

Chapter 3

Psychological Difficulties and Mental Ill-Health Associated with ART

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Introduction

Artificial reproductive techniques (ART) have advanced a great deal over the course of the last 30 years or so and treatment for infertility or sub-fertility has become more easily accessible to “ordinary” couples, both through the national health service (e.g., NHS in the UK) and private fertility clinics world-wide. Alongside the technical advances in assisted reproduction, there has been a burgeoning in literature about the psychological difficulties associated with the inability to conceive a child when a couple wishes to do so, as well as the psychological distress consequent on undergoing any treatment necessary, whether this is successful or not [1–5].

In addition to the impact of stress on the quality of life of any individuals undergoing treatment for reproductive difficulties, there is the very important issue of how to screen for and manage the mental health of patients who have a pre-existing significant mental illness (usually moderate to severe anxiety and mood disorders, but also more serious and enduring conditions such as mood related and schizophrenia-like psychoses) or those who develop such illnesses during the course of treatment with ART or after the delivery of a much wanted and long-awaited child (or children, in the case of twin or triplet pregnancies).

The biochemical changes that occur in the pituitary as a result of the “down-regulation” and “up-regulation” of the ovulation cycle in women and the subsequent use of large quantities of hormones for stimulating the production of ova in preparation for egg harvesting and IVF are likely to be significant in the aetiology of first onset severe mood disorders and mood related psychoses, as well as the trigger for recurrent episodes in those with pre-existing illnesses of this kind [6]. However, a

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review and discussion of this topic is beyond the scope of this chapter. Therefore I will briefly discuss the issue of screening for a personal or family history of moderate to severe mood disorders and psychoses, before going on to describe some anthropological and socio-cultural considerations that may help health professionals to understand a couple's or an individual patient's response to the stresses of infertility (or sub-fertility) and treatment for this with ART. I will end with a number of clinical scenarios, which demonstrate the way in which patients may present to the treating fertility specialist, whilst they are attempting to conceive, or to a family physician, obstetrician, midwife or psychiatrist, in pregnancy or postpartum.

Brief Discussion About Screening for a Mental Health Problem Which May Be Impacted Upon by Treatment with ART

Those working in the United Kingdom will be familiar with the kind of screening pro-forma used by midwives at booking for antenatal care, which prompt them to ask a pregnant woman about a personal or family history of mental health problems and more serious mental illness, as the NICE guidelines for antenatal and postnatal mental health, first published in 2007, and updated in 2015, recommend this [7, 8]. Over the last 10 years, and longer than this in areas at the forefront of developing Obstetric Liaison and Perinatal Psychiatric Services, such screening methods have been used to identify those women who are at increased risk of developing a significant mental illness during the course of their pregnancy or in the early weeks after delivery of a child, whether this be a relapse of a pre-existing serious mental disorder, most often mood related, or the first onset of such an illness. It is noteworthy that the latter group of women often have a strong family history of serious mood disorder or psychosis and their genetic vulnerability to these conditions seems to be impacted on by the physiological changes that occur in late pregnancy and early postpartum, leading to a greatly increased risk for first onset psychosis at this time in their lives [9–11].

Ideally a woman who has a pre-existing serious mental illness, who is taking maintenance treatment for this, should have access to pre-conceptual advice about the management of her psychiatric disorder and treatment, in case of an accidental or planned pregnancy. This is particularly relevant to fertility treatments with ART, where there is time for advanced planning. It is to be hoped that such individuals would contact their general practitioner before starting ART or at least on the discovery of a pregnancy rather than waiting for screening in antenatal clinic, allowing for an early psychiatric review or assessment (ideally from a psychiatrist with experience in the sub-speciality of Perinatal Psychiatry or from another mental health professional working in a specialised multi-disciplinary Perinatal Psychiatric Service) and to advise them about the use of psychotropic medication and treatment planning for the remainder of the pregnancy and the early weeks after delivery [12, 13]. For those women who are currently well and not taking medication, screening

at around 12 weeks gestation allows for assessment by the beginning of the second trimester of pregnancy, so that the patient and her family know how any emerging symptoms, recurring or new in onset, can be managed robustly, in order to reduce the impact of serious mental illness on the woman and her baby, during pregnancy and afterwards.

The screening that has been developed for antenatal identification of women with a potential for becoming significantly mentally unwell in pregnancy and afterwards, is also useful when a woman or a couple attend a fertility clinic, so that plans can be made for any potential relapse of symptoms during the course of treatment with ART. There may be fertility clinics where such programmes exist and those accessing them feel comfortable enough to reveal their personal or family history of psychiatric disorder. However, I have come across a number of patients who were asked questions about their personal or family history of mental illness, but who chose not to reveal this, for the fear that they would not be able to access the fertility treatment they so desperately wished for; their mental state subsequently deteriorated in pregnancy or the weeks after giving birth, leading them to present acutely to Psychiatric Services. Having talked to a number of colleagues working as fertility specialists locally, my personal experience is that questions about a past history of mental health problems are not asked routinely. Given the potential for difficulties both during treatment with ART and any pregnancy conceived, consideration should be given to making this a formal part of the pre-treatment assessment, so that fertility specialists can work closely with colleagues in Obstetric Liaison or Perinatal Psychiatry in their area, to ensure that patients undergoing fertility treatment receive the same kind mental health care and support as those who present to antenatal clinic following natural conceptions [6, 14].

Anthropological and Socio-Cultural Considerations That May Help a Fertility Specialist Understand a Couple's or an Individual Patient's Response to the Stresses of Infertility (or Sub-fertility) and Its Treatment with ART¹

Perhaps many people would say, or at least think, that anthropological and socio-cultural considerations are not relevant in the twenty-first century. The rapid developments in and spread of communication technologies (be they satellites which beam radio and television programmes into once remote towns and villages, or mobile phones, for which there are apparently an estimated seven billion subscriptions around the world) have led to a “globalisation” of scientific ideas and understandings once felt to belong exclusively to those raised in technologically advanced

¹ A significant portion of the material used in this particular section of the chapter was put together for an original but unpublished essay submitted for my Masters in Medical Anthropology (1997); it has been updated with new material and references where appropriate.

nations. However, it is my experience of living and working in a very multicultural city in the United Kingdom that even when individuals are educated to a level that would include some basic facts about human biology and physiology, their understanding of fertility and what will lead to conception, is influenced by things other than their formal education.

Religious teachings, which in certain communities of all the world's major religions, may be taken from texts many centuries old, may influence individuals in their beliefs about procreation. For others, there may be cultural traditions or folk-myths that underlie their understanding about such matters, and they continue to hold these ideas, passed on to them by parents, grandparents and members of the larger community, despite their education in an urban environment in their own or an adopted country. Then again, for some people, traditional beliefs and ideas may be replaced by "modern" or "scientific" explanations about their bodies and the world around them, only to re-surface at times of acute distress or active mental illness (and then these ideas may be described by those treating them, according to a strictly medical model, as "over-valued" ideas or "delusional" beliefs). I have therefore included some ethnographic material in this section, related to beliefs and practices that may now be considered outmoded and irrelevant, but which nevertheless may continue to influence the ideas of individuals with their origins in these communities and geographical locations.

As stated in the introduction above, the subject of infertility has generated a vast literature in biomedicine, and this has been fuelled by the rapid development of artificial reproductive technology (ART) since the 1970s, although artificial insemination by donor (AID) in humans was first performed successfully in 1799 and has been used consistently in Western biomedical practice since the 1920s [15]. There had been relatively little written about infertility and reproductive morbidity in general in the field of medical anthropology until the early 1990s [16]. This is in sharp contrast to the wide ranging exploration of human reproduction by anthropologists with regards to theories of conception across cultures, fertility and birthing practices and more recently, with a rising world population, the thorny issue of family planning.

In a world that is seen as overpopulated, the distress and suffering of those unable to conceive for whatever reason, is largely submerged. Inhorn argues that the gap in medical anthropological knowledge about infertility will become even more important in the light of the increasing incidence of reproductive failure worldwide [16]. One cited example of this trend is of selected populations in the AIDS endemic "infertility-belt" of Central Africa. In this region not only has there been a high mortality from AIDS, but other sexually transmitted infections (STIs) such as gonorrhoea and genital chlamydial infections cause secondary infertility thereby further threatening depopulation. In this region, one-third to one-half of couples are infertile [17, 18], compared to an average of one in six couples in the USA and Europe. Inhorn further argued that there are major gender issues surrounding reproductive morbidity: "Women worldwide appear to bear the major burden of reproductive setbacks of all kinds" [16]. This is in terms of blame for reproductive failure as well as shouldering the engendered personal grief and frustration, marital strain, social stigma and ostracism [1, 19]. This remains the case in the twenty-first century

[18]. Where ART is available, although it holds out the hope of a “cure,” it can also be a great iatrogenic source of further distress, both physical and psychological.

Despite widely differing geographical and cultural milieus, women’s experience of infertility is a shared one in which the normative pressures are to conceive. For those who cannot, there is fear, anxiety and isolation generated at times by a sense that the problem is so shameful that it should be kept a secret [1] from family and friends, the very people who would usually be a source of support. Women are described across cultures going to great lengths to overcome what is seen as “their” infertility. The endless search for treatment may take the form of elaborate locally practised de-polluting or fertility enhancing rituals or “high-tech,” invasive ART. Globally, societies give pre-eminence to women’s role as mother and it is women’s bodies that are seen as the locus of the “disease” of infertility. Even when there is a male factor involved in a couple’s inability to conceive, men in many cultures find this hard to acknowledge, such is the socio-cultural determination that infertility is always women’s fault [18, 20]. Therefore it is women’s bodies that are most often the site of surveillance and intervention. Women are most often stigmatized whether it is they who are infertile or not [16, 18, 21].

Studies across cultures show how intimately infertility is linked with other important areas of social life. Kinship, marriage, divorce, inheritance, household residence patterns, economic productivity, gender relations, notions of body, health and illness are examples of the domains involved. Exploring infertility leads to the discovery of many important fertility related beliefs. Theories about how conception occurs and how it may be prevented, intentionally or unintentionally, lead to an understanding of attitudes towards contraception and its perceived dangers. These theories may also shed light on what is believed to cause infertility and what measures are taken to rectify the situation. Infertility highlights the importance societies give to parenting and children and the perceptions of risk and risk-taking with regards to the body and its reproductive processes. In many cultures, infertility is not just a threat to the individual but also a threat to the extended family [18, 19], the community [22], and society itself.

Socio-Cultural Factors Which Interact with Biology to Modify an Individual’s Natural Fertility

Natural fertility depends on a set of biological variables: monthly probability of conceiving, uterine receptivity, duration of breast-feeding in the post-partum period and the incidence of sterility. All of these factors are modified by cultural practices and social circumstances [23]. There is considerable variation between societies in the age at which women are allowed to marry or become sexually active. Societies may practice monogamy, polygyny, or polyandry. Extra-marital sex may or may not be permissible. Divorce and residence patterns and the economic climate (when and where it may be necessary for large numbers of men to live away from home for long periods, as migrant workers) will also affect a group’s natural fertility.

In societies that practice polyandry the procreative ability of the husbands is limited by the fertility of their one wife. Although this is a less common arrangement than polygyny, it has the advantage of masking any male infertility factors that may exist as long as the wife herself is fertile. In polygynous arrangements, for the wives, there is the reduced probability that coitus will take place during days of the cycle when conception may occur. This may be accentuated when, as often happens with groups of women living together, their menstrual cycles become synchronous. Access to the husband can be a source of friction between co-wives, particularly if one is thought to be favoured above others. When infertility exists in these circumstances a wife may accuse a co-wife of “stealing” her chances of conceiving [24, 25]. Male infertility will be more obvious too in polygynous marriages, if successive wives fail to conceive.

Extra-marital sex may also be a factor influencing a group’s natural fertility. Male infertility could be masked if a wife chose to look outside the marriage to help her conceive. The structure of some societies seems to allow for this. For instance, amongst the Nuer, a husband and his lineage received the fertility of a woman’s womb in return for paying the bride-wealth. Any child which is issue of that womb is of the lineage regardless of who the genitor is. Adultery is considered illegal but not immoral. Fines of cattle imposed on the discovery of adultery are returned if a healthy child is born as a result of it. Otherwise, payment of cattle could be seen as a legitimization fee and give the genitor a claim on the child [25]. In most societies, however, there are harsh penalties for extra-marital sex. The importance of the husband in having sole sexual access to the wife to ensure paternity is seen as paramount. The notions of honour and shame in studies of Mediterranean culture exemplify this. Women are fields to be fenced off and only ploughed by the owner [26].

Theories of Infertility: The Contribution of Ideas About Conception and Spiritual and Social Disharmony

There is little consensus across cultures and even within groups about the relative contributions of males and females to conception and fetal growth [23]. These ideas are dependent to some degree on whether a society is organized according to matrilineal or patrilineal patterns. Education plays a part but even in societies where there is universal schooling, all people do not share a similar model. In one American study, women from a low socio-economic group attending antenatal classes demonstrated a poor knowledge of aspects of bodily function such as menstruation, conception, its timing, the function of contraception and ideas about how STIs might be contracted. Ideas about how infertility might come about also vary greatly ranging from beliefs about the heating or cooling properties of food consumed by a woman, to physical damage occurring to a woman’s womb if sexual intercourse takes place at the wrong time in her menstrual cycle [23].

A common theme in theories of conception is that the fetus is made up of semen and maternal blood. The Nayars of Kerala share common South Indian ethno-physiological beliefs about reproduction. These are that male and female alike

produce sexual fluids. For fertilization to occur both partners must achieve orgasm so that these fluids can be ejaculated into the uterus, to mix and produce a bubble, (*kumili*) or sprout (*mulai*) that develops into an embryo. The Nayars believe the sexes contribute equally in terms of the fluids that go to make up the embryo. However, women are believed to possess more of the divine procreative force (*śakti*) as personified by Śakti, the feminine aspect of the Sanskrit god, Śiva. This *śakti* is enhanced and harnessed by heat accumulating asceticism (*tapas*), in the form of abstinence, devotion, suffering and sacrifice. Married women focus their *śakti* for their husbands' wellbeing through steadfastness and devotion. This religious belief and the fact that, historically, these groups practised polyandry (which would mask male infertility and highlight female infertility) could be reasons why infertility is still defined amongst them as a woman's failure. It is highly stigmatizing for the afflicted woman but also for her maternal kin, whose duty it is to protect her from dangerous forces that would impede her fertility, such as the wrath of gods and demons, or disharmony within the extended family.

Amongst the Aowin of south-west Ghana, social relationships are seen as a central issue in infertility. This misfortune is seen as a result of troubled relations with the spirit world and said to stem from acts of an individual that have angered the gods. Pollution (*efeya*) can be acquired by not observing traditional purificatory practices, by neglecting to give the gods appropriate offerings or by bearing animosity towards others (such as co-wives, husband or neighbours). This same pollution can prevent a woman from conceiving [22]. Yet other interferences in the procreative process are seen by African peoples as coming from outside themselves. These external agents are most often "witches" and their patrons. As in common with many other African cultures such as the Giriama of East Africa [27] and the Bangangte of Cameroon [24], the Aowin believe that reproductive morbidity of all kinds can be caused by various forms of witchcraft. Not only can a woman be made infertile by the power of witchcraft but also the envy of a barren woman can make her a witch and thus dangerous to other women's fertility.

Mediterranean [26] and Northern Indian ideas [28] use the metaphor of the active, male seed implanted in the inert, female field. This ideology may be driven by the patrilineal structure of these societies. Infertility for them can only result from the barrenness of the soil in which the seed is planted. Women unable to reproduce are seen as inauspicious. In many parts of India, they are barred from taking part in sacred ceremonies. In some parts of India, infertile women are even thought to have the effect of blighting crops and being able to adversely affect the health of other women's children (in common with the African belief about infertile women as harmful witches).

The Pursuit of Treatment

Beliefs about how infertility may occur vary across cultures, but as can be seen from the examples discussed above, there are some common themes in the form of pollution acquired through not observing socio-religious rules. The remedies

employed to “cure” infertility are legion and women may take a pluralistic approach to treatment. World-wide, they are as likely to go to spiritual healers and traditional herbalists as they are to biomedical practitioners. This section of the discussion will concentrate on spiritual and traditional healing methods employed in some of the societies mentioned above. Some long-standing, more pragmatic, socially sanctioned alternatives to ART will also be examined briefly, and the discussion of ART in this context will be limited to AID, a technique that is more widely available and perhaps more affordable than IVF and other related, more technically difficult procedures available only in fertility clinics.

Amongst the Nayars of South India *pampin tullal* is a ritual performed daily over 1–3 weeks as a remedy of the curse of the serpent deities (the curse being infertility of one or more members of the group, *taravatu*). The goal of this ritual is fertility and auspicious prosperity achieved through worship of the serpent god by two *taravatu* women who act as proxy for the well-being of the group. In a successful ritual, the deity’s presence is achieved when the two women go into a trance and become possessed by the god. During the trance *taravatu* members may pray to and speak to the deity and afterwards receive his blessing. The women who enact the ritual must be unattached so that they can focus their *sakti* for the benefit of the group. More mature women (who are single through being separated, divorced or widowed) are often “chosen” for possession by the deity. In this way, women who are generally disenfranchised are able to highlight grievances or disharmonies within the group that would otherwise remain unaddressed.

The Aowin spirit mediums, again most often women, similarly focus on ritually purifying an infertile woman and restoring harmony to disrupted social relations by acting as informal adjudicators. The woman who has acquired *efeya* will be sent to the forest for a period of time. She will be asked to make offerings to the gods. Her dangerous “red” or “hot” state of pollution is further treated by painting her with white clay or allowing her to only eat “white,” “cooling” foods and bathing ritually in the river. If a woman is felt to be infertile as a result of witchcraft, then the medium undertakes to appease the witch. If an Aowin woman goes to a traditional herbalist, he will also give offerings to the spirits, but his emphasis is more on the woman as an individual and he is less likely to look to her social relations for an explanation of her infertility.

Pragmatic solutions to the problem of infertility have long been sanctioned by many societies. In many parts of Africa fostering by close relatives who are childless is common practice. The fostered child will know who his genetic parents are but will carry the name of his foster parents. Legal adoption is less common in many African and Asian settings. Surrogacy is another solution to infertility that has been used throughout history. There is the biblical example of Abraham and his wife Sarah who have a child by Sarah’s handmaid (Genesis, Chapter 16, verses 1–4). In some societies, an infertile woman will select a co-wife from amongst her maternal kin or natal village, thus sharing something of the child born to the co-wife. Amongst the Nuer, women unable to have children of their own are allowed to trade in order to collect a bride-wealth and marry another

woman. The woman who is the “husband” then chooses men from her kin or neighbours to father children by the woman who is the “wife.” Children born of these unions are known by the name of the “woman-husband” and they call her “father” [25].

Surrogacy becomes more of a prickly subject when male infertility is involved. In Africa, as in many other parts of the world, the use of AID in many men’s minds is tantamount to their womenfolk committing adultery. For the women, the anonymity of the sperm donor is a major obstacle to the use of AID. They fear they may unwittingly commit incestuous adultery (incest in the African context being broader) and thereby endanger the outcome of the pregnancy. A traditional African alternative to AID is natural insemination by donor. A husband may give unspoken consent for his wife to seek another man from the community to father a child. In some cases, the infertile spouse may choose the donor from amongst his close relatives or friends. The identity of the real genitor is then known to and accepted by the putative genitor and those who share the family secret [20].

The use of natural surrogacy for male infertility problems is also referred to in Indian literature sources. *Niyoga* is the ancient Hindu practice of lawful cohabitation of a childless wife with her husband’s brother or a Brahmin of “good character.” In the Hindu epic “Mahabharata,” the sage Vyasa sires a son by each of his dead brother’s wives at the request of his mother [29]. Later in the same source, Pandu, who has been cursed to die if he lies with any of his wives, suggests to them that they have children by the “grace of a Brahmin.” These Indian legends have left behind folk myths that in turn have been incorporated into modern literature and film art about India and Pakistan [30–32].

ART is either unavailable or the cost of it is such that it is inaccessible to the majority of infertile couples across the world [18]. Even where it is an option, it is often viewed with suspicion. This is particularly so when there is a need for gamete donation. For many people, men who donate sperm have been seen as somehow deviant and possibly self serving and therefore to be discouraged. On the other hand women who donate eggs, a procedure that has only become possible relatively recently, are felt to be behaving altruistically [33]. It is not surprising therefore that where male infertility is a factor, AID as a form of treatment is often unacceptable. Even in countries where there is a long history of using AID, there can be difficulties. A follow up study in New Zealand that looked at couples up to 10 years after a child had been born revealed there was little consensus between partners as to what they would tell a child about its origins [34]. A study carried out prior to the amendments to the Human Fertilization and Embryology Act (HFEA) in the United Kingdom in 2008 [35] showed that both gamete donors and recipients had significant anxieties about the proposed changes to the Act, which would mean that offspring would be able to access information about their genetic parents, once they reached the age of 18 years.

The descriptions above are not merely a collection of exotica. I have treated White British and European women who have echoed the fears of their African or South Asian peers, as they talked of the envy of female relatives or friends who have

fertility problems and how this envy may in some way blight a pregnancy achieved with great difficulty. I have also treated women who have failed to conceive despite repeated interventions with ART, who sadly described the change they observed in female relatives and friends who on conceiving themselves, avoided revealing this news until it was no longer possible to keep it a secret, not out of consideration for the childless woman, but out of some atavistic fear that somehow her lack would become theirs.

In this overview of infertility and attitudes towards it across cultures, I have attempted to demonstrate how stigmatizing and distressing it can be for the individuals affected, especially women, whose identity and position in society is more often impacted on. I have given some diverse examples of the remedies pursued in the treatment of infertility, including some traditional approaches that may still be used as pragmatic alternatives to ART in non-Western cultures as ART may, for some, pose as many difficulties as it solves. Although in the past, couples using biomedical techniques involving donation of gametes would not have been able to give their offspring details about the donor, changes in the HFEA regulations in the United Kingdom [36] will make this information available to a child in future. The first cohort of children who will be able to access this information will reach the age of 18 years in 2023 and it remains to be seen if having information about gamete donors reduces the psychological burden of secrecy on infertile couples who used treatments involving AID or egg donation.

Many societies still value success in an individual's reproductive role above all else. Social attitudes shift at variable rates but what people think of and how they behave towards individuals who are unable to have children of their own is something that must surely change. Perhaps of almost equal importance is the way in which many individuals affected by infertility, especially women, see their personal and social identity as flawed and so devalue themselves, even when they have many other laudable qualities and accomplishments.

Although ART is much more widely available, material cost remains a big issue, especially in low and middle income countries [18]. There will be many who access fertility treatment but for whom it is unsuccessful. If the prevalence of infertility continues to increase worldwide then many ethical and moral issues about what constitutes treatment and how it should be provided may need to be examined. Certainly, more thought will need to be given to psychological interventions before and after ART, whether it is successful or not, as there is a body of evidence now indicating that even when women do not have a pre-existing problem with mental illness, the psychological burden of infertility, the physiological impact of fertility treatment, being pregnant and closely scrutinized, operative interventions in childbirth and expectations around parenting can increase women's vulnerability to acute perinatal mental health problems and severe mental illness [3, 6, 37–39]. It is important to remember that even when a woman does not have a personal history of serious mental illness prior to conception and childbirth, in a small minority, the genetic vulnerability imparted by a family history of serious mental illness, especially mood related psychoses, may result in the first onset of such an illness in late pregnancy or early post-partum [11].

Clinical Scenarios

The following clinical scenarios are based on the experiences of actual patients; personal details have been disguised, to ensure confidentiality, even where permission has been granted to use the clinical material discussed. The purpose of these scenarios is to demonstrate some of the problems facing both patients and fertility specialists when planning ART and during the subsequent pregnancy and peri- and post-partum periods.

Scenario 1: A Woman with a Pre-existing Severe Mood Disorder Who Relapses During Treatment for Sub-fertility and Shows Signs of Recurrence of a Depressive Psychosis

AB is a 39 years-old, professional White British woman established in a stable marriage. She developed a severe depressive illness, with psychotic symptoms, following the birth of her first child, a planned and natural conception. Following her acute presentation to the local Perinatal Psychiatry Service, late in the first post-partum year, she required in-patient treatment on a Psychiatric Mother and Baby Unit (MBU). During the course of the admission, it became apparent that she had suffered from depressive symptoms since the early weeks after giving birth, but had attributed her lack of energy and enjoyment to the demands of breast-feeding and caring for her infant with little in the way of practical support during the day, as her husband worked long hours and they had no family support locally. AB maintained breast-feeding until her return to work at 5 months post-partum and the collateral history provided by her husband indicated that her mood had deteriorated quite markedly after this. However, AB did not seek help for herself at this time, and it was only when her husband noted she had cognitive and motor slowing at 9 months post-partum that she came to the attention of her doctor. Another close relative revealed that AB's father had suffered from severe Bipolar Affective Disorder; AB later revealed that she had become aware of this fact at age 20 and duly informed her community midwife of it at antenatal screening at 12 weeks into her pregnancy. However, as she did not have a personal history of mental illness, the risk related to her family history, 3:100, was judged to be very low.

AB required treatment with a combination of a tricyclic antidepressant in high dose, augmented with an antipsychotic preparation and electro-convulsive therapy (ECT). AB made a full recovery over the next 3 months and complied with follow-up and maintenance treatment with an antidepressant for 2 years after her discharge from hospital. Having been in no particular hurry to plan her first pregnancy (“...I thought I had plenty of time and would get round to it at some point...”), AB said she wanted a sibling for her existing child in the near future. She nevertheless recognised the severity of her illness and the importance of maintaining her recovery before attempting to conceive again. When AB's child was aged 3 years, she sought

pre-conceptual advice from the Perinatal Psychiatrist who had treated her previously, with regards conceiving a second pregnancy. Following a discussion of her options for treatment, she decided she would prefer to conceive medication free and recommence a tricyclic antidepressant, if she needed it, once she progressed beyond the first trimester.

Unfortunately, by the time AB halved her usual treatment dose of antidepressant, she developed early signs of recurrence of depressive symptoms. She took her psychiatrist's advice and once more increased the dose of antidepressant to a therapeutic level. AB continued to attempt conception over the course of the next 1 year, whilst using the antidepressant and maintaining out-patient contact with Perinatal Psychiatry. As she failed to conceive during this time, she sought treatment from the local fertility clinic. During the course of preparation for IVF, despite continuing with psychotropic medication, she suffered a brief psychotic illness which required admission to a general adult psychiatric ward. Following her discharge home, AB and her husband decided they could not risk further treatment with ART in case the stress involved, and the drugs/hormones used precipitated another episode of severe illness. They decided to explore the possibility of adopting a child instead, but, although AB has remained well in terms of her mental state for several years now – she has continued on maintenance treatment with an antidepressant – and she is coping well at home and at work, revealing her history of depressive psychosis to the Adoption Agency has made her ineligible to adopt. AB is gradually coming to terms with the fact that she will only raise one child.

Learning Points from Scenario 1

AB is an example of an individual who had no personal history of psychiatric problems prior to giving birth for the first time, but whose family history of severe mood disorder in a first degree relative made her vulnerable to developing a post-partum psychosis. It is possible that the reassurance AB was given in early pregnancy, about the relatively small risk to her of developing a post-partum mood disorder similar to her father's, contributed to her dismissing the symptoms of a biological syndrome of depression in the early weeks and months after delivery as "tiredness" related to caring for a new baby.

AB's symptoms became worse around the time she returned to work, which coincided with her weaning baby off the breast at 5 months post-partum, indicating a sensitivity to changing hormone levels, which is demonstrated again when having treatment with ART, even whilst continuing maintenance treatment with psychotropic medication. AB should therefore be made aware that she may be as sensitive to the changing levels in her hormones approaching the menopause as she was post-partum and whilst receiving treatment with ART, so that she can seek medical advice sooner rather than later, if she experiences further mood-related symptoms.

Several years later, AB has been able to withdraw from her antipsychotic medication; she has successfully made adjustments to a different kind of life than the one she imagined, and has been well enough for long enough to consider whether she

can gradually withdraw from her maintenance antidepressant medication. Her good pre-morbid psychological adjustment and a supportive husband and family have helped her in this. For those women who are not so fortunate, psychological interventions, in the form of individual or couple therapy may be necessary.

Scenario 2: A Woman with Pre-existing Severe Mood Disorder Who, with Pre-conceptual Advice and Robust Management of Her Mental Illness During Fertility Treatment, Conceives with IVF and Remains Well During Pregnancy and Postpartum

BC is a 41 years-old woman of South-east Asian extract who suffered her first episode of depressive psychosis aged 31 years, after she came to the United Kingdom to carry out her post-doctoral research. She has since had two further admissions to a psychiatric ward, with psychotic symptoms. Each of her subsequent illnesses has appeared to have a manic flavour and she has therefore been given a diagnosis of Bipolar Affective Disorder. She has used Risperidone, a second generation antipsychotic (SGA) for several years now, and it works well for her, in terms of stabilising her mood and keeping her psychotic symptoms at bay. However, when using the Risperidone at a higher dose, BC has experienced amenorrhoea, secondary to hyperprolactinaemia, a well recognised side effect of this and some other antipsychotic drugs.

BC and her husband first came for pre-conceptual advice when she was aged 38 years. BC stated her preference for attempting to conceive without medication but she also accepted that as she had experienced manic symptoms within the last year, without maintenance treatment, she was at increased risk of relapsing into psychosis. As BC was concerned about ongoing problems with hyperprolactinaemia, it was agreed that she should cautiously reduce her Risperidone to a lower maintenance dose, aiming for 1 mg daily, whilst undergoing fertility treatment. A few months later, BC returned for review. She remained free of psychotic symptoms, but her anxiety was heightened in the context of recent news that her husband had a pituitary tumour, which was impacting on the couple's plans to proceed to IVF using husband's sperm. BC accepted that significant life events and the stress generated by these had previously contributed to her developing mood related symptoms and so it was agreed that she should remain on a moderate dose of Risperidone, as long as she did not become amenorrhoeic again.

Two years later, BC and her husband returned for further discussions about her treatment plan as her husband had been successfully treated for his tumour. Again it was agreed that BC should remain on the lowest dose of Risperidone that kept her well, without impacting on her menstrual cycle, through conception and pregnancy (this information was communicated by letter to the fertility specialist treating BC). Soon afterwards, BC and her husband conceived with the first cycle of IVF. BC engaged well with the Perinatal Psychiatric Service during her pregnancy, which was physically healthy. BC was offered a planned admission to the Psychiatric

MBU in the last two weeks of pregnancy, in order to modify the dose of her medication under supervision, in preparation for delivery. BC preferred to make changes to her treatment at home, with the support of her husband and parents, and the Perinatal Community Psychiatric Nurse (PCPN), who had come to know her well in the preceding months. The nursing team on the Psychiatric MBU was alerted to BC's impending delivery, in case she required telephone advice or out of hours admission. BC had already made a decision that she would not breastfeed, as disruption of her sleep tended to trigger a relapse of her symptoms (her husband and parents planned to support her by carrying out the night-time feeds). A treatment plan was outlined accordingly and shared with all those working with BC (her PCPN, Community Midwife, Obstetrician, Health Visitor and GP).

BC subsequently had an uneventful delivery and a healthy infant. BC's mental state was regularly reviewed at home by her PCPN in the early weeks after delivery, during which time she re-established treatment with her usual dose of Risperidone. Review in outpatient clinic, at 3 months postpartum, showed BC to be well on a moderate maintenance dose of Risperidone. She was therefore advised to continue with this (whilst using a robust contraceptive method), and plans were made for her to be reviewed as an out-patient at regular intervals, with her GP and Health Visitor monitoring her care in-between these appointments.

Learning Points from Scenario 2

BC and her husband accepted that she was at high risk of relapsing into psychosis without maintenance treatment with an antipsychotic preparation. BC was willing to use such medication, as long as the side-effects of this did not impact on her fertility or cause any problems for the child/children she might conceive. Following a discussion of the potential risks and benefits of using psychotropic medication through conception and pregnancy, and gaining BC's consent to continue treatment, adjustments to the dose of her antipsychotic medication allowed BC and her husband to realise their full reproductive potential through ART. Good communication between all the health professionals working with BC and her husband insured that there were plans in place, in case she developed active symptoms of her serious and enduring mental illness.

Scenario 3: A Woman Conceives Through Egg Donation with Husband's Sperm and Subsequently Develops Symptoms Thought to Be Related to the Stress and Anxiety Generated by Repeated Attempts to Conceive

CD is a 37 years-old woman, of South Indian extract, born and raised in the United Kingdom. Although her parents are practising Hindus, and she has some spiritual beliefs, CD has never thought of herself as an orthodox Hindu, or religion an issue

in the day to day life she has built with her husband of 7 years, whom she met through work. CD's husband is of North Indian extract and although his family still adhere to traditional Muslim ways of living, he has always thought of himself as a man of liberal ideas and marrying a woman from a different language and faith community, for love, was not a difficult choice to make. CD and her husband were disappointed by their families' response to their marriage, but they hoped that with the arrival of grandchildren, each set of parents would mellow. Sadly, they have been unable to conceive naturally and several cycles of IVF in the NHS, using their own gametes, have failed.

CD has not confided her difficulties to anyone; she rarely sees her parents or siblings and she does not feel able to talk to her friends about her childlessness, as many of them now have young families. When it is suggested that perhaps the next cycle of IVF should be with donor eggs, CD allows her husband to organise a trip to India, in the hope that the money they have raised from downsizing their home, will cover enough cycles of treatment to ensure a pregnancy. CD manages to conceive, with donor eggs and her husband's sperm, and once it is clear that her twin pregnancy is viable, she returns home. CD engages with antenatal care in her home town in the United Kingdom; home and work life is made rather difficult by pregnancy related nausea through to late in the second trimester. Early in the third trimester of pregnancy, just as she feels things may be improving, CD develops tachycardia and breathlessness which are both thought to be driven by her anxiety about the successful outcome of her much longed for pregnancy. CD struggles through the last few weeks of her pregnancy, as she is physically tired and struggles to get about on feet that seem to be perpetually swollen.

CD is relieved to deliver healthy twin girls at 38 weeks gestation, and hopes that her physical health will improve following their birth. CD remains physically tired, despite getting some sleep over the next few nights and a few days after delivery, suffers another prolonged run of tachycardia, accompanied by breathlessness and nausea. Her complaints are initially dismissed as anxiety, related to the practical care of her twins, but when she suffers a physical collapse, it is recognised that she has serious physical problems related to a cardiomyopathy. CD requires care on ICU for the next 2 weeks, but she is eventually re-united with her daughters and goes home, where it is hoped that she will continue to recover with the help and support of her husband and her parents (who have swallowed their anger, in the face of their daughter's severe illness).

Over the course of the next 2 months, CD, who is normally very robust in terms of her psychological health, presents several times to her GP, with complaints of tachycardia and dizziness. She has one brief re-admission to the Medical Assessment Unit but nothing positive is found, in the way of ongoing cardiac pathology, and she is discharged home with a diagnosis of anxiety. The GP requests an assessment from the Perinatal Psychiatric Service, as he feels that CD now has post-natal depression. He feels that antidepressant medication is indicated but CD is not at all keen to use anything that may give her side-effects.

Following assessment in the Perinatal Psychiatric out-patient clinic, it becomes clear that CD does now have symptoms and signs in keeping with mixed anxiety

and depression, as well as some features of post-traumatic stress, related to vivid memories of the physical symptoms she had immediately before her collapse (CD said "... I thought I was going to die"). CD prefers not to use medication as she is aware that some psychotropic drugs can impact on cardiac rhythm and function. As she is willing to engage actively in psychological interventions, the treating Perinatal Psychiatrist is willing to defer the use of an antidepressant. CD is assessed for group psychotherapy, using Compassionate Focused Therapy (CFT) techniques suitable for use in the postpartum period.

CD uses the psycho-educational material and the group process well. It soon becomes apparent to the group leaders that CD's marriage has been strained beyond repair during the course of several years' fertility treatment and a very difficult pregnancy and postpartum period. From CD's description of her husband's behaviour towards her since the twins' birth, it is clear that there is some emotional abuse in the relationship (CD said her husband insists that she has no genetic relationship to the twins, and therefore as their biological father he is the only one who can make decisions about how they will be raised). With the help of other mothers in the group, CD is gradually able to recognise that although the twins came into being through the kindness of an egg donor and her husband's sperm, they belong equally to her, as it is she who has built every cell in their bodies, nurturing them with her blood via the umbilical cords that attached them to her in-utero. CD is once more able to draw on her family's cultural heritage, especially the notion of *śakti*, the female creative energy in the universe, to tackle her difficult life circumstances. In the months after discharge from the psychotherapy group, CD attempts to work with her husband in couple therapy. When it transpires that CD's husband has asked his female relatives to look for another wife for him, this time from his own community, CD makes the decision to return to her parents with her daughters, with the aim of eventually living independently and making amicable arrangements for sharing custody of her daughters with their father and his new wife.

Learning Points from Scenario 3

CD's story should serve to remind health professionals of all disciplines and backgrounds that although individuals dealing with the stress of infertility, and treatment for this with ART, are struggling with many complex internal, family and social dynamics, this does not preclude them from becoming seriously physically ill. Therefore, persistent complaints of physical ill-health should be taken seriously and if, in the aftermath of a life-threatening illness in the antenatal or post-natal period, a woman does become anxious or depressed, appropriate care and follow-up should be sought for her. The NICE guidelines for antenatal and postnatal mental health (CGs 45 and 192) encourage the provision of psychological interventions for those women who prefer not to use psychotropic medication to tackle their symptoms. As can be seen from the scenario described above, it would have been difficult to treat

the complex relationship and social difficulties that grew out of a pregnancy resulting from ART with antidepressant treatment alone; if psychotropic medication had been indicated alongside the psychological interventions used, the potential for adverse effects on cardiac function, certainly during the early stages of recovery from the acute cardiac problem should be kept in mind.

Scenario 4: A Woman Undergoes Fetal Reduction for Triplet Pregnancy and Subsequently Develops a Severe Postpartum Depressive Illness After the Birth of Twins

DE is a 32 years-old professional woman from Ghana, who has come to live in the United Kingdom with her husband of 5 years (DE's husband has a post-graduate scholarship from the Ghanaian government, and is working as a researcher and visiting lecturer at the local university). The couple are devout Christians and hoped for the gift of many children but they were hugely saddened by the fact that DE suffered consecutive miscarriages of three planned pregnancies and subsequently failed to conceive naturally, even though they attempted to do so for over 2 years. DE and her husband recognised that they would not have the same kind of access to fertility treatment in rural Ghana, where DE's husband's work will be based in future and so they sought fertility treatment in the United Kingdom, before DE's husband's contract with the university came to an end. Preliminary investigations had revealed that DE has a large uterine fibroid, and so when she conceived after the first cycle of IVF, and the two embryos implanted were found to have become three, the couple was advised to think about fetal reduction in order to give the pregnancy the best chance of going to term. DE and her husband read around the subject, and after consulting with their fertility specialist, made the painful decision to reduce the number of fetuses to two.

DE managed to get through to 34 weeks gestation, at which time, following signs of early labour, she had an emergency Caesarean section to deliver her twin sons. After an anxious period of 3 weeks, whilst the twins were cared for on the Neonatal Unit, during which it was difficult for DE to maintain breast-feeding as she had hoped to do, the couple took the twins home. In the weeks that followed, DE formed a good attachment with her sons, but as her husband was unable to take much time off from work, she cared for them largely on her own. By the time the twins were 3 months old, DE became aware that her sleep and appetite had deteriorated; she had little energy to do anything other than care for the babies, and even though their arrival had been long-awaited and they were much loved, she felt only guilt when she looked at them. DE was constantly reminded of the third child that would have existed if she and her husband had not made the decision to go ahead with the fetal reduction. Matters were made worse when DE began to have ruminative thoughts that if members of her family or church community knew what she had done, they would be appalled by her actions.

DE began to avoid going to church or inviting people to her home, which increased her social isolation. DE's husband struggled in his own right, but he sought refuge in work. DE's Health Visitor noted the deterioration in her mood and referred her to the GP, who commenced an antidepressant but there was little improvement in DE's mood, even after several weeks of treatment with a therapeutic dose of this. The GP therefore referred DE for further assessment to the Perinatal Psychiatric Service. It was clear to the PCPN who first saw DE that the antidepressant prescribed was not working; DE was clearly suffering from a severe depressive episode, set against a background of loss and grief, not just for the third child DE had carried in the early part of her last pregnancy, but also of the loss of the three pregnancies prior to this.

DE was seen by the Perinatal Psychiatrist for review of her mental state and treatment. An alternative antidepressant was prescribed, and titrated up to a slightly higher than usual treatment dose. DE was offered an admission to the Psychiatric MBU, as there were concerns that with her husband's increasing emotional distance, in the face of his own low mood, and in the absence of support from any other close family members, DE was at risk of deteriorating further whilst waiting for her treatment to take effect. DE preferred to continue with treatment as an outpatient; over the course of the next 9 months, she engaged actively with her PCPN and Perinatal Psychiatrist to work through her grief and guilt, whilst also taking an antidepressant. DE's husband was eventually persuaded to seek help for himself from the couple's GP. At the time of DE's discharge from the Perinatal Psychiatric Service, DE and her husband were beginning to rebuild their relationship with each other and members of the church community who stood in for the family that lived so far away.

Learning Points from Scenario 4

The above case scenario demonstrates how decisions that are much debated and made with the best of intentions can afterwards cause distress and guilt. Also how prolonged periods of stress and anxiety can contribute to pre-existing losses and perpetuate grief that undermines even the strongest of individuals and relationships. DE and her husband would probably have eventually worked through their loss and grief without help from others, but the process would likely have been much longer, and the time taken could potentially have irrevocably damaged the marital relationship, as well as the relationship with their long-awaited children, impacting on their well-being and development. With the combination of supportive psychotherapy and antidepressants, DE recovered enough within 18 months to continue working on her relationship with her husband in another arena: she agreed to reveal the difficulties they had experienced, both in relation to her last pregnancy and afterwards, to their pastor, who is skilled at working with couples and who did not judge them as they had feared. Some 4 years later, the couple are again living relatively contentedly and enjoying their growing sons.

Scenario 5: A Woman in a Same-Sex Relationship with a History of Mental Health Problems Who Struggles with Severe Anxiety in a Pregnancy Conceived with AID

EF is a 29 years-old French woman who has been established in a same-sex relationship with an English woman for 4 years. Following discussion with her partner, it was agreed that she would seek fertility treatment in order to conceive a child for the couple. EF had some pre-existing problems with body image and bulimic eating patterns; she had also engaged in self-harm and substance misuse in the distant past, but as these problems were controlled, she chose not to reveal this history when seen for assessment at the fertility clinic. EF became pregnant after the first round of treatment with AID. The first trimester of her pregnancy was made difficult by hyper emesis and she had to take time off work. The second trimester of her pregnancy was complicated by physical ill-health, related to gallbladder disease, and so she remained on sick leave. The problems with EF's physical health resulted in a decision to induce labour at 37 weeks gestation; EF required a forceps delivery, from which it took her several weeks to recover. EF continued to have bouts of abdominal pain related to inflammation of the gallbladder. As conservative management had not helped the situation, she subsequently had a cholecystectomy and made a good physical recovery.

Despite the improvement in her physical health, EF remained anxious and avoidant around the baby that she had so much wanted. Her partner had to take time off work to care for both EF and the baby. EF began to have intrusive thoughts of harming the child and herself, which she found frightening. This prompted her to seek help from her GP, who prescribed the SSRI antidepressant, Sertraline.

Within 2 weeks of commencing the full dose of Sertraline, EF developed quite marked psychomotor agitation and the intrusive thoughts of harm to her baby and to herself increased in frequency and intensity. EF again visited her GP, who referred her for further assessment and treatment to the Perinatal Psychiatric Service. At assessment, baseline blood investigations revealed abnormal liver function tests and although EF had recently had problems with her liver function, secondary to gallbladder disease, as Sertraline is also known to affect liver function in certain individuals, EF's antidepressant treatment was changed. EF was followed up in the community by a PCPN, who worked with her on managing her distress and anxiety, particularly in relation to the feelings she had about not being safe around her child. During the course of this work, it became apparent that the difficult pregnancy and delivery had re-triggered distressing memories of EF's own childhood; EF also reluctantly acknowledged that although she had actively sought AID to achieve a pregnancy, she felt that she had in some way been "violated" by the clinical procedure of insemination. After working with her PCPN and Perinatal Psychiatrist, for a few months, EF agreed that some of her psychological difficulties predated her pregnancy by many years, and that it might therefore be helpful for her to be referred on to colleagues in the Psychotherapy Department, for a more in-depth assessment for medium to long term psychotherapy.

Learning Points from Scenario 5

The scenario above describes a young woman with long-standing psychological difficulties. Although EF has not been open about it, there is some suggestion of traumas in childhood and adolescence, which may explain some of the unhelpful/maladaptive coping strategies (bulimic eating patterns, substance misuse and self-harm behaviour) used by her to cope with difficult experiences and situations in late adolescence and early adult hood. EF did not reveal this information at assessment for fertility treatment; had she done so, there would have been an opportunity to discuss potential difficulties in her ability to cope with various aspects of the fertility treatment, her pregnancy and postpartum adaptation to parenting. In particular, if there were specific traumatic experiences, it might have been possible to work on the psychological difficulties associated with these, to mitigate the impact of obstetric procedures that might retrigger frightening or unpleasant memories. Although EF describes low mood and there is evidence of moderately severe depressive symptoms, these appear to be secondary to long-standing anxieties and post-traumatic stress, against a background of emotional instability and difficulties in interpersonal relationships; further acquaintance with such individuals may reveal significant problems in personality functioning, which may contribute to significant adjustment to parenting in the longer term.

Scenario 6: A Single, Heterosexual Woman Who Chooses Not to Reveal Her Long-Standing Problems with Severe Anxiety When Embarking on an IVF Pregnancy Because of the Concern That She May Be Refused ART

FG is a 34 years-old single, heterosexual, Black British woman who presents to the Perinatal Psychiatric Service 6 months after the birth of her first child, with symptoms of severe anxiety and obsessive-compulsive behaviour. During the course of the assessment, FG revealed that her son was conceived following AID; FG said she chose this method to conceive as she had experienced many problems over the years in relationships with the opposite sex and therefore did not feel that she could wait to have a child until she found the right man to start a family with. FG said she had not informed anybody other than her parents that her son had been conceived through fertility treatment. As the months had passed, FG said her anxiety had increased and she had begun to ruminate about how “disgusted” people would be, if they ever found out that she, as a single woman, had used AID to conceive.

More recently, FG said she had begun to have frequent “horrible” thoughts that she might be a danger to her child. She had found herself engaging in hand-washing and cleaning routines that were becoming unmanageable, as they took many hours each day. It took several sessions in clinic for FG to overcome her anxiety and reveal that her distressing ruminative thoughts related to a fear that she might behave in a sexually inappropriate manner towards her child. FG said that the troubling thoughts had started after she had heard news reports of enquiries into decades old child abuse cases. Further exploration revealed that FG had long-standing problems with

anxiety and obsessive-compulsive behaviour, and that over the years, she had become preoccupied by number of different worries which she managed by developing a obsessive-compulsive hand washing and cleaning routines.

FG had been treated by her GP for many years, with Paroxetine (an antidepressant from the SSRI group); she had withdrawn from this medication with great difficulty in preparation for treatment with ART, as she had read that certain antidepressants used by women through conception could increase the risk of cardiac malformations in their babies. FG said she had not asked for help when her symptoms of anxiety recurred as she feared that she would be refused fertility treatment. Postpartum, it took FG many months to go to her GP, as she feared that if she talked about her distressing thoughts, health professionals would refer her to Children's Social Services and her child would be removed from her care. It was difficult for FG to accept that people did not think of her with disgust or to share the content of her intrusive, ego-dystonic thoughts with others, even her parents. She was initially reluctant to recommence medication but recognised that this had helped to some degree for many years. She agreed to consider further assessment for psychological interventions, so that she could attempt to learn more positive ways of managing her anxiety, ruminative thinking patterns and obsessive-compulsive washing and cleaning rituals.

Learning Points from Scenario 6

FG has long-standing issues with severe anxiety and obsessive-compulsive behaviour, set against a background rather anxious and avoidant personality. She also appeared to have had significant issues in relationships with the opposite sex, although the reasons for this remained unclear at the time of treatment. Had her history of psychological difficulties been elicited prior to commencing treatment with ART, she could have been prepared for some of the difficulties that ensued later on, particularly her beliefs about how others might react to the path she had chosen to parenthood. The great burden of secrecy that she had imposed on herself made it difficult for her to confide in close friends and family; had she been able to work out prior to the birth of her child how she would tackle the situation, she might not have become so very distressed and unwell.

Scenario 7: Cultural and Ethical Issues Arising in the Case of a South Asian Muslim Woman, Married to a Man with Poorly Controlled Schizophrenia, Who Sought Fertility Treatment in Her Home Country Because She Had Not Been Successful in Accessing It in the United Kingdom

GH is a 26 years old Muslim woman, born and raised in Pakistan, who has lived in the United Kingdom since aged 18 years, when she arrived here as a young bride, following an arranged marriage to a first cousin who is 10 years her senior. GH presents to the Perinatal Psychiatric Service clinic at 28 weeks into her first

pregnancy, following an urgent referral from her community midwife. It was difficult to get a clear idea of what was going on at first, but following an assessment carried out in her first language, it transpired that GH had become increasingly anxious over the previous few months, about the well-being of the child she was carrying. She had told her midwife, and continued to assert, that some envious person had arranged for a spell to be cast on her; she said she knew this because she had felt something bite her on one of her arms and move under the skin, along her limb and into her womb. She pointed at the distortions in her abdomen, made by fetal movements, and said "...look, I think it's a snake." GH expressed fears that someone was trying to jeopardise the outcome of her pregnancy, because they were jealous of her good fortune. GH did not think she had any kind of mental illness and she was unwilling to stay in hospital. A Mental Health Act (MHA) assessment was carried out and GH was admitted to the Psychiatric MBU, detained under Section 2 MHA, for further observation and any immediately necessary treatment.

During the course of the admission, it came to light that GH's husband had long-standing problems with serious mental illness; he had been given a diagnosis of Schizophrenia, but his compliance with medication and follow-up was poor. GH's married life had been a difficult one, as her husband's behaviour was rather erratic and much of the time he was not interested in her as a wife. GH's mother-in-law, who was also her paternal aunt, had arranged for the family GP to refer GH to the local fertility clinic, as GH's husband was found to have azospermia. However, following a meeting of the ethics committee attached to the fertility clinic, the couple was not considered suitable for treatment, because of GH's husband's history of poorly controlled mental illness. Following this disappointment, GH's mother-in-law had arranged for her to take a trip to Pakistan, to seek a further opinion and potentially treatment. GH returned from Pakistan, already 16 weeks into her pregnancy, and although the family said that she had been treated by fertility specialists in Pakistan, GH herself remained preoccupied with the possibility that a distant male relative of her husband, on his father's side, had something to do with her pregnancy and that women in this man's family had discovered this, and arranged for a spell to be cast on her.

GH was felt to be suffering from a severe depression, with psychotic features. She was treated accordingly, with a combination of antidepressant and antipsychotic medication, compatible with pregnancy. Her delivery was managed, with the help of obstetric colleagues, to allow adjustment of medication through labour. She returned to the Psychiatric MBU once fit for discharge from the post-natal ward, to continue with treatment of her depressive psychosis. She recovered fully by the time her baby was 8 weeks old and was discharged home on a combination of antidepressant and antipsychotic medication, which she was advised to continue until the end of the postpartum year. Children's Social Services, who were asked to become involved with the family during GH's admission, remained so, in order to assess the ongoing risks to GH and her child, as her husband, who had also been treated more robustly for his psychotic illness whilst GH was an in-patient, remained in the family home, albeit with some improvements in his mental state.

Learning Points from Scenario 7

The local fertility clinic had felt that GH's husband's poorly controlled psychosis would put any child born to the couple at risk of harm. The issue of how GH had conceived her child was never fully elucidated, but it is possible that the family paid for private fertility treatment abroad, without revealing the full picture, with regards to GH's husband's history of serious mental illness.

GH herself had not experienced any symptoms of mental illness prior to her pregnancy, but clearly she had a family history of serious mental illness, as she had at least one first cousin (her husband) with Schizophrenia.

GH had clearly been very anxious all through the first and second trimester of her pregnancy; whether because she was worried about the manner of the conception or the outcome of the longed for pregnancy, or both, remained a moot point. The high levels of stress GH experienced in pregnancy, interacting with her genetic potential for serious mental illness, contributed to a severe depressive illness which remained untreated for many months.

Some of GH's ideas were culturally congruent, even if rather over-valued at this juncture in her life (e.g. the effects of the envious "evil eye" or *nazar* and the use of harmful magic spells, on her pregnancy) but some were frankly psychotic (e.g., the belief that shapes appearing in her abdominal wall, as a result of fetal movements, were actually the movements of a snake, which had entered her body through her arm many months previously). GH therefore required robust treatment of her mood related psychosis in pregnancy, to ensure that she would be as well as could be managed by the time she delivered her child. Treatment was continued postpartum, under supervision on the Psychiatric MBU, to ensure that GH was well enough to engage with and care safely for baby, before discharge home, with further follow-up in the community from the Perinatal Psychiatric Service. Children's Social Services carried out some aspects of their child-safeguarding assessment prior to GH's discharge home, but the core assessment of the family as a whole, for the purpose of planning support for both parents and the "child in need," would take place over a longer period.

Conclusion

The very nature of ART, which results in rapid fluctuations in female reproductive hormone levels, combined with the high levels of stress and anxiety experienced by many individuals after years of infertility, poses a real challenge to the mental health of women undergoing treatment. If there is a pre-existing significant mental illness or there is a family history of such, the burden of treatment for infertility, especially the marked physiological changes that occur, which have an impact on both psychological and physical well-being, can overwhelm some women. It therefore behoves the fertility specialist to pay particular attention to making enquiries about a personal and or family history of serious psychiatric disorder, and any treatments used

for this, in both the woman and her partner, so that robust planning for psychological and psychiatric interventions can be put in place before the couple or individual woman embark on ART.

During pregnancy, vulnerable women will require support and forward planning for delivery and after the birth. Therefore, to ensure women remain well, communication at the time of hand-over of care between the fertility and obstetric teams is of paramount importance. Sensitivity, not only to the physical and psychological needs of the individual, but also to the cultural beliefs that may underlie some of their problems, will help clinical teams in caring for all women, and their husbands or partners, effectively.

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