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**EMBRYO DONATION PARENTS' ATTITUDES TOWARDS DONORS:
COMPARISON WITH ADOPTION**

Running title: Parents' attitudes to embryo donors compared with adoption

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1 **Abstract**

2 BACKGROUND: Embryo donation produces a family structure where neither rearing
3 parent is genetically related to the child, as in adoption. It is not known how embryo
4 donation parents view the donors compared with how adoptive parents view the birth
5 parents. METHODS: 21 couples with an embryo donation child aged 2-5 years were
6 compared with 28 couples with an adopted child. Parents were administered a semi-
7 structured interview, assessing knowledge of the donors/birth parents, frequency of
8 thoughts and discussions about the donors/birth parents, and disclosure of the donor
9 conception/adoption to the child. Comparisons were made between mothers and
10 fathers to examine gender differences. RESULTS: Embryo donation parents generally
11 knew only the donors' physical characteristics, and thought about and talked about the
12 donors less frequently than adoptive parents thought about and talked about the birth
13 parents. Embryo donation fathers tended to think about the donors less often than did
14 mothers. Disclosure of the child's origins in embryo donation families was far less
15 common than in adoptive families ($P < .001$ for mothers and fathers), and was
16 associated with the level of donor information ($P < .05$ for mothers, $P < .025$ for
17 fathers). CONCLUSIONS: Embryo donation parents' views on the donors differ
18 from adoptive parents' views on the birth parents, with donors having little
19 significance in family life once treatment is successful.

20 Keywords: IVF, adoption, embryo donation, disclosure, donor conception

21 **Introduction**

22 Embryo donation is the process whereby an infertile couple receives an embryo
23 created using gametes from another man and woman, with the intention that the
24 recipient couple will raise the resulting child. First reported in 1983 (Trounson et al.,
25 1983), embryo donation is one of the less frequently used assisted reproduction

1 techniques in the UK with an average of around 35 children per year born following
2 this treatment over the last decade. In comparison, there were ~800 children per year
3 born following donor insemination and ~ 400 through oocyte donation [Human
4 Fertilisation and Embryology Authority (HFEA), personal communication]. The low
5 usage of embryo donation is partly because it is recommended only when either both
6 members of the couple are diagnosed as infertile, or when previous IVF/ICSI
7 treatments using the couples' own gametes are unsuccessful. The small numbers also
8 result from the scarcity of available donated embryos. In the majority of cases, the
9 embryos used had been created by another couple in their attempts to conceive
10 through IVF. The embryo donation child is therefore raised by two parents with
11 whom they share no genetic relationship, as are adopted children. Moreover, like birth
12 parents in adoption, the donor couple may still be together and may have other
13 children who are genetic full siblings to the embryo donation offspring. However, in
14 embryo donation, unlike adoption, there is a biological link to one of the rearing
15 parents through gestation.

16 Since embryo donation and adoption families are undeniably similar in their
17 genetic structure, the attitudes of embryo donation parents towards the donor couple
18 can be compared with the attitudes of adoptive parents towards the birth parents.
19 Potential adopters are specifically asked to consider their views on the child's
20 biological parents during the adoption preparation process (Triseliotis et al., 1997).
21 Furthermore, over the last two decades, there have been moves towards encouraging
22 openness in adoption. In the UK, particularly if relinquishment is voluntary, meetings
23 may be arranged between the birth parents and the prospective adopters prior to the
24 child's placement. Social services can encourage adoptive parents to maintain contact
25 with the birth family post-adoption, although this is most commonly done through the

1 exchange of letters via the adoption service rather than direct communication. Contact
2 is seen by some adopters as an advantage in that it gives them much fuller access to
3 the child's history and provides reassurance "for children, adopters and birth families
4 in relation to each other's well-being" (Ryburn, 1996, p.636). Indirect 'letterbox'
5 contact may trigger adoptive parents to think about birth family members when letters
6 arrive, and to have greater levels of curiosity about them generally.

7 In comparison, the majority of donor conception treatment programmes run by
8 fertility clinics in the UK have involved anonymous donors with no contact between
9 donors and recipients. The change in UK legislation in April 2005 regarding donor
10 anonymity, allowing donor offspring access to the identity of the donors when they
11 reach 18, does not affect this structure since the recipient couple themselves will not
12 receive identifying information on the donors. Thus, in adoption the genetic
13 relationships between birth families and children are considered highly important by
14 the practitioners involved whilst in embryo donation the child's genetic links to the
15 donor couple are considered much less so. The question is whether the varying
16 significance placed on the role of the genetic parents in embryo donation and adoption
17 will be reflected in the mindsets of the rearing parents.

18 Linked to the emphasis on genetic relationships is the question of
19 whether parents intend to disclose the information about the child's origins. The
20 gestational link in embryo donation allows parents to keep the non-genetic
21 relationship private if they so desire (Widdows and MacCallum, 2002). The issue of
22 disclosure in donor conception has received a great amount of attention and debate in
23 recent years, with particular concern over the adverse effect of secrecy on the child's
24 psychological well-being and the nature of family relationships (Daniels and Taylor,
25 1993; McGee et al., 2001; Patrizio et al., 2001; Shenfield and Steele, 1997). Results of

1 this debate include the afore-mentioned legislation change on donor anonymity and
2 the current advice given by the UK regulatory body, the HFEA, that ‘It is certainly
3 best to be open with your child/children about the circumstances of their conception’
4 (HFEA, 2008). Despite this, a previous report on the present study sample found that
5 only 9% of embryo donation mothers had already told their child about the donor
6 conception, with a further 24% stating an intention to do so in the future (MacCallum
7 and Golombok, 2007). In this respect, these mothers resemble parents seen in earlier
8 studies of donor insemination and oocyte donation families, the majority of whom
9 were not planning to tell their child about the lack of genetic link to one parent
10 (Brewaeys, 2001; Murray and Golombok, 2003). Contrastingly, adoptive parents
11 generally begin the process of disclosure when the child is aged 2 to 4 years
12 (Brodzinsky et al., 1998), a practice strongly advocated by social workers.
13 Comparisons between the stances of embryo donation and adoptive parents on
14 disclosure could help explore why embryo donation parents may be more private.
15 Interestingly, a study by Klock & Greenfeld (2004) of oocyte donation parents found
16 an association for fathers, but not mothers, between information known about the
17 donor and the decision to disclose to the child. Men who knew relatively more about
18 the donor were more likely to be inclined towards disclosure. Thus, embryo donation
19 parents’ disclosure decisions may be influenced by their levels of knowledge
20 regarding the donors.

21 A further question is whether there is any discrepancy within the couple in
22 their views towards the donors or birth parents. There is evidence of some gender
23 differences in feelings arising from the experience of infertility generally. Women
24 take infertility particularly hard, with 48% of women in one study describing it as the
25 worst experience of their lives, compared to only 15% of men (Freeman et al., 1985).

1 When preparing for infertility treatment, women are more likely than their male
2 partners to express feelings of fear, sadness, and anxiety (Merari et al., 2002). Women
3 are also more prone to attributing the responsibility for infertility to themselves, even
4 when the diagnosis is of a male problem (Robinson and Stewart, 1996). In contrast,
5 men report less overt distress in response to fertility problems (Daniluk, 1988),
6 particularly when the infertility is attributed to the woman or is unexplained
7 (Nachtigall et al., 1992). It does not follow that infertility does not cause suffering for
8 men, indeed studies have found strong negative reactions to diagnoses of male
9 infertility (Webb and Daniluk, 1999), but men seem to demonstrate their concerns less
10 openly. This gender disparity in expressed affect may arise from the use of different
11 coping styles. In an examination of coping strategies of infertile couples referred for
12 IVF treatment, women used techniques involving admission of distress such as
13 directly challenging the problem, seeking social support, and accepting responsibility
14 for the problem, relatively more frequently than men (Peterson et al., 2006).
15 Meanwhile, men used proportionately higher levels of strategies involving denial of
16 distress, such as distancing from the problem, or keeping feelings to oneself.

17 These differences in outlook on, and coping with, infertility may result in
18 embryo donation parents showing gender differences in their views of the donors and
19 the disclosure of the donation. The distancing and denial adopted by men may make
20 them likely to wish not to think about or discuss the issue. Support for this comes
21 from a Dutch study of couples with donor insemination children which found that
22 mothers more often disclosed the conception to others, and in four of the 38 couples
23 interviewed the mothers were in favour of telling the child whilst their partners were
24 against this (Brewaeyts et al., 1997). Furthermore, young adults who were aware of
25 their conception through donor insemination reported that their fathers showed more

1 avoidance of the topic than did their mothers (Paul and Berger, 2007). It has been
2 suggested that men feel more threatened by the acknowledgement of their infertility
3 than do women, due to the association between fertility and masculinity, and that it is
4 this stigma that deters men from disclosure (Nachtigall, 1993). Indeed, men who
5 report fewer concerns about stigma related to the use of donor insemination are more
6 likely to disclose the child's origins to others (Nachtigall et al., 1997). However,
7 research on oocyte donation parents in the USA found a higher percentage of women
8 than men had told others about the donor conception, even though the infertility here
9 is a female problem (Klock and Greenfeld, 2004). This suggests that it is not only the
10 stigma of their own infertility that determines attitudes towards disclosure, but may be
11 linked to men's more general feelings regarding infertility and the use of donor
12 gametes. It would thus be interesting to examine the viewpoints of embryo donation
13 fathers, where both members of the couple may have infertility problems, and to
14 assess whether they differ from those of embryo donation mothers.

15 In light of issues explored above, the primary objective of the present study
16 was to compare and contrast the attitudes of a sample of embryo donation parents
17 towards the donor couples with those of a group of adoptive parents towards the birth
18 parents. A second goal was to compare the responses from mothers and fathers and
19 explore whether there were any differences between genders.

20

21 **Materials and Methods**

22 *Participants*

23 *Embryo donation couples*

24 The embryo donation couples were recruited from three fertility clinics in the UK. All
25 two-parent heterosexual couples with an embryo donation child aged between 2 and 5

1 years inclusive were sent a letter from the clinic's Medical Director, inviting them to
2 participate. Of the 29 families who were known to have received the letter, 21 agreed
3 to take part and 8 declined, giving a response rate of 72%. Confidentiality regulations
4 meant that no further information was available on non-participating families. Fifteen
5 participating families had children born from singleton births, and six families had
6 twins. All couples had conceived using anonymously donated embryos (i.e. prior to
7 the UK legislation change in April 2005).

8 *Adoptive Families*

9 The adoptive families were recruited through three local authority adoption services in
10 the UK. The agencies contacted by letter all families with an adopted child aged
11 between 2 and 5 years inclusive, who had been placed with the family at or below the
12 age of 12 months. Forty-one parents were approached, and 28 agreed to participate,
13 representing a response rate of 70%. All target adopted children were singletons.

14 *Procedure*

15 The families were visited at home by a researcher trained in the study techniques.
16 Data were collected separately from mothers and fathers using systematic semi-
17 structured interviews which were tape-recorded. Overall, 100% of the mothers, and
18 75% of the fathers were interviewed and there was no difference between the embryo
19 donation and adoption groups in the proportion of fathers participating. The sections
20 of the interview relevant to the current report focussed on areas relating to the
21 experience of going through the embryo donation treatment or adoption. The
22 questions were based on those used in previous studies of assisted reproduction
23 families (e.g., Golombok et al., 2004), and each variable was rated according to strict
24 standardised coding criteria. Ethical approval for the study was obtained from the
25 ethics committee at City University, where the researcher was then based.

1 ***Measures***

2 Embryo donation mothers were asked what information they had been given by the
3 clinic about the donors. This was coded thus: 1. no information; 2. physical
4 characteristics only; and 3. physical characteristics and some demographic
5 information. Both mothers and fathers of embryo donation children were asked how
6 often they individually thought about the donors, and how often the couple talked
7 together about the donors. Frequencies of thinking about, and talking about the donors
8 were rated on a 4-point scale from 0 (never) to 3 (frequently). The opinion of embryo
9 donation mothers and fathers as to the optimum level of information available about
10 donors was ascertained and was classified into one of 3 categories: 1. donor should
11 remain anonymous; 2. some non-identifying donor information available; and 3.
12 donors should be identifiable. In addition, both mothers and fathers were questioned
13 as to whether they had told their child, or planned to tell them, about the method of
14 their conception. The extent of this disclosure was rated as: 1. plans not to tell; 2.
15 uncertain; 3. plans to tell; and 4. told.

16 Adoptive mothers were questioned about whether they had met the birth
17 parents prior to the placement, and about the frequency and type of contact between
18 the adoptive parents and the birth parents since the adoption placement. Contact was
19 rated on a 6-point scale from 1 (meet 4-12 times a year) to 6 (no contact), with a
20 regular exchange of letters between adoptive parents and birth parents through the
21 social services classified as 'letterbox' contact and rated as 5. Adoptive mothers and
22 fathers were questioned as to how often they each thought about the birth parents and
23 how often they talked about the birth parents to each other, and these variables were
24 rated on a 4-point scale from 0 (never) to 3 (frequently). As for embryo donation,
25 systematic information was obtained from both mothers and fathers as to whether or

1 not they had told or planned to tell the child about the adoption, and this was
2 classified into 4 categories from 1(plans not to tell) to 4 (told).

3 *Statistical Analyses*

4 All statistical comparisons between groups, i.e. either mothers versus fathers, or
5 embryo donation versus adoptive parents, were made using chi-square analyses.
6 Analyses were considered to be significant at the level $P < .05$.

7

8 **Results**

9 *Demographic Characteristics*

10 The two family types did not differ with respect to the target child's gender, age ($M =$
11 43 months), birth order, or the number of siblings present in the household. Regarding
12 the parents, there was no significant group difference for marital status (1 embryo
13 donation couple and no adoptive couples had divorced), or for the age of the mothers
14 ($M = 41$ years) and fathers ($M = 42$ years). However, the two groups did differ in the
15 length of time for which the couple had tried to start a family before succeeding, $t(47)$
16 $= 2.70, p < .05$, with the embryo donation couples trying for longer on average ($M =$
17 15.5 years) than the adoptive couples ($M = 12$ years). A significant difference was
18 also found for social class $\chi^2(3, N = 49) = 10.67, p < .05$, measured by the highest
19 ranking occupation of either parent on the Registrar General's classification (Office
20 for Population Censuses and Surveys and Employment Department Group, 1991).
21 This reflects the relatively high socio-economic status of those who become adopters
22 in the UK, with a higher proportion of adoptive parents (36%) in professional
23 occupations compared to the embryo donation parents (5%).

24 *Knowledge about donors/birth parents*

1 Considering the embryo donation families first, 67% (n = 14) of embryo donation
2 mothers reported that they had been given information on the donors' physical
3 characteristics only. Only 9% (n = 2) received more detailed information including
4 some non-identifying demographic details, and 24% (n = 5) had no information on the
5 donors at all. However, embryo donation couples did not seem to desire further
6 information on the donors. The majority of both mothers and fathers were not in
7 favour of donors being identifiable (see Table I). For embryo donation mothers, 38%
8 (n = 8) expressed a preference for completely anonymous donation, and 52% (n = 11)
9 considered the policy of providing solely non-identifying information to be optimal.
10 Only 10% of mothers (n = 2) favoured the option of having identifying information
11 about donors available to recipients and/or donor offspring. Fathers largely preferred
12 complete anonymity of donors with 56% (n = 9) choosing this compared with 25% (n =
13 4) who opted for non-identifying information only. Similarly to mothers, just 13% (n
14 = 2) of fathers would have liked the donors to be identifiable, and one father
15 expressed no particular preference. The difference between mothers and fathers in the
16 level of information seen as optimal was not significant, $\chi^2(2, N = 37) = 2.39, p = .30$.

17 Adopted parents had far more direct knowledge about the birth parents than
18 embryo donation parents did about the donors. Over half of the adoptive mothers
19 (57%, n = 16) had met the birth parents prior to the placement. In terms of current
20 contact, only 7% of the adoptive mothers (n = 2) had no contact at all with the birth
21 mother. The large majority of adoptive parents (86%, n = 24) were involved in
22 'letterbox' contact schemes. Seven per cent (n = 2) of adoptive mothers had been in
23 direct contact with the birth mother, either meeting her or speaking to her on the
24 telephone once or twice a year. No adopted child themselves currently had direct
25 contact with his/her birth parents.

1 ***Thinking and talking about donors/birth parents***

2 In the main, embryo donation mothers reported thinking about the donors only rarely
3 (43%, n = 9, Table II), with the remaining mothers equally divided between never
4 thinking about them (28.5%, n = 6) and thinking about them occasionally (28.5%, n =
5 6). With respect to embryo donation fathers, $\frac{2}{3}$ of them (67%, n = 10) stated that they
6 never thought about the donors. Twenty per cent of fathers (n = 3) thought about the
7 donors occasionally, and 13% (n = 2) only rarely. In addition, couples talked about
8 the donors infrequently. According to mothers, 57% (n = 12) never talked to their
9 partner about the donors, 19% (n = 4) rarely talked, and 24% (n = 5) occasionally
10 discussed the topic. Fathers' data followed a similar model; 69% (n = 11) never talked
11 about the donors, 13% (n = 2) rarely talked, and 19% (n = 3) occasionally talked
12 about them. There was no significant difference between embryo donation mothers
13 and fathers for the reports of talking about donors, $\chi^2(2, N = 37) = 1.72, p = 0.42$.
14 However, the comparison for thoughts about donors did show a significant trend, χ^2
15 $(2, N = 37) = 5.28, p = .07$, with fathers thinking about donors less often than mothers.

16 Very different responses were obtained from the adoptive parents. All of the
17 adoptive mothers thought about the birth parents sometimes, with 32% (n = 9)
18 thinking about them frequently, 46% (n = 13) reporting occasional thoughts, and 21%
19 (n = 6) only rarely thinking about them. Adoptive mothers reported thinking about the
20 birth parents significantly more frequently than embryo donation mothers reported
21 thinking about the donors, $\chi^2 = 15.61, p < .01$ (see Table II). With respect to adoptive
22 fathers, 10% (n = 2) reported that they frequently thought about the birth parents, 52%
23 (n = 11) had occasional thoughts, 33% (n = 7) rarely thought about them, and only
24 one adoptive father stated that he never thought about the birth parents. As for

1 mothers, adoptive fathers thought about the birth parents more often than embryo
2 donation fathers thought about the donors, $\chi^2 = 15.01, p < .05$ (see Table II).

3 Adoptive parents were also more likely to discuss the birth parents than
4 embryo donation parents were to discuss the donors, according to both mothers' ($\chi^2(3,$
5 $N = 49) = 27.04, p < .001$) and fathers' ($\chi^2(2, N = 37) = 20.70, p < .001$) reports. Eleven
6 per cent ($n = 3$) of adoptive mothers stated that they frequently discussed the birth
7 parents with their partner, 57% ($n = 16$) of mothers occasionally talked about them,
8 and the remaining 32% ($n = 9$) talked about the birth parents only rarely. Adoptive
9 fathers' data found that 48% ($n = 10$) felt they talked occasionally with their partner
10 about the birth parents, and 52% ($n = 11$) talked about them rarely. Comparisons of
11 adoptive mothers with adoptive fathers showed no significant differences between
12 them for either thinking about ($\chi^2(3, N = 49) = 4.80, p = .19$) or talking about ($\chi^2(3, N$
13 $= 49) = 3.66, p = .16$) the birth parents.

14 ***Disclosure of the donor conception/adoption to the child***

15 Only 2 (9%) of the 21 embryo donation mothers had already told the child about the
16 method of conception. A further 5 mothers (24%) reported that they were planning to
17 tell in the future. 43% of embryo donation mothers ($n = 9$) had definitely decided they
18 would never tell the child, and the remaining 24% ($n = 5$) were uncertain. Of the
19 participating embryo donation fathers, the majority (56%, $n = 9$) were not planning to
20 tell the child, with 19% ($n = 3$) uncertain, a further 19% ($n = 3$) intending to tell the
21 child at a later date, and one father (6%) who had already told his child. There was no
22 significant difference in the proportion of mothers and fathers choosing each
23 disclosure option, $\chi^2(3, N = 37) = .67, p = .88$. Where both parents participated in the
24 study, the disclosure decision of each individual was compared with that of their
25 partner. The mother and father disagreed on this issue in 3 of the couples (19%).

1 To examine the relationship between information known about the donors and
2 parents' disclosure to the child, mothers and fathers were separately divided into two
3 groups. The first groups comprised those who were inclined towards non-disclosure
4 and included parents who had definitely decided against telling or were undecided (14
5 mothers, 12 fathers). The second groups comprised those who were in favour of
6 disclosure and included parents who had already told the child or were planning to tell
7 them in the future (7 mothers, 4 fathers). Comparisons of these two groups on their
8 levels of knowledge about donors found that, for both mothers and fathers, the higher
9 levels of information they had, the more likely they were to be inclined towards
10 disclosure (mothers: $\chi^2(2, N = 21) = 6.54, p < .05$; fathers: $\chi^2(2, N = 16) = 7.47, p <$
11 $.025$). All mothers and fathers who had no information about the donors were inclined
12 towards non-disclosure, whereas in the two couples who had the most detailed
13 information about the donors, mothers and fathers were in favour of disclosure.

14 The inclination of the majority of embryo donation parents' against disclosure
15 contrasts sharply with the adoptive parents. Both adoptive mothers ($\chi^2(3, N = 49) =$
16 $30.38, p < .001$) and adoptive fathers ($\chi^2(3, N = 37) = 24.64, p < .001$) were
17 significantly more inclined to be open about the method of family creation than were
18 their counterparts in the embryo donation families. All of the adoptive parents had
19 either told the child about the adoption already or were planning to tell them in the
20 near future (mothers: 79% (n = 22) told, 21% (n = 6) planning to tell; fathers: 67% (n
21 = 14) told, 33% (n = 7) planning to tell).

22

23 **Discussion**

24 As expected, the embryo donation parents had far less information about the donors
25 than did the adoptive parents about the birth parents. This can be explained by the

1 procedures regarding information release followed by the fertility clinics at the time
2 of treatment. Interestingly, the large majority of embryo donation parents did not want
3 to know any more about the donors. Fathers, in particular, would have been happy
4 with complete anonymity. In line with their levels of knowledge, embryo donation
5 parents reported significantly less thinking about and talking about the donors than
6 adoptive parents did about the birth parents. Embryo donation parents were grateful to
7 the donors for allowing them the chance to have a child but their feelings did not go
8 any further. In comparison, adoptive parents often talked about the birth parents, and
9 mentioned especially thinking about the birth mother when it came time for their
10 regular letter or telephone call, suggesting that contact prompts consideration of the
11 role of the birth parents. It is important to note that this acknowledgment of the
12 relevance of the birth parents did not seem to undermine the quality of parenting
13 provided by the adoptive parents, which a previous report found not to be inferior to
14 that of the embryo donation parents (MacCallum et al., 2007).

15 Since embryo donation parents seem to view the donors as relatively
16 unimportant to their family life, it is perhaps not surprising that only 33% of
17 participating mothers and 25% of participating fathers reported having told or
18 planning to tell the child about the donor conception; a distinctly different pattern
19 from the full disclosure by adoptive parents. Non-disclosure in adoption can be
20 virtually impossible when the child is of a different ethnic origin to the adoptive
21 parents. However, in the current sample this was the case in only one family, where
22 the child had been adopted from China by Caucasian parents. In all other families, the
23 child's ethnic background matched that of at least one of the adoptive parents.
24 Therefore, obvious physical dissimilarity of the child does not seem to be a key factor
25 in openness about adoption.

1 There is evidence of a relationship between information about donors and
2 disclosure, with higher levels of donor information associated with inclination
3 towards disclosure. This supports the findings by Klock and Greenfeld (2004), and
4 Scheib et al.'s (2003) proposition that donor information is one factor taken into
5 account in the disclosure decision. The implication for practice is that providing as
6 much information as possible, even if non-identifying, to recipients during the
7 treatment process could promote later disclosure to offspring. However, it is not
8 known whether parents always take up the full extent of donor information offered to
9 them by clinics. Those parents who are generally in favour of disclosure may be more
10 likely to ask for further information than those who are inclined towards privacy.

11 To some extent, these attitudes towards birth parents and donors are reflected
12 by, and may stem from, the perspective taken by the agencies involving in arranging
13 adoptions and assisted reproduction treatments. The British Association of Adoption
14 and Fostering (BAAF) states unequivocally in its information for those interested in
15 adoption that "Children should be raised knowing they were adopted. Adopted parents
16 should give appropriate information from the time the child is little and as they grow
17 up." (BAAF, 2008). Regarding the birth parents, BAAF makes clear in its information
18 that contact of some kind with the birth family is common and can be expected. As
19 mentioned earlier, preparation training for adoptive parents includes consideration of
20 contact arrangements and how these might be handled. Bearing in mind that the
21 current sample of embryo donation parents received treatment before the 2005
22 legislation change, they were not expecting access to any identifying information
23 about the donors or for their offspring to be able to do so in the future. With respect to
24 disclosure, advice given by the HFEA and by individual fertility clinics is much less
25 absolute than that of BAAF on adoption. Statements to parents such as "it is certainly

1 best to be open” (HFEA, 2008) or “you will be encouraged to consider telling your
2 child about his or her origin” (London Women’s Clinic, 2006) make it clear that the
3 disclosure is preferred but still leaves the final decision to the parents’ discretion.

4 The differing perspectives may also be related to the gestational link present in
5 embryo donation and absent in adoption (Widdows and MacCallum, 2002). Firstly,
6 this means that the embryo donation parents are registered as the child’s legal parents
7 at birth, and the donors have no rights or responsibilities, whereas in adoption, legal
8 parentage must be transferred from the birth parents to the adoptive parents; a process
9 which is not finalised until the child has lived with the adopters for a minimum period
10 (usually 3 months). Thus, from the outset, birth families have a role in the child’s life
11 whereas donors do not. Psychologically, the experience of pregnancy and birth
12 allows embryo donation parents to feel that the child is ‘theirs’ from the outset. This
13 can affect the disclosure decision, with many parents feeling that since the mother has
14 carried the child, and both parents have reared the child since birth, there is no need to
15 disclose the donor conception since they are the ‘real’ parents to all intent and
16 purposes. Interestingly, the attitudes of embryo donation parents are in line with the
17 attitudes found in some studies of couples who have donated embryos and who
18 viewed the donation on a par with blood or organ donation (Soderstrom-Antilla et al.,
19 2001). The donation is recognised as an essential component of treatment but is seen
20 as unimportant to the rest of the child’s life. Therefore, the gestational link has an
21 impact on parents’ perception of the processes of family creation; embryo donation
22 parents are to some extent able to forget that they even used donor conception,
23 whereas adoptive parents include the adoption as part of the family history.

24 Considering discrepancies of attitudes within the couple, few gender
25 differences were found in the embryo donation parents. Embryo donation fathers did

1 tend to think about the donors less often than did embryo donation mothers. This adds
2 some support to the proposal that men are more likely to cope with infertility by
3 distancing themselves from the problem or denying it exists (Peterson et al., 2006).
4 Although in most cases, both embryo donation mothers and fathers were infertile, the
5 fathers seem more reluctant to acknowledge their infertility by considering the role of
6 the donors, in line with previous findings (e.g., Nachtigall et al., 1992). However,
7 fathers were not significantly more reluctant than mothers to disclose the donor
8 conception to the child. This may be because disclosure rates overall were low,
9 because embryo donation mothers are particularly private, or because mothers were
10 going along with their husband's wishes. In addition, the size of the sample led to
11 small cell magnitudes for comparisons between men and women, reducing the
12 statistical power and possibly resulting in some gender differences not being detected.
13 Nevertheless, only three couples disagreed about disclosure intentions; a similar
14 proportion to the 18% of couples found to be inconsistent on this issue in Klock and
15 Greenfeld's (2004) study of oocyte donation parents. Thus, these findings suggest that
16 the disclosure decision is no more contentious for the couple when neither is
17 genetically related to the child than when one partner alone lacks a genetic link.

18 The degree to which findings from this study can be generalised to a wider
19 population is limited by the small size of the embryo donation sample. This was
20 caused in part by the relative infrequency of use of embryo donation treatment in the
21 UK. In light of this, it is encouraging that response rates were moderate to high, but
22 no conclusions can be drawn as to how the attitudes of parents who refused to
23 participate may diverge from those reported here. Replication with a larger sample
24 would be useful, as would an examination of parents who conceived with treatment
25 after the new legislation was introduced in 2005. It may be that knowing their

1 offspring will be able to trace their donors will have an impact on embryo donation
2 parents' attitudes towards these donors, and increase the relevance of the donors to
3 their view of the child's life story. A survey of the extent of donor information
4 supplied by clinics to embryo recipients could help establish whether some clinics
5 routinely offer more information than others, and what influence this has on parents'
6 future thoughts and feelings about the donors and their plans for disclosure.

7 Although the genetic family structures of embryo donation and adoption are
8 similar, the processes differ in many aspects, including social, legal and psychological
9 factors. These differences may mean that consideration of the child's genetic
10 background is simply more necessary in adoption than in embryo donation. Since
11 there were no problems in the embryo donation families regarding child adjustment or
12 parent-child relationships (MacCallum *et al.*, 2007), the lack of communication
13 regarding donors does not seem to be adversely affecting family functioning.
14 Nevertheless, problems could arise if the child later becomes aware of the facts of the
15 donor conception and deems the level of communication unsatisfactory. Research on
16 adult and adolescent sperm donation offspring who know their origins suggest that the
17 majority express curiosity about their donor and desire further information about him
18 (Scheib *et al.*, 2005; Turner and Coyle, 2000). Providing such findings to donor
19 recipients during the treatment process may encourage them to take into account
20 whether the role of the donors could seem relevant to the child, however little
21 significance they themselves feel it has in their family life.

22

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4

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6 **Tables**

7 *Table I: Embryo Donation Parents' Preference for Information about Donors*

	Mothers (n=21)		Fathers (n= 16)	
	N	%	N	%
Complete anonymity	8	38.1	9	56.3
Non-identifying information only	11	52.4	4	25.0
Identity disclosure	2	9.5	2	12.5
Don't know/no preference	0	0.0	1	6.3

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15 *Table II: Comparison of Thoughts and Discussions about Donors/Birth Parents by*

16 *Family Type*

	Embryo donation (n=21 mothers; 16 fathers)	Adoptive (n=28 mothers; 21 fathers)
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	N	%	N	%	χ^2	<i>p</i>
Mother's thoughts about donors/birth parents					15.61	< .01
Never	6	28.5	0	0.0		
Rarely	9	43.0	6	21.4		
Occasionally	6	28.5	13	46.4		
Frequently	0	0.0	9	32.1		
Father's thoughts about donors/birth parents					15.01	< .05
Never	10	66.7	1	4.8		
Rarely	2	13.3	7	33.3		
Occasionally	3	20.0	11	52.4		
Frequently	0	0.0	2	9.5		
Mothers' discussion about donors/birth parents					27.04	< .001
Never	12	57.1	0	0.0		
Rarely	4	19.0	9	32.1		
Occasionally	5	23.9	16	57.1		
Frequently	0	0.0	3	10.7		
Fathers' discussion about donors/birth parents					20.70	< .001
Never	11	68.8	0	0.0		
Rarely	2	12.5	11	52.4		
Occasionally	3	18.7	10	47.6		
Frequently	0	0.0	0	0.0		

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