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Preparation for parenting multiple birth children

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Abstract The experience of expecting and parenting multiples is decidedly different from that of a singleton pregnancy and parenthood. Multiple births are associated with substantial medical, health care, socio-emotional, developmental, educational and economic consequences for both families and society. This paper aims to advise health professionals on how best to help families prepare for and successfully respond to the demands of multiple pregnancy and the first 5 years of parenthood after the births of twins, triplets or more.

Four inter-related principles of good practice are vital to the care of multiple birth families: the involvement of a range of disciplines, of the family and of the multiple birth community; the provision of specialised care; coordinated services; and the building of family competency including the capacity to make informed decisions.

Preparation should include education on the special aspects of multiple pregnancy and parenting using multiples-focused resources, health promotion and risk modification strategies, infant care and feeding, child development and advice on securing help and support while ensuring family participation in all care decisions.
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1. Introduction

Although there are similarities to singleton pregnancy and parenthood, the experience of expecting and parenting multiples is undeniably different. The reactions and responses to a multiple pregnancy and parenthood by families and health professionals alike may include a combination of shock, ambivalence, anxiety, distress, heartache as well as pride, elation and fulfillment. There are always unique challenges. Currently, 3% of live births in developed nations are multiple births. Multiple births are associated with substantial medical, health care, psychosocial, developmental, educational and economic consequences for families and society.

The purpose of this paper is to assist health professionals in their quest to help families prepare for and successfully manage the demands of multiple pregnancy and the first 5 years after the births. The guidelines are based on substantive research where possible and elsewhere from extensive experience of working with the Multiple Births Foundation and its Twins Clinics in the UK and with the Multiple Births Support Program in Canada and Multiple Births Canada.

Although we shall focus on twin pregnancy and parenthood, the demands associated with higher-order multiples are of course similar but usually greater. Four inter-related principles guide the care of multiple birth families: the involvement of a range of disciplines, the family and the multiple birth community; the provision of multiples-focused care; coordinated services; and the building of family competency including the capacity to make informed decisions (Fig. 1).

2. Iatrogenic multiple pregnancy

Multiple pregnancy is the most serious complication of Assisted Reproductive Technology (ART) because of the well established medical risks and social and economic consequences. Between 20% and 40% of infertile women and their partners, despite knowledge of the health risks and family

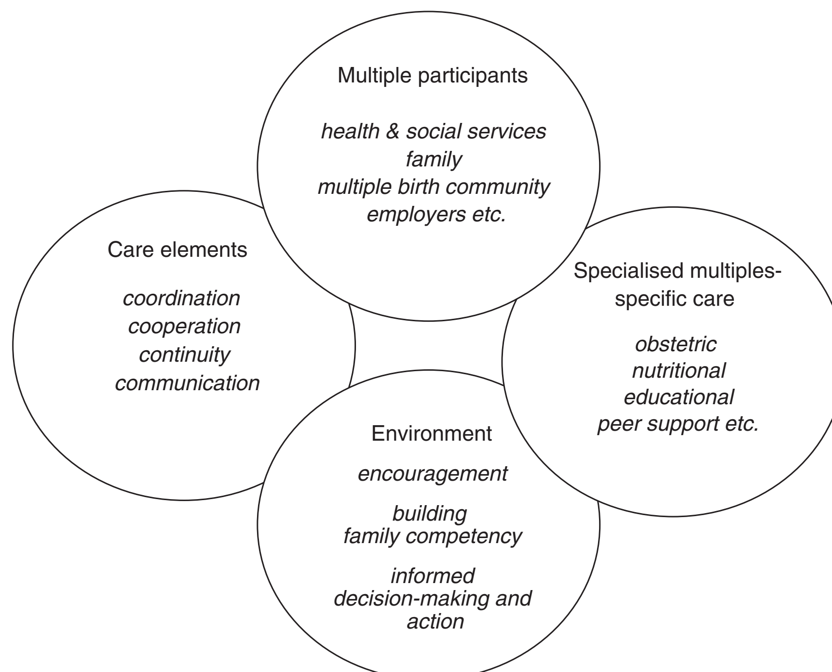

Figure 1 Framework of care during multiple pregnancy and parenthood.

impact of a multiple birth, still regard a twin pregnancy as the ideal outcome of treatment [1].

Before any treatment for infertility which increases the possibility of a multiple pregnancy, prospective parents need to be fully informed about the risks associated with a multiple pregnancy as well as the practical, emotional and financial impact of parenting multiples.

In depth patient education appears to be effective in reducing the desire for a multiple pregnancy [2] and alerting couples to the importance of assessing clinic policies on the number of embryos transferred and their procedures for monitoring ovulation induction.

Continued and concerted efforts are required by health care policymakers and fertility specialists to significantly lower rates of iatrogenic multiple pregnancy, especially higher-order multiple gestations [3].

3. The pregnancy

Parents often describe multiple pregnancies as physically and emotionally difficult. They need to be told of a multiple pregnancy with sensitivity and without making assumptions about what their reaction will be [4]. The diagnosis of a multiple pregnancy frequently comes as a shock and parents are immediately faced with new concepts such as zygosity, chorionicity and the vanishing twin syndrome.

Compared to a singleton pregnancy, many of the discomforts may be exaggerated and usually occur much sooner in a twin gestation and even sooner when expecting triplets or more. The pregnancy will be closely monitored, particularly if monochorionic (Taylor this issue), and prenatal screening is more complex.

Frequent ultrasound scans and other diagnostic measures can be both reassuring and overwhelming. Monitoring serves as a constant reminder to the family that multiple, especially higher-order, pregnancies are associated with serious risks for the mother and the babies. When parents are asked to consider specific screening tests for genetic disease and other abnormalities or interventions such as multi-fetal pregnancy reduction, they need information about the procedures and the inherent risks. As well, they require tremendous emotional support and the opportunity to work through ethical dilemmas concerning the decisions they are being asked to make [5].

Loss of a fetus at any time in the pregnancy usually triggers considerable parental anxiety about the outcome for the surviving fetus(es). At the same time, parents grieve for the baby or babies that have died. Parents report that verbal recognition of the lost fetus, information tailored to their needs and acknowledgement of the emotional impact on the woman and her partner is most helpful [6].

4. Preparing parents for a multiple birth

Expectant parents may be full of anticipation and have high expectations, particularly if this has been a long awaited pregnancy. Many may also be filled with trepidation about how they will manage. Parent learning may occur in formal pregnancy and parenting classes, one-to-one sessions with health professionals, informal exchanges with other multiple birth parents, often through local Twins Clubs and as independent learning. Parents should be given written information about multiple births including details of local and national support organisations. Multiple birth education classes for expectant parents (and grandparents) should start early in the pregnancy, at about 24 weeks gestation. The goal is to educate parents and other family members about the unique aspects of multiple pregnancy and parenthood. Information about evidence-based prenatal, postnatal and neonatal care should be provided and parents encouraged to participate fully in all care decisions. Building a support network is a vital component.

5. Health promotion and risk modification strategies

The following require special consideration in a multiple pregnancy: prenatal medical care; maternal nutrition and patterns of maternal weight gain and fetal growth [7]; rest and reduction in strenuous physical activity; early problem recognition (e.g., preterm labour); labour and delivery options; and stress management. Parents may also be concerned about financial and employment matters and should be given appropriate advice. Coordinated care and effective communication among the numerous persons caring for the family is essential.

6. Infant feeding

The World Health Organization recommends that exclusive breastfeeding continue for at least 6 months [8]. Although breastfeeding initiation rates are high for multiples, relatively few multiple birth infants receive breast milk beyond 3—4 months of age [9]. Some mothers of multiples describe breastfeeding as convenient, timesaving and relatively easy. Others find that it is time-consuming, stressful and fraught with ongoing challenges and problems. Reasons commonly given for weaning multiples prematurely are inadequate milk supply, time taken for feeding, problematic baby behaviours such as latching difficulties and fatigue [10]. Hospital and community practices are required that truly support the breastfeeding of multiple birth children and that include adoption of evidence-based guidelines, coordination of breastfeeding care, availability of breastfeeding support resources and education of health care providers [11].

Mothers should be reassured that it is possible to breast feed two or more. Mothers (and fathers) may be apprehensive about managing breastfeeding while coping with other family responsibilities. Good antenatal preparation, specific to feeding multiples, is essential. Besides the nutritional and immunological benefits, breastfeeding facilitates the mother—infant attachment process by enabling the mother to build a close relationship with each infant.

Many women are capable of producing enough breast milk to meet the nutritional needs of their multiples. Others satisfactorily combine a breast milk feed with infant formula or human donor milk. Breastfeeding success is related to encouragement, maternal commitment and perseverance, early breast milk feeding initiation, avoidance of infant formula, sufficient home support and evidence-based assistance from health care providers [11].

Parents need to be aware of the benefits of breastfeeding multiples, the logistics of feeding two or more infants and the education and support resources available including printed materials, videos/DVDs, introduction to women who have breastfed multiples as well as direct or telephone support from lactation consultants/counsellors.

The mother should be helped to develop and modify a breastfeeding plan that is practical and based on her breastfeeding goals as well as the changing needs of family members. Sufficient home help is critical to breastfeeding success.

6.1. Exclusive or partial breast feeding

Multiple birth mothers may breastfeed exclusively or partially, either at the breast or by giving expressed breast milk (EBM) in a bottle or by other means. Mothers may:

- adopt a rotation system whereby one or two infants receive a full breast milk feeding and the remaining babies, an infant formula or donor milk feeding. This pattern is commonly seen with higher-order multiples;
- fully breastfeed all infants during parts of the day (or night) and offer other forms of milk at the other times;
- provide some breast milk at every feed to all infants and complement each baby's feeding with other forms of milk.

6.2. Consecutive and simultaneous breast and bottle feeding

Mothers may choose to feed their infants one after the other or breast/bottle feed two or even three, infants at the same time. Parents may change options within a 24-h period and as the children grow. Help with feeding positions and other logistics is vital in the early weeks.

- Consecutive breast feeding allows the mother to ensure correct latching and suckling technique and to devote attention to one infant at a time. This option may be preferred by mothers until breast feeding is fully established. It may also be preferred if no help is available or when feeding in public.
- Simultaneous feeding is quicker once the infants are skilled at latching and suckling. Some mothers find it more comfortable. In some cases, it is best to first attach the infant who is having difficulties. In other situations, the infant who latches easily may be started first in order to establish the milk ejection reflex for the infant having more difficulty. During the early days of simultaneously feeding, help should, ideally, be available to the mother for the entire feed.

6.3. Feeding times

Decisions need to be made about feeding times. Some mothers may switch approaches over time, even within a 24-h period:

- *flexible or on-demand* (timing of each feed is based on the desire of each infant to be fed)
- *modified-demand* (the infant who wakes first determines when the others will be fed)
- *scheduled* (feeding times for the group are fixed but change as their needs change). Parents of higher-order multiples may prefer this option. All infants of a multiple group may not thrive on a schedule. If this is so, help may be needed in devising a new time management approach.

6.4. Other factors influencing the breastfeeding of multiples

After the births, there should be minimal separation of a mother from her infants and the infants from each other. Facilitation of breastfeeding can be achieved through combined mother—infants' care, early initiation of skin-to-skin contact and avoidance when possible of staggered hospital discharge of a mother and her infants and among the infants themselves.

Mothers of twin and higher-order multiple infants who, despite concerted support, experience a delay in lactation or insufficient breast milk volumes will need ongoing support and comprehensive interventions.

Multiple birth mothers may be reluctant or too overwhelmed to ask for help with breastfeeding once they return home. Regularly scheduled long term follow-up in the home and via telephone by skilled and supportive personnel will be necessary at least during the early months, particularly where there are higher-order multiples.

7. Sleep

Helping parents to plan sleeping arrangements is an important component of antenatal preparation. After the births, professional advice and support should be available to help them develop a sleeping routine, which suits the family circumstances.

Many parents will seek advice on the question of co-bedding their multiples in the neonatal period and early months. Preliminary studies have shown no disadvantages in multiples sharing the same incubator or cot provided that the usual guidelines on infant positioning and cot bedding are followed. In particular, no significant increase in core temperature or lowering of oxygen saturation in co-bedded infants has been demonstrated (Ball H, personal communication), and there is some suggestion of lowered stress, more settled sleep and more synchronous waking. Babies sharing one cot have the advantage of being able to stay longer in the parents' bedroom—an important factor in the prevention of SIDS [12].

8. Family relationships

8.1. Parent—infant relationships

The maternal and paternal emotional attachment process is more complex when multiple infants are involved. The maternal attachment process begins in pregnancy and occurs on two levels: attachment to the multiples as a unit; "the twins" or "the triplets" and, secondly, development of a relationship with each fetus [13]. Maternal—fetal attach-

ment to multiples may be positively influenced by perceived fetal movements, maternal psychosocial well-being, quality of the marital relationship and greater gestational age [13]. The mother may show a preference toward one or more of her babies before or after the births. Strategies to foster prenatal attachment include sharing information from ultrasound testing and fetal monitoring, being sensitive to positive and negative comments about the babies, and encouraging the mother to keep a pregnancy journal.

The long-term effects of different patterns of early mother—twin relationship are yet to be clearly established. It is known, however, that mothers of preterm twins tend to show fewer initiatives towards their babies than mothers of preterm singletons [14]. They also tend to be less responsive to both negative and positive signals, have less physical contact and talk with their twins less. Maternal behaviour in the newborn period may have an ongoing effect on the cognitive development of the children. Early preference for one twin may influence the way in which a mother later talks about or responds to each child, although a mother may actually try to compensate the less favoured twin by spending more time with him or her.

Health professionals can promote parent—infant attachment by helping the parents identify similarities and differences between each baby, recognise preferences of each infant, and by encouraging parent—infant skin-to-skin contact. All staff, particularly in the Neonatal Unit, should ensure that the babies are readily distinguishable and referred to by name.

One twin may well be ready to go home before the other, but most units now try to keep the babies together in hospital until both are ready for discharge. Otherwise, the relationship between the mother and baby left behind in hospital may suffer. Moreover, whoever left the hospital first and last has been shown to be a critical factor affecting the self-esteem of school-age twins [15].

8.2. Father

An important feature of the mothers of twins who cope well during the first years is a good and secure relationship with their partner [16]. Inevitably, a father of multiples will be more heavily involved with the babies' care than a father of a singleton. The earlier the partner is helped to recognise this need, and is positively encouraged and supported to participate, the better.

The first year, in particular, is likely to be a severe strain as the father tries to balance the emotional and practical needs of the family with his need to provide extra income for his unexpectedly large family. Many fathers have questions and worries (e.g., about their own role, capabilities, costs, help needed), which they may be reluctant to discuss in front of their partners. Special sessions for fathers at prenatal meetings or a family-oriented support group can be valuable, especially if fathers of twins are prepared to come and share their experiences.

8.3. Siblings

A single older sibling is often excited at the prospect of twins or more. However, during pregnancy it may become very difficult for the mother to care for her children, especially younger ones, when she has been advised to rest more or be hospitalised. Once the twins arrive, a child may feel suddenly neglected and displaced as the twins not only take up a lot of the parents' time but are given too much attention by insensitive friends and strangers who, in effect, ignore the older child. Behaviour problems in siblings of twins are much more common than those seen with singletons [16]. These may be demonstrated as over dependence, aggression or excessive efforts to please.

Parents may need advice on when and what to tell an older child (or children) about the pregnancy. Depending on the child's age, the concept of twins or triplets may need explanation. The risk of vanishing twin syndrome or multifetal pregnancy reduction may deter discussion until the beginning of the second trimester.

If the expectant mother has to have prolonged hospitalisation, the child should be helped to develop in advance a confident relationship with the adult who will be responsible for his care during the mother's absence. This adult may continue to have a special role in the child's life when much of the mother's time is taken up by the new babies.

9. Development of multiples

The development of most multiple birth children will be within the normal range. For both medical and environmental reasons, however, they will face a higher risk of certain longer term problems including cerebral palsy [17], learning difficulties and, in particular, language delay (Thorpe, this issue). Twin children have also been found to have less good concentration and a higher incidence of attention deficit hyperactivity disorder [18].

The environment of a twin child (or triplet) differs in many ways from that of a single born and is likely to have a significant effect on the children's development [19]. From the start, twins must share maternal and paternal attention. They will almost always communicate within a threesome rather than one-to-one with the parent. Furthermore, they have the constant stimulation of a partner of the same age, and rarely, if ever, experience solitude.

Competition between twins, not least for parental attention, can become extreme. Behaviours such as crying can spread from one twin to the other and then rapidly escalate. Although, overall, twins' behaviour is no different from that of single born children, there tends to be more confrontational behaviour and many parents have discipline problems when the children are together. Specific parenting interventions aimed at fostering positive parent—child interactions and reducing parent stress may be needed when behaviour problems severely tax the parents' resources [20,21].

The development of all children is also affected by the opportunities available to them. The logistics of keeping an eye on more than one toddler at once and the havoc that two or more can cause may be overwhelming. For reasons of safety and time, many multiple birth children may be restricted or deprived of experiences, which a single born child routinely enjoys. These include outings to the shops and swimming pool, playing with sand and cookery, interacting with other children, and learning social skills such as

feeding and dressing themselves. Parents should be encouraged to accept help to ensure that the children are not deprived of these and similar opportunities.

It is important that parents are introduced during the pregnancy to the idea of encouraging the individuality of each child. It will also allow them in turn to educate grandparents and friends who often fail to realise the importance of distinguishing the children and treating them as individuals rather than as a unit.

Some parents feel that the children themselves have special emotional bonds that must not be broken and are therefore reluctant for the children to be separated. Others find separation hard to organise for practical reasons. Some may even feel that, by letting someone else look after one of the babies, their "special" status as a twin parent may be diminished or their competence questioned.

The MBF's experience would suggest that separation can become increasingly difficult the longer it is postponed and that later relationships between the twins themselves and with other people can also be affected. The MBF has seen many examples of adult twins handicapped by their dependency on each other and an inability to function happily apart from their twin. It can be exceptionally rewarding for the parents and beneficial for the children if each parent can have time alone with one child, for example, if the mother takes one shopping while the father spends time at home with the other. Likewise, grandparents are often less daunted by caring for one active toddler at a time.

10. Parental stress

A mother recovering from the challenges of a multiple pregnancy is likely to find the care of two or more preterm, low birthweight or ill babies particularly stressful. While assuming the extraordinary and unrelenting demands of childcare, mothers grapple with a unique aspect of parenting multiples: simultaneously treating each child fairly and equally while responding to each of their differences and preferences [22]. This seeming paradox can often lead to considerable internal conflict, guilt and feelings of inadequacy on the part of the mother.

Mothers of twins have been shown to suffer more from lack of sleep and fatigue than mothers of single born [16]. Furthermore, depression is more common well beyond the infancy period [21,23], probably due at least in part to social isolation and fatigue. It would not be surprising to find that child abuse was more common in multiple birth families and preliminary studies have shown an increased incidence [24].

The expectant parents, especially if it is a first pregnancy, may overestimate the amount of energy that they will have and underestimate the amount of help they will need, once the infants arrive. Many families are reluctant to ask for help believing they should be able to manage on their own or fearing the loss of privacy. Others delay making preparations until they feel confident that their babies will survive.

After the births, families usually require child care and home help on a regularly scheduled basis. Despite well-intentioned offers of help, relying on friends and family to volunteer occasionally can be disappointing unless a firm commitment is made. Prospective parents should be encouraged to discuss well before the births how they plan to divide and share the child care and household management tasks, identify possible sources of support and make arrangements for extra help.

11. Financial implications

The financial impact on families of having twins, triplets or more is considerable with most experiencing a substantial loss in income and an enormous increase in expenditures, especially if the infants are preterm or have complex health needs. Families often have to move house or adapt their home, purchase a larger automobile and acquire equipment, such as twin or triplet strollers. Costs of baby supplies and infant formula mount rapidly and donated goods from sponsorship are rarely available to any except families with five or more babies. Even then, the price of publicity is often unacceptably high for these families.

A small minority of women expecting twins safely manage employment until a few weeks before delivery. Most women leave the work force on reduced or no salary at the end of their second trimester; many do not return to outside employment for months or even years [25]. Withdrawal from the workplace may also result in the mother losing a measure of social status and a protective factor for mental health [25]. If a woman wishes or needs to continue working during her pregnancy and there are no obstetric contraindications, she should be encouraged to discuss with her employer the possibility of flexible or reduced hours and work location, avoiding strenuous activities and taking rest periods during work hours.

The majority of multiple birth families, despite finding their income greatly diminished, do not qualify for subsidised child care or extra financial support. This type of aid is usually only available for families with a very low income. Families may be unable to afford paid child care or home help. Or, it may simply not be available. Health care providers should be prepared to help them press for financial or practical help and to influence social policy changes [14,19].

The salary of one wage earner may prove insufficient to cover the costs of extra help, especially if the father needs to take unpaid time off work to care for the family. Some countries provide extra employment insurance benefits to multiple birth families while others do not. In countries where maternity, parent and paternity provisions are insufficient, health care professionals need to join with multiple birth organisations in asking their governments and employers for further improvements for multiple birth families.

Early in pregnancy, parents should be encouraged to explore material support resources in their family and community and seek advice from other multiple birth parents in order to acquire needed supplies and avoid inappropriate purchases (e.g., too heavy prams or strollers). Some companies give discounts to families with multiples.

12. Sources of information and support

Multiples-focused pregnancy and parent education resources include books and other printed materials, videos and DVDs,

prenatal childbirth education classes, and online information and support networks. Valuable peer and professional support comes from national organisations such as Tamba, the Multiple Births Foundation [26] and Multiple Births Canada, local multiples' support groups, and specific health care providers with expertise in multiple births (see *Multiple Birth Organisations*).

Box 1

Research directions

- Population-based studies to assess the long term health, social and psychological impact of multiple births on the family and children:
  - prevalence of maternal and paternal depression and anxiety disorders,
  - marital breakdown,
  - parenting problems;
- Incidence and factors associated with child abuse;
- The support needs of fathers;
- Strategies to increase rates and duration of breast-feeding.

Box 2

Key Guidelines

- Multidisciplinary teams should have evidence-based guidelines and training to provide specialised and coordinated services for multiple birth families.
- Specific education programmes for health care and other relevant professional groups should be available.
- Good prenatal preparation and post natal help and support are essential for successful breast feeding.
- Professionals should learn how to assess families at greater risk and use strategies to avoid or minimise problems.
- Adequate resources are required for these specialised services.

13. Summary

Twins and higher-order multiple birth children and their families have unique needs, which are still not widely understood or sufficiently addressed by health care and other professionals. A well-trained multidisciplinary team, which provides specific care, parent education and support, is the basis for improving health outcomes for multiple birth family members. More research is needed to support practice with evidence and develop ways to assess risk, prevent problems from arising or initiate early interventions. Most of all, care providers and policymakers must dedicate sufficient resources to implement these essential services.

13.1. Multiple births organisations

The International Society of Twins Studies website provides a directory of national multiple births support organisations: http://www.ists.qimr.edu.au/links.html.

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