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Positive screening and risk factors for postpartum depression

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1. Introduction

The birth of a child may lead to the onset of psychopathological symptoms in the mother that vary in frequency and intensity [1,2], and to short/long-term effects on the mother's and/or child's health [3–7].

These symptoms usually regard some form of anxiety and depression which may cause little alarm but in some cases indicate serious problems. These include the condition defined as baby blues, which is short lasting, and characterized by mild symptoms and a minimal impact on functioning [8]. Postpartum psychosis [9,10] is definitely a more serious disorder, with a prevalence that can range between 0.1 to 0.2% [11], and an increased risk of suicide and infanticide [12]. From a clinical and statistical point of view, postpartum depression (PPD) is the most important psychological complication related to childbirth.

Research studies have demonstrated that approximately 10–15% of women who give birth are affected by PPD, with some variability in prevalence across different geographical locations and population groups [13–17]. There is also a substantial percentage of women who suffer postpartum anxiety, many of whom experience comorbid depressive symptoms. Literature regarding perinatal anxiety disorders reports a prenatal prevalence of 9–22%, and a postpartum prevalence of 11–21% [18].

The key risk factors linked with poorer postpartum mental health are well documented [19–22] and include: a past history of depression and/or anxiety [23–25], relationship problems with one's partner [26], domestic violence [27], lack of social support [28,29], stressful events [26], isolation [23], negative attitude toward pregnancy [30] and personality vulnerabilities [13,21]. Mothers of infants who suffer from a medical pathological condition [31], or are born prematurely [31] or with a difficult temperament [28] are more at risk of PPD. Physical health problems [23,32], low acceptance of one's body and body weight [33] are also found to be associated with PPD in women from both industrialised and developing countries.

This suggests that identifying perinatal psychological and social risk factors may be important. In fact, it is increasingly acknowledged that perinatal mental health includes far more than the simple diagnosis of PPD. The concept of *psychosocial assessment* involves a broad focus of inquiry concerning past and current risk factors which makes it possible to produce a more detailed profile during a woman's perinatal period while including screening for possible current depression [34]. In order to carry out a psychosocial assessment, a number of structured psychosocial assessment tools have been developed. These include The Antenatal Psychological Health Assessment (ALPHA) [35], Antenatal Risk Questionnaire (ANRQ) [36], Predictive Index of PND [37], and the Antenatal Psychological Questionnaire [38]. The Antenatal Risk Questionnaire (ANRQ) is a highly acceptable self-report psychosocial assessment tool which helps predict which women will develop PPD [36].

The objective of the present study was to examine the psychosocial risk profile of a sample of postnatal women who had attended childbirth classes during their pregnancy, in Italy. There have been very few population studies in Italy that have investigated the association between depression or anxiety symptoms and psychosocial related risk factors among perinatal women and this work aims to close this knowledge gap and

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contribute to a better understanding of factors that increase the risk of PPD in our country. More specifically, the authors examined psychosocial variables which were associated with elevated scores on the Edinburgh Postnatal Depression Scale (EPDS) [39]. For this purpose, a questionnaire, which we adapted from the ANRQ was administered, together with EPDS, after child birth. This was done in order to cover many of the domains which were considered in the ANRQ but also to include some further questions in order to collect information on delivery and new-born health.

2. Methods

2.1. Outline of the study

The study was conducted as part of the *Prevenzione e intervento precoce per il rischio di depressione postpartum* (Prevention and early intervention for risk of postpartum depression) project funded by the Ministry of Health. The objectives of the project were to define acceptable screening procedures in the Italian setting in order to identify women at risk of postpartum depression, and to assess the feasibility and effectiveness of psychological intervention and services, which were developed by Milgrom et al. [40]. The project was assessed and approved by the Ethical Committee of the Italian National Institute of Health with the registration number CE/12/369.

2.2. Sample

Enrolment of most women took place during the 158 childbirth classes held during an approximately 2-year period (2012–2014), 84 of which held in the "Treviglio Caravaggio Hospital" and in the Oderzo ASL (local health unit) in the province of Bergamo, 63 held in the ASL 9 in Treviso and 11 in the family counselling and other territorial offices in the Campobasso health district. During one of the scheduled meetings for childbirth courses, the project was presented to the pregnant women (by psychiatrists, psychologists, obstetricians or gynaecologists). The other part of the sample was mostly approached in a hospital obstetrics ward, in the Campobasso health district, during the 2 days immediately following childbirth, while the remaining cases were directly referred by the family doctor. All the women involved were provided with a pamphlet developed as part of the project, entitled "*Come prevenire la Depressione Postpartum e sentirsi nuovamente se stesse*" (How to Avoid Postpartum Depression and Feel Yourself Again). It also contained phone numbers of the facilities involved in the project, providing women with the chance to contact them when necessary. Pregnant women who wished to participate in the project were asked to provide their personal information (name and phone number) and the expected delivery date in order to be contacted by a research psychologist assistant during the screening period (between the 6th and 12th week following childbirth) in order to fill out the pertaining scheduled assessment instruments. At the scheduled dates, women who confirmed they wanted to be involved in the project and definitively agreed to participate signed an informed consent form. Then, they were invited to self-complete the assessment instruments. However, a research assistant was available to provide help if required. All research assistants had previously received detailed instructions about how to give the assessment instruments, and how to answer possible questions.

2.3. Assessment instruments

2.3.1. Current PPD symptoms

The EPDS [39] was employed as a test for the assessment of current symptoms of depression [41]. The Italian version validated by Benvenuti [42] and Cox was employed. The chosen cut-off score was 12 or above, optimal for assessing the risk of major depression [40], ensuring a 56% sensitivity rate, 99% specificity and a positive predictive value equal to 91% [42]. Therefore, women who tested positive at the EPDS (score 12 or more) were considered as having current PPD symptoms.

2.3.2. Psychosocial assessment

A special questionnaire was prepared to identify some psychosocial variables, which are summarized in five different sections:

- information regarding delivery and new-born health: possible complications during childbirth (e.g., elective caesarean, emergency caesarean, excess blood loss, vaginal tearing, adverse effects of epidural analgesia, forceps, greater than 36-hour labour, preterm birth and low birth weight, emotional distress during labour or delivery); maternal health problems early after childbirth (e.g., anaemia, anal fissure, mastitis, and caesarean section complications such as the risk of wound dehiscence, chronic incision pain, sinus infection, baby blues); maternal sleeping problems after childbirth; health of the new-born at birth (e.g., shoulder dislocation, curved foot, hypoglycaemia, hyperglycaemia, infections, respiratory problems such as transient tachypnoea, anaemia, jaundice) new-born's health problems (e.g., urinary tract infections, inflammatory injuries such as bronchiolitis or enterocolitis, other clinical problems present at birth that persist through the first 1–3 months of life); new-born's sleeping problems (new-born who has trouble falling asleep and remaining asleep, as well as problems going back to sleep once awaken); type of feeding (breastfeeding or not); new-born's difficult temperament (new-born that cry a lot, cry loudly, or is hard to soothe);
- information regarding pre-delivery and pregnancy periods: having had previous pregnancies; having resorted to assisted reproductive technology for the present pregnancy; pregnancy at risk for health problems (e.g., gestational hypertension, gestational diabetes, toxaemia, chronologically prolonged pregnancy); pregnancy at risk for genetic problems (e.g., chromosomal or genetic abnormalities or disorders such as thalassemia or Down syndrome);
- details of any stressful events during the previous 12 months (disease, accidents, bereavement in the family, job loss or change, relocation, sexual problems, economic problems, theft, relationship problems with one's partner, interruption of a marital/sentimental relationship);
- information on mental health condition prior to the present pregnancy (having experienced a period of at least 2 consecutive weeks in which nearly every day and for most of the day woman felt sad, blue or depressed during her present pregnancy, or during the course of her lifetime; having experienced lost interest in things during her present pregnancy, or during the course of her lifetime; and having experienced a period of at least six consecutive months when woman felt apprehensive, anxious, easily worried about many things and more than usual during her present pregnancy, or during the course of her lifetime; current use of psychotropic drugs);
- information on perceived family and social network support. Within this section, five questions were posed regarding counting on friends and family for practical help, counting on friends and family for psychological support, being satisfied with one's own sentimental relationship, counting on husband when woman feels nervous or worried, counting on husband for practical help.

The questionnaire also included a set of sociodemographic variables (age, nationality, educational level, professional status, economic status, marital status).