The emotional impact of infertility and assisted reproduction

1. Introduction

It is assumed by the majority of young people that they will conceive later in life and have their own family. Unfortunately, a significant proportion will have difficulty in reproducing and will need to seek help. Infertility is the inability to conceive after regular unprotected intercourse for a minimum of 12 months (NICE guidelines) and affects approximately 80 million people worldwide (WHO 2002). It is estimated in the UK that one in seven couples will have difficulty conceiving (HFEA).

The inability to conceive can be a very stressful situation, and can bare huge strain on individuals and their relationships. Infertility is not solely a physiological condition but also a psychological and social condition; of which is often overlooked. Having difficulty conceiving can have vast psychological consequences on the individual which may affect social relationships and cause a feeling of isolation and stress. It can have a negative influence on relationships provoking marital issues sometimes resulting in divorce. Many patients who are undergoing assisted reproduction treatment (ART) find it difficult to fit into social situation and struggle with the personal management of infertility.

This report aims to review the literature available to discuss the emotional impact of infertility and ART by examining the social and cultural impact of infertility, including gender and marital issues, and stress and depression. It also aims to briefly assess the effects of stress on ART outcome.

2. Sociology

Infertility affects all parts of an individual's life; it is a social situation. The value of fertility is often misunderstood and the role of parenting is natural and assumed. An integral part of adult development is the ability to reproduce (Leiblum and Greenfield 1997). Individuals who have fertility problems often find themselves challenging their identity and self-worth (Greil 1991). They may feel that their body has failed its natural function.

Female patients, in particular, undergo severe emotional suffering and find they feel a loss of control. They may feel confused and angry and often isolated from the fertile world. It is common for women to blame themselves for the infertility the couple experience, particularly if caused by a female factor. They may feel guilt from previous relationships, indiscretions or abortions (Domar and Seibel 1997). Patients have reported a lack of empathy from friends and family who are unable to relate to their situation. A vast proportion of ART patients are anxious that they will not receive the support they require (Miall 1986). Interestingly, different people suffer more at different points in their treatment, for example some exhibit the highest levels of anxiety and stress whilst trying to conceive and others during or after treatment (Cousineau and Domar 2006). Confronting infertility can, in some people, be the most difficult part. Studies have shown that discussing infertility can reduce stress levels in men and women (Schmidt et al 2005), and that women are more likely to discuss their situation with friends, colleagues and professionals (Abbey et al 1991).

The infertility becomes a focal point of life, disorganising their world. This focus can result in eliminating or postponing other important aspects such as

careers, aspirations and social connections (McLaney et al 1995). The balance between managing infertility and its treatment and maintaining healthy relationships with family, friends and work is extremely difficult. Firstly, the patients must rearrange their lifestyle and schedule to undergo vigorous medication and examinations which will have a significant impact on their body and mind (Mahlstedt 1985). Secondly, patients have reported that social settings become increasingly difficult due to feelings of upset and anger towards people who are pregnant or those who have children (Domar and Seibel 1997). In addition, some women may chose to bury their distress, through feelings of embarrassment or self-consciousness, further increasing the difficulty in social situations. The psychological impact of infertility is certainly under-estimated.

2. 1 Culture

In many cultures procreation is encouraged and the importance of biological parenting is vast. For example, for Islamic women there is huge emphasis on fecundability, and marriage is highly associated with a subsequent family (Fido and Zahid 2004). Women are expected to continue the family name and reproduce as assurance that elderly relatives can be cared for.

The majority of cultures are accepting of ART, however, in some religions some aspects are forbidden. For example in the Islamic community the donation of eggs or sperm is prohibited as it is classified as adultery (Serour and Dickens 2000). Irrespective of whether cause of infertility is a male or female factor, in many cultures, for example some Arab and Asian communities, the females are usually blamed (Fido and Zahid 2004). In

these communities infertility is associated with an enormous amount of shame. By Western norms infertility has become very accepted, in particularly for the male to take responsibility for the cause of infertility in a significant proportion of couples. Unfortunately this is not the case with all cultures, in extreme situations women can be blamed and subsequently subjected to violence and exile, irrespective of whether they are the cause of the couples' infertility as their status is now diminished (Rustein and Shah 2004).

2. 1. Gender

In the past infertility has always been associated with the female. However, over half of couples undergoing treatment are due to both male and female infertility (Johansson et al 2011) and half of these are solely male factor infertility (NICE guidelines 2004). Intracytoplasmic sperm injection (ICSI) has further increased the acceptance of male infertility and in many cases enabled the couple to overcome it. As previously discussed many cultures have not come to terms with male factor infertility and woman can be severely victimised against, suffering dramatic consequences (Rustein and Shah 2004).

The literature demonstrates that women feel significantly more pressure on them to reproduce, they find infertility treatment considerably more stressful and they suffer more emotionally than their male partner (Jordan and Revenson 1999). Despite this, the psychological well-being of the male partner should not be ignored. Men are severely affected by infertility (Wright et al 1991, Carmeli And Birbaum-Carmelli 1994), however there is

much less exposure of this. The males' feelings are often overshadowed by the females and they may hide their emotions in order to support their partners. Male patients are reported to use different coping mechanisms (Peterson et al 2006) such as engaging in extra work and other activities (Jordan and Revenson 1999), which may give the impression they are less affected emotionally than the female.

Men can feel a severe loss of masculinity, particularly if there is male factor infertility, and can become extremely embarrassed resulting in low self-esteem. Men may feel inadequate in fulfilling their role in the relationship being unable to provide their partner with a child. Additionally the stress of being unable to conceive and the subsequent treatment can lead to impotency and sexual dysfunction (Saleh et al 2003).

Although the patients are treated as a couple, the female is normally the identified patient, irrespective of the cause of infertility. The emphasis on the psychological well-being of the female is understandable considering the female will undergo the immense and invasive treatment necessary for IVF/ICSI. It is the female that must inject herself daily and rearrange her schedule to have blood tests and scans for weeks before her eggs are even collected. Despite this, it is important to be aware that both the male and female will be under enormous amounts of psychological and emotional strain and neither should be ignored.

2. 1. Marital

There is varying information about the effect of infertility on relationships and marital status. Interview studies have shown that going through

infertility and assisted reproduction can bring relationships closer together and often strengthen marriage in approximately one-third of couples seeking treatment (Schmidt 2009). Other studies have demonstrated marital problems as a result of their infertility, in particularly suffering from a lack of effective communication and often using active-avoid coping mechanisms. Evidence suggests there is increased marital stress between couples when they do not conceive in the first year compared to those couples who do (Benazon et al 1992). Additionally, couples have reported their physical relationship suffers whilst trying to conceive and whilst undergoing infertility treatment (Benazon et al 1992). Although not always recommended, many couples have intercourse at specific times in the female's cycle, which can diminish intimacy and sexual function, further enhancing relationship stress.

3. Stress and depression

Stress is defined as "...the stimulus which produces mental tension..." (Cousineau and Domar 2006). The inability to conceive is undoubtedly a very stressful situation. It is extremely difficult to measure psychological stress as it can be subjective. Despite this, it is clear that mild to moderate stress and depressive symptoms are present in the majority of people undergoing ART treatment (Demyttenaere et al 1998).

Studies demonstrate that depression and anxiety levels in women who are experiencing fertility problems are dramatically increased and are significantly higher than in fertile women (Domar et al 1992). These levels of depression and anxiety have been reported to be comparable to patients undergoing cancer treatment, myocardial infarction and HIV-positive patients (Domar et al 1993). Unsuccessful IVF attempts can result in severe

depressive symptoms and it has been shown that over 10% of women experience passive suicidal ideations (Baram et al 1988). This highlights the importance of monitoring patients' emotional state before, throughout and after treatment.

3. 1. Affect on ART outcome

There is conflicting evidence that suggests stress factors may influence IVF outcome. A prospective study carried out by Klonoff-Cohen et al (2001) demonstrated that baseline stress levels were significantly related to biological end-points. This included oocyte number, fertilisation rates, and pregnancy and live birth rate. These findings emphasise the importance of emotional and psychological support early on in treatment. In contrast, a recent meta-analysis, by Boivin et al 2011, collated 14 studies with a total of 3583 women and assessed the effect of emotional distress in infertile women undergoing fertility treatment on the outcome of their treatment. The conclusions were confident that stress does not compromise their ART outcome.

Although the jury is still out with regards to stress affecting ART outcome, stress has an impact during pregnancy. High emotional stress levels can increase glucocorticoid levels which negatively affect foetal development and birth outcomes (Bolten et al 2011, Schulz et al 2011). Therefore patients stress levels should be monitored during assisted reproduction treatment, and importantly also after treatment, whether successful or not.

4. Conclusion

In conclusion, this report has demonstrated that infertility patients undergo significant emotional distress. Infertility and its treatment can bare huge strains on all aspects of their lives particularly social interactions with friends and partners. Patients feel a loss of control and their infertility becomes the focus of their life often resulting in the neglect of other aspects. They may feel upset, anger and a lack of self-worth. This is heightened in some cultures which do not accept infertility and bare huge pressures on reproduction. In these cultures women, in particular, can be subjected to very severe treatment such as exile. Women appear to suffer more emotionally than their male counterpart; however this may be due to the male hiding his feelings to support his female partner. Males can experience a severe loss of masculinity and feel inadequate in fulfilling their role. Both members of the couple will be experiencing substantial distress and this can have positive and negative impacts on their relationship. Some marriages benefit from treatment by becoming emotionally closer, others do not. It is clear from this report that there is significant stress associated with infertility which can result in depression and anxiety. This can be particularly serious in those patients who have unsuccessful attempts at IVF. There is varying evidence to whether this stress and anxiety affects ART outcome. Whether or not it affects outcome it is fundamental that the psychological aspects of infertility and ART are not ignored. Counselling and emotional management should be offered to all patients before, during and after treatment. Stress and depression levels should also be monitored a various time points as the welfare of the patient is paramount.