Psychiatry Research 186 (2011) 281–286

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

The evaluation of emotional facial expressions in early postpartum depression mood: A difference between adult and baby faces?

Sandrine Gil [a,*], Frédérique Teissèdre [b], Patrick Chambres [b], Sylvie Droit-Volet [b]

[a] Centre de Recherches sur la Cognition et l'Apprentissage (CeRCA), CNRS, UMR 6234, Université de Poitiers, 99 avenue du Recteur Pineau, F-86000 Poitiers Cedex, France
[b] Laboratoire de Psychologie Sociale et Cognitive (LAPSCO), CNRS, UMR 6024, Université Blaise Pascal, 34 avenue Carnot, 63037 Clermont-Ferrand, France

ARTICLE INFO

Article history:
Received 4 May 2009
Received in revised form 14 June 2010
Accepted 21 June 2010

Keywords:
Early postpartum depressive mood
Emotion
Face
Anxiety
Affective disorders

ABSTRACT

Research suggests that depressive individuals exhibit disturbances in the evaluation of emotional facial expressions. Owing to the specific character of postnatal depressive mood, the purpose of the present study was to examine whether postpartum depressive mood intensity in the mothers would involve the same disturbances as depression or a specific distortion in the emotional evaluation of baby faces as compared to adult faces. Three days after birth, the participants ($N = 79$) completed the Edinburgh Postnatal Depression Scale, the State-Trait Anxiety Inventory and the Toronto Alexithymia Scale. They also evaluated the facial expressions of adults and babies displaying anger, happiness, sadness and neutrality in terms of the intensity of five emotions: Anger, disgust, sadness, happiness and neutrality. Our findings suggest that judgements of emotional facial expressions depend to a great extent on anxiety, which specifically increased negative perception of babies' emotions. Moreover, the only difference between mothers with and without postpartum depressive mood lays in their assessment of the babies' faces, neutral baby faces being judged to be less neutral, thus demonstrating the specificity of postpartum affective disorders.

© 2010 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

The quality of early mother–infant interactions is a determining factor for children's abilities to communicate, for their emotional development and well-being (Murray, 1992; Weinberg and Tronick, 1994; Papousek and Papousek, 1997; Tronick and Weinberg, 1997; Field, 2002; Feldman, 2007). Evidence suggests that "linkages detected between maternal emotional disposition and infant face processing reflect, at least in part, the role of experience in shaping face processing" (de Haan et al., 2004, p. 1214). However, after childbirth, some mothers suffer from a specific form of depressive mood that can modify these early relationships.

There are three forms of affective disorders which differ in both their severity and timing: (1) postpartum blues (also known as baby or maternity blues), (2) postpartum depression, and (3) puerperal psychosis which includes heterogeneous entities that incorporate all the major psychiatric disorders which occur during the period following childbirth. The former is the most frequent affective disorder and is experienced by 25% to 85% of mothers. Postpartum depression affects between 10 and 20% of mothers, while puerperal psychosis affects less than 2 per 1000 (Beck, 2002). The symptoms of postpartum blues consist of common emotional disturbances such as crying, anxiety and a depressed and unstable mood. These symptoms appear in the first week after childbirth and are limited in time. When they persist beyond two weeks, or if they are very intense, the diagnosis is one of postpartum depression. Moreover, the link between early postpartum depressive mood and postpartum depression has been extensively reported on the basis of the Edinburgh Postnatal Depression Scale (EPDS), which makes it possible to evaluate the depressive component of the former and to predict the clinical diagnosis of the latter (e.g., Teissèdre and Chabrol, 2004; Gonidakis et al., 2008). Since the way a mother processes the emotional facial information expressed by her child may help her respond correctly to her infant's physical and social needs, the purpose of our original work was to examine how mothers suffering from depression symptomatology in the first days after childbirth evaluate emotional facial expressions. To date, no research has attempted to examine this topic. Indeed, the few experimental studies on emotion and postpartum depressive mood have focused on disturbances in the emotional expressiveness of the mothers and/or their children (e.g., Cohn et al., 1990; Lundy et al., 1996; Field, 1997; Lundy et al., 1997; Striano et al., 2002; Nadel et al., 2005).

As far as depression in general is concerned, two types of disruption to the perception of emotional facial expressions have been reported on many occasions. Firstly, a number of studies have

* Corresponding author.
E-mail address: sandrine.gil@univ-poitiers.fr (S. Gil).

0165-1781/$ – see front matter © 2010 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.psychres.2010.06.015

shown that the recognition of emotional expressions is less accurate in depressive individuals than in controls (Gur et al., 1992; Rubinow and Post, 1992; George et al., 1998; Suslow et al., 2001; Leppänen et al., 2004; Mendlewicz et al., 2005). Secondly, other studies have reported a negative bias in emotional evaluations, namely in that depressed individuals attribute negative emotions to neutral or positive facial expressions, or judge negative facial expressions to be more intense (Gur et al., 1992; Hale, 1998; Gollan et al., 2008). This keeps with the mood congruence effect (Niedenthal et al., 2000): While someone in love sees life through rose-tinted spectacles, a sad or depressed person sees it through grey spectacles. However, compared to depression, postpartum depressive symptoms have to be considered as being related to a specific context, because they appear in reaction to childbirth. We may thus suppose that the depression-based disturbances in the evaluation of the emotions expressed by faces might be specific to baby faces or more important for baby than for adult faces. Furthermore, there is some evidence that inter-individual variations in the external context (e.g. having low mother esteem) might exacerbate the depressive symptoms and their effects (Kendell et al., 1984; O'Hara et al., 1991; Tamaki et al., 1997; Robertson et al., 2004; Séjourné et al., 2008). Certain external variables might therefore modulate the effect of depressive mood on the evaluation of emotional faces. Consequently, in our study, we have also taken into account many external variables of socio-biographical, psychosocial and obstetrical nature.

Furthermore, with regard to postnatal symptoms, an increasing number of studies have provided empirical evidence that childbirth is associated not only with depression but also with other affective styles, especially anxiety disorders (Heron et al., 2004; Gonidakis et al., 2008; Mota et al., 2008; Skouteris et al., 2009) and alexithymia (Le et al., 2007; Gonidakis et al., 2008), the later often being found to be related to depression (Taylor et al., 2000; Kojima et al., 2003). In the present study, we thus investigated whether, as has been shown for depressive mood, early postpartum depressive mood is associated with disturbances in the evaluation of emotional facial expressions, and whether these disturbances are observed at a higher rate in response to baby faces. In this framework, we examined also whether affective styles (anxiety and alexithymia), as external variables associated with postnatal depressive mood intensity explain, at least partly, the distortions in emotional expression evaluation.

2. Method

2.1. Study design

The study was conducted in two hospitals near Clermont-Ferrand. Seventy-nine female volunteers were seen individually in their rooms on the third day after delivery. The inclusion criteria consisted of an adequate knowledge of French language and the delivery of a healthy baby.

2.2. Clinical symptoms questionnaires

The French version (Guedeney and Fermanian, 1998) of the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) was used to assess postpartum depression symptomatology on the third day after childbirth. This questionnaire consists of 10-item self-report statements which investigate the mother's mood, the level of anxiety, the feeling of guilt, the feeling of lacking ability, sleep problems and the desire to end one's own life. The score range is between 0 and 30. This questionnaire is acknowledged as making it possible to screen for postnatal depressive mood at an early stage and identify mothers at risk (Beck, 2001; Chabrol and Teissèdre, 2004).

The intensity and the frequency of anxiety were measured with the State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983; French version by Schweitzer and Paulhan, 1990). This commonly employed self-report instrument, which consists of 4-point Likert scales, allowed us to assess state anxiety and trait anxiety independently on two different 20-item subscales. The anxiety score on each subscale provides information about the general probability of experiencing anxiety symptoms and ranges from 20 to 80.

The French version (Loas et al., 1996) of the 20-item Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994) was also administered. In this extensively validated scale, subjects were asked to indicate the degree to which they agree with each of the 20 statements on a 5-point Likert scale. The scores range from 20 to 100, with higher scores indicating a higher level of alexithymia.

2.3. The emotional facial expression task

Because there are no pictures of the facial expressions of adults and babies taken under the same conditions, we had developed our own stimuli.[1] Adults and babies exhibiting facial expressions of basic emotions that are widely recognized in adults—anger, happiness, sadness and neutrality—were therefore photographed from the shoulders up. To standardize the photographs, all wore a grey pullover, and were photographed against a light-blue background. We consequently selected 452 photographs that were judged to represent recognizable facial expressions. Each photograph was then evaluated by 25 undergraduate students who, in each case, had to judge the intensity of 8 emotions (anger, happiness, sadness, neutrality, disgust, fear, surprise, and shame) on a 7-point scale ranging from 0 "The face in no way expresses this emotion" to 6 "The face fully expresses this emotion". This larger panel of emotions was used in order to exclude ambiguous facial expressions. The order of presentation of both the photographs and the emotion scale was randomised across the participants. These evaluations allowed us to identify the best photographs[2] that expressed a specific emotion[3] at a high level of intensity (>3.5). The final set of stimuli consisted of 48 colour photographs displaying 4 different kinds of emotional facial expressions—anger, happiness, sadness, and neutrality (see Fig. 1 for an example). There were 12 photographs for each emotion tested. Six photographs represented an adult's emotional facial expression (3 males and 3 females) and six photographs represented a baby's emotional facial expression (two babies). Each target expressed the 4 emotion expressions once.

2.4. Procedure

All the women, who volunteered to take part in the study, gave their informed consent and were asked to complete a questionnaire relating to their demographic, obstetric and psychosocial details[4] (see Table 1).

The women then completed the emotional facial expression task. They were told that they would see faces of different individuals, and that they had to indicate the intensity of a given emotion on a 7-point scale from 0 "The face in no way expresses this emotion" to 6 "The face fully expresses this emotion". For each photograph, they had to judge the intensity of 5 emotions: the four actually expressed emotion (anger, happiness, sadness and neutrality) and, in order to avoid overloading the experiment, only one additional emotion, namely disgust, because literature highlights that this emotion plays an critical role in some affective styles, particularly anxiety (Marzillier and Davey, 2005). The order of the emotions was counterbalanced between each photograph. The 48 emotional facial expressions were therefore presented one by one centered on the computer screen. After judging a photograph, the participant had to press a key on the computer keyboard to see the next photograph. The order of the photographs was counterbalanced for each participant. Finally, the participants completed the three self-report scales for postnatal depression symptoms, anxiety, and alexithymia. The entire session lasted about 1 h.

[1] To produce the facial expressions of anger, happiness and sadness, we asked the adults to think of an event which induces a specific emotion, (e.g., for happiness, thinking of a party with friends). In addition, we presented them with examples of pilot-tested emotional facial expressions from Beaupré and Hess's (2005) study. In the case of the babies, the photos were taken as a function of the baby's spontaneous mood. In others words, the experimenter waited for the baby to laugh (e.g., when he was happy to play with his mother), or cry (e.g., when he was hungry).

[2] The photographs were tested by an additional sample of participants and selected and assessed following 3 phases: (1) a preliminary selection of photographs considered by the participants as representing a given emotion at a high level of intensity (i.e., mean>3.5 on a 7-point scale) was run; (2) A series of analyses of variance (ANOVAs) and *T*-tests were performed to examine whether the selected photographs differed as a function of the category of expressed emotion, and were similar in each emotional category; (3) A principal component analyses for each emotion and for all selected photographs was also run in order to confirm that the sample of photographs expressing a particular emotion was homogeneous.

[3] Regarding the evaluations of babies' facial expressions, the data revealed that baby photographs evaluated as strongly expressing anger were also systematically evaluated as expressing sadness. Consequently, in our experiment, the "angry baby faces" category actually corresponded to an "angry/sad baby faces" category. This blending of anger and sadness is usually observed in emotional baby faces (e.g., Matias and Cohen, 1993; Sullivan and Lewis, 2003). The other categories (i.e., happy, sad, neutral) corresponded to a specific emotion.

[4] Since 11% of women reported to have already used antidepressants, we carried out an independent-sample *T*-test in order to control that these women did not obtain an EPDS score significantly higher than the other women. The results showed no difference between women who have already used antidepressants ($M=9.11$; S.D.$=4.45$) and the others ($M=8.76$; S.D.$=5.57$, $t(73)=-.18$, $P>0.10$). Because the question was not precise, we can supposed that these women took antidepressants at a more or less remote point in time, with this former antidepressant intake having no impact on the results obtained in our study.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
✓ امکان دانلود نسخه ترجمه شده مقالات
✓ پذیرش سفارش ترجمه تخصصی
✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
✓ دانلود فوری مقاله پس از پرداخت آنلاین
✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات