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CLINICAL ARTICLE

Effectiveness of psychological intervention for treating symptoms of anxiety and depression among pregnant women diagnosed with fetal malformation

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ABSTRACT

Objective: To determine the effectiveness of a psychological intervention targeting pregnant women with fetal malformation. *Methods:* A clinical study was conducted that enrolled 65 pregnant women attending Clinics Hospital at Ribeirão Preto, University of São Paulo, Brazil, between February 2004 and May 2008. Participants were allocated to 1 of 4 groups: normal pregnancy (NP), fetal malformation (FM), fetal or neonatal death (FD), and control (CG). Psychological intervention—including support, empathy, education, and desensitization—was provided to the NP, FM, and FD groups. Women in CG did not receive the intervention and were assessed in the postnatal period only. Anxiety was measured using the Hospital Anxiety and Depression (HAD) scale. Depression was measured by HAD and the Edinburgh Postnatal Depression Scale. *Results:* Significant reductions from baseline were observed in anxiety and depression scores after psychological intervention in the NP and FM groups. Symptom scores in the postnatal period were also significantly reduced among these groups ($P<0.001$). *Conclusion:* Psychological intervention was effective in relieving symptoms of anxiety and depression experienced by pregnant women with fetal malformation.

1. Introduction

Pregnancy, birth, and the postnatal phases are periods of life often experienced in a positive manner by parents and their close relatives. Complicated pregnancies or intrauterine impaired fetal development can negatively alter these feelings and sometimes cause psychological manifestations that require specialized intervention [1].

Fetal developmental disturbances or malformations increase the risk of maternal depression [2–4]. Mothers of children with congenital heart disease are appreciably more likely than mothers of healthy children to have puerperal and post-puerperal depression and anxiety, and the magnitude of fetal disease is associated with the severity of depression [2]. Fetal and neonatal deaths are also associated with negative reactions, such as depression, difficulty in sleeping, irritability, eating disorders, and delusional symptoms [5]. A study conducted in Niger found that all women who had experienced spontaneous abortions exhibited depressive symptoms, and approximately 14% of them experienced symptoms of severe depression [1]. Such effects, however, tend to be minimized over the first 2 years following loss of the fetus. A study by Leon indicated that bereaved parents gradually resume their daily activities and are eventually able to experience pleasure in life again [3]. Despite this recovery, the experience of spontaneous abortion completely alters the manner in which an individual regards life, relationships, and the future; this observation suggests that spontaneous abortion is an experience with important psychological impact [3].

Studies have also focused on the association between mental health and adverse responses to events occurring during pregnancy or in the puerperium [6,7]. Illnesses such as depression, anxiety, schizophrenia, and suicidal ideation seem to be risk factors for impaired fetal development and death [7].

Another important aspect for pregnant women with fetal malformation is the strong psychological effect of the decision to either proceed with the pregnancy or abort it. Many international studies have investigated the emotions involved in making this difficult decision [8–10]. Aune and Möller noted that numerous elements are involved in the process a woman goes through before she is able to choose whether or not to end the pregnancy [10]. These elements include the emotional connection with the fetus, social pressures, feelings of guilt, and a perceived lack of control over the situation. The necessity to make choices about her own future and that of her fetus can cause a pregnant woman to experience a variety of feelings and an emotional crisis, which Summerseth and Sundby have termed a "continuous state of chaos" [8].

In Brazil, issues surrounding the decision to undergo induced abortion affect only a small portion of the population because laws, which

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were primarily written according to Christian culture, state that it is illegal to abort a pregnancy on the grounds of fetal malformation. Induced abortions are only legally allowed in instances of rape, risk of maternal death, or fetal anencephaly. Therefore, the need to make a decision on the future of a pregnancy is not experienced by an appreciable number of Brazilian women. The main concerns that pregnant Brazilian women face are those related to coping with the situation. In addition, issues related to the maternal–fetal bond, social acceptance, and guilt experienced in the wake of avoidable neonatal death or delivery of a child with long-term malformation must also be faced [8–10]. These data reinforce the importance of investigating the psycho-emotional coping mechanisms that pregnant women display in response to fetal malformation. Such studies might facilitate the development of tools to assist and guide clinical teams on how to provide the best possible care and how to prevent the anxiety and depression that so frequently occur in these situations.

Nonetheless, very little is known about the complex patterns of psychological response among pregnant women who are informed that they may face a spontaneous abortion or that their fetus could have serious developmental problems. Furthermore, few studies have addressed the efficacy of supportive psychological techniques that aim to mitigate the negative effect of receiving this kind of information during pregnancy. Limited evidence suggests women facing such situations benefit from psychological support, which mainly manifest through decreases in the severity and duration of symptoms related to depression and anxiety [11]. These studies [8–11] are relevant in order to test interventions that may offer support to women while facing adversity, thereby increasing their ability to cope with severe stress.

The aim of the present study was to determine the effectiveness of a psychological intervention targeting anxiety and depression among pregnant women with fetal malformation.

2. Materials and methods

A clinical study was conducted that enrolled a convenience sample of 65 pregnant women attending Clinics Hospital, University of São Paulo, São Paulo, Brazil, between February 1, 2004, and May 31, 2008. The study design was approved by the Ethics in Research Committee of the University of São Paulo. All women who agreed to participate signed informed consent forms after learning details of the present study. For minors, the parents or guardians were also required to sign the consent form.

Inclusion criteria were age of at least 18 years (minors could participate if accompanied by consenting guardians), no history of pregnancy malformations, and no legal option to abort the pregnancy. Women with impaired cognition who might not be able to understand the present study or participate in the assessments were excluded, as were women who missed 3 consecutive prenatal visits. As shown in Table 1, the 65 participants were divided into 4 groups: normal pregnancy (NP), fetal malformation (FM), fetal or neonatal death (FD), and control (CG).

Women allocated to CG underwent prenatal care at centers that did not provide psychological assistance; therefore, they only contributed to the postnatal assessment. These women were selected by the medical team to match the clinical conditions of women assigned to FM (i.e. maternal inclusion and exclusion criteria and type of fetal malformation). Surgical risk for women in FM versus CG was also assessed and included neurosurgery (50.0% vs 52.6%), cardiac surgery (25.0% vs 26.3%), orthopedic surgery (18.7% vs 15.8%), and abdominal surgery (6.2% vs 5.3%).

Table 1
Definition of the 4 study groups.

Group	Inclusion criteria
Normal pregnancy (n = 15)	No fetal malformation and receiving prenatal care in the hospital where the present study was conducted
Fetal malformation (n = 16)	Fetal malformation and receiving prenatal care in the hospital where the present study was conducted
Fetal or neonatal death (n = 15)	Women excluded from the fetal malformation group owing to death of the fetus or newborn
Control (n = 19)	Fetal malformation but not receiving prenatal care in the hospital where the present study was conducted

After initial assessment, psychological intervention was provided to the NP, FM, and FD groups only and involved the pregnant woman and her family during return prenatal visits. All treatments included a welcome meeting that was targeted to the demands of each individual participant, during which the women were listened to sympathetically, their feelings about motherhood were validated, and their feelings of powerlessness to tackle the problem redirected toward coping attitudes. During these meetings, counselors and participants discussed any potential questions and ideas that did not correspond to the reality of the diagnosis of fetal malformation. The team also offered information on the diagnosis and possible preoperative, operative, and postoperative procedures when requested by participants or their relatives.

In all cases, the research team used tactics to approximate the reality of the problems and the post-birth demands that the mother could face so that she could become more informed and better prepared. When necessary, systematic desensitization techniques were also employed. This approach included psychologist-accompanied visits for participants and families to the relevant hospital environments, with an introduction to the teams on the obstetric, surgical intensive care, and nursery wards. In addition, information on childbirth procedures and pediatric surgery was provided when requested by the participants. During the week of hospitalization for childbirth, all women who had received their prenatal care in the study hospital were accompanied by a psychologist.

Psychological intervention lasted from the first prenatal visit until delivery. Participants in the NP and FM groups were assessed both during pregnancy and after delivery; women in FD were assessed only during pregnancy, whereas those in CG were assessed only after the delivery. Final assessment occurred 6 months after delivery, during a routine medical visit. All 4 groups were evaluated at this time to ensure that any possible variables in mothering adequacy would not be intervening factors, as all participants had the same amount of time to adjust to their new maternal roles. The same questionnaires and assessments used in the initial visit were performed at the final visit.

The Hospital Anxiety and Depression Scale (HAD) was used to measure anxiety and depression [12]. This measure was selected because it had been broadly validated in the Brazilian population in 1995 [13]. The Edinburgh Postnatal Depression Scale (EPDS) was also used to assess depression [14]. This scale was developed to measure maternal depression in the context of relevant physiologic and metabolic changes that occur during pregnancy and puerperium. It comprises 10 items, derived from 2 other scales, HAD and the Irritability Depression and Anxiety Scale [15]. The EPDS has also been validated for use in the Brazilian population [14].

Data were analyzed using SPSS version 17.0 (IBM, Armonk, NY, USA). Variables were tested for normality by the Shapiro–Wilk test and the Lilliefors adjustment for significance test. Within-group comparisons were conducted using the paired Student *t* test. Between-group comparisons were conducted using analysis of variance followed by the Bonferroni post hoc test when differences were significant [16]. A *P* value of 0.05 or below was considered statistically significant.

3. Results

The majority of pregnant women (84.7%) received 4 sessions of the psychological intervention. Of the remainder, 9.2% received a lower number of sessions (minimum of 2) and 6.1% received a greater number of sessions (maximum of 8). This variance occurred according to gestational age at the time of admission to the prenatal clinic; any