SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Medicine

Postpartum Depression and Its Impact of the Mother Child Relationship

Yassamine Bensalah[1*], Siham Belbachir[1], Abderrazzak Ouanass[1]

[1]Ar-razi Psychiatric University Hospital, Salé, Morocco, Faculty of Medicine and Pharmacy of Rabat, Mohamed V University, Morocco

DOI: 10.36347/sasjm.2024.v10i07.022 | **Received:** 01.06.2024 | **Accepted:** 08.07.2024 | **Published:** 22.07.2024

***Corresponding author:** Yassamine Bensalah
Ar-razi Psychiatric University Hospital, Salé, Morocco, Faculty of Medicine and Pharmacy of Rabat, Mohamed V University, Morocco

Abstract **Original Research Article**

Introduction: Depression is one of the main complications of the postpartum period [1]. Yet it is often insufficiently prevented, diagnosed and treated. ***Objectives*:** To determine the prevalence of postpartum depression and its impact on the mother-baby relationship, and to identify associated risk factors. ***Materials and Methods*:** Descriptive and analytical cross-sectional study, over a three-month period from January 1 to March 31, 2022, of postpartum women using a hetero-questionnaire (socio-demographic data); Edinburgh Postpartum Depression Scale (EPDS) and Postpartum Bonding Questionnaire (PBQ). ***Results*:** We enrolled 227 patients. The mean age of our patients was 28.8 ± 5.76 years.53.7% of our patients were primiparous, and 83.3% wanted their current pregnancy. 13.7% had given birth prematurely. The prevalence of postpartum depression was 21.1% and correlated with celibacy, low educational level, lack of desire for pregnancy and poor marital relationship. Post-partum depression is said to have an impact on family dynamics, mainly on the mother-baby relationship, and later on the child's psychological balance and development, as assessed by the PBQ. The PBQ came back disturbed in our study. ***Conclusion***: Therapeutic, preventive and even curative measures should be proposed for postpartum women, from educational measures for women and their close circle, psychotherapeutic means to well timed and appropriate drug prescription before complications set in.

Keywords: Post-partum depression, prevalence, public health problem, risk factors, mother-child relationship.

I. INTRODUCTION

The post-partum period is a focus of interest for many authors, as it is a vulnerable time for decompensation and even the emergence of psychiatric disorders, of which depression is one of the main post-partum complications [1].

According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), postpartum depression is a fairly severe depressive state occurring within the first four weeks [2].

Although postpartum depression most often occurs in the first four weeks after delivery, it can occur at any time during the first year after childbirth. Its incidence generally declines within three months of birth [3, 4].

Post-partum depression is a multifactorial disorder with interacting biological, psychological and sociological aspects [5]. Post-partum depressions are difficult to diagnose, given the variability and atypicality of the clinical presentation, the frequency of somatization and the discreet character of the disorder [6, 7].

However, post-partum depression represents a major public health problem, as it is the most frequent mood disorder after childbirth [1, 8]. Yet it is often insufficiently prevented, diagnosed and treated [7]. The onset of such depression is likely to have serious consequences, not only for the mother, but also for the mother-baby relationship and, consequently, for the child's psycho-affective development [7, 9-11].

The aim of our work is to determine the prevalence of post-partum depression and its impact on the mother-baby relationship, and to identify the associated risk factors.

II. MATERIALS AND METHODS

1) Study type and population:

This is a descriptive and analytical cross-sectional study, over a three-month period from January 1 to March 31, 2022, conducted at the Souissi maternity unit under the Ibn Sina university hospital center, various dispensaries, health centers and private practices in the Rabat-Kénitra region.

2) Eligibility criteria:

Inclusion criteria

We included patients between day 1 and day 90 of their postpartum period, whatever the mode of delivery and the term of delivery, after obtaining free consent.

Exclusion criteria

Patients with a psychiatric history were excluded from the study.

3) Sample size:

The sample size calculation is based on the following: the estimated prevalence, where "n" is the sample size, "p" is the expected prevalence, "i" is the degree of precision and "zα/2" is the critical value of the reduced centered normal distribution for a risk of error α (for α=5%, zα/2 =1.96). Formula 1 is used to calculate the sample size.

Formula 1: n= (zα x p) x (1- p)/ i2

To estimate the prevalence of post-partum depression, we know from the literature that it is around 21% [7]. Therefore, for an expected prevalence of 21%, a risk of alpha error of 5% and a precision of 6%, the minimum number of subjects to be recruited in the study would be around 178.

4) Data collection and measuring instrument:

We used a three-part questionnaire for this purpose:

- The first part concerned socio-demographic data such as age, marital status, professional situation, educational level, as well as parameters related to childbirth: gestational age, parity, wanted or unwanted pregnancy, mode of delivery...
- The second part consists of assessing depression using a self-administered Edinburgh Postnatal Depression Scale (EPDS). The version of the EPDS used consists of 10 items that can be completed in around 5 minutes (12). Each item is scored from 0 to 3 according to symptom intensity, with a maximum score of 30. Post-natal depression is considered confirmed when the score is greater than or equal to 10 [7].
- The third part involves the assessment of mother-baby interactions using a 25-item Postpartum Bonding Questionnaire (PBQ), which evaluates maternal attitudes and emotions towards her child [13, 14]. A high score indicates that the mother has negative emotions towards her baby, and that motherhood is a psychological burden for her. This self-questionnaire is based on four factors: the "general" factor, the "rejection and anger" factor, the "anxiety about caring for baby" factor, and the "risk of abuse" factor. The first factor is based on 12 questions with a maximum score of 60. The cut-off was 12. The second factor is based on 7 questions with a maximum score of 35. This factor identifies severe disorders in the mother-baby relationship, with a cut-off score of 17. The third factor is based on 4 questions concerning anxiety about the child, with a cut-off score of 10. The fourth factor consists of two questions with a maximum score of 10 and a cut-off of 3.

5) Statistical analysis:

Qualitative variables were expressed in numbers and percentages, and quantitative variables were expressed as mean +or- standard deviation because the variable distribution was symmetrical.

Univariate analysis was performed using the chi-square test or Fisher's exact test, depending on the test conditions.

Data analysis was performed using jamovi 2.3.19 statistical software.

III. RESULTS

Socio-demographic and obstetrical characteristics of the study sample:

We identified 227 patients. The mean age of our patients was 28.8 ± 5.76 years.

Table I: Socio-demographic characteristics of our patients

Characteristics	n	%
Age		
< 25 years	54	23.8
25- 35 years	137	60.3
> 35 years	36	15.9
Marital status		
Married	217	95.6
Single	10	4.4
Socio-economic status		
Low	79	34.8
Average	146	64.3
High	2	0.9
Educational level		
Never attended school	38	16.7
Primary school level	49	21.6
Secondary school level	81	35.7
Academic level	59	26
Profession		
No profession	153	67.4
Irregular employment	44	19.4
Regular employment	30	13.2

53.7% of our patients were primiparous, and 83.3% wanted their current pregnancy. 13.7% gave birth prematurely.

Prevalence of depression:

EPDS score:

In our study, 48 patients were depressed, which corresponds to 21.1%.

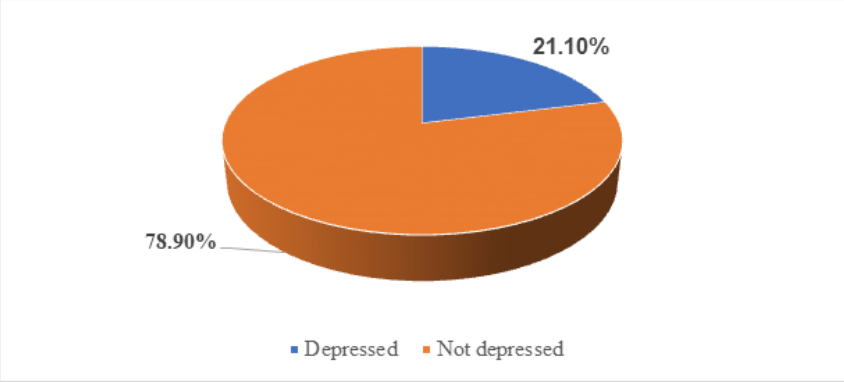

Figure 1: Prevalence of depression

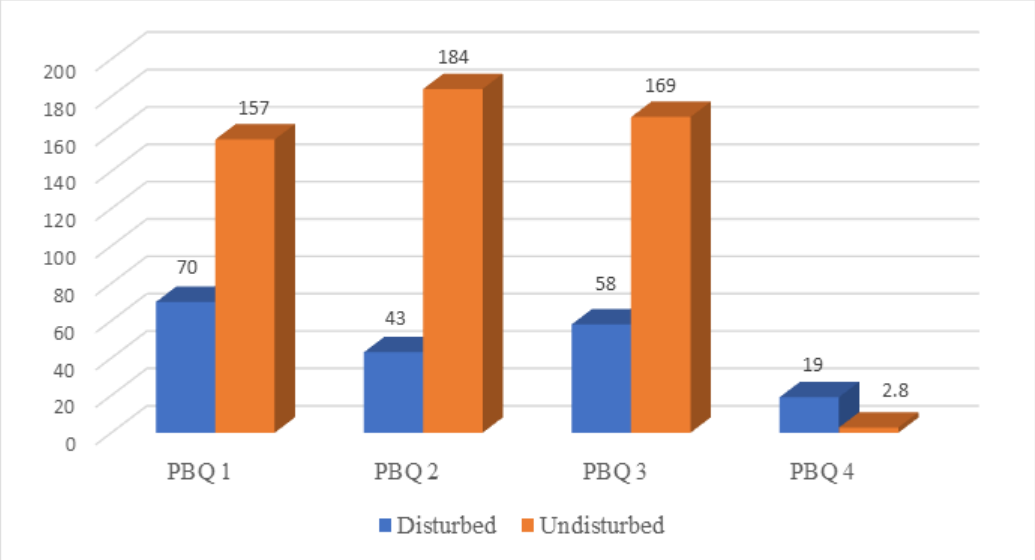

Figure 2: Postpartum bonding questionnaire for depressed women

Risk Factors Study:

Table II: Relationship between sociodemographic factors and postpartum depression

	Depressed EPDS >10	**Not depressed EPDS < 10**	**P**
	n (%)	**n (%)**	
Age			
< 25 years	16 (29.6)	38 (70.4)	0.067
25- 35 years	22 (16.1)	115 (83.9)	
>35 years	10 (27.8)	26 (72 .2)	
Marital status			
Single	9 (90)	1 (10)	**<0.001**
Married	39 (18)	178 (82)	
Professional activity			
Yes	12 (16.2)	62 (83.8)	0.206
No	36 (23.5)	117 (76.5)	
Educational level			
Never attended school	13 (34.2)	25 (65.8)	**0.013**
Primary school level	15 (30.6)	34 (69.4)	
Secondary school level	13 (16)	68 (84)	
Academic level	7 (11.9)	52 (88.1)	

Table III: Relationship between delivery-related parameters, PBQ, and postpartum depression

	Depressed EPDS >10	**Not depressed EPDS < 10**	**P**
	n (%)	**n (%)**	
Desire for pregnancy			
Absent	31 (81.6)	7 (18.4)	**< 0.001**
Current	17 (9)	172 (91)	
Birth			
At term	42 (21.4)	154 (87.6)	0.793
Premature	6 (19.4)	25 (80.6)	
Parity			
Multiparous	21 (20)	84 (80)	0.695
Primiparous	27 (22.1)	95 (77.9)	
Pregnanacy			
Twin	1 (5.6)	17 (94.4)	0.131
Monofoeatal	47 (22.5)	162 (77.5)	
Partner			
Absent	12 (100)	0	**<0.001**
Present	36 (16.7)	179 (83.3)	
PBQ (Disturbed)			
PBQ 1	32 (45.7)	38 (54.3)	**<0.001**
PBQ 2	25 (58.1)	18 (41.9)	
PBQ 3	28 (48.3)	30 (51.7)	
PBQ 4	14 (73.7)	5 (26.3)	

IV. DISCUSSION

Prevalence of postpartum depression:

In our study, 48 patients were depressed, i.e. 21.1% using an EPDS cut-off score ≥10. This rate varies in the literature between 10% and 20% [7, 15, 16].

An international meta-analysis by O'Hara and Swain of 59 studies revealed that postpartum depression affects around 13% of women assessed by the EPDS at a higher threshold of 12 and above, and therefore estimating more severe depression [17]. But if we consider both mild and severe depressive symptoms, O'Hara and Swain describe a prevalence of 19% [1].

Studies carried out in Africa or Arab-Muslim countries give prevalence values ranging from 9.2% to 73.7%, depending on the assessment instruments and severity thresholds [4]. A study of 150 patients in Tunisia, using an EPDS cut-off score ≥10, found a prevalence of 14.7% in the first week postpartum [16]. Similarly, a study carried out in Iran found an EPDS rate of 22% [7], which is in line with our results. However, a higher postpartum depression rate of 73.7% was found in the Egyptian town of Kom-ombo, but the sample size was small (57 mothers) and the study duration longer, ranging from two weeks to one year postpartum [18].

The prevalence of post-partum depression using an EPDS cut-off score ≥12 was 9.2% in Sudan [19], 16.8% in the United Arab Emirates [20], 17.6 in Qatar [21], 21% in Lebanon [22]. A Moroccan study conducted by Agoub *et al*., in 2005, using the same threshold score, found a post-partum depression rate of 20.5% [23]. On the other hand, a study carried out in Bahrain showed higher post-partum depression rates, reaching 37.1% [24].

The difference in prevalence of post-partum depression may be explained by the existence of postnatal rituals and support networks that are more important and therefore more effective in some societies than in others [7, 16]. Our study population, being Moroccan, belongs to an Arab-Muslim society known for its strong family presence and care of the mother and her baby during the postpartum period. Nevertheless, this aspect does not protect all postpartum women and those accumulating several risk factors.

Risk factors:

In the literature, postpartum depression results from the interaction of several psychological, social and biological risk factors [5, 25].

In our study, the risk factors for post-partum depression were celibacy, low level of education, lack of desire for pregnancy and poor marital relationship, all of which are in line with the literature.

From a socio-environmental point of view, low educational attainment, financial difficulties and inadequate social and family support, particularly marital support, are major risk factors for post-partum depression [4, 16, 25, 26].

This underlines the importance of educating those close to pregnant women, especially their spouses. It should be remembered that in our study, insufficient

marital support after childbirth was correlated with the onset of post-partum depression.

We also note that the absence of the desire for pregnancy was significantly associated with the occurrence of postpartum depression in our study. This is in line with data from most studies that have evaluated this factor [27-29].

Other risk factors have been reported in the literature, such as personal history of depression, exposure to violence or stress during pregnancy and preterm delivery [16, 30].

Post-partum depression is said to have an impact on family dynamics, mainly on the mother-baby relationship, and later on the child's psychological balance and development, as assessed by the PBQ. The PBQ came back disturbed in our study. This result was shared by other studies [31, 32].

Study Limitations

Our population was heterogeneous, both inpatient and outpatient, and the majority of patients were not assessed immediately postpartum to detect any postpartum Blue that might have developed into postpartum depression, as there was no follow-up over long periods.

Educational level prevented some women from taking part in the study. Nevertheless, this factor emerged as a risk factor for the onset of postpartum depression in our survey.

Although the EPDS is well accepted and has globally satisfactory psychometric qualities, it leaves open the possibility of false positives and requires a psychiatric examination to confirm a diagnosis of depression [33, 34].

V. CONCLUSION

For many authors, post-partum depression is a public health problem. The prevalence of post-partum depression in our study was 21.1%, making it necessary to generalize postpartum depression screening via the EPDS, currently available in Arabic.

Therapeutic, preventive and even curative measures need to be proposed for post-partum women, from educational measures for both women and their families, with psychotherapeutic means to appropriate drug prescriptions at the right time, before complications set in.

REFERCENCES

1. O'Hara, M. W., & Wisner, K. L. (2014). Perinatal mental illness: definition, description and aetiology. *Best practice & research Clinical obstetrics & gynaecology*, *28*(1), 3-12.
2. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition. American Psychiatric Association, Washington, D.C.; 2013. 10.1176/appi.books.9780890425596
3. Stewart, D., Robertson, E., Dennis, C., Grace, S., & Wallington, T. (2003). Postpartum depression: Literature review of risk factors and interventions. Ontario, Canada: Toronto University Health Network Women's Health Program.
4. Ayoub, K., Shaheen, A., & Hajat, S. (2020). Postpartum depression in the Arab region: A systematic literature review. *Clinical practice and epidemiology in mental health: CP & EMH*, *16*(Suppl-1), 142-155. https://doi.org/10.2174/1745017902016010142.
5. Agawal, I., Mehendal, A. M., & Malhotra, R. (2022). Risk Factors of Postpartum Depression. *Cureus*. https://doi.org/10.7759/cureus.30898.
6. McGill, H., Burrows, V. L., Holland, L. A., Langer, H. J., & Sweet, M. A. (1995). Postnatal depression: a Christchurch study. *The New Zealand Medical Journal*, *108*(999), 162-165.
7. Masmoudi, J., Tabelsi, S., Charfeddine, F., Ayed, B. B., Guermazzi, M., & Jaoua, A. (2008). Étude de la prévalence de la dépression du post-partum auprès de 213 parturientes tunisiennes. *Gynécologie obstétrique & fertilité*, *36*(7-8), 782-787.
8. Wisner, K. L., Chambers, C., & Sit, D. K. (2006). Postpartum depression: a major public health problem. *Jama*, *296*(21), 2616-2618.
9. Henderson, J. J., Evans, S. F., Straton, J. A., Priest, S. R., & Hagan, R. (2003). Impact of postnatal depression on breastfeeding duration. *Birth*, *30*(3), 175-180.
10. Murray, L., Sinclair, D., Cooper, P., Ducournau, P., Turner, P., & Stein, A. (1999). The socioemotional development of 5-year-old children of postnatally depressed mothers. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *40*(8), 1259-1271.
11. Luciano, M., Sampogna, G., Del Vecchio, V., Giallonardo, V., Perris, F., Carfagno, M., ... & Fiorillo, A. (2021). The transition from maternity blues to full-blown perinatal depression: results from a longitudinal study. *Frontiers in Psychiatry*, *12*, 703180. https://doi.org/10.3389/fpsyt.2021.703180
12. Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. *The British journal of psychiatry*, *150*(6), 782-786.
13. Brockington, I. F., Oates, J., George, S., Turner, D., Vostanis, P., Sullivan, M., ... & Murdoch, C. (2001). A screening questionnaire for mother-infant bonding disorders. *Archives of women's mental health*, *3*, 133-140. DOI: 10.1007/ s007370170010
14. Brockington, I. F., Fraser, C., & Wilson, D. (2006). The postpartum bonding questionnaire: a

validation. *Archives of women's mental health*, *9*, 233-242. https://doi.org/10.1007/s00737-006-0132-1

15. Teissedre, F., & Chabrol, H. (2004). A study of the Edinburgh Postnatal Depression Scale (EPDS) on 859 mothers: detection of mothers at risk for postpartum depression. *L'encephale*, *30*(4), 376-381.
16. Cherif, R., Feki, I., Gassara, H., Baati, I., Sellami, R., Feki, H., ... & Masmoudi, J. (2017). Symptomatologie dépressive du post-partum: prévalence, facteurs de risque et lien avec la qualité de vie. *Gynécologie obstétrique fertilité & sénologie*, *45*(10), 528-534. https://doi.org/10.1016/j.gofs.2017.06.011.
17. O'hara, M. W., & Swain, A. M. (1996). Rates and risk of postpartum depression—a meta-analysis. *International review of psychiatry*, *8*(1), 37-54.
18. Mohamed, H. A., Spencer, S. L., Al Swasy, A. H., Swidan, S. E., & Abouelenien, M. S. (2014). A social and biological approach for postpartum depression in Egypt. *Woman-Psychosomatic Gynaecology and Obstetrics*, *1*(1), 30-39.
19. Khalifa, D. S., Glavin, K., Bjertness, E., & Lien, L. (2015). Postnatal depression among Sudanese women: prevalence and validation of the Edinburgh Postnatal Depression Scale at 3 months postpartum. *International journal of women's health*, 677-684.
20. Hamdan, A., & Tamim, H. (2011). Psychosocial risk and protective factors for postpartum depression in the United Arab Emirates. *Archives of women's mental health*, *14*(2), 125-133.
21. Bener, A., Burgut, F. T., Ghuloum, S., & Sheikh, J. (2012). A study of postpartum depression in a fast developing country: prevalence and related factors. *The international Journal of psychiatry in medicine*, *43*(4), 325-337.
22. Chaaya, M., Campbell, O. M. R., El Kak, F., Shaar, D., Harb, H., & Kaddour, A. (2002). Postpartum depression: prevalence and determinants in Lebanon. *Archives of women's mental health*, *5*, 65-72. [http://dx.doi.org/10.1007/s00737-002-0140-8] [PMID: 12510201]
23. Agoub, M., Moussaoui, D., & Battas, O. (2005). Prevalence of postpartum depression in a Moroccan sample. *Archives of Women's Mental Health*, 8(1), 37-43.
24. Al Dallal, F. H., & Grant, I. N. (2012). Postnatal depression among Bahraini women: prevalence of symptoms and psychosocial risk factors. *EMHJ-Eastern Mediterranean Health Journal*, *18*(5), 439-445.
25. Moya, E., Mzembe, G., Mwambinga, M., Truwah, Z., Harding, R., Ataide, R., ... & Phiri, K. S. (2023). Prevalence of early postpartum depression and associated risk factors among selected women in southern Malawi: a nested observational study. *BMC Pregnancy and Childbirth*, *23*(1), 229. https://doi.org/10.1186/s12884-023-05501-z.
26. Zedan, H. S., Baattaiah, B. A., Alashmali, S., & Almasaudi, A. S. (2023, July). Risk of postpartum depression: The considerable role of maternal health status and lifestyle. In *Healthcare* (Vol. 11, No. 14, p. 2074). MDPI. https://doi.org/10.3390/healthcare11142074.
27. Gebregziabher, N. K., Netsereab, T. B., Fessaha, Y. G., Alaza, F. A., Ghebrehiwet, N. K., & Sium, A. H. (2020). Prevalence and associated factors of postpartum depression among postpartum mothers in central region, Eritrea: a health facility based survey. *BMC public health*, *20*, 1-10. https://doi.org/10.1186/s12889-020-09676-4.
28. Barton, K., Redshaw, M., Quigley, A. M., & Carson, C. (2017). Unplanned pregnancy and subsequent psychological distress in partnered women: a cross-sectional study of the role of relationship quality and wider social support. *BMC Pregnancy Childbirth*, *17*(44). 10.1186/s12884-017-1223-x
29. Ihongbe, T. O., & Masho, S. W. (2017). Do successive preterm births increase the risk of postpartum depressive symptoms?. *Journal of Pregnancy*, *2017*(1), 4148136. doi: 10.1155/2017/4148136.
30. Zhao, X. H., & Zhang, Z. H. (2020). Risk factors for postpartum depression: An evidence-based systematic review of systematic reviews and meta-analyses. *Asian journal of psychiatry*, *53*, 102353. https://doi.org/10.1016/j.ajp.2020.102353.
31. Lutkiewicz, K., Bieleninik, Ł., Cieślak, M., & Bidzan, M. (2020). Maternal–infant bonding and its relationships with maternal depressive symptoms, stress and anxiety in the early postpartum period in a Polish sample. *International journal of environmental research and public health*, *17*(15), 5427. https://doi.org/10.3390/ijerph17155427.
32. Ohara, M., Okada, T., Kubota, C., Nakamura, Y., Shiino, T., Aleksic, B., ... & Ozaki, N. (2017). Relationship between maternal depression and bonding failure: A prospective cohort study of pregnant women. *Psychiatry and Clinical Neurosciences*, *71*(10), 733-741.
33. Milgrom, J., Ericksen, J., Negri, L., & Gemmill, A. W. (2005). Screening for postnatal depression in routine primary care: properties of the Edinburgh Postnatal Depression Scale in an Australian sample. *Australian & New Zealand Journal of Psychiatry*, *39*(9), 833-839.
34. Gibson, J., McKenzie-McHarg, K., Shakespeare, J., Price, J., & Gray, R. (2009). A systematic review of studies validating the Edinburgh Postnatal Depression Scale in antepartum and postpartum women. *Acta Psychiatrica Scandinavica*, *119*(5), 350-364.