

Parental reactions to the loss of an infant child: A review

ATLE DYREGROV

Department of Pediatrics, University of Bergen, Bergen, Norway

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This article examines methodological problems, and describes and evaluates commonly explored variables regarding research on the effect of an infant's death on the family. The components of parents' and siblings' grief reactions, and the similarities and differences in parental grief are reviewed. The research shows marked differences between mothers' and fathers' reactions—the grief reactions in mothers being stronger and more prolonged. Different explanations for this are put forward. The effect of different types of loss as well as the effect of the child's life span before death are also reviewed and discussed. Further knowledge is needed to single out the influence of these factors on the families' reactions. It is concluded that the death of an infant makes the family prone to develop short-term and/or long-term problems in their adaptation to the loss. An integrated effort by health professionals is needed to develop systematic ways of helping families to cope with the death of a child.

Key words: perinatal death, neonatal death, grief responses, parents, siblings

Atle Dyregrov, Department of Pediatrics, University of Bergen, N-5016 Bergen, Norway

More than 50% of all deaths occurring before the age of 20 take place during the very first year of life. Studies have shown that in comparison with other types of bereavement the grief of parents is particularly severe (Cfr. Clayton, 1980; Shanfield *et al.*, 1984; Sanders, 1979-80; Sing & Raphael, 1981). The pain and anguish experienced by the parents is reflected both in folklore as well as in fiction (Aries, 1981). When a child dies before the parent, the event seems to undermine the orderliness of the universe (Gorer, 1965).

This review will focus on the death of an infant (perinatal loss, neonatal loss, Sudden Infant Death Syndrome loss). Loss due to spontaneous and induced abortion is excluded, and the loss of children over one year of age is only commented on briefly.

Some aspects of methodology:

The bulk of the research on parental reactions to the death of an infant has been done in the last decade. Most of the studies have utilized interviews. In some studies standardized inventories and psychological tests have been used. From an examination of the studies, it seems that the questions asked in interviews and questionnaires have focused on the same themes.

Many of the assessments have been undertaken months and years after the loss, generally as part of retrospective studies. Some studies (Clarke & Williams, 1979; Dyregrov & Matthiesen, in press; Jensen & Zahourek, 1972) have been prospective, following the family at various stages in time from the loss and through the first year of bereavement. Usually, less confidence can be placed in retrospective data than prospective data. This is due to the fact that data gathered through a retrospective method not only relies on long-term memory but also draws on inference and interpretation by the respondents (cfr. Ericsson & Simon, 1980). Studies have shown that retrospective reports have more serious reliability problems (Klemetti & Saxen, 1967). One would expect this to be a methodological problem with bereaved populations, as memory distortions and attention difficulties is common to this group. One may expect an underrating of painful feelings in retrospective accounts of reactions following the

loss of a child. Unfortunately, the prospective studies in this area also have methodological flaws, i.e., high attrition rates.

Only a few of the infant bereavement studies have utilized a normal control group, and a formal psychometric approach is infrequent. This is not unexpected, as an appropriate control group is difficult to define. However, the use of parents with newly born live children as controls would be of value, as well as comparison with the scores from other populations on the same measures.

Many studies combine the loss due to stillbirth, other perinatal loss, and neonatal loss. This makes it difficult to draw conclusions regarding differential grief reactions to various types of loss.

There are differences between the studies in terms of whose reactions were studied. Most studies focus on the mother's reaction alone. In some of the studies the authors write about both spouses, when in fact most of the information has been gathered from the mothers (DeFrain & Ernst, 1978; Lowman, 1979). The attrition rate in the studies is often not reported (or it is impossible to compute from the figures given). Most studies only include limited information concerning the sampling of the families,—how many who declined to participate, and how many failed to follow up. When reported, the attrition rate varies greatly. When fathers are included, their attrition rate is higher than mothers'. In addition, many studies are based on data from parents who participate in bereavement groups, an already self-selected group of parents.

The problem of "non-responders" seems to be particularly obtrusive in bereavement research, making it difficult to generalize and draw conclusions. The relatively high attrition rate in many studies reflects how sensitive this research area is (Blueglass, 1981; Parkes, 1970). Retrospective studies conducted after the death of a loved one often have higher attrition rates than studies which take place within the context of an ongoing clinical relationship with the bereaved (Cooper, 1980; Shanfield & Swain, 1984). Non-responding parents are believed to be more emotionally affected following the loss than the responders (Clarke & Williams, 1979; Cooper, 1980).

Parental reactions to the loss of an infant

Although the studies referred to below vary in methodological quality, the same basic reactions are described in clinical reports, retrospective studies and more systematic semi-prospective and prospective studies. For this reason, parents' reactions are presented in a descriptive manner.

The first reaction is usually a *shock* state characterized by disbelief, feelings of unreality, numbness, abnormal calmness or apathy. Sometimes a cry of distress may precede the shock reactions. In this state of shock, usual manifestations of emotion may *not* be apparent, and *denial* is often present. After a loss due to the Sudden Infant Death Syndrome (SIDS), the shock reaction is particularly pronounced (Cornwell *et al.*, 1977). In these events it is usually the parents themselves who discover their dead baby, and the dramatic and unfortunate situation add to the shock.

Parents generally suffer mood disturbances after the death of an infant. Depression and sadness is a very common reaction (Berg *et al.*, 1978; Cullberg, 1966; Giles, 1970; Siegel *et al.*, 1982; Wolff *et al.*, 1970, among others). In studies using formal depression inventories, mothers suffering the loss of an infant have been shown to have higher depression scores than mothers of living children (Clarke & Williams, 1979; Jensen & Zahourek, 1972). Several of the other difficulties reported to be experienced by bereaved parents are indicative of depression, such as; problems in getting up in the morning (DeFrain & Ernst, 1978), lack of energy and appetite, feelings of fatigue (DeFrain & Ernst, 1978; Clyman *et al.*, 1980; Cullberg, 1966;

Giles, 1970; Kennell *et al.*, 1970), and feelings of hopelessness, worthlessness and emptiness (DeFraim & Ernst, 1978).

Anger and irritability are other commonly reported symptoms (DeFraim & Ernst, 1978; Cornwell *et al.*, 1977; Kennell *et al.*, 1970). The anger is directed not only against one's spouse but against one's friends, family, other children and health professionals.

An increased sense of anxiety often prevails among parents after the loss of a child (Clyman *et al.*, 1980; Cornwell *et al.*, 1977; DeFraim & Ernst, 1978; Dyregrov & Matthiesen, 1987b; Rubin, 1982). This anxiety may take many forms: anxiety about being alone (DeFraim & Ernst, 1978), anxiety attacks and more free-floating anxiety (Blueglass, 1980; Drotar & Irvine, 1979), anxiety about surviving siblings (DeFraim & Ernst, 1978; Cornwell *et al.*, 1977), and anxiety about a new pregnancy and for later born children (Blueglass, 1981; Clyman *et al.*, 1980). The parents may also experience anxiety about their own reactions, and express fear of going "crazy" (DeFraim & Ernst, 1978; Clyman *et al.*, 1980; Cornwell *et al.*, 1977; Lowman, 1979). Apart from noting this increase in anxiety, few authors have discussed it at any length or depth.

Guilt is another commonly experienced feeling among bereaved parents (Clyman *et al.*, 1980; Benfield *et al.*, 1978; Helmrath & Steinitz, 1978; Wilson *et al.*, 1982). The guilt may focus on what the parents did, or did not do, during the pregnancy or around the time of death. Feelings of guilt seem particularly apparent when the pregnancy is unplanned, or when abortion has been considered (Watson, 1978). After a SIDS death, guilt is a dominating emotion which complicates the parents' work through of grief (DeFraim & Ernst, 1978; Mandell *et al.*, 1980). Network and family reactions may further add to these guilt feelings, by rumours and accusations (DeFraim & Ernst, 1978; Lowman, 1979; Watson, 1981).

Physical symptoms such as dizziness, insomnia, lack of appetite, fatigue, chest pain and "lump in the throat" are also commonly reported by parents after the loss of an infant (Cullberg, 1966; Giles, 1970). Other commonly reported problems are difficulties in concentrating (DeFraim & Ernst, 1978) and sleep disturbances (Cornwell *et al.*, 1977; Lowman 1979; Tudehope *et al.*, 1980). These reactions are indicative of heightened activity in the sympathetic nervous system, sometimes followed by a more chronically aroused state in the parents.

Traumatic dreams and intrusive recollections related to the loss are common, particularly in families experiencing sudden deaths (Cornwell *et al.*, 1977; Kennell *et al.*, 1970). Parents may also experience illusions and hallucinations of their child being alive (Cornwell *et al.*, 1977).

Among the common mechanisms used by parents for relieving pain are avoidance of stimuli reminding them of the loss (Benfield *et al.*, 1978; Cornwell *et al.*, 1977) and deliberate blocking of thoughts about the dead baby (Cornwell *et al.*, 1977).

The search for a deeper meaning and a fuller understanding of the event seems to occupy the parents in the post-loss period (Miles & Crandall, 1983; Videka-Sherman, 1982). They search for information that can bring about logical structure to what has happened. This is difficult when the death is of unknown aetiology, as with SIDS-deaths (Rubins, 1982). Many parents experience a permanent change in values. This includes coming to appreciate and love their other children more than previously (Helmrath & Steinitz, 1978), or placing more value on personal than on material values, and becoming more compassionate and caring towards others (Miles & Crandall, 1983, children that died were beyond infant age).

The degree to which parents are supported by health professionals varies. Inadequate support is reflected in lack of physical and "psychological space" for the bereaved mother at the hospital (Lovell, 1983), in informal instead of formal rituals (Lovell, 1983), and in neglect of parental aftercare (Bourne, 1968; Lovell, 1983; Laurell-Borulf, 1982; Rowe *et al.*, 1978). Physicians are perceived as insensitive, aloof, and unconcerned (Knapp & Peppers, 1979).

Other studies, however, report that parents perceive health professionals as warm and supportive (Berg *et al.*, 1978; Wolff *et al.*, 1970). Most likely the conflicting reports reflect the different amount of care and support parents receive around and after their child's death, different care levels in different countries, and the different methodologies used in evaluating support and care. None of the studies, except Knapp & Peppers (1979), had evaluation of care as a major focus.

The frame of time within which grief is resolved has been, and probably still is, underestimated. Several studies have shown that parental grief continues for as long as four years after the loss of older children, who mostly have passed the infant age (Fish, 1986; Lehman *et al.*, 1987; Rando, 1983; Rubin, 1982). Parents who lose a child are a highly distressed group, often showing few signs of recovery (Videka-Sherman & Lieberman, 1985), and from 20 to 30% of the parents have been found to exhibit pathological grief reactions (i.e., Cullberg, 1966; Nicol *et al.*, 1986; Tudehope *et al.*, 1986). In several retrospective studies, the parents' emotional symptomatology or physical health have been found to be unrelated to the time elapsed since an infant death (Dyregrov & Matthiesen, 1987c) or the death of an older child (Lehman *et al.*, 1987; Miles, 1985). When parents are followed prospectively during the first year of grief, some decline in grief reactions has been found (Clarke & Williams, 1979; Dyregrov & Matthiesen, in press; Lowman, 1979), but even these studies have serious methodological flaws, i.e., high drop-out rates (Dyregrov & Matthiesen, in press), mothers only (Clarke & Williams, 1979), lack of control groups (Clarke & Williams, 1979; Dyregrov & Matthiesen, in press), and lack of standardized measures (Lowman, 1979).

Lack of rigorous methodology in these studies makes it hard to evaluate how many parents who would clinically qualify for a psychiatric diagnosis, and to give a clear picture of how grief changes or remains unchanged over time. It is possible to state, however, based on the cumulative findings from multiple research reports, that parents who lose an infant child suffer a prolonged reduced quality of life, and many remain deeply impacted for years afterwards.

Similarities and differences in parental grief

Mothers are more likely to experience higher distress as well as more health complaints than fathers (Clyman *et al.*, 1980; Helmrich & Steinitz, 1978; Littlefield & Rushton, 1986; Nicholas & Lewin, 1986; Theut *et al.*, 1989; Walwork & Ellison, 1985; Wilson *et al.*, 1982). It is reported that fathers experience the situation less deeply than mothers (Cornwell *et al.*, 1977; Dyregrov & Matthiesen, 1987a; Smith & Borgers, 1988-89). When such reactions are psychometrically measured, fathers show significantly lower grief scores (Benfield *et al.*, 1978; Dyregrov & Matthiesen, 1987a; Dyregrov & Matthiesen, in press), and feel that they are "getting on with life", compared to mothers (Clyman *et al.*, 1980). Several studies have shown guilt to be especially more frequent among mothers than fathers (Benfield *et al.*, 1978; Clyman *et al.*, 1980; Wilson *et al.*, 1982). Another commonly noted phenomenon is the father's unwillingness to talk about the dead child (Tudehope *et al.*, 1986; Wilson *et al.*, 1982), and to avoid professional support (Mandell *et al.*, 1980). Fathers are reported to feel an obligation to remain "strong" at the actual time of the loss, in order to care for and support their wives (Berg *et al.*, 1978; Helmrich & Steinitz, 1978; Standish, 1982). The predominant coping mechanism seen in fathers seems to be "to keep busy", take on additional jobs or an expanded workload, and to direct their energy outwards (Mandell *et al.*, 1980). As generalizations concerning fathers' ways of coping mostly are based on clinical observations more than systematically collected data (they come from studies whose primary focus most often has been the mother) and the number of participants has been low, they should be viewed with caution.

In one study the authors note that although two fathers denied grieving, several fathers appeared to have grieved for as long as or longer than their wives (Kennell *et al.*, 1970). This

particularly happened to men involved in the transportation and care of their baby to the hospital neonatal intensive care centre. However, the study focused on mother's reactions, and the observation on father's reactions were based on eight fathers who accompanied their partners to the interview. In this author's retrospective and prospective studies (Dyregrov & Matthiesen, 1987a, Dyregrov & Matthiesen, in press), where both partner's reactions were investigated through the use of different psychometric measures, there were several couples where the fathers reported stronger grief reactions than their partners. However, mothers were generally more affected by the loss than fathers.

Differences in reactions are not only noted in intensity and duration, but also in the form of reactions. Berg *et al.* (1978) interviewed 34 couples 1–3 years following a perinatal death, and found mothers to be depressed and irritable after returning from the hospital following the loss of an infant, while fathers experienced emptiness and a sense of failure after their child's death. This author found that mothers reported more anxiety, self-reproach, sadness, intrusive thoughts and sleep disturbances than fathers following the death of their child (Dyregrov & Matthiesen, 1987a). However, no significant differences were evident in reactions such as restlessness, anger, and degree of work. The differences between mothers' and fathers' grief reactions are also present after the loss of older children (Jurk *et al.*, 1981; Nixon & Pearn, 1977; Rando, 1983).

Separation and divorce

Separation and divorce following the loss of an infant child have been noted in many studies (Berg *et al.*, 1978; Cornwell *et al.*, 1977; Forrest, 1983; Lowman, 1979; Mandell *et al.*, 1980), but few of these studies have utilized control groups (or reported the actual percentage of broken marriages), and the number of participants has generally been low. In some cases the death of an infant triggered the final breakdown of an already stressed relationship (Forrest, 1983). However, in a study that included a matched control group, no significant differences were found between a perinatal loss group and the control group (Laurell-Borulf, 1982).

Few marital relationships, however, seem unaffected by the loss. A common finding in the literature is increased marital closeness for some parents, and increased distance for others (Berg *et al.*, 1982; Dyregrov & Matthiesen, 1987a; Forrest, 1983; Helmrich & Steinitz, 1978; Price *et al.*, 1985). In several studies from 1/4 to 1/3 of the couples reported to experience severe marital distress after the loss of an infant (Clyman *et al.*, 1980; Cornwell *et al.*, 1977; Forrest, 1983). Difficulties in the synchrony of the spouses' grief reactions, and a lack of communication within the family are believed to play a major role in creating these marital problems (Clyman *et al.*, 1980; Cornwell *et al.*, 1977). In this author's prospective study (Dyregrov & Matthiesen, in press), a lack of synchrony between the spouses' reactions were found to be greatest at six months after the death, and less at one and 13 months. However, these results are based on a small number of parents ($N=13$), and the attrition rate was high. In all the studies cited, parents have been asked to rate their marital relationships in a broad subjective way, without the use of more formal measures of marital interaction. Further studies into the effect of a child's death on the partnership should use more advanced methodology.

Length of life. Type of death

The type of death (stillbirth, neonatal death or SIDS), and the baby's life span, are two intertwined factors in relation to the parental grief response. Consequently, it is difficult to separate their unique roles. Peppers & Knapp (1980) did not find the mean grief score of women who had experienced miscarriage to be significantly different from women who experienced stillbirth or neonatal loss. Laurell-Borulf (1982) found no differences between

mothers who had lost their child prior to, during, or after birth in terms of working through grief reactions. The results of both studies, however, must be viewed cautiously, as the period between loss and data collection was between six months and 36 years in one study (Peppers & Knapp, 1980), and between 12 and 14 years in the other (Laurell-Borulf, 1982). Other studies have also supported the view that parental grieving is not related to the duration of life (Benfield *et al.*, 1978; Kennell *et al.*, 1970; Smith & Borgers, 1988-89). However, the results of one study (reported in Kirkley-Best & Kellner, 1982) suggest that more intense grieving responses are associated with stillbirth than with a loss late in the pregnancy. The findings of Kennell *et al.* (1970) that high mourning is associated with the amount of contact one has had with the child is more in line with common sense, although they found no relation between the length of the baby's life and the mourning score. Price *et al.* (1985) found that the younger the infant was at the time of death (SIDS), the more likely the mother was to report delayed and more difficult adjustment, while other authors (Dyregrov & Matthiesen, 1987c; Theut *et al.*, 1989; Toedter *et al.*, 1988) have found the exact opposite, namely that parents reported more symptoms and felt less recovered if the child had lived for a longer period of time. It must be concluded that the present knowledge of the intensity and duration of grief depending on the baby's lifelength is sparse and conflicting. All studies that address the issue have methodological flaws (i.e., retrospective method, limited sample size, lack of standardized measures), and further research is needed before a more thorough understanding of the effect of lifelength on grief will be available.

For widows and widowers sudden death imposes greater health risks and adaptation problems than anticipated death (Carey, 1979-80; Lundin, 1982, 1984; Parkes, 1970, 1972; Parkes & Weiss, 1983). The unanticipated loss of a child is also believed to result in more intense, disruptive, and intolerable feelings than an anticipated loss (Woolsey *et al.*, 1978), as well as more pathological grief (Raphael, 1975). In the few studies that have addressed this aspect empirically, however, suddenness has not been found to influence parental grief reactions (Dyregrov & Matthiesen, 1987c; Miles, 1985). This author did find that the death of a child due to SIDS resulted in stronger grief reactions (particularly more anxiety, sleep disturbances and self-reproach) than other early infant deaths (Dyregrov & Matthiesen, 1987b, c). SIDS parents also felt less recovered and experienced more intrusive thoughts than parents who had experienced a stillbirth (Dyregrov & Matthiesen, 1987c). The highly traumatic circumstances surrounding the SIDS deaths may explain these differences, as the event usually takes place at home, and the parents themselves discover the dead baby.

Other factors predictive of parental grief reactions

Social support through the grief process is generally found to diminish adaptation problems after the loss of a child (Helmrich & Steinitz, 1978; Jurk *et al.*, 1981; Laurell-Borulf, 1982; Nicol *et al.*, 1986; Price *et al.*, 1985; Rowe *et al.*, 1978; Spinetta *et al.*, 1981; Tudehope *et al.*, 1986). One study however, did not find any relationship between time of recovery after a SIDS-loss, and the number of personal friendships or memberships in social organizations (DeFraen & Ernst, 1978).

It appears that social support is of great help to most bereaved parents, but the social network may also create problems for parents. Not seldomly parents complain about a sense of extreme isolation and loneliness, and they experience comments from those in their social network as more upsetting than helpful, and they feel a lack of acknowledgement by others of the infant's existence (Clyman *et al.*, 1980; Helmrich & Steinitz, 1978; Knapp & Peppers, 1979; Lovell, 1983; Mandell *et al.*, 1980). Initially supportive friends often withdraw after a month or two, adding to the parents' sense of loneliness and isolation (Forrest, 1983). Other parents or couples whose children have died are a preferred source of support (Segal *et al.*,

1986; Tudehope *et al.*, 1986). Further research is needed to explore both positive and negative aspects of the families' social surroundings.

There are many reports describing efforts and programmes which aim at helping parents through their bereavement (see Estok & Lehman, 1983; Kellner *et al.*, 1981; Kowalski, 1980; Lake *et al.*, 1983; Rappaport, 1981). More formal reports on the effect of such interventions have been equivocal. Professional grief-intervention has been found to be beneficial (Lowman, 1979; Schreiner *et al.*, 1979), as well as having no beneficial effect (Videka-Sherman & Lieberman, 1985). The kind of professional help being evaluated in the latter study was, however, far from the comprehensive efforts that aim at helping families in many hospital centres. Obviously further research using more refined methods is needed before any definite conclusions can be reached regarding the effects of intervention and support programmes. In light of the different manifestations of grief between men and women, special attention should be given to the development of appropriate intervention efforts for men and women. This author found that men were significantly less satisfied than women with the support they received from the hospital (Dyregrov & Matthiesen, 1987a).

Participating in formal and informal rituals are of importance for the grieving process of the parents. Viewing the lost one after death (Kennell *et al.*, 1970; LaRoche *et al.*, 1982, 1984), having opportunities to develop special memories of the child (Murray & Callan, 1988), as well as taking part in the funeral process (Clyman *et al.*, 1980; La Roche *et al.*, 1984) seem to be related to a better post-loss adjustment, a finding supported in the clinical literature (Lewis, 1979). Some studies, however, have found no association between inappropriate grief reactions and viewing the lost one after death (Laurell-Borulf, 1982), or touching or not touching the baby (LaRoche *et al.*, 1982; Tudehope *et al.*, 1986). Differences in dependent measures and differences in methodology may explain these conflicting results. No major study has so far given special attention to the effect of attending rituals on parents' adjustment to loss.

Although based on very few participants ($N=20$, $N=30$), two studies have concluded that the existence of a living sibling may lessen parental grief (Kennell *et al.*, 1970; LaRoche *et al.*, 1984), although this has not been found in all studies (Nicol *et al.*, 1986; Wilson *et al.*, 1982). Previous losses are found to be associated with a less favorable outcome after the death of an older child (Rando, 1983).

Parent's relationship to surviving siblings

Parents experience increased anxiety, especially following a SIDS-death (Dyregrov & Matthiesen, 1987b), and they show increased protectiveness of their remaining children (DeFrain & Ernst, 1978; Clyman *et al.*, 1980; Cornwell *et al.*, 1977; Kennell *et al.*, 1970). Parents also feel the need to be physically closer to surviving children, apparently because of the comfort it provides (Mandell *et al.*, 1983). The tragic event may also have positive consequences, as many parents feel that they have improved as parents for their surviving children in the year following the loss of an infant (Cornwell *et al.*, 1977).

Parents struggling with the loss of a child are, at times, found to be less able to show empathy and understanding towards the surviving child or children (Halpern, 1972), and many parents also experience their surviving children as more active and demanding in the months immediately after an infant loss (Drotar & Irvin, 1979). Parents may feel overwhelmed by their children's need for comfort, and this sometimes lead the parents partially to reject the surviving child or children (Drotar & Irvin, 1979; Halpern, 1972). In the clinical literature, children are sometimes reported as experiencing a form of "parental deprivation", because the parents are preoccupied with their own loss (Blueglass, 1980, 1981). But children are also described to be of great support to the parents in their grief (Berg *et al.*, 1978). They even are reported to be actively comforting their parents (Mandell *et al.*, 1983).

Siblings reactions to the death of brother or sister

In anecdotal articles, a possible link between sibling loss in childhood and later psychopathological development is sometimes mentioned (Hilgard, 1969; Pollock, 1962, 1972; Rosenzweig & Bray, 1943). Although there have been few empirical studies undertaken, studies to date indicate that the death of an infant or older siblings has a major impact on children of all ages (Burns *et al.*, 1986; Mandell *et al.*, 1983; Mandell *et al.*, 1980; Williams, 1981). However, data have most often been collected retrospectively, and children have not been assessed directly. Parents have been the sole data source and data should be viewed with caution.

With this in mind, commonly reported sibling reactions can be summarized. Children often exhibit symptoms of anxiety. Among these anxiety reactions are increased separation anxiety, increased clinging behaviour, worries about health/safety of parents (and self), and difficulties in falling asleep. They may also react with anger, guilt, sadness, and changes in social interaction (Mandell *et al.*, 1983; Watson, 1981; Williams, 1981). Psychosomatic illnesses have been reported following the death of a sibling from cancer (Jurk *et al.*, 1981). Rejection of parents, especially mothers, by surviving siblings may also happen (Cornwell *et al.*, 1977).

The way in which the parents handle the event in relation to their surviving children is of great importance for these surviving children. Parents usually feel anxious about what to tell their surviving children and how to answer their questions (Clyman *et al.*, 1980; Forrest, 1983). The surviving children are often given confusing and inadequate explanations which may aggravate their reactions (Williams, 1981). There seems to be consensus that surviving siblings should be told promptly about the death, be given true and factual information about what happened, and be allowed to attend the funeral (Mandell *et al.*, 1983; Moriarty, 1978; Friedman, 1974).

Having a new child

Cain & Cain (1964) wrote an influential article some decades ago on the psychological difficulties of replacing a child. They stressed that "replacement children" tended to be overprotected by fearful parents, and that they were expected to emulate the idealized image of their dead sibling. Presenting case histories, some authors (Lewis, 1979; Poznanski, 1972) have postulated that parents, instead of working through their grief, simply replaced the child they had lost. In one study, early conception of a new child after the loss of an infant was shown to correlate with morbid grief reactions (Rowe *et al.*, 1978). The study was retrospective, included mothers only ($N=29$), and morbid grief reactions were defined in a highly questionable way. In another report (Forrest, 1983), one mother was reported to have totally rejected a later born baby, and two other mothers experienced some negative feelings toward their later born babies ($N=50$, no normal control group). Blueglass (1980) reported severe anxiety and over-protection in a mother, and anxiety-neurosis in a father, after having a "replacement child" following a SIDS-loss. However, Blueglass' article is based on only a few clinical cases.

Not everyone agrees that "replacing" a child shortly after a loss leads to poorer adjustment for parents and siblings. Women list the birth of a subsequent child as one of the factors that helped them most in the time following the loss (Stringham *et al.*, 1982). One study noted a less intense grief reaction among women who had given birth to a subsequent child (Peppers & Knapp, 1980), another study found parents with a replacement child less depressed than parents without such a child (Videka-Sherman, 1982). Videka-Sherman's study had a mixed loss group (SIDS, accidents, and illnesses). Two recent studies have found less depression and grief reactions in mothers (Murray & Callan, 1988) and both parents (Theut *et al.*, 1989) following the birth of a new child. Others still, have found no relationship between giving birth to a new child and the mother's grief outcome (Dyregrov & Matthiesen, 1987c, LaRoche *et al.*,

1984: Laurell-Borulf, 1982; Smith & Borgers, 1988-89). In fact, in the study by Laurell-Borulf (1984), the factor most frequently mentioned by the mothers as most beneficial in their grief work was having a new child, even though less than 2/3 experienced the birth of a new child. The studies mentioned above had relatively few mothers who had given birth to a new child (most often the number of new children were not reported), the measurement of grief varied with these methodological reservations in mind, and they had mostly overlooked fathers. But does not show more severe problems in those who get a new child early following an infant loss. On the contrary, the evidence tend to support this as helpful for many parents. Having a new child shortly after losing an infant must be considered the normal response, as many studies note that more than half of the mothers are (or want to be) pregnant again within the first year after the loss (Berg *et al.*, 1978; Dyregrov & Mathiesen, 1987b; Forrest, 1983; LaRoche *et al.*, 1984; Stringham *et al.*, 1982). Although the negative consequence for the parents' grief outcome are not supported by the research, many studies emphasize how a child's death influence their behaviour following the birth of a new infant. Both during a new pregnancy and after the birth of a new child, parents (especially mothers) experience a great deal of anxiety (Dyregrov & Mathiesen, 1987b; Phipps, 1985-86), with overprotective behaviour towards the child and an increased dependency on medical support (Phipps, 1985-86). Fears for the child's health and safety can continue over an extended period of time (Phipps, 1985-86). Generalization from Phipps study should be done with care, as the study included only 15 couples. However, other reports confirm Phipps results as they show that increased parental anxiety leads to a need for frequently checking their child when sleeping, and a constant worrying over their child's health (Cornwell *et al.*, 1977; Mandell *et al.*, 1983). Mothers interviewed 12-14 years following a perinatal loss perceive themselves significantly more over-protective towards their living children than a control group of mothers (Laurell-Borulf, 1982). Apart from this, no study has seriously looked into the consequences of sibling loss on the subsequent development of later born siblings.

Discussion

We have seen that the death of a child may lead to considerable adjustment problems for the surviving family members. The loss of a child is always untimely, and it uproots one of the strongest attachment relationships existing between human beings. It is not easy to determine to what degree factors such as suddenness and lifespan will determine the intensity and length of the family's grief reactions. In the clinical literature sudden death, as opposed to anticipated death, is believed to have a more detrimental effect on parents' health. Based on common sense one would expect that grief reactions would be stronger when the baby has lived for some time before dying, but this is not unequivocally confirmed in the research literature.

There are apparent differences between mothers and fathers in the intensity and duration of their reactions. Usually mothers experience longer and more intense reactions than the fathers. The cause of these differential reactions remains unclear. From a theoretical point of view these are amongst the most viable explanations: (1) the differences are caused by a difference in amount of attachment or "bonding" to their child, (2) the differences reflect different methods of coping in men and women, (3) the differences are due to men not reporting or acknowledging emotions and reactions and (4) the differences reflect the different social situation the two sexes face following the loss. If the difference is caused by different levels of bonding, one would expect the difference between men and women to level out as the child's lifespan increases. No available research

study has thoroughly addressed whether there is any difference in mothers' and fathers' reactions in relation to the age of the infant at the time of death, but as mentioned above the difference in grief reactions is present regardless of how long the child has lived. For the mother, attachment is believed to develop through pregnancy as the baby is harboured and nurtured by her body (Raphael, 1983). In this period the father's attachment is less intense, due to the baby being less real for him. One should therefore expect a father to experience lesser grief reactions than a mother after a stillbirth. When fathers have the opportunity of taking part in the care of a child, either in hospital or at home, and attachment is formed, one would expect a more equal bond formation, and thus a more similar grief reaction.

This hypothesis, however, is based on the assumption that it is time spent with the baby that determines the attachment relationship. Observational studies of infant-mother, and infant-father interactions, have demonstrated that infants form attachment to both parents by the middle of their first year, even when fathers spend relatively little time with them (for a review see Lamb, 1982). It appears that this attachment is reciprocal, as evident from increasing knowledge of father-infant attachment (Lamb, 1978; Parke *et al.*, 1979). One may therefore expect both parents who experience the death of an "older" infant to have grief reactions of a similar nature and duration. As we have seen, this is not the usual case, and it may be an indication that a "differential bonding" hypothesis is incorrect.

Another viable explanation for the observed differences in men's and women's reactions is that the difference could stem from differential reactivity to stressful life-events, or different coping methods applied by the two sexes. Such differences may have a biological, social, or cultural basis. Unfortunately, few studies have examined such sex differences. In coping with adverse life events, some studies show women relying more on intimate social relationships (i.e., seeking personal support from a close family member or friend), while men more easily utilized larger social situations involving peer groups and so forth (Funabiki *et al.*, 1980; Westbrook & Viney, 1983). Differential biological susceptibility to stress in the two sexes has not received broad interest in the literature. It is true, however, that women in general complain of more psychological, psychiatric and physical symptoms (Langner & Michael, 1963), and they utilize health services to a greater extent than men (Nathanson, 1977). For depression, several studies have reported female to male ratios in the range of 2 to 1 (Stroebe & Stroebe, 1983). Whether these differences are due to real differences in morbidity, or a difference in illness behaviour is much debated (Weissman & Klerman, 1977; Parker, 1979). The fact that this gender gap has been narrowing over the past 20 years (Kessler & McRae, 1981) may support a social/sex role explanation of the reported differences.

It is a commonly held belief that women are more "emotional" than men. They are believed to be able to express their emotions more easily than men. A plausible explanation of the differences in grief observed between men and women could be that it is due to men's underrating their emotions. Such underrating, again, could be caused by men's "socialized" image of being strong and not showing emotions, a finding supported in the literature concerning the loss of a child. Generally, men express less emotion than women (Allen & Haccoun, 1976; Dosser *et al.*, 1983; Notarius & Johnson, 1982). Through a test of emotional styles, researchers have been able to separate the overt "expressiveness" from the more covert "responsiveness" and shown that men also experience less feelings and bodily reactions than women, in addition to their lack of outward expression (Allen & Haccoun, 1976; Allen & Hamsher, 1974). The differences are greatest regarding overt expression, but are present in covert responsiveness, too. The differences vary across emotions, being greatest for fear and sadness, and least for anger. Females also report a larger proportion of interpersonal situations as stimulating emotions than men, indicating that for females emotion may have a relatively important communicative function.

The last viable explanation is that the two sexes frequently return to different social situations. The father returns to work, his thoughts are occupied, and he has people around him most of the time. The mother is frequently at home, and has more time to think about what has happened, and at the same time she may be socially isolated and overindulged in the experience. Indeed, data from this author's prospective study (Dyregrov & Matthiesen, in press) indicates that when women return to work outside the home following an infant loss, their grief reactions over the first year of bereavement are very similar to men's reactions. Mothers who remain at home report stronger reactions on several different measures. However, the number of mothers in the two groups were small, and there were no established base levels from before the death took place.

These explanations may separately, or combined, account for the differences observed in mothers' and fathers' grief. Further research is needed to investigate the reasons for the sex differences in this area. From a clinical point of view, the presence of the differences is important in itself, as such knowledge can be utilized in follow-up programmes to help reduce interfamily difficulties, and to tailor intervention efforts to the different needs of subgroups of bereaved parents.

The reactions observed among children following the loss of a sibling are a confirmation that children do grieve. The pioneering work of John Bowlby (Bowlby, 1963, 1980) has shown us that children as young as one to two years old have the capacity for some form of grieving. The siblings' reactions to the loss of a brother or sister probably must be seen as a combination of many factors. Besides experiencing their own grief reaction, they are influenced by their parents' reactions, the information made available to them, the change in "home atmosphere" and so forth. These factors will strongly influence the long term consequence of the loss. Later-born siblings can also be affected by the loss of a child in a family. There is no easy way to reduce this complexity of factors to "rules of thumb" for handling or understanding children's reactions to sibling loss, but further guidelines can be found in Wass & Corr (1984).

A family experiencing the death of a child seems likely to develop short-term and/or long-term problems in their adaption to the loss. The integration of the family system, as well as the health of the individual family members, is threatened. Through an integrated effort by health professionals to develop systematic ways of helping families cope with such crisis events, we may succeed in reducing the high human costs resulting from such losses.

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