 84 postpartum women.<sup>30</sup> The scale asks the respondent about their feelings over the previous seven days. Possible responses are scored from 0 to 3, in growing order of severity, creating a maximum score of 30. In the initial studies, the sensitivity and the specificity of the EPDS were 86% and 78%, respectively, with a positive predictive value of 73% using a cutoff point of 9/10. This value is capable of detecting most cases of potential depression.<sup>30</sup>

Some of the psychometric properties of the EPDS, such as

**Table I: The available versions of the EPDS according to different languages and their respective screening properties.**

Language	Country	Cut-Off	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
Amharic	Ethiopia <sup>22</sup>	6/7	78.9	75.3	42.9	93.8
Chinese	Hong Kong (China) <sup>23</sup>	9/10	82	86	44	97
	Mainland China <sup>24</sup>	9.5	80	83	-	-
	Taiwan <sup>25</sup>	12/13	96	85	46	99
English	Australia <sup>26</sup>	12.5	100	95.7	69.2	100
	Canada <sup>27</sup>	11.5	94	86	56	99
	Nigeria <sup>28</sup>	9	75	97	75	97
	South Africa <sup>29</sup>	11/12	80	76	52.6	92.2
	United Kingdom <sup>30</sup>	12/13	86	78	73	-
Farsi	Iran <sup>31</sup>	12/13	95.3	87.9	-	-
French	France <sup>32</sup>	10.5	80	92	91	97
German	Germany <sup>33</sup>	9.5	96	100	100	-
Greek	Greece <sup>34</sup>	8/9	76.7	68.3	70.8	74.5
Italian	Italy <sup>35</sup>	9/10	100	83	50	100
Lithuanian	Lithuania <sup>36</sup>	7	92	73	35	98
Maltese	Malta <sup>37</sup>	11/12	83.3	96.6	68.2	98.5
Mongolian	Mongolia <sup>38</sup>	11/12	85.7	71.1	81.4	77.1
Nepalese	Nepal <sup>39</sup>	13	100	92.6	41.6	-
Norwegian	Norway <sup>40</sup>	10	100	87	60	-
	Norway <sup>41</sup>	11	96	78	62	-
Portuguese	Brazil <sup>42</sup>	13	59.5	88.4	60	-
	Portugal <sup>43</sup>	10	65	96	91	82
Punjabi	United Kingdom <sup>44</sup>	12.5	71.4	93.7	73	-
Shona	Zimbabwe <sup>45</sup>	11/12	88	87	74	94
Sinhalese	Sri-Lanka <sup>46</sup>	9	90.7	86.8	-	-
Spanish	Chile <sup>47</sup>	9/10	100	80	37	-
	Mexico <sup>48</sup>	11/12	75	93	50	97.6
	Peru <sup>49</sup>	13.5	84.2	79.5	-	-
	Spain <sup>50</sup>	10/11	79	95.5	63.2	97.7
Swedish	Sweden <sup>51</sup>	11.5	96	49	59	-
Thai	Thailand <sup>52</sup>	6/7	74	74	26	95
Turkish	Turkey <sup>53</sup>	12.5	75.5	71.5	30.3	94.5

PPV: Positive Predictive Value; NPV: Negative Predictive Value

**Table II: The available versions of the PDSS according to different languages and their respective screening properties.**

Language	Country	Cut-Off	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
English	Canada <sup>27</sup>	71.5	94	59	31	98
	United States <sup>54</sup>	80	94	98	90	99
Spanish	United States <sup>55</sup>	60	84	84	75	90
Portuguese	Brazil <sup>56</sup>	102	94	95	75	99
	Brazil <sup>57</sup>	81	89	72	23	97
Thai	Thailand <sup>58</sup>	51	72	79	28	96

PPV: Positive Predictive Value; NPV: Negative Predictive Value

its specificity and sensitivity, have been tested extensively among various cultures in different countries. The scale has been tested in countries as diverse as England, Australia, Sweden, Chile, Canada, Portugal, Italy, France, China, South Africa, Brazil, Spain, Turkey and Germany.<sup>66</sup> The sensitivity observed in the validation studies presented variations ranging from 65% to 100%, while the specificity presented variations from 49% to 100%. The great variability of results among the different studies was due to variations in methodology used, cut-off points, diagnostic criteria and in the

period between childbirth and the moment of application of the instrument.<sup>66</sup>

Studies developed in United Kingdom have demonstrated that using a cutoff point of 12/13, in the sixth week of the postpartum period, the EPDS shows a sensitivity from 68 to 95% and a specificity of 78% to 96%, when compared to the diagnosis of major depression through psychiatric interview.<sup>30,67</sup> The cutoff point of 9/10, used to increase the sensitivity of the instrument, demonstrates a sensitivity of 84 to 100%, as well as specificity of 82% to 88%.<sup>67</sup> A total score

higher than 12 in the postpartum period indicates a larger probability of depression, but it does not supply a measure of the severity of the symptoms.<sup>68</sup> Matthey et al. investigated the increasing use in the literature of non-validated cutoff scores of the EPDS, as well as different wording and formatting in the scale.<sup>69</sup> It was advocated in this study that the scale should be worded and formatted as originally described by its authors, which includes the validated score of 13 or more and of 15 or more when reporting a probable depressive episode in English-speaking women during postnatal and antenatal periods, respectively.<sup>69</sup> However, different cutoff scores may be warranted for different cultural groups.<sup>14</sup>

Some researchers suggest that mothers with increased risk of developing postpartum depression can be identified early in the postpartum period, which would assist secondary prevention.<sup>64</sup> Dennis et al. demonstrated that the EPDS, when applied with cutoff points of 9/10 during the first week of the postpartum period, has satisfactory discriminative and prognostic power to distinguish the mothers with increased risk of developing depression during the period between the fourth and eighth weeks.<sup>1</sup> The author suggests that there is a strong connection to maternal mood during the three appraised weeks and women with symptoms of major or minor depression in the first week of postpartum have a larger probability of developing a mental disorder in the subsequent weeks. The results make possible the implementation of secondary prevention for later postpartum depression.<sup>1</sup> On the other hand, Lee et al. demonstrated that when the EPDS is used in the first 48 hours after the child's birth, the psychometric properties of this instrument show a significant number of false-positive results.<sup>64</sup>

The EPDS measures emotional symptoms of postpartum depression and does not evaluate somatic symptoms, except for one item that measures sleep difficulties.<sup>14</sup> The main limitations of EPDS is that this instrument does not evaluate the context of a women's experience as a new mother, and features such as loss of control, loneliness, unrealness, irritability, loss of self and concentration difficulties.<sup>14</sup> Moreover, appetite loss, weight reduction and reduced libido, symptoms that can happen due to a depressive episode, are not detected by EPDS. Postnatal depression with predominant features of psychomotor retardation seems also not to be detected by this scale, and could be particularly important for studies about the impact of maternal depression on the mother-baby interaction.<sup>70</sup>

Although EPDS is a screening instrument and not a diagnostic one, it is often used as an assessment/diagnostic tool in clinical practice. The application of the EPDS should not be a substitute for a psychiatric evaluation. A clinical interview is essential for diagnosis, since the scale does not provide a measure of severity of the distress, but only indicates the probability of postpartum depression.<sup>71</sup>

#### **Postpartum Depression Screening Scale – PDSS**

The PDSS is a self-rating scale recently developed and conceptually based on a series of qualitative data collected and analyzed in previous research by Beck.<sup>72-74</sup> This instrument is not a diagnostic tool and was developed to overcome some of the EPDS limitations cited above and

evaluate more introspective concerns of a woman in the postpartum period.<sup>56</sup> Seven conceptual domains are included in the PDSS: sleep and appetite disturbance; anxiety/insecurity; emotional lability; cognitive impairment; loss of self-esteem; guilt/shame and suicidal thoughts. Each domain is composed of five identifying symptoms that the mothers can present with in the period after childbirth. These are itemized in degree of intensity, that can vary from full disagreement to full agreement using a 5-point Likert scale; scores range from 35 to 175, and relate to how women were feeling in the preceding two weeks.<sup>60</sup> The PDSS is available in English<sup>60</sup>, Spanish<sup>59</sup>, Turkish<sup>75</sup>, Thai<sup>58</sup> and Portuguese versions.<sup>56,57</sup> The original English version of the PDSS has also been tested among Native American English<sup>76</sup> and First Nations and Métis women.<sup>27</sup>

In the first PDSS validation study<sup>60</sup>, 525 mothers were recruited during the first 6 weeks of the postpartum period to test the reliability and the validity of the new instrument. Reliability analysis identified Cronbach's alpha indexes higher than 0.80 for each of the seven domains. The PDSS was filled out initially by the mothers, and followed by a Structured Clinical Interview (undertaken by clinicians 'blinded' to the score) based on DSM-IV to confirm, or not, the correlation. A cutoff point of 80 was proposed for major postpartum depression, with sensitivity of 94% and specificity of 98% and a cutoff point of 60 for major or minor depressive distress, with sensitivity and specificity of 91% and 72%, respectively, using the Receiver Operator Curve (ROC). In an additional study<sup>54</sup>, to strengthen the findings, Beck and Gable investigated a further 150 mothers in the sixth week of postpartum period. According to this study, a cutoff value of 70 can cause a reduced number (6%) of false-negative results. However, up to 16% of the mothers in a non-depressive state will have a false positive result.

The PDSS can also be applied in its brief version that consists of the first seven items of the full scale. These items demonstrate a high correlation with the seven dimensions that are used in the longer version ( $r = 0.91$ ). The obtained scores range from 7 to 35 and present similar levels of reliability and validity when compared to the complete PDSS.<sup>61</sup> Using the Flesch index (1948), a score of 91.9 was achieved in ease of reading by the PDSS, which is consistent with "very easy" comprehension.<sup>77</sup> In addition to this favorable characteristic of the PDSS, further comparison with the EPDS demonstrated reliability and validity. The PDSS offers specific information on the interviewee's clinical status in each one of the seven appraised domains. Such references are useful for the doctor, midwife or nurse, since they inform on the mother's current state in the specifically appraised areas and the clinician can target specific and appropriate therapeutic interventions to meet individual needs. In a study that compared the PDSS with the EPDS and with the Beck Depression Inventory (BDI-II)<sup>78</sup>, the PDSS was the only instrument of the three instruments studied which evaluated all the five initial symptoms of postpartum depression – anxiety, insomnia, agitation, irritability and confusion.<sup>77</sup> Furthermore, loss of self-esteem was only measured by the PDSS. This scale is the one which has the highest combination of sensitivity and specificity to (94% and 98%, respectively) when using 80 as the cutoff point for major depression.<sup>77</sup>

### ***The Bromley Postnatal Depression Scale – BPDS***

The Bromley Postnatal Depression Scale (BPDS) was developed in 1992 in the United Kingdom, and is an instrument specifically designed for detecting the presence of both current and previous episodes of postnatal depression.<sup>79</sup> It allows women to report their mood and behaviors during pregnancy and the postpartum period for the current and all previous births. It has 10 items as well as a chart to indicate when the postpartum depression began, how long it lasted and when it was the worst for all births. These characteristics make this instrument unique, because there is a possibility for establishing a longitudinal course of postpartum depression.<sup>14</sup> It is mainly designed to detect previous and current episodes of PND, as well as, appropriate for use in postal surveys.<sup>13</sup>

There is limited information about the psychometric properties of the BPDS. This instrument has not been validated transculturally either. In a community sample, this scale demonstrated good test-retest reliability, but the internal consistency has not been established.<sup>14</sup> A study conducted with a sample of 165 women revealed that the sensitivity and specificity of the BPDS were respectively 62% and 94%.<sup>13</sup> Although the BPDS was considered by its proponents to "reliable", the analysis of reliability of this questionnaire was established via test-retest ratings only.<sup>13</sup> The lower sensitivity of the BPDS may be related to the fact that this instrument also detects cases of less severe forms of depressive and anxiety disorders.<sup>13</sup>

### ***The cultural contours of depressive postpartum symptomatology***

It has been observed that factors such as socio-economic status, biological factors, and stigma associated with mental health disorders may influence expression of depressive symptoms and prevalence rates of postpartum depression.<sup>80</sup> Contrary to the theories postulated by Stern and Kruckman (1983), who advocated that PPD was infrequent or absent in non-Western cultures, recent evidence has demonstrated that PPD is a transcultural phenomenon.<sup>81</sup> Despite the fact that postnatal depression appears to be a universal condition with apparently similar rates in different countries, anthropologists question the cross-cultural equivalence of depression, particularly at a life stage so influenced by cultural factors.<sup>82</sup>

From an anthropological perspective, postpartum depression has been considered a "culture-bound syndrome", since major changes in family structure that occur in Western and secularized societies may result in increased rates of depression.<sup>83</sup> On the other hand, medical professionals advocate that the similarity of postpartum depression symptoms and continuous rates across the cultures would indicate a common biological diathesis. Although biological factors appear to play a central role in explaining the homogenous prevalence trends of postnatal depression worldwide, cultural forces and socio-economic elements play a pivotal role in the way that maternal distress is manifested during the postpartum period.<sup>84</sup>

A series of international projects aimed at the transcultural understanding of perinatal depressive

phenomena confirmed the transcultural nature of PPD.<sup>5,82,85,86,87,88</sup> However, transcultural comparative studies of depressive symptomatology also demonstrated that symptoms tend to vary according to specific cultural backgrounds.<sup>89</sup> Results from a study conducted in nine countries not only corroborated that postpartum symptomatology is manifested across different cultural boundaries but also indicated that depressive symptoms can be even more prominent among non-Western women.<sup>87</sup>

Members of non-Western cultures tend to express specific depressive symptoms such as somatization, which contrasts with common "Western world" symptoms such as sadness and guilty feelings.<sup>90</sup> A study designed to compare postnatal depression in the United Kingdom and Taiwan<sup>91</sup> obtained similar prevalence rates of postnatal depression, although British women reported a better quality of care during the postnatal period, which appears to favor biological determinants for the manifestation of this disorder. Although specific cultural factors may mold the expression of distress through predominantly physical or psychological manifestations, recent evidence indicates that both forms of manifestation are significantly correlated.<sup>87</sup>

The "transcultural approach" to postnatal mental disorders might help to clarify "the ways in which social factors can influence the evolution of psychopathology".<sup>84</sup> In addition, culturally validated methodologies are available for comparative research into postnatal depression among different health systems and countries.<sup>88</sup> The Western-non-Western dichotomy is no longer considered an adequate divide to account for the clinical and epidemiological variations of PPD.<sup>81</sup> The significant variation in the prevalence figures of PPD according to studies conducted in different non-Western countries suggests that the way PPD presents itself cannot be matched transculturally by a stationary diagnostic criteria established according to Western yardsticks.<sup>81</sup>

### ***The worldwide prevalence variations of postpartum depression***

There is a consensus among practitioners that postpartum depression may advance unrecognized<sup>92</sup>, despite the fact that depressive symptomatology reported by women in the postpartum period can be collected across diverse countries and regions.<sup>87</sup> The wide variability of postnatal depression suggests that the proposed prevalence rates of 10 to 15% in the general population may underestimate the actual magnitude of the disorder. The majority of studies that investigated PPD have been developed in developed countries (Affonso, 2000 #64) and the most commonly used screening instruments for postnatal depression were conceived and developed in the developed Western world. In fact, there is worldwide evidence that postnatal depression and prevalence figures vary according to different countries even when the same screening instrument is used.<sup>90</sup>

A literature review on prevalence of postpartum depression and depressive symptoms in 40 countries revealed that the prevalence of PPD, measured mostly by the Edinburgh Postpartum Depression Scale, ranged from



almost 0% to almost 60%.<sup>5</sup> In another international study, a set of research instruments were tested in eight countries in order to investigate the cross-cultural equivalence of postnatal depression.<sup>88</sup> Although a state of morbid postpartum sadness comparable to postnatal depression was reported in all countries, there was no consensus on the understanding of this process as an illness that requires a categorical treatment approach.<sup>82</sup> In addition, the rates of postpartum depression may fluctuate according to native or immigrant status, since acculturation stress appears to be conducive to more prominent postpartum difficulties.<sup>90</sup>

A study designed to investigate the prevalence of depressive symptoms in two Latin American countries, Costa Rica and Chile<sup>93</sup>, observed that, albeit with different socio-demographic measures, rates of depression were comparable in developing countries of Latin America as well. In Brazil, among women of low income, 43% presented with at least one depressive episode during the first six months after birth and the prevalence of depressive episodes in the third month was 12%.<sup>94,95</sup> In Brazilian women, depressive symptoms are common during pregnancy and are associated with indicators of socio-economic deprivation, violence and the loss of an intimate relationship.<sup>96</sup> Nonetheless, Brazilian studies examining this issue indicate a prevalence of postpartum depression similar to the international average – approximately 13%.<sup>66,94</sup> A Brazilian study about maternity blues<sup>97</sup> demonstrated a postpartum symptom peak occurrence on the fifth day, with symptoms more significantly associated with overemotionalism and oversensitivity.

Asian countries differ considerably in terms of philosophical traditions, religious practices, cultural life and general attitudes toward physical and psychological problems.<sup>98</sup> As the world's largest and most populous continent, Asia encompasses members of the Arab world in Western Asia to Eastern capitalist economies, such as Japan and Korea. A recent review which examined research conducted in 17 Asian countries revealed that the prevalence of PPD in Asian countries ranged from 3.5% to 63.3%, having Malaysia and Pakistan the lowest and highest prevalence respectively.<sup>98</sup>

The risk factors for postpartum depression in Asian cultures were categorized in five main groups: physical/biological, psychological, obstetric/pediatric, socio-demographic and cultural factors.<sup>98</sup> Although Arab women also receive familial support in the postpartum period, as it is the case for Asian women, the reported prevalence rates of PPD are comparable to those reported in Western countries.<sup>81</sup> Marital difficulties, polygamy, previous psychiatric history, first child, and pediatric illnesses have been reported as the most common psychosocial factors associated with PPD in the United Arab Emirates.<sup>99</sup>

After Asia, Africa is the world's second largest and most populous continent. Africa's population is relatively young and in some African states almost half of the population is under 25 years of age. The burden imposed on the African people through the spread of infectious diseases and frequent tribal and military conflicts aggravate further the impact of mental disorders on women. The challenges

associated with women reproductive health in the West African subregion, including Sexually Transmitted Diseases (STDs), especially HIV/ AIDS, and the high maternal mortality, which is associated with insufficient provision of health care and associated resources, adds to the burden of psychiatric complications faced by women during the life cycle, particularly PPD.<sup>100</sup> In Uganda, PPD was associated with negative life events, including unplanned pregnancy and physical illness of both mother and newborn.<sup>101</sup> Research conducted in a South African peri-urban settlement revealed elevated rates of PPD (34.7%), being maternal depression in that community associated with deprived engagement with the partner and child.<sup>102</sup> In Morocco, an Arab African country, maternal depressive disorders were also associated with marital conflicts and stressful life events during pregnancy, including health problems of the infant.<sup>103</sup>

In fact, in some cases, as described in a descriptive report in Nigeria, folklore beliefs and intense family involvement with maternal affairs may cause additional stress and be a reason for delay in the referral process to appropriate medical care.<sup>104</sup> The prevalence rate of PPD among Nigerian women has been reported around 14% rate at 6 to 8 weeks postpartum and psychosocial factors appear significantly related to the genesis this morbidity.<sup>105</sup> The gender of the baby has also been linked to PPD in Nigeria.<sup>106</sup> The prevalence of maternity blues was reported to be 31.3%, being strong predictor of this disorder single mothers<sup>107</sup> and obstetrics complications.<sup>108</sup>

A recent study that investigated PPD in the Democratic Republic of Congo reported that, despite the fact that Western models of psychopathology may be inappropriate for establishing diagnosis according to local tenets, a local syndrome similar to depression was observed.<sup>109</sup> The shortage of psychiatrists in West Africa combined with limited screening skills of the obstetric personnel hinders the detection and effective treatment of PPD in Africa.<sup>100</sup> Nevertheless, a research conducted in Zimbabwe demonstrated the feasibility and effectiveness of a brief method for identifying women at high risk for developing a postnatal mental disorder.<sup>110</sup>

In summary, although postpartum depression is a disorder of worldwide occurrence, there are regional variations in the prevalence rates as well as the symptomatic expressions of PPD. The prevalence of PPD in a given society appears to be influenced by a myriad of local and environmental factors, including cultural and folklore elements, religious practices, socioeconomic deprivation, lack of health care infrastructure and poor public health indicators. The EPDS has been the most widely screening tool, whereas some other methodologies are starting to be used as screening alternatives.

## Conclusion

Since there is a high prevalence of mood disturbance during the postpartum period, as well as potentially harmful consequences to the mother and the child, and the marital relationship, it is important that the postpartum dysphorias are correctly identified). The early diagnosis of postpartum depression makes possible the implementation of preventive measures to avoid the

progression of the disease into a more serious form, as well as strategies to assist in the development of the mother-baby relationship.

This current review has provided information about some of the main assessment instruments of postpartum depression currently available. Several other scales and diagnostic tools not specifically developed for postpartum depression can be used in the evaluation of risk, albeit with smaller degrees of sensitivity than the instruments described here. The use of scales such as EPDS, PDSS and PDPI should be strongly recommended, since their simplicity, low cost, and high sensitivity in the detection of mothers with postpartum depression make them useful when used correctly. All the postpartum and well-child visits should be considered potential opportunities to screen for postpartum depression, therefore appropriate education and training of health care providers (obstetricians, family physicians, nurse midwives, family nurse practitioners, pediatricians), in conjunction with psychiatric services, should be provided to increase awareness of this problem. However, practitioners need to be aware of the current research concerning the reliability and validity of these instruments when applied to their own cultural and social environments.

The fact that all the screening scales for postpartum depression have been developed based on the English language generates complications of cultural relevance, semantics, sensitivity, concepts and constructs. The different dialects within countries also raises the possibility of idiosyncratic elements, since each population or community has an individual way of interpreting maternal depressive symptoms. This fact indicates the need for the development of assessment instruments for postpartum depression that are validated within various cultures.

### Acknowledgments

We kindly thank Dr. Gill White, Mrs. Andrea Pavan, Dr. Enda Bannan and Ms. Laura Borrelli for their valuable assistance during distinct phases of this study. This study was partially supported by grant # 000605-25.00/03-8 from the Secretaria de Ciência e Tecnologia do Estado do Rio Grande do Sul, Brazil.

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