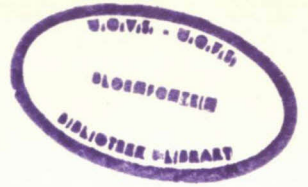


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GRIEF AND DEPRESSION AFTER PREGNANCY LOSS IN SOTHO WOMEN

Submitted in partial fulfillment of the requirements for the degree of
Magister Artium (Clinical Psychology) in the Faculty of Human
Sciences at the University of the Orange Free State

December 1998

by

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Promoter: Prof. P.J. Rossouw

“I declare that the dissertation hereby submitted by me for the degree of Magister Artium (Clinical Psychology) at the University of the Orange Free State is my own independent work and has not previously been submitted by me at another university/faculty. I furthermore cede copyright of the dissertation in favour of the University of the Orange Free State”

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Date 1/3/99

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

It is estimated that approximately 15% of all pregnancies terminate in spontaneous abortion (Hall, Beresford & Quinones, 1987). Various biological, psychological and social consequences of pregnancy loss can be noted, however it appears that the psychosocial implications often cause the most distress for the mother.

A study of the literature concerning pregnancy loss indicates that women following such an event often experience grief and depression. Symptoms such as sadness, irritability, fatigue, crying and guilt feelings are common (Beutel, Deckardt, Von Rad & Weiner, 1995). Research has also indicated that a number of women may experience a period of intense grief characterised by emotional numbness, shock, anger and guilt (Friedman & Gath, 1989; Stierman 1987). While some feelings of grief and depression may be experienced after pregnancy loss, studies show that not all women develop debilitating emotional reactions to the loss (Conway, 1995). Only a small percentage of women appear to develop severe mental health problems. A number of factors that may influence grief intensity can be identified in the literature. Factors such as length of gestation, previous mental health problems, other children and social support may be possible predictors for those women who may be at risk to develop severe mental health problems (Neugebauer et al., 1992).

The onset and development of depressive and grief reactions following pregnancy loss has been well documented in the literature. However, literature regarding grief and depression after pregnancy loss within a South African context is lacking. Studies regarding the South African woman's reactions to pregnancy loss are needed in order to ensure the effective management of those women struggling to come to terms with their loss.

1.2 RESEARCH PROBLEM

A literature study indicated a need for data regarding the psychosocial reactions to pregnancy loss by the South African woman. The following problems stemming from this need may be noted as follows:

- The degree to which international findings on the emotional aspects of pregnancy loss accurately reflect the South African woman's experience of this potentially traumatic event.
- The applicability of potential risk factors as noted in the literature to the identification of the South African woman at risk to develop serious mental health problems.

1.3 PURPOSE OF THE STUDY

This study is an investigative study into the reactions of a specific group of South African women following a spontaneous abortion. The purpose of this study is as follows:

- To determine if a group of Sotho women who had recently experienced a spontaneous abortion presented with depression and grief after their loss.
- To investigate the effect of certain factors noted in the literature and associated with the prediction of those women at risk to develop severe mental health problems.

The value of this study lies in obtaining data which may assist both medical and mental health professionals in understanding the potentially severe emotional implications of a spontaneous abortion, thereby encouraging the development of effective management programs for women who have experienced such a loss.

1.4 FURTHER CHAPTERS

The structure and content of this study can be briefly summarised as follows:

In Chapter Two a summary and discussion of the literature focusing on the biological, psychological and social consequences of pregnancy loss is presented.

Chapter Three is concerned with the research methods and procedures implemented in this study.

In Chapter Four the results are presented and discussed and some recommendations for future research are also noted.

CHAPTER 2

LITERATURE STUDY

2.1 DEFINITION AND INCIDENCE OF PREGNANCY LOSS

The term *pregnancy loss* includes the events of miscarriage, spontaneous abortion, stillbirth and perinatal death (Hertz, 1984; Lin & Lasker, 1996). There is presently a lack of consensus amongst medical practitioners regarding the exact criterion for a miscarriage, stillbirth and spontaneous abortion. A number of definitions can be noted which illustrate the discrepancies regarding the categorisation of the various types of pregnancy loss.

The terms miscarriage, stillbirth and spontaneous abortion are also often used interchangeably. In the United Kingdom a spontaneous abortion is defined as follows: "The expulsion of a foetus without signs of viability before 28 weeks of pregnancy" (Stabile, Grudzinskas & Chard, 1992; p.1).

A number of authors including Stabile, Grudzinskas and Chard (1992), are of the opinion that the 28 week definition of a spontaneous abortion requires revision in the light of considerable improvements in neonatal care, with the subsequent survival of many infants before 28 weeks. These authors are also of the opinion that the definition of spontaneous abortion as proposed by the World Health Organisation (WHO) may be most appropriate. The WHO definition includes both a weight criterion (less or equal to 500 grams), and a gestational age cut-off limit of less than 22 weeks. The relevance of this definition is also illustrated when one considers certain incidence rates. Hall, Beresford and Quinones (1987) note that almost three fourths of spontaneous abortions occur before the sixteenth week of gestation, with 75% of these occurring before the eighth week.

Perinatal loss is also a term commonly used in literature regarding pregnancy loss. Perinatal loss is a term that encompasses the events of miscarriage, stillbirth and even neonatal death. According to Kaplan, Sadock and Grebb

(1994) perinatal loss is defined as death sometime between the 20th week of gestation and the first month of life.

These authors furthermore note that intrauterine death can occur at any time during a pregnancy and that it is an emotionally traumatic experience. The estimated perinatal mortality rate is at least 30/1000 births (Nel, 1995), while it is estimated that 15% of all pregnancies terminate in spontaneous abortion (Hall, Beresford & Quinones, 1987).

2.2. ETIOLOGY OF SPONTANEOUS ABORTION

Bennett and Edmonds (1989) and Stabile, Grudzinskas and Chard (1992) note that the following factors are often associated with an increased risk for spontaneous abortion:

- Chromosomal abnormalities
- Malformations other than those caused by chromosomal anomaly
- Multiple pregnancies
- Maternal age and parity
- Maternal health
- Maternal smoking
- Alcohol consumption
- Oral contraceptives, spermicides and intrauterine devices
- Trauma

Nel (1995) notes that more than half of all perinatal deaths are as a result of preterm labour and retroplacental bleeding, both of which are associated with poor socio-economic conditions. Malnutrition is an important factor in the development of retroplacental bleeding, while infections often lead to preterm labour. Nel

summarises the possible causes of spontaneous abortion and miscarriage as follows:

- Foetal congenital abnormalities
- Uterine abnormalities
- Multiple pregnancy
- Maternal diseases associated with fever
- Teratogenic drugs and poisons
- A leutal phase defect
- Immunological factors
- Chromosomal translocation in the parents
- Polyspermia secondary to hyperspermia
- Thyroid disease
- Trauma
- Diabetes mellitus with unsatisfactory glucose control
- Severe cardiac disease
- Intrauterine growth retardation
- Intrauterine infection

Nel (1995) and Stabile, Grudzinskas and Chard (1992) also acknowledge the role of possible environmental factors in the occurrence of spontaneous abortion.

Indications are that certain occupational hazards, such as exposure to anaesthetic gases and anticancer drugs and work involving physical stress, are related to an increased risk for spontaneous abortion. Environmental risks such as irradiation and chemical hazards are other possible risk factors.

Although the possible risk factors and causes of spontaneous abortion are numerous and varied, these aspects can be broadly categorised under that of faulty development and accommodation failure (Huisjes, 1990). While faulty development is essentially associated with chromosomal abnormalities of the foetus, accommodation failure pertains to disturbances in the accommodation offered to the developing foetus by the maternal organism. The following graph depicts the possible causes of pregnancy loss in relation to gestational age.

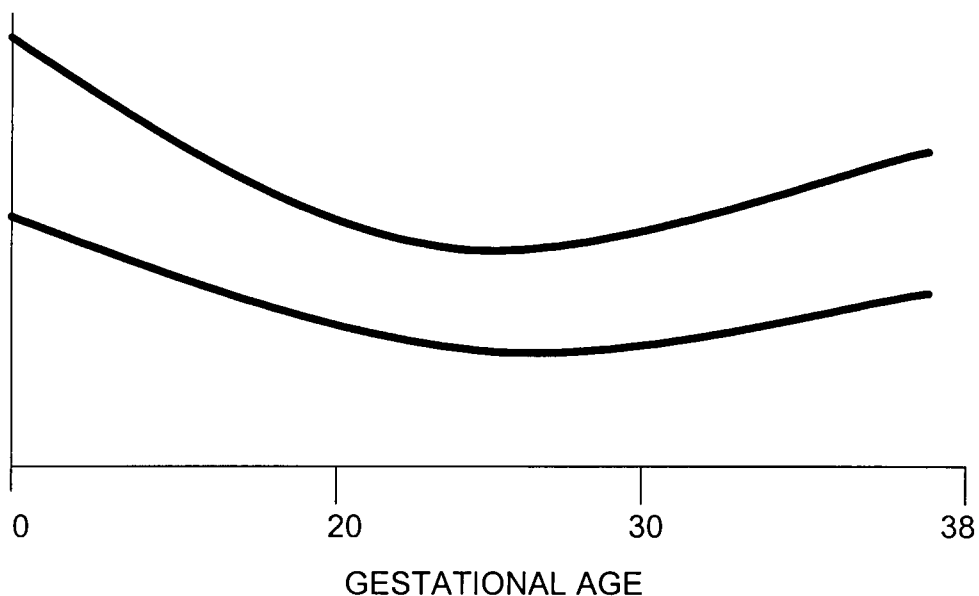


Fig. 1 Representation of the contribution of faulty development and accommodation failure to the early ending of pregnancy, illustrating the shift in relation to increasing gestational age (accommodation = upper area, faulty development = lower area) as proposed by Huisjes (1990, p.3).

2.3 THEORETICAL FRAMEWORK

The literature survey in this study will be presented within the framework of the biopsychosocial model. Kaplan and Sadock (1995) note that psychiatric disorders

may be characterised by disturbances involving a number of areas in a person's life. These areas may include the biological, psychological, behavioural, interpersonal and social spheres.

Assessment of all of these spheres will provide one with a holistic and comprehensive understanding of both the person and of the disturbance. Engel (1980) notes that clinical application of the biopsychosocial model begins at the *person* level and places the necessary emphasis on relevant psychosocial issues.

Application of the biopsychosocial model will therefore allow for a structured and comprehensive review of the literature concerning the biological, psychological and social implications of a miscarriage or stillbirth.

The format of this chapter and of the biological, psychological and social effects of pregnancy loss can be schematically represented in the following way:

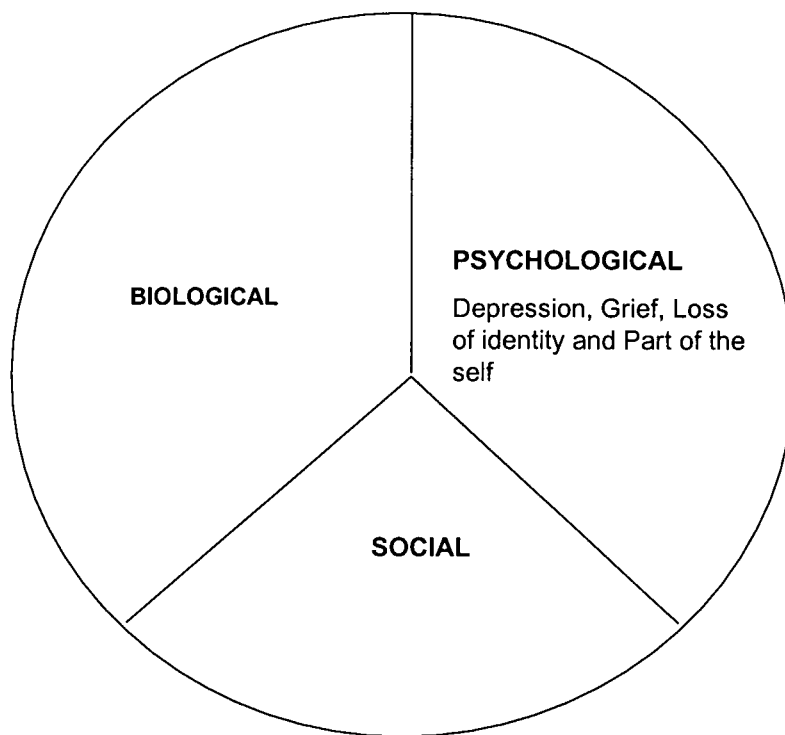


Fig. 2 A representation of the biological, psychological and social aspects of pregnancy loss based on the model adapted from Kaplan and Sadock (1995).

2.4 PSYCHOLOGICAL ASPECTS OF PREGNANCY

Before considering the biological, psychological and social effects of pregnancy loss it is important to note the psychological factors involved in pregnancy itself.

Reading (1983) represents the development of maternal feelings in the following graph.

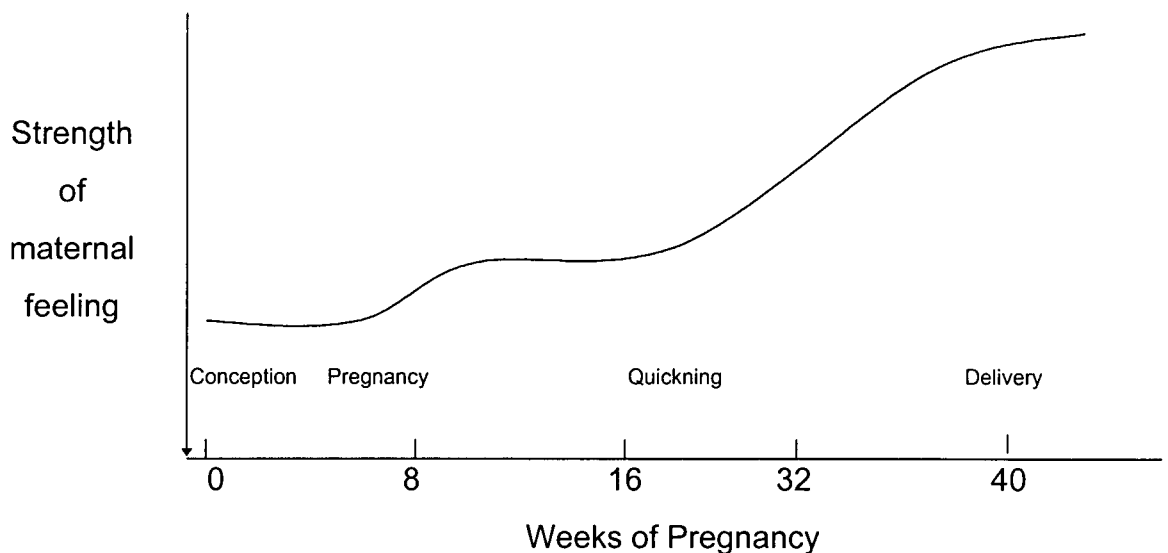


Fig. 3. The development of maternal feelings as proposed by Reading (1983, p.48).

As noted, a spontaneous abortion occurs before the 28th week of pregnancy (Stabile, Grudzinskas & Chard, 1992). From the graph depicting the development of maternal feelings (Reading, 1983) it is clear that maternal feelings begin to develop and strengthen at the confirmation of the pregnancy (approximately eight weeks). The strength of maternal feelings also begin to increase during "quickening" or when foetal movements begin to be experienced (from approximately the 16th week of pregnancy). The majority of women will therefore have had begun to develop some form of maternal feelings at the time of a miscarriage or stillbirth. Feelings of grief after such a loss may therefore follow.

Rubin (1984) similarly states that significant psychological changes occur during pregnancy, particularly once foetal movements are experienced. Beginning early

in the fourth month of pregnancy, sporadic foetal movements and the impact of the foetus on the woman's bodily appearance, function and activity convert the impersonal abstraction, a child, into a specific *this* child. Rubin furthermore states that the loss of the child terminates the further development and extension of this relationship but does not eliminate the bonds and investment of self in the maternal identity already achieved.

Rubin (1984) also recognises four maternal tasks that can be identified during pregnancy:

Task 1: To ensure safe passage for herself and the baby through pregnancy and childbirth

Task 2: To ensure social acceptance for herself and her child

Task 3: To increase the affinities in the construction of the image and identity of the "I" and the "you"

Task 4: To explore the meaning of the transitive act of giving and receiving

Pregnancy loss, due to whatever cause, therefore abruptly ends the instinctive strengthening of maternal feelings regarding the woman's unborn child and also of herself.

2.5 BIOLOGICAL ASPECTS OF PREGNANCY LOSS

Research indicates that the effects of pregnancy loss may have various physiological manifestations.

One common physiological manifestation of a depressive or grief reaction after pregnancy loss is that of sleep disturbances. Beutel, Deckardt, von Rad and Weiner (1995) found that a number of women reported sleep disturbances following such a loss. Similar results were obtained by Garel, Blondel, Lelong, Bonnefant and Kaminski (1994), as well as by Nicol, Tompkins, Campbell and

Syme (1986) who found that insomnia was a problem commonly experienced after pregnancy loss.

Friedman and Gath (1989) also note physiological manifestations such as a loss of sexual interest, tiredness and irritability, together with other symptoms of somatization. In a study aimed at identifying the manifestation of a depressive reaction after miscarriage, Beutel, Deckardt, von Rad and Weiner (1995) found that a number of women were irritable and experienced neck and shoulder pain in conjunction with sleep disturbances.

In a study aimed at investigating the possible long-term negative consequences of miscarriage Garel, Blondel, Lelong, Bonnefant and Kaminski (1994) found that a number of women had sought professional help following this experience. Up to eight months after the miscarriage women experienced not only sleep disturbances, but also weight gain or weight loss.

Nicol, Tompkins, Campbell and Syme (1986) conducted a similar study that was primarily aimed at investigating the nature of bereavement after perinatal loss. Amongst the symptoms reported most frequently of a physiological nature were headaches, excessive tiredness and a subjective experience of general nervousness. These authors furthermore note that a number of women participating in this study also exhibited health-related behavioural changes. These changes included an increase in the use of sedative drugs, while a number of smokers also indicated that they had increased their consumption.

These physiological changes as noted in the literature therefore indicate the possible negative effects of pregnancy loss related to the biological sphere, while illustrating the interaction between biological, psychological and social aspects of miscarriage or stillbirth.

2.6 PSYCHOLOGICAL ASPECTS OF PREGNANCY LOSS

When considering the psychological consequences of pregnancy loss it is important to note the unique bond that develops between mother and child.

Graves (1987) states that because of this unique bond, the sense of loss a mother feels in neonatal death, stillbirth and miscarriage can be confusing. Essentially, pregnancy loss results in psychological conflict. Ney, Fung, Wickett and Beaman-Dodd (1994) postulated that it was this psychological conflict that consumed women's energy, leaving less strength available to deal with the demands of life. Preoccupation with internal conflict results in lessened rational thinking about life, health and personal relationships. These authors also note that women who have experienced such a loss may be more likely to misinterpret information used as input in the daily decision making process. This misinterpretation of information may be attributed to being distracted by internal conflict resulting from prolonged mourning.

The psychological sequelae of pregnancy loss as proposed by Frost and Condon (1996) can be broadly categorised as follows:

-Psychiatric consequences: Depression

-Psychological effects: Grief

Guilt

Loss of part of the self

Impact upon identity

The psychiatric and psychological impact of pregnancy loss will be further discussed within this framework.

2.6.1 DEPRESSION

Friedman and Gath (1989) note that levels of emotional distress are high after a spontaneous abortion, particularly in the first four weeks after such a loss. In this study it was found that a number of women could be classified as having depressive disorders during this time.

Boyle, Vance, Najman and Thearle (1996) have reported similar findings. These authors studied the mental health impact of stillbirth, neonatal death and sudden infant death syndrome (SIDS). In this study it was found that rates of depression were significantly higher for bereaved mothers than for mothers of surviving infants. Similarly Janssen, Cuisnier, Hoogduin and de Graauw (1996) identified signs of depression amongst women who had recently suffered a pregnancy loss, as well as symptoms of anxiety and even somatization.

With regards to a depressive reaction after a miscarriage Beutel, Deckardt, Von Rad and Weiner (1995) found that women manifested symptoms in the following ways:

-Dejected spirits

-Alienation from others

-Irritability

-Rumination

-Restlessness

-Increased anxiety

The significance of a depressive reaction after a miscarriage has also been recognized by Neugebauer et al. (1997). In a study comparing miscarriage and community cohorts of women, these authors hypothesized that miscarriage would be associated with an increased risk for the occurrence of an episode of major depression disorder. Results supported this hypothesis and indicated that in the six months following reproductive loss, miscarrying women were at a significantly increased risk for a first or recurrent episode of major depression. In this study it was found that at six months the total incidence rates for major depression were 10,9% amongst miscarrying women, compared with 4,3% in the community cohort.

Friedman and Gath (1989) have also stressed the possibility of women experiencing a depressive reaction following reproductive loss. In this study almost 50% of subjects were found to be suffering from depressive disorders in the four weeks following the pregnancy loss. These researchers aimed to identify specific symptoms of depression using the Beck Depression Inventory. The most common symptoms noted by subjects on the Beck Depression Inventory can be listed as follows:

-Sadness

-Irritability

-Tiredness

-Crying

-Self-blame

-Loss of sexual interest

Research into depression after pregnancy loss has been both short-term and long-term orientated. Prettyman (1993) found significant levels of depression in a number of women seven to 14 days after their miscarriage. Research conducted by Robinson, Stirtzinger, Stewart and Ralevski (1994) followed the psychological reactions in women for one year after miscarriage. In this long-term study subjects completed the Centre for Epidemiological Study Depression Scale (CES-D) and it was found that depression scores were elevated at a number of months after the miscarriage.

After considering the research regarding depression after pregnancy loss, it may also be useful to note and apply an integrative model of mood disorders.

In order to understand the possible onset of a depressive reaction after a miscarriage or stillbirth it is necessary to consider the causes of mood disorders in

general. Kaplan, Sadock and Grebb (1994) and Kaplan and Sadock (1995) note that causative factors can be artificially divided into the following categories:

- Biological factors

- Genetic factors

- Psychosocial factors

It is important to note the interactive nature of causative factors. For example, psychosocial factors and genetic factors can affect biological factors, while biological factors can in turn affect gene expression, with biological and genetic factors subsequently affecting psychosocial factors.

These biological, genetic and psychosocial causative factors of relevance to the onset and development of mood disorders as noted by Kaplan and Sadock (1995) will now be discussed individually,

2.6.1.1 BIOLOGICAL FACTORS

2.6.1.1.1 Biogenic amines

The neurotransmitters most implicated in the pathophysiology of mood disorders are norepinephrine and serotonin. Tests performed on somatic antidepressant treatments show that they are associated with a decrease in the sensitivity of postsynaptic beta-adrenergic and 5-hydroxytryptamine type 2 (5-HT₂) receptors.

Although norepinephrine and serotonin are most associated with depression, dopamine has also been hypothesised to play a role in the pathophysiology of depression. Data suggests that dopamine activity may be reduced in depression.

2.6.1.1.2 Neuroanatomical considerations

Another hypothesis in the cause of depression is the role of neuroanatomical factors. Both the symptoms of mood disorders, as well as research findings

indicate that mood disorders involve pathology of the limbic system, the basal ganglia and the hypothalamus.

2.6.1.2 GENETIC FACTORS

Data indicates that genetics is a significant factor in the development of mood disorders. Studies indicate that first-degree relatives of persons suffering from major depression have an increased likelihood of developing a mood disorder themselves. However the influence of psychosocial factors on genetic inheritance cannot be ignored.

2.6.1.3 PSYCHOSOCIAL FACTORS

Kaplan, Sadock and Grebb (1994) summarise the following psychosocial factors related to the causality of depression.

- Life events and environmental stress

- Premorbid personality factors

- Psychoanalytic and psychodynamic factors

- Learned helplessness

- Cognitions

2.6.1.3.1 Life events and environmental stress

Stressful life events often precede first episodes of mood disorders, although clinicians disagree over the exact role that stressful life events play in the onset of depression. Some clinicians are of the opinion that life events play a primary role in the onset of depression, while others suggest that life events only play a limited role in the development of depression. Most studies however do indicate a positive relationship between stressful life events, especially negative events, and

the onset and outcome of major depression. It is also important to note that the perception of the event may be more significant than the event itself.

Pianta and Egeland (1994) investigated the relationship between depressive symptoms and stressful life events in a sample of disadvantaged mothers. These authors stress the bi-directional nature of the stress-depression relationship and note that while stressors may play a role in the onset of depression, depressive symptoms also in turn seemed to cause particular types of stressful experiences. These authors furthermore note the influence of the type of stress experienced. In this study it was found that the relationship between loss, stress and depression was essentially unidirectional, with the experience of a loss being a significant causal factor in the onset of depressive symptoms.

Research also indicates a strong relationship between family functioning and the onset and course of major depressive disorder. Family functioning may affect the recovery rate, return of symptoms and postrecovery adjustment.

2.6.1.3.2 Premorbid personality factors

Personality traits are closely related to childhood experiences, both of which are potential risk factors for the onset of mood disorders. Although no single personality trait or type uniquely predisposes one to depression, persons predisposed to develop a depressive disorder may lack energy, tend to be more introverted, be inclined to worry, be more dependent and hypersensitive.

2.6.1.3.3 Psychoanalytic and psychodynamic factors

Kaplan and Sadock (1995) summarise the following psychodynamic theories of depression.

- Anger turned inward
- Depressive position
- Tension between ideals and reality

- Ego as a victim of superego
- Dominant other
- Selfobject failure
- Depression as affect and compromise formation
- Early deprivation

2.6.1.3.4. Learned helplessness

One may be able to identify a state of helplessness in persons who are depressed. This state of helplessness may be associated with a sense of a lack of control over one's environment.

2.6.1.3.5 Cognitive theory

According to this theory, depression is related to cognitive misinterpretations of life experience, negative self-evaluation, pessimism and hopelessness.

Barlow and Durand (1995) propose the following integrative model as a summary of the influencing factors related to the onset and development of mood disorders.

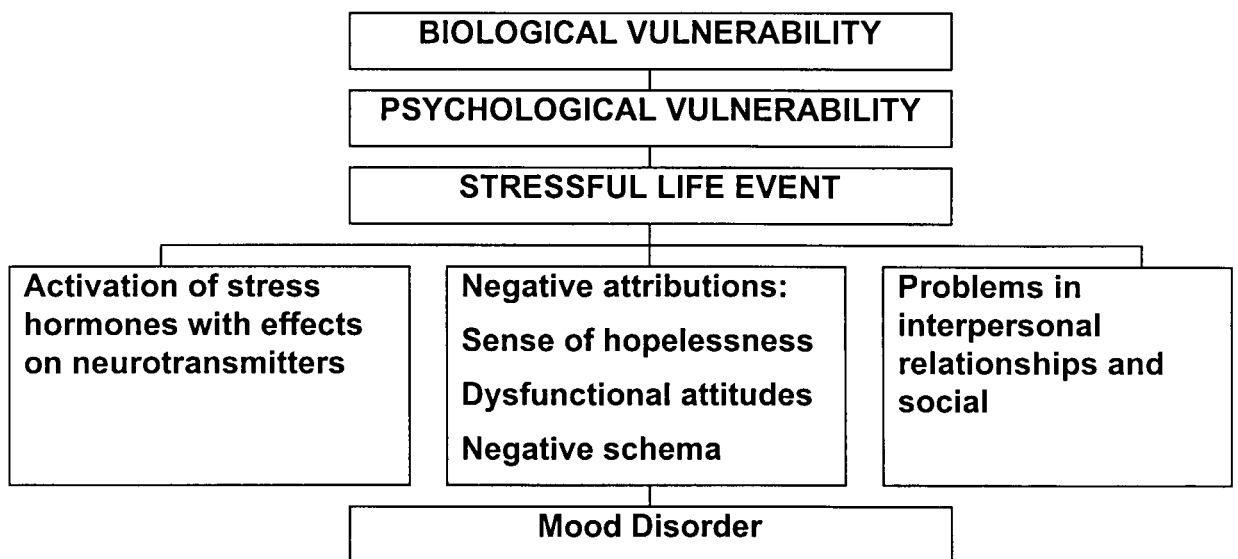


Fig. 4 An integrative model of mood disorders as proposed by Barlow and Durand (1995, p.279).

This model may be applied to the events of miscarriage or stillbirth in the following way.

-BIOLOGICAL VULNERABILITY: A general tendency for an overactive neurobiological response to stressful life events.

-STRESSFUL LIFE EVENT: The event of pregnancy loss can be seen as a stressful life event. The stress resulting from this event as described may lead to the activation of stress hormones which may in turn affect the neurotransmitter systems, particularly those involving serotonin and norepinephrine.

-PSYCHOLOGICAL VULNERABILITY: This may include feelings of being unable to cope with the miscarriage or stillbirth.

Social and cultural factors are also important considerations regarding whether a woman will develop depressive symptoms after a pregnancy loss. In particular, social support tends to minimise stress. The woman with adequate social support may therefore be able to cope with her loss more effectively, thereby decreasing the risk of the onset of depression.

2.6.2 GRIEF

Pregnancy loss is a loss experienced on many levels. Stack (1990) notes that spontaneous abortion is a loss experienced at a personal and an intrapsychic level. Such an experience may subject the woman to a grieving process, with an increased vulnerability to the development of pathological or unresolved grief reactions. Worden (1982) notes the following tasks or stages of grief:

Task 1: To accept the reality of the loss

Task 2: To experience the pain of grief

Task 3: To adjust to an environment in which the deceased is missing

Task 4: To withdraw emotional energy and reinvest it in another relationship

These stages of grief may form the basis for the conceptualisation of the process of grief after pregnancy loss as acknowledged by Stierman (1987) and Leppert and Pahlka (1984). This process has been described as follows:

-Shock:

During this phase women may experience feelings of emotional numbness and emptiness. This period of shock results from the failure of normal adaptive mechanisms and may last a few hours or up to two weeks. This period is often characterised by an intellectual acceptance of the loss, while consciously or unconsciously denying the loss on an emotional level.

-Searching and yearning:

This period of grieving is marked by episodes of pining, anger, pain and distress beginning soon after the loss and peaking in the following weeks. This phase of grieving manifests itself as an unconscious drive to search for the dead baby and may be experienced as an almost hallucinatory preoccupation with thoughts and images of the infant, often accompanied by crying and despair. Often there is also a sense of the dead baby's presence – mothers may report hearing an infant crying or feeling foetal movements after expulsion of the foetus. Anger is common during this phase and women attempt to understand what has happened by searching for the cause of the loss. The memories of the events leading to the loss are also reviewed repeatedly. Blame may be directed inward, resulting in guilt or self reproach, or may be expressed as hostility.

-Disorganisation:

In time the characteristics of acute grieving become less pronounced and usual activities are resumed, although a disruption of normal functioning can be identified. This phase is similar to depression.

-Reorganisation:

In this stage there is a gradual acceptance of the loss and family relationships stabilise. During this phase there is a return to normal participation in life, including planning for the future.

Friedman and Gath (1989) identified core features of grief similar to those as noted by Stierman (1987) and Leppert and Pahlka (1984). These features include:

- Feelings of emotional numbness
- Emotional distress
- Feelings of guilt
- Feelings of still being pregnant

These features of grief can be viewed as primary components of patterns of grief that may develop following pregnancy loss. Lin and Lasker (1996) identified and categorized the following grief reactions based on their research:

- Normal grief pattern
- Reversed grief pattern
- Delayed grief resolution
- Low unchanged grief

High levels of grief that decline over time, most steeply within the first year post-loss characterize a *normal grief pattern*.

Reversed grief pattern: Lin and Lasker (1996) found that certain subjects participating in their study showed heightened levels of grief two years post loss.

This pattern resembles that of delayed grief and may be associated with deterioration in health or the loss of other family members.

Delayed grief resolution is most like chronic grief. Subjects exhibited grief scores that did not decline over the course of the first year as in the normal grief pattern, yet had decreased significantly by the second year post loss. This pattern also then suggests the absence of the long-term pathological effects of early intense and prolonged grief.

Low unchanged grief: Women in this group initially appeared to fit the traditional pattern of absent or delayed grief yet showed some grief symptoms at the time of the loss. These symptoms neither disappeared nor worsened over time.

Stack (1990) notes that unresolved feelings of guilt may lead to the subsequent development of delayed or pathological grief. The development of pathological grief may also be influenced by feelings of intense helplessness. This sense of helplessness may occur when the woman is haemorrhaging and neither she nor the physician can do anything to stop the process.

When considering the grief reactions following pregnancy loss as noted by Stierman (1987), Leppert and Pahlka (1984), Stierman (1987) and Lin and Lasker (1990) it is also necessary to consider aspects of acute and chronic grief which may manifest after pregnancy loss. Lasker and Toedter (1991) differentiated between acute and chronic grief in a study using the Perinatal Grief Scale. The Perinatal Grief Scale consists of three subscales namely active grief, difficulty coping and despair. These researchers determined that high scores on the subscales of difficulty coping and despair indicated an acute grief reaction. Subjects in this category were so distressed that they were unable to cope with their daily lives. Feelings of hopelessness about oneself and the future are also characteristic of more disturbed grief reactions. Extreme feelings of hopelessness in conjunction with symptoms of depression are indicative of chronic grief. These authors are furthermore of the opinion that chronic grief is not simply acute grief with a longer time span, but that specific qualities can be identified.

Stack (1990) also notes characteristics which may be indicative of an unresolved grief reaction. These characteristics include:

- A vivid memory of the events surrounding the period of the loss
- Frequent flashes of the events of that day or of specific scenes of the loss
- An anniversary reaction
- The persistence of an affect such as sadness or anger when talking about the loss
- The flooding of emotion at a time of subsequent crisis

Lewis (1992) agrees with Stack (1990) in that grieving for a miscarriage is complicated by the fact that the woman has never known her baby as a separate, living being. Lewis also states that during the grieving process women have a strong need to talk about their loss. This includes a need to not only talk about the baby, but also to share feelings about the experience of the pregnancy loss itself. During this time a need for information about why the miscarriage happened is of great importance to the woman.

2.6.3 GUILT

Although guilt is a primary component of both depression and grief (Friedman & Gath, 1989; Lewis, 1992; Stack, 1990), Frost and Condon (1996) also categorise guilt as a separate and significant psychological effect of pregnancy loss.

As noted above, women who experience a spontaneous abortion often have an intense need to determine why the miscarriage or stillbirth occurred. Lewis (1992) notes that women often feel both intense guilt and anger after a miscarriage. Many women may demand "Why me?". This anger may be directed at others, but is more commonly self-directed. Women frequently search the events of the days

or weeks prior to the miscarriage in order to find something tangible to blame themselves for (Lewis, 1992; Stierman, 1987).

Graves (1987) similarly states that women frequently experience guilt feelings following reproductive loss. Concerns such as whether they perhaps did something (worked too hard, had sex), or did not do something (did not rest enough, did not pay adequate attention to their diet) to cause the loss are common. Lewis (1992) also notes that specific medical explanations as to the cause are often non-existent, leaving the woman feeling somehow responsible. Research conducted by Bowen, van Gelderen, Hamilton and Chalmers (1990) resulted in similar findings. In this study conducted at Baragwanath Hospital it was found that subjects tried to make sense of their loss by attempting to find a reason for the miscarriage. The following results were noted:

-38% of the women ascribed the cause of death to an act of God

-24% ascribed their loss to witchcraft

-11% considered the miscarriage to be as a result of some person

Only 27% of the subjects believed that the loss was not attributable to anyone.

Robinson, Stirtzinger, Stewart and Ralevski (1994) also found that women who blamed themselves for the miscarriage had higher depression scores on the Centre for Epidemiological Study Depression Scale (CES-D). Guilt is therefore a key aspect in both the onset and development of depressive and grief reactions after pregnancy loss.

2.6.4 IMPACT UPON IDENTITY AND LOSS OF PART OF THE SELF

Stack (1990) states that infertility is a major blow to the narcissistic feelings in both men and women. Lewis (1992) similarly notes the sense of failure experienced after a miscarriage. This negative impact on narcissistic feelings and the subsequent feelings of failure experienced after pregnancy loss by women in

particular, may be closely associated to the development of a feminine identity during pregnancy.

Rubin (1984) states that the feminine identity is essential for orientation and definition of the self and of the outside world. Episodes of instability or diffusion of this sense of identity may be experienced. Rubin refers in particular to times of extreme physical and physiological change. The physical and physiological changes associated with pregnancy loss may therefore negatively influence this feminine identity.

Furthermore Rubin (1984) notes that infertility, miscarriages, stillbirths or the birth of a defective child may produce misgivings about the competence of self as a woman and as a person of worth. The possible development of depression and grief reactions after pregnancy loss can therefore be considered through the application of a framework based on theories as noted by Rubin.

The impact of pregnancy loss may be better understood by considering the role of *fantasy* during pregnancy. Rubin states that fantasy is the projection in imagery of mother and her child in the future. Experiences of the self are explored cognitively through fantasy and the event of a miscarriage or stillbirth results in self-doubt and a decrease in confidence regarding one's feminine and maternal identity. Research conducted by Beutel, Deckardt, von Rad and Weiner (1995) supports this theory. This study indicated that before the miscarriage a majority of women had a mental representation of the foetus in the form of fantasies, dreams and daydreams. A number of women had also already made preparations for the child's birth and care or had selected a name.

Impact upon identity and loss of part of the self as psychological consequences of pregnancy loss can be viewed within a psychoanalytic framework. Leon (1992) proposes a model for examining this loss by applying four psychoanalytic interpretations of pregnancy.

(1) Developmental model

Pregnancy can be viewed as a new developmental stage which typically precipitates a psychosocial crisis in one's internal constellation of representations, conflicts and fantasies. These aspects interact with the cultural changes in identity that are induced by becoming a parent. Leon (1992) furthermore notes that pregnancy as a developmental stage is a distinctly influential period that is not reducible to simply another step in the sequence of drive, object or self development. Occurring during pregnancy, perinatal loss is therefore a crisis within a crisis. The heightened vulnerability during such an intensified crisis may tax the woman's coping capacities, thereby increasing the importance of social support.

(2) Drive model

Perinatal loss may result in the revival of unresolved conflicts which in turn may invite the bereaved mother to construct distorted, maladaptive understandings of her perinatal loss based on earlier conflicts. Maternal perinatal loss may therefore become linked with earlier, unresolved oedipal conflicts, feelings of ambivalence towards one's own mother, and unresolved separation-individuation issues.

(3) Object relations model

Leon (1992) notes that most theorists focus on how perinatal death is the loss of a cherished, distinct other and that mourning is furthermore complicated by a lack of memories and interactions with the dead baby. In addition to recognising the significance of the loss of a specific child, the influence of additional object ties should also be considered. Perinatal loss may therefore, for example, precipitate depression associated with earlier unresolved grief such as parental death in childhood. As pregnancy involves both seeking a new child as well as resurrecting important parental relationships, mourning perinatal loss requires not only the resolution of grief for the child that has been lost, but also the resolution of the legacy of past object images conferred upon the child.

(4) Narcissism model

Leon (1992) notes that in order to understand the emotional repercussions of pregnancy loss, it must be remembered that just as the foetus is physically a part of the mother, the unborn child is also initially experienced more as a part of the mother's self than as a separate person. Since miscarriage and stillbirth are experienced relatively early in pregnancy, pregnancy loss during this time is therefore also a loss of part of the self. During the course of pregnancy the child is viewed increasingly as a separate individual, but the mother's narcissistic experience of her child remains a vital ingredient of parental attachment. The effects of pregnancy loss must be considered within the context that a mother invests a large portion of her self-esteem in the child-to-be.

Leon (1992) emphasises that low self-esteem, feelings of inadequacy and worthlessness following perinatal loss may be better explained by the consequences of narcissistic damage, than by the process of mourning alone.

2.7 SOCIAL ASPECTS OF PREGNANCY LOSS

In applying the biopsychosocial model in order to understand the effects of pregnancy loss in the broadest possible manner, it is also necessary to consider the interpersonal and social aspects of such an event.

2.7.1 The couple's relationship

Friedman and Gath (1989) note that pregnancy loss does indeed influence social functioning. These authors emphasise the possible negative effects on the woman's relationship with her partner. In this study women noted subjectively that their relationships with their partners had either worsened or improved, depending on the perceived support they felt they were receiving from their partners. Hutti (1986) also reports the possibility of marital friction after pregnancy loss.

The implications of pregnancy loss on the partner or marital relationship can be better understood when one considers the differences in grieving as experienced

by men and women. Theut et al. (1989) investigated perinatal loss and parental bereavement. Results indicated that while the mothers grieved more than the fathers, features of grief were also present in many fathers. The uniqueness and significance of the mother-baby relationship has already been described and it is important to note that the father's relationship with his unborn child is essentially of a mental nature. Similar results were obtained by Vance et al. (1995). In this longitudinal study investigating the psychological changes in parents after the loss of an infant from stillbirth, neonatal death and Sudden Infant Death Syndrome, it was found that mothers demonstrated psychological manifestations of grief longer than fathers. These differences in the grieving process may therefore result in the woman feeling as if her partner does not understand what she is experiencing, which in turn may cause conflict, resentment or even withdrawal from the relationship.

In a summary of the literature regarding pregnancy loss and the effects of such an event on the family, Thomas (1995) also notes that fathers may often feel excluded after such a loss. Concern is usually directed primarily at the mother and fathers may subsequently have difficulty in acknowledging their own feelings.

2.7.2 Other social aspects

Beutel, Deckardt, von Rad and Weiner (1995) note that withdrawal from personal relationships and alienation from others is common after pregnancy loss. Women often experience feelings of anger and irritability towards others. Leppert and Pahlka (1984) specify that women often feel some resentment towards other pregnant women.

Interpersonal relationships may also be negatively influenced by the woman's desire to hide the miscarriage from others (Tunaley & Slade, 1993). Feelings of guilt and embarrassment are common after a pregnancy loss (Lewis, 1992; Stierman, 1984) which may result in women withdrawing from personal relationships and avoiding others. Hutti (1986) notes that avoidance in interpersonal relationships may also be initiated by those acquainted with the

woman. Couples who had experienced a pregnancy loss noted that people often avoided them because they did not know what to say. Conway (1995) reported similar findings. In this study women primarily regarded their social support from partners and friends as adequate. However a number of women participating in this study reported negative experiences with community support and felt that neighbours and co-workers avoided them.

The bi-directional nature of the biopsychosocial model must also be considered here. Not only will the psychological aspects of pregnancy loss such as depression, grief and guilt influence a woman's social relationships, but interpersonal aspects such as perceived avoidance by others may also have a further negative impact on the woman's psychological well-being.

2.8 INDIVIDUAL DIFFERENCES IN THE BIOLOGICAL, PSYCHOLOGICAL AND SOCIAL REACTIONS TO PREGNANCY LOSS

As noted, research indicates that a number of women may develop depressive and grief reactions after a miscarriage or stillbirth. Studies also show that while depression and grief may occur after pregnancy loss, not all women develop debilitating emotional and psychological reactions after such a loss (Conway, 1995; Garel, Blondel, Bonenfant & Kaminski, 1994).

Boyle, Vance, Najman and Thearle (1996) found that while anxiety and depression rates were initially significantly higher for bereaved mothers than for mothers of surviving infants, two to eight months after the loss, levels of anxiety and depression had decreased substantially. In this study results indicated that the majority of women appeared to adapt to the loss without evidence of serious mental health problems. These authors note that while pregnancy loss has the potential to produce mental health problems, many women appear not to develop serious psychological problems. Furthermore, mental health problems should they occur, tend to manifest soon after the loss and tend to be remitting in most cases.

Therefore pregnancy loss seems to lead to serious psychological problems in only a small group of women.

As a result of these individual responses, several researchers aimed to identify those factors that may indicate which women may be at risk to develop debilitating depressive and grief reactions following pregnancy loss.

A number of influencing factors have been identified and can be summarised as follows:

- The presence of other living children

- Length of gestation

- Maternal age

- Prior history of reproductive loss

- Attitude towards the pregnancy

- Previous mental health problems

- Cognitive processes

- Social support

- Cultural aspects

2.8.1 Presence of other living children

Graham, Thompson, Estrada and Yonekura (1987) found that the number of children the woman had was significantly related to depression. Results indicated that the more children a respondent had, the less depressed she was. Similar results were obtained by Neugebauer et al. (1992). These authors note that the

presence of children may influence the onset and intensity of depressive symptoms after a miscarriage.

2.8.2 Length of gestation

Studies investigating the influence of length of gestation on depression and grief after pregnancy loss have produced contradictory results.

Neugebauer et al. (1992) found that depressive symptoms were not associated with length of gestation. Results indicated that women with early and late miscarriages had equally high levels of depression. In a study focusing primarily on the effect of gestational age on grief after pregnancy loss, Goldbach, Dunn, Toedter and Lasker (1991) concluded that length of gestation did in fact play a significant role. These authors are of the opinion that length of gestation is an important variable affecting attachment and grief after pregnancy loss.

Janssen, Cuisinier, de Graauw and Hoogduin (1997) have reported similar findings. In a study aimed at identifying risk factors associated with grief intensity, these authors found that women who had been pregnant for a longer period of time exhibited more intense grief reactions following pregnancy loss.

2.8.3 Maternal age

Robinson, Stirtzinger, Stewart and Ralevski (1994) found that women older than 30 years of age who had experienced a pregnancy loss were more vulnerable to depression, regardless of whether they had other children or not.

2.8.4 Prior history of reproductive loss

Research also indicates that a history of reproductive loss may account for some differences in individual reactions to pregnancy loss. Previous miscarriages or stillbirths may result in women experiencing significant symptoms of depression and grief after a subsequent pregnancy loss (Janssen, Cuisinier, Hoogduin & de Graauw, 1996; Lasker & Toedter, 1991). Contradictory results were obtained by

Neugebauer et al. (1992) who concluded that previous miscarriages did not have a significant influence on coping with subsequent or repeated pregnancy loss.

2.8.5 Attitude towards the pregnancy

Once again contradictory results have been obtained in studies investigating the effect that the mother's attitude towards her pregnancy has on subsequent grief and depression following pregnancy loss. Some studies indicate that pregnancy loss has a greater psychological and social impact on those women who had a positive attitude towards the pregnancy (Beutel, Deckardt, von Rad & Weiner, 1995; Neugebauer et al., 1992). However Graham, Thompson, Estrada and Yonekura (1987) did not reach a similar conclusion. These authors note that in their study results indicated that depression was not related to how much the woman wanted the child.

2.8.6 Previous mental health problems

The effect of previous mental health problems on grief and depression after pregnancy loss appear to be conclusive. Research indicates that a history of mental health problems is a prospective risk factor in the development of severe grief and depression after a miscarriage or stillbirth (Hunfield, Wladimiroff, Verhage & Passchier, 1995; Janssen, Cuisinier, de Graauw & Hoogduin, 1997; LaRoche et al., 1982).

2.8.7 Cognitive processes

The impact of cognitive processes on psychological adjustment after pregnancy loss has also been investigated. Slade and Duncan (1993) focused on specific cognitions related to the event of miscarriage. In this study attention was given to each woman's personal experience in the categories of a *search for meaning*, a *search for mastery* and a *search for self-enhancement* after a miscarriage. Results indicate that women who felt that they had received an acceptable explanation as to the cause of their miscarriage showed fewer signs of intrusive thoughts postloss. The perceived cause of the miscarriage therefore influenced

the *search for meaning* after the loss. Findings regarding a *search for mastery* indicated that women who felt that they would have some control over the possibility of a future miscarriage, exhibited less signs of anxiety after the miscarriage.

Questions aimed at establishing the nature of the *search for self-enhancement* illustrated that the women participating in this study were inclined to make "downward comparisons". A number of women were of the opinion that their own experiences compared favourably with what could have occurred, for example, having a miscarriage later in the pregnancy. Slade and Duncun (1993) furthermore note that a personal understanding of why the miscarriage had occurred tended to minimise distress after such a loss. Adaptive or maladaptive cognitive processing after a pregnancy loss may therefore account for some of the individual differences in postloss reactions as noted in the literature. Madden (1988) similarly stresses the influence of internal and external attributions following miscarriage. In this study results indicated that women who blamed themselves for the spontaneous abortion also exhibited higher levels of depression. Internal attributions on a cognitive level may therefore also influence the manner in which a woman copes with such an experience.

2.8.8 Social Support

Research indicates that social support is significant factor affecting the intensity of grief and depression after pregnancy loss. Conway (1995) stresses the importance of social support and also distinguishes between three categories that appear to have a significant impact on the miscarriage experience. These categories are:

-Social support

-Professional support

-Community support

Conway (1995) emphasises the role of partner support after miscarriage. Support offered by friends and other family members after pregnancy loss may also be included in the category of *social support*.

Professional support considers the influence of perceived support by nurses, social workers and obstetricians on the woman's subsequent emotional reaction after a miscarriage. Community support includes the reactions of neighbours, acquaintances and co-workers and the psychological and interpersonal consequences thereof.

Although Conway (1995) emphasises the importance of the partner relationship and the support that the woman may derive from it during her crisis, it appears that all forms of social support have a positive effect on grief and depression after pregnancy loss. The importance of social support has also been stressed by Callan (1988), Graham, Thompson, Estrada and Yonekura (1987), Janssen, Cuisinier, de Graauw and Hoogduin (1997) and Murray and Callan (1988).

The influence of social support on the psychological well-being of women after pregnancy loss can be viewed within the theoretical relationship between social networks and mental health in general. Greenblatt, Becerra and Serafetinides (1982) note that while emphasis is often placed on the entire social network, this does not diminish the importance of dyadic or family relationships. These authors are of the opinion that psychological and emotional well-being is related to whether an individual obtains two types of support from his social network, namely *emotional sustenance* and *instrumental aid*.

This statement therefore offers a comprehensive explanation for the positive effect of all forms of social support on coping after pregnancy loss. Intimate interpersonal relationships such as marital or partner relationships, family relationships and close friendships may offer the woman the greatest amount of *emotional sustenance* after a miscarriage or stillbirth. *Instrumental aid* may then be obtained from resources such as interaction between co-workers and even medical and mental health professionals.

2.8.9 Cultural factors

Chalmers (1996) stresses the significance of cross-cultural differences in aspects of pregnancy loss. Cultural aspects may therefore account for some individual responses to a miscarriage or stillbirth. Chalmers notes differing cultural responses to specific aspects such as the physical experience of the miscarriage, causes attributed to the miscarriage, behavioural and psychological reactions to the loss and also social support.

2.9 SUMMARY

A survey of the literature regarding pregnancy loss indicates that women may be at risk to develop significant depressive and grief reactions after such a loss. Biological, psychological and social consequences do appear to arise after such an event. The most prominent aspects of the psychological reaction to a miscarriage or stillbirth include depression, grief, guilt, loss of part of the self and impact upon identity.

While this study focuses primarily on the psychological aspects of pregnancy loss, application of the biopsychosocial model allows for a comprehensive understanding of the interrelatedness of the biological, psychological and social aspects of such an event. Within this framework attention can also be given to those factors which may influence reactions and coping after a miscarriage or stillbirth. Aspects such as maternal age, a history of reproductive loss and mental health problems, number of living children, length of gestation, social support and culture all need to be considered in order to fully acknowledge and understand the effects of pregnancy loss on the woman.

CHAPTER 3

RESEARCH METHODS AND PROCEDURES

3.1 INTRODUCTION

This chapter presents a comprehensive summary of the purpose of the study, research methods and procedures implemented. This chapter furthermore focuses on the questionnaires used in this study namely the Zung Self-rating Depression Scale and the Perinatal Grief Scale. The research sample, research hypotheses and statistical procedures will also be discussed.

3.2 PURPOSE OF THE STUDY

The purpose of this study was primarily investigative in nature. This study was aimed at investigating the Sotho woman's experience of the events of miscarriage and stillbirth, using previous studies conducted primarily on the western women as theoretical and conceptual framework. This study was also aimed at identifying those factors that may have a moderating effect on depression and grief after pregnancy loss.

3.3 TYPE OF RESEARCH AND RESEARCH DESIGN

The type of research used in this study was ex-post-facto research. A criterium group design was also used.

3.4 COLLECTION OF DATA

3.4.1 Identification of research subjects and administration of questionnaires

The research subjects that participated in this study were Sotho women who had presented with a miscarriage or stillbirth at the maternity ward at Pelonomi Hospital in Bloemfontein.

Potential research subjects were approached in the following ways:

- Women who were admitted for observation in the maternity ward after their miscarriage or stillbirth were approached by the researcher. The purpose of the study was explained and those women willing to participate in the study then signed a consent form. These women were then requested to return to the psychiatry clinic at Pelonomi Hospital four weeks after their miscarriage or stillbirth to complete the questionnaires.
- Potential participants for this study were also identified from the admissions register at the maternity ward at Pelonomi Hospital. These patients were then approached to participate in this study during a home visit conducted approximately four weeks postloss. The necessary data was then obtained during this home visit.

In both cases a qualified nursing sister with a good command of Sotho was present to ensure that not only did the participants understand the nature of the study in giving their consent, but also to ensure that the questions posed in the research questionnaires were fully understood.

3.4.2 Practical problems experienced

During the planning of this study it was initially proposed that all participants would be interviewed at the psychiatry clinic at Pelonomi Hospital. However a number of women who were approached to participate in this study expressed that they may experience transportation problems. Due to this obstacle home visits were arranged to eliminate any inconvenience to the participants in this study. Another problem experienced was that a number of women who had been identified as possible participants in this study were not available on the day of the scheduled home visit. This then regrettably resulted in the sample size being smaller than initially intended.

3.5 FORMULATION OF RESEARCH HYPOTHESIS

Due to a lack of conclusive empirical data it is not possible to formulate a directional research hypothesis for the primary aim of this study. The following research hypothesis (non-directional) may therefore be formulated:

There are significant differences in the mean depression and grief scores regarding length of gestation (24 weeks or less/longer than 24 weeks), other children (absent/present), blame for the loss (self/others) and social support in Sotho women who have experienced a miscarriage or stillbirth.

Through the formulation of the research hypothesis it is clear that five independent variables and two dependent variables (depression and grief) are present. With the exception of one of the independent variables, namely social support, the other independent variables only consist of two categories. In these cases only two mean scores have been compared. In the case of the independent variable of social support three mean scores have been compared. (More information is provided in table 3.1).

The research hypothesis may be statistically formulated for each of the independent variables. As some of the independent variables consist of only two categories and the independent variable of social support consists of three categories, the statistical hypotheses for the independent variables can not be formulated in the same way for each variable. Each of the statistical hypotheses will therefore be noted individually.

3.5.1 Length of gestation

The statistical hypothesis for this independent variable may be formulated as follows:

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 \neq \mu_2$$

where:

μ_1 = the mean depression score for the population of Sotho women who had experienced a pregnancy loss with a gestation period of 24 weeks or less, and

μ_2 = the mean depression score for the population of Sotho women who had experienced a pregnancy loss with a gestation period of more than 24 weeks.

This statistical hypothesis will also be investigated for the three subscales of grief (active grief, difficulty coping and despair).

3.5.2 Other children

The following statistical hypothesis may be formulated for this independent variable:

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 \neq \mu_2$$

where:

μ_1 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who have other children, and

μ_2 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who do not have other children.

This statistical hypothesis will also be investigated for the three subscales of grief (active grief, difficulty coping and despair).

3.5.3 Presentation of the problem

The statistical hypothesis for this independent variable may be formulated as follows:

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 \neq \mu_2$$

where:

μ_1 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who suspected complications of the pregnancy, and

μ_2 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who had not suspected complications of the pregnancy.

This statistical hypothesis will also be investigated for the three subscales of grief (active grief, difficulty coping and despair).

3.5.4 Blame for the loss

The following statistical hypothesis may be formulated for this independent variable:

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 \neq \mu_2$$

where:

μ_1 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who blame themselves for the loss, and

μ_2 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who blame someone or something else for the loss.

This statistical hypothesis will also be investigated for the three subscales of grief (active grief, difficulty coping and despair).

3.5.5 Social support

The following categories were differentiated between for this independent variable:

- (a) social support from partner following the miscarriage or stillbirth
- (b) social support from family and friends following the miscarriage or stillbirth
- (c) social support from acquaintances and co-workers following the miscarriage or stillbirth

The statistical hypotheses for each of these three groups will be investigated separately with regards to grief and depression.

With regards to perceived partner support the following hypothesis may be formulated:

$$H_0 : \mu_1 = \mu_2 = \mu_3$$

$$H_1 : \mu_1 \neq \mu_2 \neq \mu_3$$

where:

μ_1 = the mean depression score of the population of Sotho women who have experienced a miscarriage or stillbirth and who perceived the support from their partners as poor, and

μ_2 = the mean depression score for the population of Sotho women who have experienced a miscarriage or stillbirth and who perceived the support from their partners as adequate, and

μ_3 = the mean depression score for the population of Sotho women who have experienced a miscarriage and who perceived the support from their partners as good.

This hypothesis will also be investigated for perceived social support from family and friends and perceived social support from acquaintances and co-workers. This statistical hypothesis will also be investigated for the three subscales of grief (active grief, difficulty coping and despair).

3.6 CHARACTERISTICS OF THE RESEARCH SAMPLE

The group comprises 25 research subjects who vary in age from between 17 and 40 years with a median age of 26 years. The distribution of the research sample with regards to the independent variables has been calculated and the results are presented in table 3.1.

Table 3.1: Frequency distribution of the research sample according to the independent variables

Independent variable	<i>f</i>	%
Length of gestation: 24 weeks or less	12	48,0
24 weeks of more	13	52,0
Other children: Present	13	52,0
Absent	12	48,0
Presentation of problem: Expected	18	72,0
Unexpected	7	28,0
Blame for loss: Self	3	12,0
Others	7	28,0
Unknown	15	60,0
Social support (partner): Poor	6	24,0
Adequate	4	16,0
Good	10	40,0
Social support (family and friends): Poor	1	4,0
Adequate	7	28,0
Independent variable	<i>f</i>	%
Social support (family and friends) Good	17	68,0
Social support (acquaintances and co-workers): Poor	8	32,0
Adequate	7	28,0
Good	10	40,0

In order to ensure that the independent variables were statistically analysed in a meaningful manner, it was decided to eliminate the third category of the independent variable of *blame for the loss*. Therefore only two groups were compared, namely those women who blamed themselves for the loss and those who were of the opinion that someone else was somehow responsible for the loss. Concerning the independent variable of social support, the category of *poor* support received from family members was also eliminated as only one respondent fell into

this group. Therefore only two mean scores will be compared here, namely those of *adequate* and *good* social support received.

The measuring instruments used in this study will now be discussed.

3.7 MEASURING INSTRUMENTS

As indicated in paragraph 3.4, two independent variables were present in this study, namely depression and grief. These dependent variables were measured by the following questionnaires:

-Zung's Self-rating Depression Scale

-The Perinatal Grief Scale

A biographical questionnaire was also administered in order to obtain data regarding the independent variables.

3.7.1 Translation

As the sample consisted of African women within the Bloemfontein area, the questionnaires were translated from English into Sotho. The Department of African Languages at the University of the Orange Free were responsible for the translation of the questionnaires.

The Zung Self-rating Depression Scale and the Perinatal Grief Scale were first translated in Sotho. A second translator, without the use of the original text then translated the translated questionnaires back into English.

Comparison of the translated questionnaires indicated that the translated versions of both questionnaires were accurate and correctly understood.

3.7.2 Biographical Questionnaire

Subjects were required to complete a biographical questionnaire that focused on certain variables noted in the literature as having potentially moderating effects on depression and grief after pregnancy loss.

As noted in the literature study, a number of possible factors may influence either the grief or depressive reactions of women after a miscarriage or stillbirth. These factors may be briefly listed as follows:

- The presence of other living children
- Length of gestation
- Maternal age
- Prior history of reproductive loss
- Attitude towards the pregnancy
- Previous mental health problems
- Cognitive processes
- Social support
- Cultural aspects

As a result of the small sample size used in this study the following factors were selected to be included in the biographical questionnaire:

- Length of gestation
- Previous mental health problems
- The presence of other living children
- Social support

3.7.3 The Zung Self-rating Depression Scale

3.7.3.1 Structure

Subjects were also required to complete Zung's qualitative checklist of depression. The structure of this questionnaire may be briefly outlined as follows:

- Twenty items
- The respondent is given a choice between the categories of "None or little of the time", "Some of the time", "Good part of the time" and "Most or all of the time".
- Numerical values are assigned for each item ranging from 1 to 4 for positively worded items and 4 to 1 for negatively worded statements.
- The total sum of scores for the twenty items is then multiplied by 1.25 and divided by 100.
- Indexes of 0.50 to 0.59 are considered indicative of mild to moderate depression.
- Indexes of 0.60 to 0.69 are proposed to estimate moderate to severe depression.
- Severe depression is indicated by indexes of 0.70 or higher.

3.7.3.2 Internal reliability

A number of studies report good internal reliability. Cronbach's alpha coefficient has been reported at between 0.88 for depressed patients and 0.93 for non-depressed patients (Gabrys & Peters, 1985).

3.7.3.3 Validity

In a study aimed at investigating the validity of orally administered depression scales, the Beck Depression Inventory and the Zung Self-rating Depression scale were compared (Griffin & Kogut, 1988). These researchers are of the opinion that

the Zung Self-rating Depression Scale may be most appropriate for use amongst low functioning members of the psychiatric population because of the scale's simplicity and ease of presentation.

3.7.3.4 Motivation

A number of depression scales have been developed and used with great success both within the clinical and research settings. As a result of the necessity to translate the questionnaires into Sotho a relatively simple scale was sought. It was therefore necessary to consider any possible difficulties which may be encountered during the translation process. One of these difficulties that influenced the selection of a depression scale was that of language problems. Western terminology is often difficult to translate therefore a short, simple and concise depression scale was needed. The Zung Self-rating Depression Scale met these requirements and was included in an attempt to minimise possible difficulties that may be encountered during the translation process.

3.7.4 The Perinatal Grief Scale

3.7.4.1 Structure

The Perinatal Grief Scale was initially developed as a 104-item grief scale for research on pregnancy loss. Toedter, Lasker and Alhadeff (1988) note the following dimensions of perinatal grief as represented by the Perinatal Grief Scale.

Twenty-one dimensions of perinatal grief with illustrative examples	
DIMENSIONS	EXAMPLE
Positive Overall Functioning	I am now functioning about as well as before the baby died.
Depression (Non-Somatic)	The best part of me died with the baby.

Depression (Somatic)	I sleep well at night. (Reverse scoring)
Social Withdrawal	I'd rather people would leave me alone.
Shock/Disbelief	It's hard to believe that the baby died.
Irritability	I get cross at my friends and relatives more than I should.
Preoccupation with Loss	I can't avoid thinking about the baby.
Sadness	I cry inside for him/her.
Fear/Vulnerability	I am afraid to have another child.
Resolution	I have accepted the baby's death.
Self Confidence	I now know I can work out problems that face me.
Anger	I feel it's unfair that the baby died.
Attempts to Cope	I try to keep very busy.
Fantasies about the baby	I know that the baby is still with me.
Feeling comforted	I don't know what I would do without relatives and friends to lean on.
Guilt	I blame myself for the baby's death.

Replacement	No one will ever take the baby's place in my life.
Locus of Control	I feel I don't have control over what happens to me.
Loneliness	I feel somewhat apart and remote even amongst my friends.
Religion	I sometimes get angry with God for taking the baby away.
Jealousy	I feel uncomfortable around pregnant women and small children.

(Toedter, Lasker & Alhadeff, 1988)

The factor structure of the Perinatal Grief Scale should also be considered. Three empirically derived factors were identified (Toedter, Lasker & Alhadeff, 1988).

FACTOR NAME	EXAMPLES OF ITEMS
ACTIVE GRIEF	I cry inside for him/her I am grieving for the baby I very much miss the baby I cry when I think about him/her I can't avoid thinking about the baby

DIFFICULTY COPING	I feel I have adjusted well to the loss I feel good about how well I managed my loss I can't keep up with my normal activities I find it difficult to make decisions since the baby died I get cross with my friends and relatives more than I should
DESPAIR	The best part of me died with the baby I try to laugh but nothing seems funny anymore I feel worthless since he/she died I feel physically ill when I think of him/her It's safer not to love

Toedter, Lasker and Aldaheff (1988) note the following alpha coefficients for these three factors:

- Active grief: 0.95
- Difficulty coping: 0.93
- Despair: 0.87

3.7.4.2 The Perinatal Grief Scale and Depression

Research conducted regarding the Perinatal Grief Scale also included the comparison of this scale to a measure of depression. Potvin, Lasker and Toedter (1989) used an abbreviated version of the Symptom Checklist 90 and compared the depression subscale to the total grief scale of the Perinatal Grief Scale. These two measures were highly correlated ($r = .785$).

While depression is an important component of grief, this comparison therefore also indicates that the three subscales of the Perinatal Grief Scale namely, Active Grief,

Difficulty Coping and Despair, represent a different and important measure of grief which may not be assessed by standard measures of depression.

The subscale of *difficulty coping* correlated most with depression ($r = .798$) in this comparative study, with *despair* correlating with depression at .677 and the subscale of *active grief* at .620.

3.7.4.3 The shortened version of the Perinatal Grief Scale

A shortened version of the Perinatal Grief Scale as administered in this study has also been developed.

3.7.4.3.1 Structure

Potvin, Lasker and Toedter (1989) state that the short version of the Perinatal Grief Scale is essentially equivalent to the longer version. This is indicated by the high correlation between the subscales of these two versions of the Perinatal Grief Scale. These range from 0.94 to 0.96, with a correlation of 0.98 between the total scores of both versions. This correlation of 0.98 therefore indicates that both versions of the Perinatal Grief Scale essentially measure the same constructs.

The shortened version of the Perinatal Grief Scale consists of three subscales:

- = Active grief
- = Difficulty coping
- = Despair

Each subscale consists of 11 items which are scored on a Likert type scale ranging from *strongly disagree* (one point) to *strongly agree* (five points) with neutral scoring in between (negatively worded items). Positively worded items are scored in the same way with the point allocation then being reversed for these items.

3.7.4.3.2 Motivation

The Perinatal Grief Scale has been developed to measure grief specific to a pregnancy loss, including ectopic pregnancy, spontaneous abortion, fetal death and neonatal death, thereby making it a relevant measure of grief applicable to this study. Potvin, Lasker and Toedter (1989) are also of the opinion that the 33-item scale is more useful because of the shorter length and is as comprehensive and reliable as the longer version of the Perinatal Grief Scale. The shorter version of the Perinatal Grief Scale was therefore selected for this study.

This 33-item version was not only selected on account of its simplicity and reliability, but also because this shorter version resulted in the translation process being less complex which may have had a positive effect on the reliability of the translated questionnaire.

The Perinatal Grief Scale has also been found to offer dimensions of grief which may not be assessed by standard measures of depression. Administration of this scale in conjunction with the Zung Self-rating Depression Scale may therefore facilitate a comprehensive measurement of grief and depressive reactions following pregnancy loss.

The reliability of the translated version of the Perinatal Grief Scale was also calculated. The following α coefficients were obtained for the three subscales:

-Active grief = 0,69

-Difficulty coping = 0,76

-Despair = 0,54

When considering the small sample size these α coefficients were therefore acceptable. It must also be noted that the translation of questionnaires for research purposes within a multi-cultural South African context does indeed pose a problem. However with regards to data regarding grief and depression within a South African

context, little research is available. It was therefore decided that the use of the translated Perinatal Grief Scale was indicated in order to obtain data lacking in this regard.

3.8 STATISTICAL PROCEDURES

As noted in paragraph 3.4 the sample size is small. There are consequently doubts regarding the normality and homogeneity of the scores obtained. The formulated statistical hypotheses were therefore not investigated by parametrical statistical techniques. Non-parametrical tests were therefore used. As noted in this chapter a number of practical problems were encountered during this study and it was therefore not possible to obtain a larger research sample

As previously noted, some of the independent variables consist of two independent groups while others consist of three independent groups. The independent variables are measurable on the interval scale and therefore the Mann-Whitney test may be applied (Howell, 1995). The Mann-Whitney test is a non-parametrical test used to compare the central tendencies of **two** independent groups.

The Mann-Whitney test is computed as follows:

$$U_A = n_A n_B + \frac{n_B(n_B + 1)}{2} - T_B$$

$$U_B = n_A n_B - U_A$$

Where T_B = the sum of the rank orders of the sample B, and

$$U_B = \text{the smallest of } U_A \text{ or } U_B$$

Should $U \leq U_{1-\alpha/2}$ for n_A and n_B , reject H_0 .

According to Howell (1995) the indicated technique for independent variables comprising three groups is the Kruskal-Wallis unidirectional variance analysis. Howell notes that this test may be used in place of the Mann-Whitney test when more than two independent groups are present. The Kruskal-Wallis test investigates whether there is a statistically significant difference *between* the variance in rank orders of the groups and the variance in rank orders *within* the groups (Kurtz, 1999). All scores are first arranged in rank order regardless of to which group they belong. The sum of the rank orders for the various groups is then calculated. This sum total is represented by R_j . The general form of the null hypothesis can therefore be formulated as follows:

$$H = \frac{12}{N(N+1)} \sum R_j^2 - 3(N+1)$$

Where: n_j = the total responses in the j^{th} group

R_j = the sum of the rank orders in the j^{th} group

$N = \sum n_j$ = total sample size

The postulated statistical hypothesis (see paragraph 3.1.5) suggests that a unidirectional hypothesis is being investigated. In the case of bi-directional test the following can be applied:

If $H > \chi_{1-\alpha}^2$ with $J - 1$ degrees of freedom, reject H_0 .

In this study the 5% level ($\alpha = 0,05$) of statistical significance is used. The results of this study will be discussed in the next chapter.

CHAPTER 4

RESULTS, CONCLUSIONS AND RECOMMENDATIONS

4.1 INTRODUCTION

In this chapter the hypotheses postulated for the five independent variables will be discussed individually. However before these hypotheses will be statistically analysed, attention will be given to the descriptive statistics (means and standard deviations) of the dependent variables of the group as a whole. This will allow for one to obtain an indication of the manner in which the research subjects presented with regards to grief and depression.

4.2 DESCRIPTIVE STATISTICS

The descriptive statistics for the depression and grief scores (all three subscales) are presented in table 4.1.

Table 4.1: Means and standard deviations for the total research sample concerning the independent variables.

Dependent variable	N	\bar{X}	S
Depression	25	46,44	10,39
Grief: Active grief	25	41,20	5,71
Difficulty coping	25	31,00	7,31
Despair	25	30,68	5,90

4.2.1 Mean depression scores

The mean depression score of 46,44 corresponds with a SDS index of 58. This therefore places the majority of respondents in the category of *minimal to mild depression*. Four respondents obtained SDS index scores of 70 or more. This index indicates the presence of severe or extreme depression. These results appear to be consistent with the results obtained in other studies. Boyle, Vance, Najman and Thearle (1996) note that while pregnancy loss has the potential to produce mental health problems in women, many women appear not to develop serious mental health problems. Pregnancy loss therefore seems to lead to serious mental health problems in only a small group of women. The results obtained regarding the mean depression scores of the research subjects in this study appear to support this finding.

4.2.2 Mean grief scores

The mean grief score for the subscale of *active grief* (41,20) is the highest mean score for the three subscales. Potvin, Lasker and Toedter (1989) note that the subscale of *active grief* can be considered as being indicative of a normal grief reaction. Therefore although a mean score of 41,20 out of a possible maximum score of 55 is relatively high, this may be expected as part of the normal grieving process following a miscarriage or stillbirth.

Potvin, Lasker and Toedter (1989) furthermore note that *difficulty coping* and *despair* affect the majority of people to a lesser degree. The mean scores of 31,00 and 30,68 respectively obtained in this study are therefore also consistent with this finding. More severe grief reactions are associated with high scores on these subscales. The majority of the participants in this study therefore appear to be experiencing a normal grieving process. The highest score obtained by a respondent on the subscale of *difficulty coping* was 48, with a score of 45 on *despair* being the highest score. This distribution therefore indicates that a small percentage of women may be suffering from more severe grief reactions.

4.3 HYPOTHESIS TESTING

4.3.1 Length of gestation

This hypothesis was tested by calculation of the Mann-Whitney test results on the BMDP-computer program. The results are presented in table 4.2. Here it was investigated whether there was a statistical difference between subjects who had suffered a pregnancy loss at 24 weeks or less, and those subjects who had suffered a miscarriage at more than 24 weeks with regards to grief and depression.

Table 4.2: Mean scores, standard deviations and Mann-Whitney results (U) for the independent variable of *gestational period*.

Dependent Variable	24 weeks or less		Longer than 24 weeks		+ U	P
	\bar{X}	s	\bar{X}	s		
Depression	46,75	11,74	46,15	9,45	80,0	0,9132
Grief: Active Grief	40,92	4,98	41,46	6,50	73,5	0,8057
Difficulty Coping	30,67	5,48	31,31	8,89	77,5	0,9781
Despair	29,75	3,28	31,54	7,62	75,0	0,8697

+ corrected for equal rank orders

As noted in the literature study contradictory results have been obtained concerning the effect of length of gestation on grief and depression after pregnancy loss. While Janssen, Cuisinier, de Graauw and Hoogduin (1997) reported that women who had been pregnant for a longer period of time exhibited more intense grief reactions following pregnancy loss, Neugebauer et al. (1992) did not obtain similar results.

The development of maternal feelings as proposed by Reading (1983) may offer a theoretical framework within which to interpret these results (see figure 2.3). Reading notes that maternal feelings begin to intensify once foetal movements are

felt and that these feelings heighten at the time of the delivery. The period between the first experiences of foetal movements and delivery therefore remains relatively constant regarding the strength of maternal feelings. Therefore although the respondents may have differed in their gestational period, the strength of the maternal feelings that they were experiencing may have been of a similar intensity. This may then account for the lack of statistically significant differences in the mean depression and grief scores for this independent variable.

4.3.2 Other children

This hypothesis was also tested by means of the BMDP-computer program with the Mann-Whitney results. Here it was investigated if those subjects who had other children differed from those research subjects who did not have any other children with regards to depression and grief.

Table 4.3: Mean scores, standard deviations and Mann-Whitney results (U) for the independent variable of *other children*.

Dependent Variable	Present		Absent		+ U	p
	\bar{X}	s	\bar{X}	s		
Depression	43,85	10,23	49,25	10,23	54,0	0,1911
Grief: Active Grief	39,00	5,05	43,58	5,60	41,0	0,0431*
Difficulty Coping	28,77	4,44	33,42	9,10	47,5	0,0945
Despair	28,15	3,95	33,42	6,57	40,0	0,0377*

+ corrected for equal rank orders

* $p \leq 0,05$.

From the results presented in table 4.3 differences at the 5% level of significance between the mean scores of two of the dependent variables, namely *active grief* and *despair* (grief scales) are indicated. The nul hypothesis must therefore be rejected for these dependent variables.

These results therefore indicate that the impact of a miscarriage or stillbirth appears to be more debilitating for those women who do not have other children. Similar results have been obtained in other studies (Graham, Thompson, Estrada & Yonekura, 1987; Neugebauer et al., 1992). These results may be best explained from the theory that the presence of other children may indirectly afford social support to the women (Neugebauer et al., 1992). Other children may also represent evidence of reproductive success in the past. Women who already have children therefore know that they are capable of childbearing and these children may then offer comfort and distraction from the loss. Aspects of the development of maternal identity as noted by Rubin (1984) may also be applicable here. Rubin refers to the *ideal self* and is of the opinion that the sphere of the ideal self is dominant in stages of *becoming* (childhood, puberty, young adulthood and childbearing). The expectant mother therefore has an image of her *ideal self* as a woman capable of successfully completing a common life event, namely childbearing. A miscarriage or stillbirth will then result in internal conflict regarding this *ideal self*. Women who have previously succeeded in delivering a healthy child may therefore cope more effectively with their loss in the knowledge that they are in fact capable of completing this developmental task, resulting in fewer discrepancies between the *real* and the *ideal self*.

4.3.3 Presentation of the problem

This hypothesis was tested by calculating the Mann-Whitney results with the aid of the BMDP-computer program. The testing of this hypothesis required the comparison of those women who were of the opinion that there was an indication that the pregnancy was not progressing smoothly with those women who stated that their miscarriage or stillbirth was an unexpected event. The results are presented in table 4.4.

Table 4.4: Mean scores, standard deviations and Mann-Whitney results (U) of the independent variable of *presentation of the problem*.

Dependent Variable	Expected		Unexpected		+ U	P
	\bar{X}	s	\bar{X}	s		
Depression	45,39	11,44	49,14	7,01	48,5	0,3794
Grief: Active grief	40,28	6,42	43,57	2,15	42,5	0,2124
Difficulty coping	31,00	8,36	31,00	3,96	55,0	0,6255
Despair	31,17	6,65	29,43	3,36	70,0	0,6701

+ corrected for equal rank orders

The results presented in table 4.4 indicate that there were no differences in the mean scores of this independent variable. The nul hypothesis must therefore be accepted.

These results may be interpreted by considering the intense feelings of helplessness experienced during a spontaneous abortion (Stack, 1984). It may be concluded that having suspected that there was something wrong with the foetus still does not adequately prepare the woman for the feelings of helplessness experienced during haemorrhaging and the knowledge that neither she nor the physician can do anything to stop the process. This sense of helplessness and failure therefore appears to contribute to the development of grief and depression regardless of whether the pregnancy loss was expected or not.

4.3.4 Blame for the loss

The Mann-Whitney results used in the testing of this hypothesis were also calculated with the aid of the BMDP-computer program. Here it was investigated whether there were any differences in the mean depression and grief scores between women who blamed themselves for the miscarriage or stillbirth, and women who were of the opinion that someone or something else was somehow responsible for the loss. The results are presented in table 4.5.

Table 4.5: Mean scores, standard deviations and Mann-Whitney results (U) for the independent variable of *attribution of blame*.

Dependent Variable	Self		Other		+U	p
	\bar{X}	s	\bar{X}	s		
Depression	52,33	11,01	45,14	10,85	14,5	0,3605
Grief: Active grief	45,33	2,08	40,57	7,96	16,5	0,1689
Difficulty coping	31,67	4,73	34,14	6,94	7,5	0,4875
Despair	36,67	6,44	30,71	6,57	17,5	0,1084

+ corrected for equal rank orders

The results as noted in table 4.5 show that there are no differences in the mean scores of the dependent variables for the independent variable of blame. The null hypothesis must therefore be accepted for all dependent variables.

The attribution of blame for the loss has been widely discussed in the literature. Lewis (1992) notes that women frequently search the events of the days or weeks prior to the loss in order to find something tangible to blame themselves for. Guilt is therefore a significant psychological effect of pregnancy loss. The results obtained in this study regarding attribution for the loss need to be viewed within the types of responses noted by a number of participants. Those women who did not directly blame themselves for the loss attributed the event to aspects such as financial problems and relationship difficulties. Both of these aspects therefore involve the women on an indirect level. Guilt feelings may therefore be present in both groups of women thereby contributing to the onset and development of depression and grief. It is also important to note that specific medical explanations as to the cause of the miscarriage or stillbirth are often non-existent. This may subsequently also contribute to women blaming themselves on either a direct or indirect level.

4.3.5 Perceived social support from partners

This hypothesis was tested by using the Kruskal-Wallis test of variance and the results are presented in table 4.6. It was investigated whether subjects who perceived the support that they were receiving from their partners as poor, adequate or good would differ regarding depression and grief.

Table 4.6: Mean scores, standard deviations and Kruskal-Wallis results (H) for the independent variable of *social support from partners*.

Dependent Variable	Poor		Adequate		Good		H	p
	\bar{X}	s	\bar{X}	S	\bar{X}	s		
Depression	51,83	8,57	47,50	5,26	44,00	11,56	2,06	0,3577
Grief: Active grief	46,83	4,36	40,25	5,25	39,20	5,00	7,64	0,0220*
Difficulty coping	37,83	7,47	31,25	4,72	28,20	6,20	9,82	0,0074**
Despair	34,67	9,03	32,25	2,36	28,67	4,19	3,29	0,1929

**p ≤ 0,01

*p ≤ 0,05

The results in table 4.6 indicate that there are differences in the dependent variables of active grief (on the 5% level) and of difficulty coping (on the 1% level) for the mean scores. The nul hypothesis must therefore be rejected.

From table 4.6 it is clear that there are three groups that are of importance here (support was poor, adequate or good). It is therefore necessary to determine which of these groups differ significantly from each other with regards to their mean scores. A multivariate analysis was performed between group 1's mean score (poor support) and the other groups' mean scores for a specific variable. This comparison allows for the calculation of a z-value. The nul hypothesis will be

rejected if this z-value is larger than the critical z-value obtained. In this case the critical z-value for $\alpha = 0,05$ is 2,39.

The results of these calculations for the two dependent variables with statistically significant H-values are presented in the following tables.

4.3.5.1 Active grief

The results of the multiple analysis for the subscale of *active grief* are presented in table 4.7.

Table 4.7: Results for the multiple analysis of the Kruskal-Wallis unidirectional analysis of variance for *active grief*.

Comparison of mean scores	z-value
Poor support from partner	1,81
Adequate support from partner	2,73*
Good support from partner	0,27

* $p \leq 0,05$

The calculated z-value of 2,73 is significant on the 5% level. From the results in table 4.7 it appears that the group who received poor support from their partners (46,83) experienced more intense *active grief* than the group who received good support from their partners (39,20). These results will be discussed at the end of the chapter.

4.3.5.2 Difficulty coping

The results of the multiple analysis for the subscale of *difficulty coping* are given in table 4.8.

Table 4.8: Results for the multiple analysis of the Kruskal-Wallis bivariate analysis for *difficulty coping*.

Comparison of mean scores	z-value
Poor support from partner	1,41
Adequate support from partner	3,12*
Good support from partner	1,05

* $p \leq 0,05$

As in the case of *active grief* it appears that there are differences between the group who received poor support and the group that received good support from their partners. The calculated z-value for these groups is significant on the 5% level. The mean scores in table 4.8 indicate that the group who received poor support (37,83) experienced more *difficulty coping* than the group who had good support from their partners (28,20). These findings and the role of social support after a miscarriage or stillbirth will be discussed at the end of this chapter.

4.3.6 Social support from family members and friends

As noted in paragraph 4.4, only two groups have been considered here as only one respondent indicated that the support from her family and friends was poor. This hypothesis was then tested by the Mann-Whitney test. Here it was investigated if the group who had received adequate support from family and friends differed from the group who had received good support with regards to depression and grief.

Table 4.9: Mean scores, standard deviations and Mann-Whitney results (U) for the independent variable of *social support from family and friends*.

Dependent Variable	Adequate		Good		+U	p
	\bar{X}	s	\bar{X}	s		
Depression	48,63	12,62	45,41	9,41	84,5	0,3357
Grief: Active grief	42,00	3,93	40,82	6,45	78,0	0,5582
Difficulty coping	30,38	6,09	31,29	7,97	70,0	0,9065
Despair	31,75	7,27	30,18	5,32	77,5	0,5779

+ corrected for equal rank orders

These results indicate that there are no differences in the mean scores of any of the dependent variables for the independent variable of social support from family members and friends. The nul hypothesis must therefore be accepted for the dependent variables. These results will be discussed in detail at the end of this chapter.

4.3.7 Social support from acquaintances and co-workers

The results of the Kruskal-Wallis bivariate analysis are given in table 4.10. Here it was investigated if there were differences in depression and grief between those groups who received poor, adequate or good support from their acquaintances and co-workers.

Table 4.10: Mean scores, standard deviations and Kruskal-Wallis results (H) for the independent variable of social support from acquaintances and co-workers.

Dependent Variable	Poor		Adequate		Good		H	p
	\bar{X}	s	\bar{X}	s	\bar{X}	s		
Depression	44,63	6,93	51,28	13,50	44,50	10,18		0,4620
Grief: Active grief	42,88	3,76	40,43	4,65	40,40	7,60	1,06	0,5877
Difficulty coping	27,25	5,78	32,43	6,92	33,00	8,12	1,85	0,3970
Despair	27,75	3,84	32,57	6,73	31,70	6,29	2,04	0,3614

These results indicate that there are no differences in the mean scores of the dependent variables for the independent variable of social support received from acquaintances and co-workers. The nul hypothesis must therefore be accepted.

The results obtained for the independent variable of social support will now be discussed.

4.3.8 Summary and discussion of results for the independent variable of Social support

As noted in the literature study, social support appears to be a significant factor affecting the intensity of grief and depression after pregnancy loss (Conway, 1995; Murray & Callan, 1988). The results in this study however indicate that social support does not influence the intensity of depression after a miscarriage or stillbirth. Here it may be noted that as mentioned, the majority of respondents appeared to be experiencing a mild depression after their loss. These women may therefore have the necessary intrapersonal skills available to cope with their feelings and symptoms of depression. A lack of social support may then not be as

obvious or influential to women who are not experiencing a severe or debilitating depression.

The complexity and interrelatedness of the causative factors of depression must also be considered. As discussed in chapter two, biological, genetic and psychological factors interact with regards to the onset and development of depression (Kaplan & Sadock, 1995). Therefore while social support may be a factor in the development of depression, a number of other factors must be simultaneously considered. The interaction of complex and intrapersonal factors such as pre-morbid personality factors, psychoanalytic and psychodynamic factors and cognitive factors may therefore play a larger role in the onset of depression and other mood disorders in general.

Results obtained in this study did however indicate a positive relationship between partner support and grief. Although this did not hold true for *active grief*, it must be noted that *active grief* constitutes a normal grief reaction in response to pregnancy loss. It therefore appears that the supportiveness of one's partner does not significantly influence the normal feelings of grief after a miscarriage or stillbirth. The quality of partner support does however appear to influence *difficulty coping* and *despair*. Lasker and Toedter (1991) note that the subscale of *difficulty coping* on the Perinatal Grief Scale is concerned with difficulty in dealing both with normal daily activities and with other people and indicates more severe withdrawal. Women who therefore perceive the support from the partners as good may have more assistance in dealing with everyday activities and receive more emotional sustenance which in turn may minimise the desire to withdraw from interpersonal relationships.

Results also indicate that women who scored high on the subscale of *despair* appear to be receiving little support from their partners. The subscale of *despair* is associated with a diminished meaning of life and sense of hopelessness about oneself and of the future (Lasker & Toedter, (1991). Emotional support within the marital or partner relationship may therefore provide the woman with a sense of purpose and result in her feeling more positive about the future.

Although a number of researchers have noted the importance of social support after pregnancy loss (see chapter two), researchers such as Smart (1992) emphasise the role of the marital helping relationship after such an event. The findings in this study are therefore consistent with the theory that it is the marital or partner relationship that has the greatest effect on grief and depression after a miscarriage or stillbirth.

4.4 SUMMARY

The results in this study indicate that the majority of respondents seem to be experiencing mild to moderate depression after their miscarriage or stillbirth, with only a small percentage of women suffering from severe depression. As might be expected a number of women scored highest on the subscale of *active grief* indicating a normal grief reaction. Of the five independent variables namely length of gestation, other children, presentation of the problem, blame for the loss and social support, only the variable of social support (specifically partner support) appeared to have a moderating effect on the grief reactions of women after their pregnancy loss. It can therefore be concluded that good social support from husbands or partners can aid women in coping with daily activities and also lessen those feelings of hopelessness and despair after the loss of a baby due to a miscarriage or stillbirth.

4.5 RECOMMENDATIONS

- Due to the small sample size used in this study it is therefore not possible to generalise the results obtained to the general population of Sotho women. A larger sample size may provide more conclusive results regarding the Sotho woman's experience of a miscarriage or stillbirth. Further studies comprising larger research samples are therefore needed.
- More data regarding the influence of social support on grief after pregnancy loss is also required. Studies focusing on specific aspects of partner support and the effects of these aspects on the grieving process after a miscarriage or stillbirth

may also be valuable. The importance of the marital relationship appears to be significant and there is presently a lack of data pertaining to the partners' grieving process. Further studies on this aspect may provide valuable information.

- In conclusion it can be noted that research within a South African context on the psychological impact of pregnancy loss is lacking. As in this study, international studies indicate that while the majority of women do not develop serious mental health problems, a small percentage of women may be at risk to develop debilitating depressive and grief reactions. Research is therefore needed in order to enable medical and mental health professionals to identify those women who may be at risk and subsequently to provide appropriate professional support to these women.

SUMMARY

This study investigated whether a sample of 25 Sotho women presented with depression and grief reactions after a spontaneous abortion. A spontaneous abortion is defined as follows: "The expulsion of a foetus without signs of viability before 28 weeks of pregnancy" (Stabile, Gruzinskas & Chard, 1992: p.1). It is also important to note that the terms *spontaneous abortion*, *miscarriage* and *stillbirth* are often used interchangeably. This study furthermore aimed to investigate the influence of certain factors on the intensity and severity of the depressive and grief reactions following such a loss.

A literature study indicated that while a number of studies had focused on grief and depression after pregnancy loss, few of these studies were conducted within a multi-cultural, South African context. A need was therefore identified for research in this area that focused primarily on the emotional reactions of non-western women. Previous studies have found that depression and grief reactions are common in women who have experienced a spontaneous abortion. Research also indicates that while a typical grief pattern can be identified in most women, a small percentage of women may develop debilitating depression and grief reactions after a miscarriage or stillbirth. A number of potential risk factors have been noted in the literature as negatively influencing postloss adjustment. These factors include the presence of other living children, length of gestation, maternal age, previous reproductive loss, attitude towards the pregnancy, previous mental health problems, cognitive processes, social support and cultural aspects.

This study focused on the potentially moderating effects of five factors. These factors included length of gestation, the presence of other living children, attribution as to the cause of the loss, whether the miscarriage or stillbirth was unexpected or not and social support.

The following research hypothesis was tested in this study:

There are significant differences in the mean depression scores for length of gestation, blame for loss, presentation of the problem and social support. Participants completed the Zung Self-rating Depression Scale and the Perinatal Grief Scale. The mean scores of the participants indicated that the majority of women were suffering from mild/moderate depression and were experiencing a normal grief reaction as determined on the Perinatal Grief Scale. A small percentage of women did however measure to be suffering from severe depression.

Of the five potential risk factors investigated in this study, two resulted in statistically significant differences of the mean grief scores of participants. Results indicated that women who did not have other children and who received poor social support from their partners experienced more severe grief reactions. The independent variables measured in this study did not appear to influence the onset and development of depression.

The results obtained in this study therefore indicate that the majority of women who participated in this study experienced what may be regarded as a normal depressive and grief reaction after their pregnancy loss. Only a small number of women seemed to be experiencing greater difficulty in coping with their loss. These results may then also indicate a need for further research that may provide South African medical and mental health professionals with the necessary information to implement effective management of the emotional repercussions of pregnancy loss.

OPSOMMING

In hierdie studie is daar 'n ondersoek geloods op die vraag of Sotho vrouens depressie en rou openbaar na 'n spontane aborsie. 'n Spontane aborsie word as volg gedefinieer: "The expulsion of a foetus without signs of viability before 28 weeks of pregnancy" (Stabile, Grudzinskas & Chard, 1992: bl.1). Dit is ook belangrik om in ag te neem dat die terme *miskraam* en *stilgeboorte* ook in die literatuur gebruik word om hierdie proses te beskryf. In hierdie studie word ook die invloed van sekere faktore ondersoek wat uit die literatuur blyk om 'n modulerende invloed op depressie en rou na 'n miskraam of stilgeboorte te hê.

Uit die literatuur is dit duidelik dat navorsing oor die emosionele implikasies van 'n miskraam of stilgeboorte binne 'n multi-kulturele, Suid Afrikaanse konteks benodig word. 'n Behoefte was dus geïdentifiseer vir navorsing oor die emosionele reaksies van die nie-westerse vrou op 'n miskraam of stilgeboorte. Navorsing dui ook aan dat terwyl die meeste vrouens 'n "normale" depressiewe en roureaksie na so 'n verlies openbaar, 'n klein persentasie vrouens ernstige reaksies toon. Verskeie risiko faktore word ook in die literatuur gemeld wat hierdie reaksies mag beïnvloed. Hierdie faktore sluit in die tydperk van die swangerskap, ouderdom van die moeder, vorige miskrame of stilgeboortes, houding teenoor die swangerskap, 'n geskiedenis van psigiatriese probleme, kognisies, sosiale ondersteuning, ander kinders asook kulturele invloede.

Hierdie studie het gefokus op die invloed van vyf moontlike risikofaktore naamlik tydperk van swangerskap, ander kinders, blaam/rede vir die miskraam of stilgeboorte, of die miskraam of stilgeboorte onverwags was of nie asook sosiale ondersteuning. Die volgende hipotese was dus ondersoek:

Daar is beduidende verskille in die gemiddelde depressie en rou tellings vir die tydperk van swangerskap (24 weke of minder/langer as 24 weke), ander kinders (aanwesig/afwesig), blaam vir die verlies (self/ander), hoe die probleem gepresenteer het (verwags/onverwags) en sosiale ondersteuning in Sotho vrouens wat 'n miskraam of stilgeboorte ervaar het.

Die gemiddelde depressie en rou tellings is statisties ontleed om vas te stel of daar beduidende verskille was ten opsigte van die onafhanklike veranderlikes. Zung se depressie vraelys en die *Perinatal Grief Scale* is in hierdie studie gebruik. Die gemiddelde tellings van die respondente wys dat die meederheid vrouens 'n ligte/matige depressie en 'n "normale" roureaksie na hul verlies ervaar, terwyl slegs 'n klein persentasie (6,25%) vrouens ernstige vlakke van depressie gehad het.

Van die vyf risikofaktore wat in hierdie studie ondersoek is, was dit gevind dat slegs die afwesigheid van kinders en swak sosiale ondersteuning deur die man 'n invloed op die intensiteit van die roureaksie gehad het. Resultate wys dat vrouens wat nie ander kinders het nie en wat swak ondersteuning van hul mans ontvang, meer ernstige roureaksies toon. Die onafhanklike veranderlikes het nie 'n invloed op die gemiddelde depressie tellings gehad nie.

Daar is in hierdie studie bevind dat die meeste vrouens met 'n "normale" depressiewe en roureaksie presenteer. Slegs 'n klein persentasie van die respondente het met meer ernstige reaksies na 'n miskraam of stilgeboorte gepresenteer. Die aanwesigheid van depressie en rou beklemtoon dus die behoefte vir verdere navorsing wat dan ook mag bydra tot die effektiewe behandeling van hierdie emosionele implikasies deur Suid Afrikaanse medici, sielkundiges en ander betrokke persone.

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APPENDIX A



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**MS J-A KINGMAN
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Dear Ms Kingman

ETOVS NR 206/98

RESEARCHER: MS J-A KINGMAN

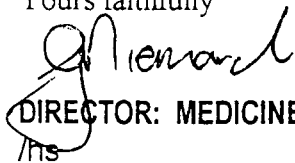
**PROJECT TITLE: GRIEF AND DEPRESSION AFTER PREGNANCY LOSS IN SOTHO
WOMEN**

The abovementioned protocol was approved by the Ethics Committee during their meeting held on the 23rd October 1998 on condition that the information be specified on the Informed Consent Form regarding ethnicity. Reverend D Keta, Dept of Biblical Studies, Faculty of Theology can be contacted at telephone number 4012668 for more information.

Your attention is kindly drawn to the requirement that a progress report be presented not later than one year after approval of the project.

Would you please quote the Etovs number as indicated above in subsequent correspondence, reports and enquiries.

Yours faithfully


/ns

DIRECTOR: MEDICINE ADMINISTRATION

APPENDIX B

I hereby give consent that the information in these questionnaires be used for research purposes. Information may also be obtained from my hospital records for this purpose.

I understand that my participation is voluntary and that I may withdraw my consent to participate at any time.

I understand that the information collected about me will be treated in a confidential manner.

Signature of patient _____

Signature of witness

present at oral explanation _____

APPENDIX C

BIOGRAPHICAL QUESTIONNAIRE

NAME: _____

AGE: _____

ETHNIC GROUP: _____

1. Approximately how many weeks pregnant were you when you lost the baby?

2. Have you previously received any form of psychiatric/psychological treatment?

3. How many children do you have, if any?

4. Was the miscarriage/stillbirth unexpected or was there in your opinion an indication that something was wrong?

4. To what do you attribute the cause of your miscarriage/stillbirth?

5. Do you perceive the support from your partner as (mark one):

Poor _____ Adequate _____ Good _____

6. Do you perceive the support from your family as (mark one):

Poor _____ Adequate _____ Good _____

7. Do you perceive the support from your friends and co-workers as (mark one):

Poor _____ Adequate _____ Good _____

8. Any other comments?

APPENDIX D

The Zung Self-rating depression scale (English version)

1. I feel downhearted blue and sad
2. Morning is when I feel the best
3. I have crying spells or feel like it
4. I have trouble sleeping through the night
5. I eat as much as I used to
6. I enjoy looking at, talking to and being with attractive men/women
7. I notice that I am losing weight
8. I have trouble with constipation
9. My heart beats faster than usual
10. I get tired for no reason
11. My mind is as clear as it used to be
12. I find it easy to do the things I used to do
13. I am restless and can't keep still
14. I feel hopeful about the future
15. I am more irritable than usual
16. I find it easy to make decisions
17. I feel that I am useful and needed
18. My life is pretty full
19. I feel that others would be better off if I were dead
20. I still enjoy the things I used to

APPENDIX E

THE PERINATAL GRIEF SCALE

SUBSCALE 1

1. I feel depressed.
2. I feel empty inside.
3. I feel a need to talk about the baby.
4. I am grieving for the baby.
5. I am frightened.
6. I very much miss the baby.
7. It is painful to recall memories of the loss.
8. I get upset when I think about him/her.
9. I cry when I think about him/her.
10. Time passes so slowly since the baby died.
11. I feel so lonely since he/she died.

SUBSCALE 2

1. I find it hard to get along with certain people.
2. I can't keep up with my usual activities.
3. I have considered suicide since the loss.
4. I feel I have adjusted well to the loss.
5. I have let people down since the baby died.
6. I get cross at my friends and relatives more than I should.
7. Sometimes I feel like I need a professional counselor to help me get my life together again.

8. I feel as though I am just existing and not really living since he/she died.
9. I feel as though I am just existing and not really living since he/she died.
10. I find it difficult to make decisions since the baby died.
11. It feels great to be alive.

SUBSCALE 3

1. I take medicine for my nerves.
2. I feel guilty when I think about the baby.
3. I feel physically ill when I think about the baby.
4. I feel unprotected in a dangerous world since he/she died.
5. I try to laugh but nothing seems funny anymore.
6. The best part of me died with my baby.
7. I blame myself for the baby's death.
8. I feel worthless since he/she died.
9. It is safer not to love.
10. I worry about what my future will be.
11. Being a bereaved parent means being a second-class citizen.

APPENDIX

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