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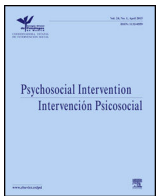
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Gestational surrogacy: Psychosocial aspects



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ABSTRACT

Innovation in assisted reproductive technologies together with increased infertility and new family structures are increasing the use of gestational surrogacy as a means to have children. Before, during and after the process, it is necessary to study the psychosocial characteristics of triad members: the gestational surrogate, intended parents, and offspring. Research has indicated positive adaptation to the process and benefits for all members of the triad. Altruism is the main motivation of surrogates. Notably, psychological well-being has been found to be higher in individuals who have become parents through surrogacy than in those who have used egg donation or have followed a natural process of conception. Moreover, no differences in psychosocial characteristics have been observed in the offspring, compared with children born through natural conception or egg donation. Results highlight the positive aspects of surrogacy. Future research should investigate psychosocial factors that modulate the process, acting as risk and protective factors for well-being of the triad members, and identify the optimal profiles of surrogates for the process to be a success.

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Gestación subrogada: aspectos psicosociales

RESUMEN

La innovación en las tecnologías de reproducción asistida, junto al aumento de la infertilidad y las nuevas estructuras familiares, están aumentando el uso de la gestación subrogada como un medio para tener hijos. Antes, durante y después del proceso, es necesario estudiar las características psicosociales de los miembros de la tríada: la gestante, los padres de intención, y la descendencia. La investigación científica ha mostrado una adaptación positiva al proceso, además de beneficios para todos los miembros de la tríada. El altruismo es la principal motivación de las gestantes para llevar a cabo el proceso. Por otro lado, los resultados demuestran mayor bienestar psicológico en las personas que se han convertido en padres a través de la gestación subrogada en comparación con aquellos que han utilizado la donación de óvulos o han seguido un proceso natural de concepción. Por otra parte, no hay diferencias en las características psicosociales entre niños/as nacidos/as a través de la gestación subrogada y niños/as nacidos/as mediante concepción natural o donación de óvulos. Los resultados ponen de manifiesto los aspectos positivos de la gestación subrogada. En este contexto se hace necesaria la realización de estudios adicionales, con el fin de analizar los factores psicosociales de riesgo y de protección para el bienestar de los miembros de la tríada, además de identificar los perfiles óptimos de gestantes para que el proceso sea un éxito.

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The term gestational or host surrogacy refers to the process in which a woman carries and gives birth to the baby for another person or couple, who are called the intended parents ([Brinsden, 2003](#)).

However, the concept and its definition have caused controversy, and it continues to be difficult to conceptualize.

Essentially, there are two types of surrogate arrangements: traditional and gestational surrogacy. Traditional surrogacy, also known as genetic surrogacy, refers to the process in which an embryo is created from the sperm of the intended father and egg of the gestational surrogate, the process usually being carried out

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through artificial insemination (Bhatia, Martindale, Rustamov, & Nysenbaum, 2009). In contrast, gestational surrogacy involves the creation of an embryo from the egg and sperm of the intended parents, a donated egg and sperm of the intended father, or donated sperm and eggs, and subsequent implantation of this embryo into a gestational surrogate, also called gestational carrier. Depending on the country, there is specific legislation for each type of surrogacy arrangement, just one or both types of arrangement being legal in some cases (Nakash & Herdman, 2007).

Despite the fact that the process of gestational surrogacy involves interaction between the intended parents, the gestational surrogate and the child, in which psychological and psychosocial aspects become very important, there has been relatively little scientific research in this field to date. Analysis of the psychological and psychosocial characteristics of the intended parents and the surrogate is essential to identify and establish strategies that allow the process to be carried out successfully and maximize the positive outcomes for everybody directly involved. The objective of this review was to analyze the psychosocial factors that characterize each member of the triad and the relationships between them.

Gestational surrogacy

Although there have still been relatively few studies on this topic, research is starting to yield important data on the psychological characteristics of gestational surrogate (Klock & Covington, 2015). Studies on surrogates have mainly focused on the assessment and identification of factors motivating women to take on the role and be involved in the process of pregnancy (Jadva, Murray, Lycett, MacCallum, & Golombok, 2003).

Research to date has indicated that the main motivation for becoming involved in surrogacy is altruism (Ragoné, 1994; van den Akker, 2007). In fact, this is the main type of motivation reported by gestational surrogates not only in countries in which altruistic surrogacy is legal, such as the United Kingdom (Jadva et al., 2003; van den Akker, 2003), but also in countries that allow compensation to the surrogate, such as the USA (Hohman & Hagan, 2001). Fundamentally, the majority of gestational surrogates report feeling a sense of self-worth and achievement after the process, which in turn generates a sense of self-efficacy and leads to a notable increase in their self-esteem (Edelmann, 2004). Very few gestational surrogates cite financial gain as their main motivation for being involved in the process, and some even suggest that it should not be a factor in any surrogacy process (Blyth, 1994).

Analyzing the psychological well-being of gestational surrogates, before and during the process, it has been observed that most have to face opposition both from their families and society in general, and this may represent a significant source of stress (Poote & van den Akker, 2009). Despite this, surrogates generally declare that they enjoy their pregnancy and childbirth, and that the pregnancy generated positive feelings in their lives such as increases in self-efficacy and self-confidence (van den Akker, 2007). The birth of the child may be a significant stress-inducing factor, both for the intended parents and for the gestational surrogate. Nevertheless, various studies have demonstrated positive as well as negative aspects of this event. Specifically, the birth tends to be a happy moment for the surrogate, who reports a sense of relief about the success of the pregnancy and completion of the process; as well as sadness about it coming to an end, and the belief that they may lose contact with the intended parents and the child (Baslington, 2002; van den Akker, 2007).

Research has shown that, in the long term, gestational surrogate have good emotional stability and psychosocial adjustment, their scores for self-esteem and depressive symptomatology falling in the normal range, as well as good marital and family relationships

(Jadva, Imrie, & Golombok, 2014). Further, the relationship between the intended parents and the children is very positive, with no reports of feelings of rejection on either side.

With respect to the formal evaluation of the psychological state of gestational surrogates, studies carried out so far have used the Minnesota Multiphasic Personality Inventory (MMPI) in its first (Franks, 1981; Hanafin, 1987) and second (Klock & Covington, 2015) versions. This questionnaire is intended to assess psychopathology and personality disorders and has been widely used and validated for this purpose, both in clinical and general populations (Butcher, 1989; Greene & Clopton, 2004). No studies have found significant differences between scores of surrogates and those of the general population, confirming the conclusion based on gestational surrogates' self-reports, that they are well adjusted, emotionally and psychologically.

Intended parents

Gestational surrogacy is increasingly widely used as a method to have children. The main motivations of intended parents for becoming involved in this complex process is to create a family and be able to enjoy the interaction with their child/children, as well as being able to give and receive love (Langdridge, Connolly, & Sheeran, 2000). In the specific case of gestational surrogacy, the motivation of the intended parents in using this method, as opposed to other options such as adoption, is mainly based on the desire to have a genetic link with their children (Langdridge et al., 2000), as well as having a relationship with the baby from birth and being able to follow the entire process of the development of the child, through the pregnancy and beyond. In the case of male same-sex couples, there may also be barriers and difficulties in the process of adoption, and hence surrogacy may be their only option for becoming parents.

The process may be stressful for the intended parents. Together with infertility or biological inability to have children, significant primary stressors, there are other factors associated with the process of gestational surrogacy that represent secondary stressors for intended parents (Edelmann, 2004; MacCallum, Lycett, Murray, Jadva, & Golombok, 2003). These factors include the initial search for a surrogate, relations between them and the surrogate throughout the process, and the attitudes of their family and society in general towards gestational surrogacy.

During the initial search for a gestational surrogate, at the start of the surrogacy process, compatibility is one of the main concerns for most people. The first contact with potential surrogates represents a primary stressor, due to the potential emotional burnout associated with the search process and negotiations with the candidates (Edelmann, 2004; van den Akker, 2000). In the event that they do not have common interests or no satisfactory agreement is reached between the parties, this tends not have a major impact on the intended parents at this early stage. As the process continues, however, disagreements at more advanced and key stages, such as during embryo implantation or during pregnancy, the psychological impact is much greater (Edelmann, 2004). Other common concerns of intended parents that may be secondary stressors and hence affect their well-being are: the possibility of the gestational surrogate being exploited financially; medicalization during pregnancy; a fear of not receiving the baby after the birth; emotional, legal and social stigma; the genetic link, in cases when only one member of the couple has been a donor; and various concerns about the well-being of the baby during the pregnancy and after the birth (Edelmann, 2004). All these concerns must be identified and taken into account in a timely manner, to avoid future problems for the intended parents themselves and in their relationship with the surrogate.

One year after the birth, intended parents have a greater psychological well-being and adaptation to parenthood than parents who have had children through egg donation or the natural process of conception (Golombok, Murray, Jadva, MacCallum, & Lycett, 2004). In relation to this, research has shown them to have: lower levels of parenthood-related stress; lower levels of depressive symptomatology, in the case of mothers; more adaptive attachment behaviour; and greater satisfaction with parenthood, especially in the case of fathers (Golombok et al., 2004). When the children are 2 years old, the results are similar, intended parents having a better relationship with their offspring and lower levels of stress than individuals who have had children through natural conception or egg donation (Golombok, MacCallum, Murray, Lycett, & Jadva, 2006). Although there are no scientific studies on this question, it seems that a large proportion of people who resort to gestational surrogacy and do not have twins on the first attempt, repeat the process, despite the associated emotional and financial costs. This issue should be explored in detailed, as it could be considered an indicator of satisfaction with the process and good adjustment after its completion (Moya-Albiol & Ruiz-Robledillo, 2015).

Offspring

Despite the relative scarcity of studies on the well-being of children born through surrogacy and their wider family, data is starting to emerge on this subject. One year after the birth, children born through gestational surrogacy do not differ in temperament or rate and severity of behavioural problems from those born from egg donation or through natural conception (Golombok et al., 2004). This pattern is maintained when children reach 2 years of age, no differences being found in cognitive or socio-emotional development (Golombok, MacCallum, et al., 2006). Further, no differences have been observed in terms of psychological well-being when the children are 3, 7 or 10 years of age (Golombok, Blake, Casey, Roman, & Jadva, 2013; Golombok et al., 2011; Golombok, Murray, et al., 2006).

Relations between the members of the triad

As we have indicated earlier, in most cases, the search for a gestational surrogate is stressful, especially for the intended parents. During the search process, those who are to be involved in the surrogacy process meet for the first time. As shown in some studies (Edelmann, 2004), this moment is of critical importance, given that the matching between the intended parents and the surrogate will greatly influence the relationship they establish during pregnancy and after the birth. If the choice is good and from the outset there is open and sincere communication between those involved, the relationship during pregnancy is likely to be good. This will help to minimize anxiety and stress experienced by all parties during the process. In fact, contact with the intended parents and the relationship with them is one of the most important predictive factors of both their well-being (Braverman & Corson, 1992; Fisher, 2013; Imrie & Jadva, 2014; Roberts, 1998) and that of the gestational surrogate (Baslington, 2002; Hohman & Hagan, 2001; Imrie & Jadva, 2014).

Various studies have shown that gestational surrogate do have good relations with intended parents in the long term (Ciccarelli & Beckman, 2005; Edelmann, 2004). Specifically, a close relationship usually develops between them during the pregnancy, and this tends to be long lasting. Further, although some mothers and/or surrogates prefer not to maintain contact after the birth (Edelmann, 2004; van den Akker, 2000), generally, those involved do want to maintain a relationship, between the intended parents and surrogate and between each of them and the child/children (Edelmann,

2004). It should be noted that in some cases there has been observed to be a slight decrease in the frequency of contact between the intended parents and the gestational surrogate, this being more pronounced when there is a genetic link, that is, when the surrogate is the egg donor (Jadva, Blake, Casey, & Golombok, 2012).

Despite the fact that the relations tend to be positive, certain problems may arise after the surrogacy process that should be taken into account. In the case of the gestational surrogate, maintaining a relationship with the intended parents may serve as a constant reminder that she has carried a baby for others, and parents may be concerned that such a relationship could interfere with the child's development (Biyth, 1995; Edelmann, 2004). There are documented cases of the surrogate and the intended parents having a relationship that was close throughout the pregnancy, but that ended just after the birth (Edelmann, 2004). However, these are isolated cases and are not representative of the majority of gestational surrogacy processes.

In the long term, the well-being of the child seems to be associated with the maintenance of a relationship with the surrogate and the amount of contact with her (Jadva et al., 2012). Regular contact is related to a better understanding by the child of their own background. Specifically, at 10 years of age, children who had been informed about the nature of their conception understood the process and maintained a good relationship with the gestational surrogate, which was positive and beneficial for their well-being and that of their family (Jadva et al., 2012). In relation to this, it has been observed that both men and women who have become parents through gestational surrogacy are more sincere with their children about the process leading to their birth than parents who have used egg donation and/or artificial insemination (Readings, Blake, Casey, Jadva, & Golombok, 2011).

Regarding the relationship between the surrogate and her biological family, most parents are open with their own children about the process. A high percentage of the surrogates reported that their biological children had a positive understanding attitude during the pregnancy and after birth, this positive feeling generating a sense of satisfaction for them and their family (Jadva & Imrie, 2014a, 2014b). The great majority of children also had a positive view of their family life and their relationship with their mother (Jadva & Imrie, 2014a, 2014b). What is more, this positive view among the gestational surrogate's own children of the process translated to an explicit desire in these children to have a direct relationship with the child/children born through the gestational surrogacy process. It has even been found that some biological children consider surrogacy children to be their own brothers/sisters or half-brothers/sisters, reflecting the closeness of the relationship developed between the members of the triad (Jadva & Imrie, 2014a).

Distance as a factor in the process: transnational surrogacy

Although there has been a notable increase in transnational surrogacy, there have been no formal studies analyzing the variables that characterize each member of the triad in this type of surrogacy. Transnational surrogacy is defined as the process of gestational surrogacy in which the surrogate lives in a different country to the intended parents, and hence, the commissioning parents have to travel to her country to undertake the surrogacy process (Kirby, 2014; Knoche, 2014; Lozanski, 2015). Two of the few studies on this subject have explored the perception of intended parents in the case of surrogacy taking place in a country where the legislation is ambiguous and the process unregulated, generally India (Arvidsson, Johnsdotter, & Essén, 2015; Ziv & Freund-Eschar, 2014). In such cases, the intended parents spoke of the negative influence of the media on the process, especially in the country where it the

surrogacy was going to take place, where the lack of legislation also increased the stress associated with the process. These factors, together with a lack of information and of direct contact with the surrogate, and limited medical surveillance, may be a source of great concern and generate stress in the intended parents. The results of the aforementioned research must be interpreted with care, however, since the populations studied are not representative of all types of transnational surrogacy. Specifically, a great deal of the stress was attributable to the fact that the process took place in a developing country, where there is no regulation or legislation for the process.

Despite the limited research on this type of surrogacy, if we draw a comparison with processes such as international adoption, it is plausible that the variables affecting the well-being of the intended parents may be very similar. Specifically, a lack of control, anxiety due to the distance, and feelings of impatience and frustration may cause high levels of stress. The level of the trust in the gestational surrogate and health professionals involved in the process is likely to be a key modulator that may mitigate the effects of the aforementioned stressors on the well-being and quality of life of intended parents. To our knowledge, however, no empirical studies have been conducted to clarify these issues.

Gestational surrogacy in same-sex families

In recent years, there has been a notable change in the concept of family with the creation of new and different types of families including, among others, same-sex parenting. Advances in assisted reproduction are facilitating the creation of new types of families. In relation to this, gestational surrogacy is one of the options that is growing most rapidly, especially in the case of gay couples (Greenfeld & Seli, 2011; Ziv & Freund-Eschar, 2014). Like heterosexuals, the motivations of homosexuals for wanting to produce children include seeking to achieve a sense of immortality and generativity, a sense of family, and/or a different social status (Bergman, Rubio, Green, & Padrón, 2010). To date, however, there are still relatively few studies on the use gestational surrogacy by gay couples, most research on homosexual parenting having been conducted with gay or lesbian couples who have become parents through adoption or previous heterosexual relationships (Norton, Hudson, & Culley, 2013).

The motivations and criteria of male same-sex couples for choosing gestational surrogacy as a way to have children include the gestational surrogate having a positive attitude towards homosexuality, but in most cases are very similar to those of heterosexual couples, in particular, criteria regarding the health of the surrogate (such as having had previous successful pregnancies) and of the egg donor (Ressler et al., 2011). Similarly, regarding changes in lifestyle after gestational surrogacy in gay couples, the changes are similar to those observed in heterosexual couples. In general, there are reductions in leisure and work time, an increase in spending, and a decrease in time dedicated to the partner, due to time spent with the child (Bergman et al., 2010). Further, most parents report a positive attitude in the extended family towards the process of parenthood, and a change in their patterns of socialization, with a considerable increase in the social activities that include the offspring and other families, at the expense of more individualistic activities. Finally, the aforementioned study also noted a significant increase in self-esteem, derived from pride in becoming parents and achieving the objective of establishing a family (Bergman et al., 2010). This demonstrates that parenthood through the process of gestational surrogacy in the case of gay couples strengthens certain positive psychological variables that have shown to be protective of mental health, well-being and quality of life, which could in turn improve psychosocial and adaptive family functioning.

Nevertheless, there are other stressors associated with parenthood in a same-sex couples, beyond those associated with gestational surrogacy itself, such as rejection by the heterosexual community, mainly based on preconceived stereotypes concerning family structure (Bergman et al., 2010; Mitchell & Green, 2008). However, these data were obtained in the USA some years ago, before the introduction of legislation to allow same-sex marriages.

With regards to the specific motivations of surrogates in the case of gay fathers, as well as altruism, we should emphasize their open attitude towards homosexuality, and in particular, their willingness to help people who are not biologically able to create a family, regardless of whether it is a hetero- or homosexual couple that seek parenthood (Berkowitz, 2013).

Such research as there is indicates that parenthood among gay men using gestational surrogacy has notably increased in recent years (Dempsey, 2013; Riggs & Due, 2014; Strah, 2003). Despite this and the fact that studies conducted to date have generated some interesting results, notably little attention has been paid to this topic. Moreover, most publications on the surrogacy process in gay couples are opinion pieces or based on qualitative studies, with no empirical studies with a strong experimental validity. In particular, there have been no studies assessing psychological well-being and other variables associated with psychosocial and family functioning in same-sex families that have used gestational surrogacy as a means of becoming parents. In relation to this, as mentioned earlier, heterosexual families who have participated in the process of gestational surrogacy have shown better family relationships, more positive attachment behaviour, greater psychological well-being and even lower levels of stress, than heterosexual families in which the children had been born through natural conception or egg donation. It has yet to be confirmed whether outcomes are similar in same-sex families, and hence, future research should focus on investigating these variables in this population.

Attitudes to and opinions about gestational surrogacy

Both gestational surrogates and intended parents have to face negative attitudes to the process of gestational surrogacy. In classical studies conducted in American and Canadian populations, most people surveyed disapproved of the process (Krishnan, 1994; Weiss, 1992), surrogacy being considered the least acceptable way to have children in one of the earliest studies (Dunn, Ryan, & O'Brien, 1988). Despite the evolution of society and great advances in assisted reproduction, growing rates of infertility and increases in the numbers of single-parent and same-sex families, the most recent studies do not show a significant change in people's attitudes to this type of gestational arrangement (Chliaoutakis, Koukouli, & Papadakaki, 2002; Murphy et al., 2002). In relation to this, individual predisposing factors that have been most closely associated with negative attitudes to gestational surrogacy include religious beliefs (Chliaoutakis et al., 2002; Murphy et al., 2002) and concern about medical problems in the surrogate during the process (Suzuki et al., 2011). In contrast, a study analyzing attitudes to gestational surrogacy in a selected population, namely, psychologists, found a good level of support for the process (Constantinidis & Cook, 2012).

Gestational surrogacy has attracted the attention of the feminist movement since it started to be more widely used and reported in the media, back in the nineteen-eighties (Markens, 2012). From the beginning, this type of gestational arrangement was criticized by feminists on the basis of arguments such as the development of reproductive prostitution and exploitation of women, as well as the legal or medical complications that may occur in the process (Markens, 2012). This view has had a significant impact in the media, with a subsequent influence on public opinion regarding gestational surrogacy. Despite the fact that many studies indicate

a general disapproval of surrogacy, there are differences depending on the type of arrangement. Specifically, there is a slightly higher level of acceptance when gestational surrogacy is carried out on an altruistic basis than when there is financial compensation (Appleton, 1990; Bromham, 1991; Suzuki et al., 2006). Nevertheless, in a recent study, women from the general population were asked whether they would agree to be gestational carriers, and most of them answered no, with no differences as a function of the type of surrogacy arrangement (Poote & van den Akker, 2009). In any case, it is important to highlight that the aforementioned studies were published some time ago, and hence the greater availability of information about the process and the social changes and opening of the society in recent times make it necessary to conduct new research.

Clinical practice guidelines on surrogacy: the case of the USA

Currently, there is no standard protocol stipulating the criteria and processes of evaluation, follow-up and intervention that should be used with each member of the triad in the surrogacy process. On the other hand, there are clinical practice guidelines, such as those developed in the USA, which set out medical and psychological criteria that are followed nationally, in agencies and clinics specialized in surrogate pregnancy (Practice Committee of the American Society for Reproductive Medicine, & Practice Committee for the Society for Assisted Reproductive Technology, 2012).

Regarding indications for the use of a gestational carrier by intended parents, the requirements are based on pregnancy posing a serious risk to the health of the intended mother or foetus, medical conditions that preclude pregnancy, and/or certain fertility problems. For the selection of parents and donors, comprehensive medical and genetic assessments should be carried out. Specifically, intended parents should undergo psychological assessment to identify any psychological issues that could cause difficulties. They should be assessed by mental health specialists before, during and after the process. Psychosocial counselling of intended parents should include individual assessments, and interventions focused on their history of infertility, their relationship with the surrogate, the medical and legal process, and their future as parents.

In the case of gestational surrogates, it is also recommended that they undergo psychosocial assessment. The eligibility criteria for candidate surrogates include being between 21 and 45 years of age, and having had at least one previous uncomplicated pregnancy but not more than five previous deliveries or three caesarean sections. At the social level, it is recommended that they have a stable family structure and an adequate social network. From a medical point of view, comprehensive screening and testing should be conducted to exclude systemic and genetic disorders. Further, some high-risk habits such as smoking and alcohol use are considered to exclude a woman from being a gestational carrier, while high-risk activities must be discussed with the intended parents. Psychosocial counselling for surrogates covers, primarily, the need to establish agreements with the intended parents, discussion of the medical protocol, and progressive follow-up concerning the psychological and social adaptation of the surrogate and her family to the pregnancy.

Conclusions

According to the literature reviewed, the process of surrogacy has significant benefits for all members of the triad (Golombok et al., 2011; Golombok et al., 2004; Jadva et al., 2014; van den Akker, 2007). We have found no documented cases of the process having a negative impact on family functioning, the process of adaption to parenthood, or the well-being and development

of the child. On the contrary, at 1 year after the birth and subsequently, 2 and 7 years later, individuals who created families through surrogacy arrangements have been found to have greater psychological well-being, better adaptation to parenthood, and lower levels of stress than individuals who have followed a natural process of conception or have become parents through egg donation (Golombok, MacCallum, et al., 2006; Golombok, Murray, et al., 2006; Golombok et al., 2004). Researchers have attributed these results to the fact that the parents had a strong desire for a child, and they showed a high degree of motivation for parenthood, and hence, were greatly involved with the care and strongly attached to the child (Golombok et al., 2004). All of this tends to improve the well-being of the parents, the child and the family unit. The differences in psychological well-being are particularly notable, and could be attributable to preexisting high levels of well-being prior to the surrogacy process, which would help them take on and cope with such a stressful process (Golombok et al., 2004). Regarding psychosocial, cognitive and emotional functioning of children born through surrogacy arrangements, research indicates good adaptation and normal development, with no differences having been found compared to that in children born through natural conception or egg-donation (Golombok et al., 2011; Golombok, MacCallum, et al., 2006; Golombok, Murray, et al., 2006).

In terms of the quality of relationships, it has been shown that direct contact with the surrogate and the confidence of the intended parents in her are very important, these being the most critical factors for sustaining the psychological well-being and reducing levels of stress in the intended parents during the process (Edelmann, 2004). Gestational surrogates also show, in most cases, a need to keep in contact with the child and intended parents, and this has been shown to have great benefits for the parents and offspring (Fisher, 2013; Imrie & Jadva, 2014; Jadva et al., 2012). Regarding the family structure of the surrogate, studies have also shown a good level of adaptation, with positive attitudes towards and acceptance of the process by her biological children (Jadva & Imrie, 2014a, 2014b).

Concerning transnational surrogacy, despite the scarcity of studies, there is evidence of the importance of undertaking the process in countries where there is legislation on and regulation of surrogacy, with established selection procedures, including both medical and psychological assessment of both parties (Kirby, 2014; Knoche, 2014; Lozanski, 2015). Such factors notably increase the satisfaction of all involved and the smooth operation of the process, avoiding legal problems and future complications in the relations between the members of the triad (Ramskold & Posner, 2013). Moreover, it would be highly beneficial if the process were to be regulated by law in countries where that is not currently the case, as on the one hand, scientific research has shown benefits for all involved, and on the other, it would avoid some of the negative aspects of long-distance surrogacy (Moya-Albiol & Ruiz-Robledillo, 2015).

Despite a growing body of data on surrogate pregnancy and associated processes, it is still the case that there has been very little research into numerous aspects of surrogacy. In relation to this, there is a need for new research on intended parents, surrogates and the offspring. Such research should seek to identify risk and protective factors for the well-being and satisfaction with the process of all members of the triad. In addition, it should attempt to identify modulating variables involved at each stage of the process, from the search for a surrogate and donor (in such cases), and negotiations and contact between intended parents and the gestational surrogate during the pregnancy, to the birth and subsequent development of the relationship between each of the members of the triad. Given that there are critical moments during the process that can generate high levels of stress (Edelmann, 2004), it is extremely

important to identify such factors, to advance the well-being of all involved.

Analysis of psychosocial variables that characterize the surrogate and intended parents and may moderate the process of surrogacy would make it possible to establish effective strategies to prevent problems arising and interventions to implement at the start, during and at the end of the process with each of those involved (Ethics Committee of the American Society for Reproductive Medicine, 2013). As we have noted previously, in accordance with clinical practice guidelines developed in the USA (Practice Committee of the American Society for Reproductive Medicine, & Practice Committee for the Society for Assisted Reproductive Technology, 2012), there is a clear need for psychological assessment of all involved at each stage: in the initial negotiation, during the pregnancy and at the end of the surrogacy process. The performing of such assessment and exploring of common interests is of fundamental importance, with the goal of establishing a good relationship between the parties, and reducing the impact of the initial process on all those involved. It is important that the surrogate and the intended parents choose each other, with mutual matching, under the guidance of specialists. Nevertheless, there are no studies indicating which variables may influence these choices. Moreover, psychological assessment should be ongoing throughout the process, even continuing beyond the birth, to ensure the maintenance of good relations between all members of the triad.

Future studies should implement and evaluate protocols for formal psychological assessment, using not only instruments such as the MMPI, but also other types of questionnaires and tests for neuropsychological assessment, to enable us to construct a comprehensive psychological profile of the gestational surrogate. This would make it possible to improve the selection process, as well as check the compatibility of surrogates and intended parents, thereby reducing the stress associated with the process for both parties and ensuring the maintenance of good relations throughout the surrogacy process and beyond the birth of the baby.

Finally, in conclusion, we consider that future research should be focused on analyzing variables that modulate relations between members of the triad, as well as protective factors that help the process to be a success (van den Akker, 2010). It is also important to conduct scientific studies to establish strategies for evaluation, preventing difficulties arising and intervention for all involved, and develop and implement strategies for psychosocial intervention as necessary.

Conflict of interest

The authors have no conflict of interest to declare.

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