

THE PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS OF SOCIAL
SUPPORT DURING CHILDBIRTH IN AFRICAN WOMEN

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ABSTRACT

The aim of this study was to investigate the effects of social support for African women labouring alone in a Westernized hospital setting. Two high stress groups of first-time mothers, were studied; a mildly hypertensive group and a teenage group. The results indicated support to be moderately effective in both groups. Factors such as the cultural background, the apartheid system, social influences and the environment in which the mothers live may have impacted on the effectiveness of the support.

DECLARATION

I declare that this thesis is my own, unaided work. It is being submitted for the degree of Master of Arts in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

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(Name of Candidate)

29th day of February, 1992.

To My Parents

*Man cannot discover new oceans unless he has
courage to lose sight of the shore.*

Andre Gide

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TABLE OF CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
<u>CHAPTER ONE</u> LITERATURE REVIEW	1
1.1 LIFE EVENT STRESS AND PSYCHOPATHOLOGY	1
1.2 THE AMELIORATIVE EFFECT OF SOCIAL SUPPORT	3
1.2.1 Social Support	3
1.2.2 Social Support In Pregnancy and Labour	5
1.2.3 Social Support and Psychophysiological Disorders	9
1.2.4 Social Support and Breastfeeding	12
1.2.5 Social Support and Parenting Style	13
1.3 STUDIES SHOWING THAT SUPPORT DOES NOT POSITIVELY INFLUENCE HEALTH OUTCOMES	14
1.4 AIMS OF THIS THESIS	18
<u>CHAPTER TWO</u> METHODOLOGY	22
2.1 SUBJECTS	22
2.2 PROCEDURES	23

	Page
2.3 THE ASSESSMENT INSTRUMENTS	24
2.2.1 Questionnaire One : Admission and Labour	24
2.2.1.1 Biographical information	24
2.2.1.2 Questions on entering labour	25
2.2.1.3 Questions at day one postpartum	25
I Perception of labour pain	25
II Assessment of State - Trait Anxiety	26
III Measure of Self-Esteem	26
IV Measure of Postpartum Depression	27
2.2.2 Questionnaire Two : Obstetric Assessment	28
2.2.3 Questionnaire Three : Six Weeks Postpartum	29
2.3 THE SUPPORTIVE COMPANIONS/INTERVIEWERS	30
2.4 THE STUDY DESIGN	32
2.5 STATISTICAL ANALYSIS	33
2.6 ETHICS	33
<u>CHAPTER THREE</u> RESULTS	34
3.1 SAMPLE SIZE	34
3.2 RANDOMIZATION	36

	Page
3.2.1 Baseline Measures	36
3.2.2 Perceptions On Entering Labour	40
3.2.2.1 The Mildly Hypertensive Group	40
3.2.2.2 Teenage Group	41
3.2.3 Obstetric Variables	41
3.3 INTERVENTION EFFECTS	43
3.3.1 Day One Postpartum	43
3.3.2 Physiological Assessment	50
3.3.3 Six Weeks Postpartum	52
<u>CHAPTER FOUR</u> DISCUSSION	56
4.1 THE ROLE OF SUPPORT FOR TEENAGE MOTHERS	58
4.2 THE ROLE OF SUPPORT FOR MILDLY HYPERTENSIVE MOTHERS	60
4.3 EXTRANEOUS FACTORS	61
4.3.1 Effectiveness Of The Available Support	62
4.3.2 Personality Factors And Relationship Of The Supporter To The Supported	63
4.3.3 Frequency And Timing Of The Support	63
4.3.4 The Nature And Timing Of The Support	63

	Page
4.3.5 The Factors And Processes In An Individual's Decition To Seek Support	64
4.3.6 The Effective Use Of Supportive Resources By The Individual	65
4.4 CULTURAL FACTORS	66
4.5 IMPLICATIONS FOR FURTHER RESEARCH	67
CHAPTER FIVE CONCLUSIONS	69
REFERENCES	71

LIST OF TABLES

		Page
<u>TABLE 1</u>	Total Sample Size	35
<u>TABLE 2</u>	Percentage Of Non-returns At Six Weeks Postpartum	36
<u>TABLE 3</u>	Demographic Variables For The Mildly Hypertensive Group	37
<u>TABLE 4</u>	Demographic variables For The Teenage Group	38
<u>TABLE 5</u>	Baseline Obstetric Measures	42
<u>TABLE 6</u>	Birth Weights And Number Of Hours In Labour	50
<u>TABLE 7</u>	Complication Rates Within The Groups	51
<u>TABLE 8</u>	Occurences Of Illnesses At Six Weeks In Babies Of Support And Control Mothers	53
<u>TABLE 9</u>	Parenting Style Of African Mothers	54

LIST OF FIGURES

		Page
<u>FIGURE 1</u>	Percentage Of African Mothers In The Study Who Had Not Planned Practically Or Emotionally For Their Babies.	39
<u>FIGURE 2</u>	Mothers' Perceptions Of Their Feelings During Labour.	44
<u>FIGURE 3</u>	Under Seventeen Year Olds' Perceptions Of Labour.	45
<u>FIGURE 4</u>	Practical And Emotional Help During Labour.	45
<u>FIGURE 5</u>	Percentage Of Mothers In The Sample Who Would Chose A Hospital Supporter As Their Companion During Labour.	47
<u>FIGURE 6</u>	Extent Of Hypertensive Mothers' Interactions With Their Babies.	48
<u>FIGURE 7</u>	Method Of Feeding At Six Weeks In The Hypertensive Group.	54

CHAPTER ONE

LITERATURE REVIEW

1.1 LIFE EVENT STRESS AND PSYCHOPATHOLOGY

Early research on life event stress grappled with the question of whether significant life events can bring about changes in health status (Ganscer, 1988). Subsequent studies prove conclusively that adverse life conditions can and do play a major role in both physical and mental health outcomes (Bell *et al.*, (1982)). The emphasis therefore has shifted to identifying and examining the factors which explain why some people are more severely affected by life's adversities than others.

Kessler (1979), whilst doing research on stress and its effects on psychological distress, looked at a class of what may be known as "vulnerability variables". He concluded that support from one's social network is one of the most significant factors accounting for individuals' coping abilities in times of adverse circumstances.

The groundwork and indeed the most persuasive evidence to demonstrate the power of social support factors in influencing the individual's susceptibility to illness, comes from animal studies.

Conger *et al.* (1958), were able to show an increased rate of gastric ulcer formation in rats subjected to electric shock in isolation, as compared with the rate induced in rats shocked in the presence of litter-mates. Similarly Henry and Cassel (1969) were able to induce hypertension in mice subjected to territorial conflict situations, but only if the experimental animals were crowded by mice who were "strangers" to them.

The work of Seligman (1975) on the development of learned helplessness in dogs given electric shock, further exemplifies the "stressor-illness" relationship.

Much of the research on humans life event effects has been based on the pioneering work of Cannon (1928; 1939), Meyer (1951) and Gelye (1956). According to these theorists, life change creates a disequilibrium which imposes a period of readjustment. The readjustment period can leave the person more vulnerable to stress and its consequences. Until the mid 1970's, most research on life events focused on the task of demonstrating, through epidemiological evidence, that exposure to such events can in fact lead to illness (Rabkin and Struening, 1976).

Since Cassel's review in 1974, hundreds of empirical studies have been completed focusing on the etiological significance of stressors in the development of psychopathology. The weight of evidence so far suggests that stressful events are causally implicated in some types of acute depressive disorders, as well as in dysphoric mood changes (Brown & Harris, 1984; Thoits, 1983).

The evidence however has over time become strikingly clear: out of the vast majority of people who are exposed to stressful life events or to chronic stress situations, only a relatively small percentage actually develop significant long lasting psychiatric impairments (Kessler et al., 1985).

Some investigators have focused on the role of predispositions, or enduring physiological or psychological characteristics which may influence the impact of stressful life experiences (Depue & Monroe, 1984; Haan, 1982; Kobasa et al., 1982; Moose & Billings, 1982; Rosenbaum & Palmon, 1984). These include biogenic constitution, "hardiness", learned resourcefulness, neuroticism and dispositional optimism. Others have examined the role of different psychosocial resources in influencing vulnerability to the stressful life experiences.

These psychosocial resources include attitudes, skills, assets or intellectual capacities such as cognitive flexibility and effective problem-solving behaviors. Other factors are interpersonal skills such as social competence and communication skills, financial assets, coping strategies and social support (Haan, 1982; Loose & Billings, 1982; Menaghan, 1983).

Research on vulnerability factors represents an important direction in the work on the relationship between social factors and psychopathology. However the variable that has generated the most intense interest among investigators in recent years, and which has through research repeatedly come up as representing a mediating effect to stress conditions, is social support (Pearlin, Lieberman, Menaghan & Mullan, 1981). It is therefore on this variable that I will concentrate the rest of the discussion.

1.2 THE ALLEVIATIVE EFFECT OF SOCIAL SUPPORT

1.2.1 Social Support

Studies showing the value of social support as a means of offsetting stress-generated physical and psychological difficulties are persuasive and numerous (Caplan, 1974; Cassell, 1976; Cobb, 1976; Dean & Lin 1977; Gottlieb, 1978, 1981, 1983; Kaplan, Cassel, Gore, 1977; Sarason & Sarason, 1985). These studies indicate that people with partners, friends and family members who provide psychological and material resources, are in better health than those with fewer supportive networks.

While there is no agreement on a single definition of social support, it has in general been defined as "the presence of others, or the resources provided by them, prior to, during and following a stressful event" (Ganster *et al.*, 1988).

Cobb (1976) distinguished between three different types of support: informational support (the giving or providing of information); instrumental support (practical and physical help); and affective support (emotional and esteem). Caplan's (1976) approach is similar to Cobbs. Leavy (1983) on the other hand conceptualizes social support as comprising three dimensions: the content (i.e. the form which the support takes), the structure of the support (i.e. setting; accessibility; reciprocity; size and components of the interpersonal relationships) and the process (i.e. how it evolves and operates).

Lay people, alternatively, perceive support activities primarily as emotionally sustained behaviours: in other words, concern, empathy, listening and intimacy (Gottlieb, 1978).

Regardless of the perspective adopted, the study of the role of support in health maintenance has become increasingly popular because of its apparent effectiveness (Mechanic, 1984). Four models of the support process have been proposed (Oakley, 1988).

The first model views social support as facilitating recovery from illness (Madge & Marmot, 1987); the second, that it affects health by acting as a mediator or buffer to the stressful life events (in other words it lessens the negative impact of the events) (Anehenkel & Frerichs, 1982); the third that support has a direct main effect on promoting health; and lastly that social support may decrease an individual's chances of being exposed to stress by off-setting the stress-generated physical and psychological difficulties (Dean & Lin, 1977; Sarason & Sarason, 1985).

Considerable emphasis is placed on two of these models: the buffering and the "main effect" models (Caplan 1974; Cassell, 1976; Cobb, 1976; Cohen & Wills, 1985; Dean & Lin, 1977; Gottlieb, 1978, 1981, 1983; House, 1981; Kaplan, Cassell and Gore, 1977; Thoits, 1982, 1982b; Turner, 1983). The buffering

model affirms that social networks provide a counter balance to the deleterious effects of stressors. It thereby modifies the stress factor in such a way that they will impact less forcefully on the person undergoing the stress. The main effects concept posits that support enhances an individual's general health, irrespective of a presenting stress, by increasing the individual's sense of general well-being through fulfilling needs for affiliation, belonging, respect, social recognition, affection and nurturance (Kaplan, Cassell & Gore, 1977; Turner, 1981; Williams *et al.*, 1981). The focus of these two models is different as one suggests that social support simply acts as a moderating variable, whereas the other views it as having a direct casual benefit.

Nonetheless, regardless of which model is adopted, it is widely accepted that social support plays an important role in the relationship between psychosocial stressors and illness onset (Bell, LeRoy, Lin & Schwab, 1981; Bell, LeRoy & Stephenson, 1982; Dohrenwend & Dohrenwend, 1970; Holmes & Masuda, 1974; Holmes & Rahe, 1967; Myers, Lindenthal & Pepper, 1971, 1972; Paykel, Myers, Dienes, Klerman, Lindenthal & Pepper, 1969; Rahe, 1968 and Warheit, 1979). Childbirth is considered as the most vulnerable period of psychological and physiological health outcomes for women (Norbeck & Anderson, 1989). Clinical and research efforts have attempted to reduce the stressors surrounding childbirth. The effects of social support have therefore been extensively studied in this area (Surtees, 1980).

1.2.2 Social Support In Pregnancy and Labour

Pregnancy is a dynamic time during which a woman's emotional state and life situation undergoes extensive changes (Cox, 1983). Physiologically, extreme demands are placed on the mother's body: hormonal changes, perineal tears, post-surgical complications; the demands of breastfeeding, amongst others. Until fairly recent times maternal death rates during childbirth were cited as

one in three deliveries (Norr *et al.*, 1982). However, despite the marked reduction in maternal deaths, the physiological discomforts still exist and the psychological stresses may be even more predominant due to the isolated, routine, clinical, medically orientated care provided in the industrialized hospital settings today. (Houd & Oakley, 1983; Oakley & Chamberlain, 1981).

This modern practice of isolating labouring women from community (social reinforcing) contacts, was not always the procedure followed (Kennell, 1987). In an anthropological study, a sample of 186 geographically, linguistically and historically representative, nonindustrialized societies was examined by Murdock & White to study who was present with the mother at birth. Maximal independence of the societies from each other was controlled for. Ethnographic material on 128 societies was available for examination and it was noted that in 127 of the 128 societies at least one woman was present with the mother-to-be during her labour and delivery. Only in one society did the mother labour completely alone (Kennell, 1987).

This study illustrates that until the twentieth century it was the accepted practice that women delivered their babies in their own homes, with family members around to support them often with the assistance of a trained or untrained midwife. Companionship and emotional support for the delivering mother was thus a fundamental aspect of the traditional birth setting (Chalmers, 1990).

Urbanization, centralization of health care services and improved medical technology turned childbirth into a primarily medical event (Norr *et al.*, 1977). Women were forced into a more passive role during the birth process and began delivering among strangers in unfamiliar hospital settings. In a Canadian study Hodnett (1982) found that women encountered between 3 and 14 unfamiliar faces of professionals during their labour. In teaching hospitals this figure was as high as 16 people for a six

hour period (Chard & Richards, 1977), nonetheless, the mother was still alone for most of the crucial stages of her labour. This induces fear, anxiety and psychological distress (Kemp & Hatmaker, 1989; Lomas et al., 1987).

Many of the first world countries today recognise the need for, and even encourage, the presence of a supportive companion during labour (Gariné et al., 1985). This supportive companion may be the father of the child, although it is debatable as to whether they are the most ideal supporters, a midwife or health care professional, or a gentle, caring, respected woman from the community whom the mother may not even know (Kennell et al., 1987; Odent 1984; O'Driscoll & Meagher, 1980).

Unfortunately in several third world countries where first world care has been introduced the majority of women still labour alone, often in overcrowded, understaffed, highly stressed environments (Hofmeyr et al., 1991). Furthermore, fathers and family members are often not allowed into the labour and delivery wards due to the hospital's health policies.

Nevertheless, to date three randomised control intervention trials have been conducted to assess the effects of having hospital appointed supportive companions ("doula") with the mother throughout her labour and delivery. The supportive companions role was defined as essentially an emotional one. Two of these studies took place in a Guatemalan hospital and one in Coronation Hospital in South Africa. The mothers routinely laboured alone in all of these clinical environments.

The Guatemalan studies, conducted by Sosa, Kennell, Klaus, Robertson and Urrutia (1980) and Klaus, Kennell, Robertson and Sosa (1986), yielded highly impressive findings. Sosa et al., (1980), demonstrated that companionship during labour reduced the average length of labour from 15 hours (in the control group) to 7 hours in the experimental group. Furthermore, the experimental group mothers smiled at, stroked and talked to their babies significantly more than the control group, and were more awake after delivery.

In 1986 Klaus et al., conducted the second larger study in Guatemala. Four hundred and seventeen women were studied in a randomized control study design. Inclusion criteria into the study included a normal healthy pregnancy with no apparent pending labour complications. The results emerging were once again highly significant: the experimental group had fewer perinatal complications (34% versus 74%); fewer infants from the experimental group were admitted into NICU (2.4% versus 6.8%); medication was prescribed more frequently to the controls (7% versus 19%); and oxytocic augmentation of labour was reduced (2% versus 13%) as well as the fetal passage of meconium during labour.

These studies on labour support provided impetus for the third randomized control trial conducted at Coronation Hospital in South Africa. This study was aimed at replicating the Guatemalan intervention design and testing it out with similar variables (adding in psychological measures of anxiety, pain and fear), on a low income urban population. Furthermore, the study was extended to include measures of catecholamine levels and to assess the effects of labour support postpartum (Wolman, 1992).

The results of this study showed that the support group of mothers reported having coped well during the labour (60% versus 24% (control group), $p < 0.00001$). At six weeks these women were more likely to be exclusively breastfeeding (51% versus 29%, $p < 0.01$) and feeding their babies on demand (81% versus 47%, $p < 0.0001$). Furthermore the mean labour pain (26 versus 44.2, $p < 0.00001$) and the state anxiety scores (28.2 versus 37.8, $p < 0.00001$) of the support group were respectively lower than those of the control group (Hofmeyr et al., 1991).

These three studies have been imperative in setting the focus on the effectiveness of having a supportive companion with the mother during her labour. Although other studies of a slightly different focus or of a smaller scale have been done (for

example, Arpen, 1990; Brown, 1991; Cogan et al., 1988; Hemminki et al., 1990; Hodnett et al., 1989; Keeping et al., 1989; Kennell et al., 1989; Lomas et al., 1987; Morrison et al., 1989; Oakley et al., 1989, 1990; Spencer et al., 1989), the three studies discussed in more depth amplify the importance of psychologically perceived control the supported women feel they have over their environment during their labour (Hodnett, 1989a).

It has been shown that labour in a clinical environment undermines a woman's feelings of competence, her perceptions of labour, her confidence in adapting to parenthood and in initiating successful breastfeeding. These adverse effects however may be reduced by the provision of a supportive companion during labour, to promote self-esteem (Hofmeyr et al., 1991).

1.2.3 Social Support And Psychophysiological Disorders

Contemporary society lends itself to the isolation of the family unit limiting the availability of support in stress-situations (Wandersman, Wandersman & Kahn, 1980). Childbirth in a technological environment produces overwhelming anxiety which has been significantly correlated with increased obstetric complications and high-risk interventions (Crandon, 1979).

Of all the various psychological complications of the puerperium, postpartum depression is regarded as the most common and serious (Cox, 1983, 1986; Kumar & Robson, 1978; Watson et al., 1984). Postpartum emotional disorders generally fall into one of four categories: puerperal psychosis, "blues", panic disorders or postpartum depression (Harding, 1989).

Epidemiological studies consistently find higher rates of depression in women than men (Brown, 1978; Dean & Ensel, 1982; Gore, 1978; Radloff, 1975; Steele, 1978; Weissman & Klerman, 1977; Wortman, 1984). The following explanations for this have

been proposed: hormonal changes, biogenic amines, social structures, stress and a lack of social support (Murray & Gallahue, 1987). The most frequent therapy in the past has been the administration of electroconvulsive shock therapy, hormones and antidepressants. Only very recently has the ameliorative effect of supportive and confiding relationships in postnatal depression been documented, demonstrating that the association between support and depression is a direct negative one (Aneshensel & Frerichs, 1982; Brown & Harris, 1978; Morris, 1987).

Henderson (1980), suggested three competing hypotheses regarding the interactions among social support, stressful life events and psychiatric impairment: firstly, the deficiencies in social bonding are in and of themselves associated with psychiatric morbidity; secondly, the deficiencies in social bonding are associated with psychiatric morbidity in the presence of adverse environmental circumstances such as stressful life events; and thirdly, deficiencies in social bonding are the consequences of pre-existing psychiatric disorders or a third set of variables which may be causative for both. No one single etiology has been confirmed.

Numerous studies have linked the outcome of psychological distress to the quality and availability of social support (Turner, 1983). Brown *et al.*, (1975; 1978; 1979) have conducted numerous studies examining the influence of close confiding relationships in reducing the risk of depression following chronic life event difficulties. As did Lowenthal and Haven (1968), Brown *et al.*, (1978) found that 38% of those women without a husband or partner to confide in developed depression compared to only 4% of women who did have such relationships.

Pearlin *et al.*, (1981), were not able to show direct effects of social support on depression, however other studies (Aneshensel & Frerichs, 1982; Husaini *et al.*, 1982a) focussing particularly on

the direct effects have come up with conclusive findings. Dean et al., (1981) also found that a lack of companionship in all age groups was associated strongly with depression.

Henderson (1977) looked at the social networks of support and concluded that psychotic patients had the smallest networks, followed by neurotics. These people had dependent-type relationships dominating their networks.

Furthermore, Cooke (1985), in an observational empirical study also found that a low level of social support was the strongest significant predictor of postpartum depression ($p < 0.0002$).

This result is consistent with previous findings pointing to the importance of social support for psychological well-being (Meyerowitz, 1970; Paykel, Emms, Fletcher and Rassaby, 1980; Surtees, 1980; and Turner, 1983).

The studies that clearly demonstrate direct effects of social support and stressful life events on depressive symptoms, report that respondents in the lower socio-economic group tend to show the most severe distress (Bell et al., 1982). A possible explanation for this may be related to personal competence as an internal resource (Dohrenwend & Dohrenwend, 1974; Pearlin & Schooler, 1978). An individual whose sense of mastery over self and over environment is affected, lacks such mastery and can be resigned in a fatalistic way to a succession of events with which (s)he cannot cope adequately. Perceived and actual locus of control is therefore a crucial determinant of an individual's mode of coping with the demands of the environment. (Pearlin et al., 1981).

In short there is evidence to show that social support does contribute to the prevention of psychiatric disorder as well as to the psychological well-being of people in stress situations (Murray, 1989).

1.2.4 Social Support And Breastfeeding

The provision of medical care for childbearing women has been associated with improvements in the immediate medical outcome of pregnancy for mothers and their babies. At the same time, however, problems following childbirth such as the failure to cope with motherhood, hence leading to postnatal depression and failure to breastfeed successfully are widespread (Blanchon et al., 1989; Cox, 1986; Hwang, 1981; Martin et al., 1989; Susman, 1988). This brings in to question the extent to which modern-day obstetric practices contribute to either the positive or negative features of contemporary childbirth and whether social support does play a beneficial role (Oakley, 1980). Breastfeeding will thus be discussed in this light.

Decisions about infant feeding affect both infant and maternal health. It is therefore more than just a life-style choice (Heiser, 1990). Klaus et al., (1986) have shown that the sense of isolation and unfamiliarity experienced by women delivering alone in a clinically sterile environment, maybe do great that they fail to develop their feeling of confidence and competence. This in turn impairs adjustment to parenthood and the establishment of successful breastfeeding. It has been suggested that the provision of positive support and companionship during labour may reverse this process to some extent.

A study conducted by Kaufman et al., (1989) revealed that women with no source of social support were six times more likely to cease lactation than women with six sources of support. These findings were confirmed by results in other studies (for example, Adler, 1984; Heiser, 1990; Pearce, 1977). Of particular interest is the study conducted at Coronation Hospital (Hofmeyr et al., 1991) which assessed the effects of supportive companionship on labour and on the subsequent mother-infant relationship. Breastfeeding practice was one such measure of the mother-child interaction. The results showed that, at six weeks after

delivery, women in the support group were significantly more likely to be breastfeeding their babies exclusively. Furthermore, the supported mothers were about four times less likely to report having experienced problems with feeding; they had also started foods, other than breast or bottled milk, three times less often and were almost twice as likely to be feeding at flexible intervals rather than to a schedule. Finally a far greater number of mothers in the control group had stopped breastfeeding because of a perception of having inadequate breast milk.

In short, this study has confirmed previous findings that breastfeeding success is promoted by general social support during pregnancy (Elbourne *et al.*, 1989), antenatal breastfeeding education (Inch, 1989) and postnatal support groups for breastfeeding mothers (Inch & Garforth, 1989). Furthermore the results indicate that routine conventional hospital care may interfere with the development of the confidence needed to breastfeed successfully and thereby lead to lowered expectations of breastfeeding.

1.2.5 Social Support And Parenting Style

Raphael-Leff (1985a; 1985b), has identified two parenting styles, namely facilitative and regulative. Sosa *et al.*, (1980), found that the mother-infant interaction improved when the mother had received social support during her labour and delivery. The two aspects, mothering style and social support, have previously not been correlated. However the Sosa *et al.*, (1980) findings prompted further investigation, and this facet of support was therefore looked at in more depth in the Coronation study (Hofmeyr *et al.*, 1991). The results of that study showed that the supported mothers tended to be more adaptive to their babies needs (i.e. facilitative) at six weeks postpartum.

This outcome suggests that an adapting (facilitative) labour environment may enable the mothers to cope better and thus enhance more effective parenting later on.

1.3 STUDIES SHOWING THAT SOCIAL SUPPORT DOES NOT POSITIVELY INFLUENCE HEALTH OUTCOMES

Evidence suggests that, in general, social support is beneficial for good health. Nonetheless, a great deal of research is still needed to ascertain how and when social support is best translated into the advantageous and the disadvantageous health outcomes (Oakley, 1988). The findings so far broadly support the notion that social support is good for health; however, due to a lack of clarity on the concept of social support, as well as a deficiency in methodological guidelines, real understanding of how social support operates has not yet been reached. There is by no means unanimity amongst researchers in this field of study, and it is therefore important to look at social support in a complete holistic framework.

Henderson (1977), following the pioneer work of Bowlby (1973) on attachment and loss, postulates that inadequate social bonding is a primary influencing factor in the production of neurosis. Lin, Simeone, Ensel and Kuo (1979), and Miller, Ingham and Davidson (1976) however all present data suggesting that social support has an independent effect on the production of psychological distress, even at low levels of stressors. A similar view is provided by Andrews, Tennant, Hewson and Vaillant (1978), who found no significant interactive effects between social support and stressful life events in the production of psychiatric symptoms. Other investigators (such as Henderson, Duncan-Jones, McAuley & Ritchie, 1978; Husaini & Neff, 1980; Husaini, 1982; Husaini et al., 1982) also discern direct effects of the social support hypothesis. These researchers hold the view that stressful life events in themselves are usually unpredictable, universal and not subject to psychological intervention (Bell et al., 1982).

Since these findings are disparate and controversial some issues need further clarification (Husaini, 1982). They include:

1. The factors and processes involved in the individuals decision to seek available support.
2. The frequency of the support and its timing.
3. The nature and quality of the support.
4. The effectiveness of the available support.
5. The relationship to and personality of the supporter to the supported (i.e. the source of the support), and
6. The effective use of the supportive resources by the individual.

It has been shown that not all people benefit equally from the provision of social support. The abovementioned factors may therefore be imperative in determining the dynamics involved in the support process.

Henderson et al., (1978) reported empirical evidence that showed a significant relationship between unpleasant social interactions and psychiatric morbidity. Wortman (1984) also cites two studies (Fiore, Becker & Coppel, 1984; and Rook, 1984) in which both the positive and negative aspects of social interactions were compared. In both the studies the negative elements of social interactions were more strongly and consistently correlated with mental health outcomes than the positive elements.

Wortman (1984) also mentions how at times the "supporter" in the confiding relationship discourages the "supported" from talking about, expressing or discussing her negative feelings (for example. in the first few weeks after she has given birth). This may have a demoralizing and infantilizing effect.

Self-esteem can thus also be undermined by social support, when it carries with it the underlying assumption that the individual is incapable of solving his/her own problems (Di Matteo & Hays, 1981). Well intentioned efforts may thus be regarded as unwelcome and intrusive.

Henderson et al., (1978) and Husaini et al., (1982) found that the effects of confidant support were effective for women but not men. Berkman & Syme (1979) and House (1981) found that men profited more from social integration networks than women. These differences, at first thought to be due to the differences in the types of stressors experienced by men and women (Billings & Moos, 1981), may be purely sex differences. The evidence is, however merely suggestive and needs to be explored further.

The role of social support in social class is also unclear. Lower socio-economic groups tend to demonstrate lower scores on structural support measures (Bell et al., 1982). However, in other studies (Husaini et al., 1982; Turner et al., 1983) social support does not appear to be an important factor in determining individual's coping abilities during stressful life events.

Sarason et al., (1987) examined the similarities and differences between social support measures stemming from differing conceptions of the construct, as well as from differing measurement techniques. They state that social support is often communicated through such supportive behaviours as loans of money, advice and shoulders to cry on. Yet, the offer and receipt of these provisions does not constitute social support. They ascertain that the knowledge that we as individuals are cared for by others who would be willing to do what they can for us, is the real essence of social support.

This viewpoint could potentially imply that we could not receive support from people previously unknown to us or at least, that manipulated support is not as effective (Sarason et al., 1986a). Numerous studies of support however are not based on this premise (for example, Hofmeyr et al., 1981; Kennell et al., 1987; Klaus et al., 1986).

Furthermore, in a study examining the stress-buffering role of social support and competence, Husaini et al., (1982) conclude that personal competence has a far greater buffering effect than social support. This finding also underplays the importance of social support by demonstrating that personality characteristics are the more important coping tools.

Another aspect of particular interest in the support process is the contribution that people make to their own social support levels (Sarason et al., 1986b). Although it is not usually explicitly stated, most empirical literature appears to be based on the assumption that social support is an environmental provision. This assumption is correct to some extent; however the social environment is not independent of the individual. The way in which the individual views and deals with his or her social environment, and the extent to which (s)he goes out and makes use of the support network available has a great deal to do with what it provides. In other words, it is suggested that social support is an interactive process rather than a passive, unidirectional one.

Evidence for this perspective is given in a study by Warheit et al., (1982), in which they showed that those individuals receiving assistance from family members and/or friends had significantly higher psychiatric symptom and dysfunction levels than those who did not.

Wortman (1984) suggest that research efforts need to be more specific about outcome variables likely to be affected because of the multidimensional process of social support. Oakley (1988) also points to the need to separate out the effects of support on different people in different situations.

Questions addressing concerns as to how one aspect of the support mechanism (for example, individual resources) may affect another (for example, the way in which the stress situation is appraised, reacted to and coped with) need to be assessed (Wortman, 1984). Furthermore, the quality and not only the quantity of support needs to be investigated.

Many researchers have called for an infusion of methodological and theoretical vigour into this field of social support in order to establish more conclusive findings (Oakley, 1988; Cohen & Wills, 1985; Wortman, 1984; Broadhead et al., 1983; Turner, 1983). The two major requirements needed for this to occur are: firstly, prospective, randomly selected longitudinal intervention studies clearly indicating the relationship between social support and different health outcomes (for example childbirth); and secondly, building an understanding of the process through which social support may actually effect these health outcomes.

Childbirth is an extremely stressful life event and is approached by women with considerable anxiety. As previously established, several studies evaluating the effectiveness of providing a supportive companion during labour and delivery have been conducted. However, the mechanism by which support influences labour, delivery and perinatal outcome is still not fully understood since variables such as, cultural factors, population group, age, medically high risk groups as well as individual concepts of support, may differ, effecting the type of support experienced. It is therefore clearly apparent that further investigation into the various facets of social support are necessary.

1.4 AIMS OF THIS THESIS

Traditionally African birth took place at home (Chalmers, 1990). The woman in labour was usually attended to by at least one older, trusted female member of the family. She was also often surrounded by other favoured women, all of whom provided close physical contact, as well as moral support and encouragement (Brindley, 1985; Gumede, 1987; Tyrrell & Jurgens, 1983). The most valued birth companions were the grandmother, the woman's own mother or her mother-in-law.

Since these times, African birth has undergone a transition. Due to the improvements in medical technology the labour environment has been moved to a hospital setting. This has brought its own problems with it. The extensive monitoring of the mother and her fetus during labour and delivery has greatly reduced maternal and fetal deaths, however it has also left the mother often feeling alienated, isolated and alone in a clinically hostile hospital ward.

The aim of the present research project is to examine the psychological and physiological effects of having a supportive companion with the mother during her labour and delivery. The study was conducted at the Baragwanath Maternity Hospital, which caters especially for African women in the surrounding peri-urban areas. The reason this institution was chosen was twofold: firstly, women giving birth in this hospital still routinely labour alone. The effects of having a supportive companion with the mothers could therefore be assessed without denying the mother support she may have otherwise received. Secondly, the consequences of this type of birth practice has not yet been studied in the African population.

Two high stress groups within this population were identified and specified for study. They were the under seventeen year old mothers and the mildly hypertensives.

The literature has shown that teenage mothers need far greater social support for their mothering roles as they are usually less experienced and more vulnerable to the psychological and physical demands of childbirth (Browne et al., 1989; Dormire et al., 1989; Koniak, 1989; Von Windegah et al., 1989). This hypothesis was therefore tested to see whether it also held for the African teenage mother.

The second group, the mildly hypertensive group of mothers, was chosen as the incidence of high blood pressure in the Sowetan population is high. This complication of pregnancy promotes more difficult labours; hence, the aim of examining these mothers was to assess whether the provision of supportive companionship would in any way alter their perceptions of the labour process or their obstetric progress.

Both the underage and the hypertensive groups included only first time mothers, with no previous pregnancies, so that their experiences of pregnancy, labour and delivery would be unique.

It was expected that a large proportion of these mothers delivering at Baragwanath Hospital would be single mothers. Thoits (1982a) provided some evidence to suggest that the buffering effects of social support may only be effective in some sociodemographic groups for example, in the married rather than the unmarried group. This study therefore also served as a test of this hypothesis.

Furthermore, it is important to examine how the nature of the support provided alters the perception of the intensity of that support. In the Coronation study (Wolman, 1992), the supporters were encouraged to be extremely encouraging, positive and emotionally reassuring. Chalmers (1990) too, suggested that openness and honesty were the most important aspects of support. This study provides a start to exploring what kind of support African women need in an urbanised hospital setting.

In short, it is apparent that, although evidence exists to uphold the notion that a supportive companion during labour can promote favourable perinatal outcomes, not all studies have found such interactive effects to be present. Furthermore clinical findings emphasize the role of social support in therapeutic management.

Progress in this field however, needs to be made before the importance of social support in primary prevention can be considered. This progress can be attained in two different ways: by constantly reviewing, assessing and revising the concept of social support, and by conducting research projects to assess who actually benefits the most from social support and under which conditions. It is to this latter aim that this particular research project is hoped to contribute.

CHAPTER TWO

METHODOLOGY

2.1 SUBJECTS

The study was conducted at the Baragwanath Maternity Hospital in Diepmeadow, Soweto. This is a public hospital providing care for a low income population, fundamentally Africans. At this Obstetric and Gynaecological Unit support companions are not routinely permitted to be with a women during labour and delivery. Hospital policy states that this is because patients deliver in a 25 bed cubicled ward which has insufficient privacy to allow visitors. Due to the large number of patients in labour at any one time and the shortage of hospital personnel, no one patient receives personal emotional support and usually has to deliver in the presence of strangers.

Data on 288 patients was collected. Participation was conditional upon the patient's informed consent. The selection procedures were predetermined prior to the start of the study. Criteria for inclusion were as follows:

1. Nulliparous women (parity 0; gravida 1)
2. Spontaneous labour at a minimum of 36 weeks gestation.
3. Cervical dilation of between 4 and 6 centimetres.
4. No obvious cephalopelvic disproportion or other obstetric complications of pregnancy, except mildly raised blood pressure in the hypertensive group.
5. No history of mental illness.

Furthermore each of the two high stress groups studied (the mildly hypertensives and the teenage mothers) had to adhere to additional criteria. Participants in the former group were between the age of 19 and 35 and had a diastolic blood pressure of between 90-110. Subjects in the teenage group however were required to be 17 years of age or younger.

Potential subjects, meeting the criteria were identified on their admission to labour ward. They were asked to participate in the study once the details of the study were clearly explained to them. Particular emphasis was placed on the fact that the subject would only have a one in two chance of receiving supportive companionship during labour. Once they agreed to participate, subjects were randomly assigned by means of cards in sealed opaque envelopes into two groups: those who received support during labour and delivery (support group) and those who did not receive any support (control group).

A third (double control) group of mothers was selected, using the same criteria. This group was not an intervention group but a control for the control group. The reason for this was to assess whether the control group of mothers actually perceived the act of being asked questions about their feelings about labour and delivery as a form of support. As little personal attention is customarily offered to women in the busy labour and maternity wards, it was considered possible that simply being selected as a participant in the study and having some extra attention directed towards them, may have been seen as supportive by the control group women.

2.2 PROCEDURE

Women were assessed on enrolment into the study, on labour and delivery and at day one and six weeks postpartum. The support and control intervention groups were first questioned at enrolment and had further assessments throughout labour and delivery. The double control group of mothers only had routine obstetric

information recorded from their hospital notes, as the baseline measure. They were later asked, at six weeks, if they would participate in the study by completing the six week questionnaire, and, if agreeable then, signed a consent form.

2.2 THE ASSESSMENT INSTRUMENTS

Data was collected by means of several questionnaires: A biographical questionnaire, including questions on the mother's perceptions and feelings on entering labour, and again at one day postpartum; a second questionnaire, recording routine obstetric measures from the hospital notes; and thirdly, a questionnaire at six weeks postpartum assessing maternal attitudes, perceptions and feelings, interactions with the baby, anxiety, depression, self-esteem, mothering style and a measure of her social support network. All the psychological questionnaires were designed by Wolman (1992). The obstetric questionnaire was compiled by McIntyre, 1990.

2.2.1 Questionnaire One

2.2.1.1 Biographical information

The following biographical information was recorded:

- Age
- Date of birth
- Language
- Highest level of education
- Pre-birth occupation
- Marital status
- Who the woman lives with
- Combined monthly income of all the earners in the home
- Any history of psychological or psychiatric problems
- Whether the baby was planned.

2.2.1.2 Questions On Entering Labour

This included six questions on a three point Likert scale about how the mother feels on entering labour (i.e. excited, worried etc.). Furthermore, she was also asked four questions relating to how she felt about herself, and her baby at this stage. Finally she was asked whether she felt that giving birth would be, very easy, very difficult or in-between.

2.2.1.3 Questions At Day 1 Postpartum

These questions were administered in the post-delivery wards. Brief questions were designed in which the mothers had to rate their feelings and perceptions on a variety of aspects surrounding their actual labour and the first day postpartum.

These questions related to the following aspects:

- The mother
- The baby
- The labour and birth
- Practical help and support by hospital staff
- Emotional help and support by hospital staff
- Time spent away from the baby since birth
- Activities with the infant since birth
- Feelings surrounding motherhood
- Feelings about having support or no support during labour and birth.

Furthermore other dimensions such as anxiety, self-esteem, pain and depression were also assessed.

I. Assessment Of State-Trait Anxiety

Anxiety was measured at twenty four hours and six weeks postpartum by means of Spielberger's (1980) State-Trait Anxiety Inventory.

The structure of this psychological measure involves 40 statements followed by four ratings ranging from "almost never" to "almost always" on the Trait Anxiety sub-scale, and "not at all" to "very much so" on the State Anxiety sub-scale. These concepts thereby measure distinct anxiety states on self report scales.

On the State Anxiety measure, subjects are requested to choose one of the four possible responses describing how they are feeling "at this moment". The statements relating to the Trait Anxiety measure however, ask the respondent to choose the option which best describes how they "generally feel". High scores indicate high levels of state or trait anxiety whilst low scores indicate a low level of state or trait anxiety.

This inventory is suitable for repeated testing with a relatively high degree of internal consistency (0.83 to 0.92). The reliability and validity of this test is also favourable.

II. Measure Of Self-Esteem

The Self-Esteem Inventory, (Coopersmith, 1967) was used in order to evaluate the mother's attitude towards herself. The abbreviated version of the original 50 item long form was utilized. This scale consists of 25 short statements to which the respondent answers "like me" or "unlike me". Reliability for the long form has been found to be 0.90 (Robinson and Sharer, (1976) and validity correlations between 0.63 and 0.42.

III. Perception Of Labour Pain

Wolman (1992) designed the questionnaire using the McGill Pain Questionnaire (Melzack, 1975). This index provided a Pain Rating Score. Although this scale has been successfully used on other population groups, it was deemed too involved for the group under study.

The Pain Questionnaire was therefore abridged. Data analysis and interpretation therefore relate to each independent question.

IV. Measure Of Postpartum Depression

The Pitt Depression Questionnaire (Pitt, 1968), a 24 item assessment of postpartum depressive illnesses in childbearing women, was included in the one day and six week follow-ups. These set of questions measure the following twelve hypothetical and interrelated factors:

1. Anxiety
2. Sleep
3. Libido
4. Appetite
5. Depression
6. Irritability
7. Hyperchondria
8. Depersonalization
9. Cognition
10. Retardation
11. Dependency
12. Guilt

The questions explore the woman's current feelings and experiences, and are answered "yes", "no" or "don't know". The answers are rated with the highest scores showing the most severe depressive symptoms.

All the scales described have been successfully used on a previous South African sample (Cooke, 1985). The use of these scales on the African population, under study in the present research project is therefore exploratory.

2.2.2 Questionnaire Two

Obstetric management for the experimental, control and double control groups was in accordance with the hospital routines and no group was given preferential treatment. The following obstetric variables were recorded as baseline measures, and furthermore, to assess fetal and maternal well-being, labour progress and obstetric interventions:

1. Mother's age
2. Parity and gravidity
3. Number of visits to antenatal clinic
4. Gestation at the first visit
5. Antenatal complications
6. Time of admission into hospital
7. Date and time of onset of labour
8. Date and time of rupture of membranes
9. Method of rupture of membranes
10. Assessment of liquor (clear, bloody or meconium stained)
11. Analgesia before enrolment into the study (date, time, dosage and type)
12. Additional analgesia during the progress of labour
13. Blood pressure on admission and throughout the progress of labour
14. Vaginal examinations on admission and throughout the progress of labour including:
 - cervical dilation
 - cervix length
 - engagement/spines
 - caput
 - moulding
 - position of baby
15. Method of induction (if applicable) including type, unit, rate and duration
16. Time of onset of second stage

17. Time of delivery
18. Total number of hours in labour
19. Method of delivery
20. Indications for an assisted delivery or caesarean section
21. Method of delivery of the placenta
22. Dilation rate
23. Sex of baby
24. Apgar score at 1 minute
25. Apgar score at 5 minutes
26. Birth weight
27. Resuscitation

These baseline measures were taken before randomisation.

2.2.3 Questionnaire Three

The six week postpartum questionnaire was administered to the mother when she returned for her checkup to the postnatal clinic. It was at this point that the double control mothers were asked to participate in the study by completing this questionnaire. The mother's perceptions of her infant's general health was assessed as well as measures of maternal feelings, perceptions, attitudes and interactions with the baby. Since measures on these dimensions do not already exist in the field, Wolman (1992) devised simple rating scales, the analysis of which is in relation to each independent question, for each of the following aspects:

- Self
- Baby
- Motherhood
- Infant feeding (including breastfeeding, bottle feeding and solids)
- Practical help and support
- Emotional help and support
- Interactions i.e. leaving the baby, going back to work, changing nappies, discipline, crying, sleep, bring baby with to the check-up.

The marital relationship, or relationship with the partner was also assessed by means of a Likert-type question. Here mothers had to rate their perception of the relationship before pregnancy, during pregnancy and since giving birth.

Another Likert-type question examined whether there were perceived differences in the social support networks among the various groups. The networks included doctors, nursing staff, partner, mother, mother-in-law, family, friends, and other members of the community.

Raphael-Leff (1985a; 1985b) devised a series of questions to assess mothering style. These questions focus around the following concepts:

- The mother's perception of the baby as an individual "person"
- Demand versus schedule feeding
- Routine versus spontaneity in infant feeding

These measures indicated those mothers who were facilitative and those who were regulative in their parenting style. Wolman (1992) modified Raphael-Leff's assessment system and it was this modified version that was used in this study.

Finally, this questionnaire also included the standardized assessments of anxiety, self-esteem and depression previously discussed.

Copies of the questionnaires are available from the author.

2.3 SUPPORTIVE COMPANIONS/INTERVIEWERS

The study was conducted at the Baragwanath Maternity Hospital where hospital policy excludes all supportive companions from the labour and delivery wards. Permission was therefore obtained from the hospital's administration to allow four retired midwives to

return to the hospital in the capacity of supportive companions. It is preferable for a person of the same cultural origin to interview the women in labour and delivery as a good rapport is more easily established between people of the same culture. Furthermore, the questionnaires were in English and at times needed to be translators, therefore, the supporters filled the role of both interviewers and translators.

Another reason for making use of retired midwives as the supportive companions was that in traditional African custom only trusted women (for example the woman's mother, mother-in-law, an older woman or a person skilled in midwifery, i.e. a traditional midwife) was permitted to be with the woman in labour. From this perspective these midwives were the ideal choice: they were retired health workers and older, trusted members of the community.

Each of the four midwives worked three days per week on alternate days. This automatically ensured that a supported subject was interviewed by a different supporter at one day postpartum. A diary was also kept to make note of the date on which the mothers in the various groups were requested to return for their six week postnatal check-up. This was organised in such a way that a midwife, other than the supporter and other than the day one interviewer, would interview the subject at that point. These measures were done in order to ensure that the supporters/ interviewers were "blind" to the random group allocation of the mother they were interviewing. No record of which group the mothers were in was available to the interviewers/supporters at one day or six weeks postpartum. On a couple of occasions however, the mother told the interviewer which group she was in during the course of the interview.

Prior to the start of the study, the supporters underwent a week long training period, during which time they became familiar with the study procedures as well as a wide variety of supportive techniques. Furthermore, a list of synonyms was established in Zulu and Sotho, of English words used in the questionnaire. This was done in order to standardize and facilitate translation when it became necessary.

Supportive companionship was provided for the women in the supported group, and consisted of staying with the woman to whom the supporter was allocated, as continuously as possible. In her role as supporter she was to use touch and speech to concentrate on the three primary functions of support in this setting: comfort, reassurance and praise. In addition, she was to explain to the patient what was happening during labour and what was likely to occur next. When necessary, she also acted as a translator for the medical staff. These aspects of "support" were practiced through role play, and any difficulties were assessed during the trial period.

2.4 THE STUDY DESIGN

This study was designed as a randomized controlled trial. Recruitment took place between May 1990 and November 1991. The hospital notes of all the women admitted to the labour ward were reviewed for suitability of the entry criteria. The details of the study were then explained to the women who met the predetermined criteria, and they were assured that medical treatment would in no way be affected by refusal to participate: only one subject refused to participate in the study. Furthermore she was told that all information obtained from her would remain totally confidential and she could at any stage withdraw from the study. The patient was thus asked to participate in the study, and if she agreed was asked to sign a consent form.

Obstetric information, biographical details and the questions on entering labour were then obtained, whereafter the mother was assigned to a support or a control group by means of randomly ordered cards in sealed opaque envelopes. A mother assigned to the experimental/support group was introduced to one of the supporters who stayed with her for as long as possible, in most cases until her baby was born. In all other respects the care received by both groups was identical. Participants were enrolled in the mornings only, as the supporters were not expected to stay at the hospital after dark.

The mother was interviewed twenty four hours after birth and on leaving the hospital was given a letter to remind her to attend the six week postnatal check-up, where she would be interviewed again. If she failed to do so, further letters were sent and telephone calls made, to set up new dates for her to come in to the postnatal clinic.

The double control group were only interviewed at six weeks postpartum, if they gave their consent to participate in the study at that point. If not, the obstetric data collected on that subject, to date, was destroyed.

2.5 STATISTICAL ANALYSIS

The data was analysed by using both descriptive and interpretative statistical methods. Descriptive statistics were conducted on all variables and the Chi-squared test was used to compare proportions. Although only p values of 5% or below are considered statistically significant, p values of 10% have been included in the tables to indicate emerging trends.

The analysis was carried out on the Statistical Analysis System (SAS), a statistical package, on the University of the Witwatersrand's mainframe computer.

2.6 ETHICS

The study protocol was approved by the Ethics Committee for research on human subjects, University of the Witwatersrand. Permission to conduct the study was also obtained from the Baragwanath Maternity Hospital Superintendent and the Department of Obstetrics and Gynaecology. Furthermore, meetings were held with the nursing staff in labour ward to explain the study and to request co-operation.

CHAPTER THREE

RESULTS

3.1 SAMPLE SIZE

Data on the support and control groups was collected at three specified points: on entering labour (where questions about their feelings, biographical and obstetric details were recorded); at one day postpartum and six weeks postpartum. Preliminary biographic and obstetric information for the control for the control group was obtained from the hospital notes prior to delivery. This 'control-control' or 'double control' group was included in order to establish whether mothers perceived being asked questions on entering labour and at one day postpartum as a form of support. Double controls were not asked any questions until six weeks postpartum and their obstetric information was updated from the hospital records one day after birth.

Some mothers did not return for their six week postnatal check and were therefore not interviewed at that point. Table 1 is therefore split into those mothers with and without follow up questionnaires.

The total sample size, therefore was 288 subjects which was analysed in terms of the total numbers in each group: mildly hypertensives (n = 141) and teenage mothers (n = 147) (Table 1). The results for each of the two groups were examined separately.

TABLE 1: TOTAL SAMPLE SIZE

	MILDLY HYPERTENSIVES			TEENAGE MOTHERS		
	WITH POSTNATAL QUESTIONNAIRES			WITH POSTNATAL QUESTIONNAIRES		
	QUESTIONNAIRES			QUESTIONNAIRES		
	1	2	3	1	2	3
SUPPORT	40	40	40	40	40	40
CONTROL	40	40	40	40	40	40
DOUBLE CONTROL	35	35	35	35	35	35
	WITHOUT POSTNATAL QUESTIONNAIRES			WITHOUT POSTNATAL QUESTIONNAIRES		
	QUESTIONNAIRES			QUESTIONNAIRES		
	1	2	3	1	2	3
SUPPORT	9	9	-	11	11	-
CONTROL	6	6	-	14	14	-
DOUBLE CONTROL	11	11	-	9	9	-
	TOTAL NUMBER OF SUBJECTS			TOTAL NUMBER OF SUBJECTS		
SUPPORT	49			51		
CONTROL	46			54		
DOUBLE CONTROL	46			42		

(Note: For the double control group only the biographic and obstetric details available in the hospital notes were recorded in Questionnaire 1 and 2 respectively.)

There was a 25% overall non-return at six weeks in the hypertensive group as compared to 41% non-return rate amongst the teenage mothers. The actual breakdown of these figures is depicted in Table 2.

TABLE 2: PERCENTAGE OF NON-RETURNS AT SIX WEEKS POSTPARTUM

	MILDLY HYPERTENSIVES	TEENAGE MOTHERS
SUBJECT	32%	41%
CONTROL	21%	52%
DOUBLE CONTROL	23%	30%

3.2 RANDOMIZATION

The study was designed as a randomized controlled trial. Once the subject had agreed to participate in the study they were randomly assigned to either a support or a control group, by means of cards in sealed opaque envelopes. Biographical detail was collected from the hospital notes of all mothers who fitted the criteria, as described in the methodology section. This randomization process succeeded in producing groups which were well matched for all the baseline data recorded.

3.2.1 Baseline Measures

Descriptive analysis was used to obtain fundamental biographic information on the mothers in the study. Support, control and double control groups were compared on the following demographic variables: age, language, marital status, who the subject lives with, education, pregnancy occupation and income. Table 3 represents the breakdown of the figures within the mildly hypertensive groups; Table 4 within the under seventeen year old (teenager) group.

TABLE 3: DEMOGRAPHIC VARIABLES FOR THE MILDLY HYPERTENSIVE GROUP

VARIABLE NAME	GROUPS		
	SUPPORT	CONTROL	DOUBLY CONTROL
A. <u>AGE: (YEARS)</u>	$\bar{X} = 21$ $R = 10$ $\sigma = 3.3$	$\bar{X} = 21.5$ $R = 19$ $\sigma = 4.6$	$\bar{X} = 22$ $R = 21$ $\sigma = 5$
B. <u>LANGUAGE:</u>			
- SOLO SPEAKING	37%	45%	41%
- BOTH SPEAKING	6%	17%	15%
C. <u>MARITAL STATUS:</u>			
- SINGLE	90%	95%	89%
D. <u>SUBJECT LIVES WITH:</u>			
- FAMILY OR OTHER RELATIVES	65%	62%	66%
E. <u>EDUCATION:</u>			
0 - STANDARD 3*	10%	9%	7%
STANDARD 4 - STANDARD 10	82%	86%	86%
F. <u>PRESENT OCCUPATION:</u>			
UNEMPLOYED OR STUDENT	86%	88%	85%
G. <u>INCOME OF ALL EARNERS IN THE HOME:</u>			
<R900	63%	65%	40%
R900+ INCF	12%	19%	26%

* Literacy level is generally taken as from Standard 3. The educational level has therefore been split at this point.

Note : \bar{X} = Mean; R = Range; s = Standard Deviation

No significant differences between values were observed.

TABLE 4: DEMOGRAPHIC VARIABLES FOR THE TEENAGE GROUP

VARIABLE NAME	GROUPS		
	SUPPORT	CONTROL	DOUBLE CONTROL
A. <u>AGE:</u>	$\bar{X} = 16$ $R = 2$ $\sigma = 0.7$	$\bar{X} = 16$ $R = 5$ $\sigma = 0.9$	$\bar{X} = 16$ $R = 9$ $\sigma = 0.8$
B. <u>LANGUAGE:</u>			
- ZULU SPEAKING	49%	32%	46%
- SOFEO SPEAKING	16%	26%	16%
C. <u>MARITAL STATUS:</u>			
- SINGLE	96%	96%	96%
D. <u>SUBJECT LIVES WITH:</u>			
- FAMILY OR OTHER RELATIVES	98%	96%	97%
E. <u>EDUCATION:</u>			
0 - STANDARD 3*	5%	9%	20%
STANDARD 4 - STANDARD 10	92%	91%	75%
F. <u>PREGNANCY OCCUPATION:</u>			
UNEMPLOYED OR STUDENT	100%	100%	100%
G. <u>INCOME OF ALL EARNERS IN THE HOME:</u>			
<R300	65%	57%	65%
DON'T KNOW	22%	26%	14%

* Literacy level is generally taken as from Standard 3. The educational level has therefore been split at this point

All mothers in the hypertensive and teenage groups were first time mothers (primiparae). Seventy percent of the supported subjects in the hypertensive group had not planned their babies. This figure was not very different from the other groups: i.e. 71% controls and 73% double controls had unplanned pregnancies. Similarly, 94% of supported subjects, 93% of controls and 93% of double controls in the teenage group had also not planned for their pregnancies (Figure 1).

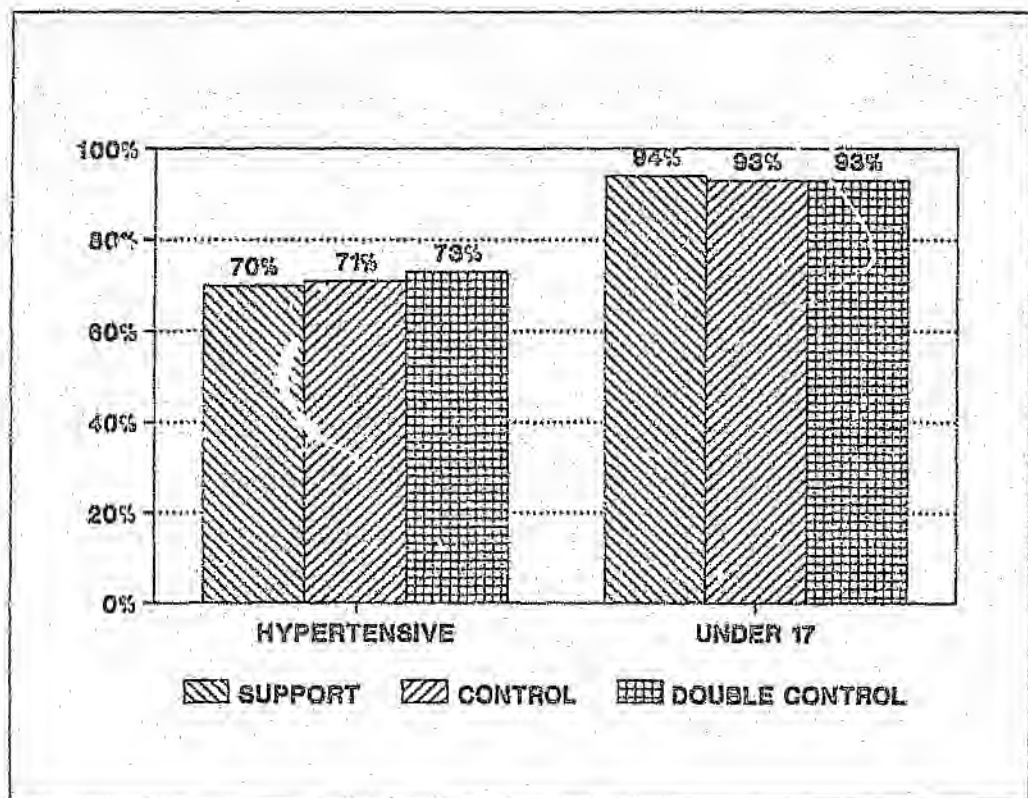


FIGURE 1 : PERCENTAGE OF AFRICAN MOTHERS IN THE STUDY WHO HAD NOT PLANNED PRACTICALLY OR EMOTIONALLY FOR THEIR BABIES

3.2.2 Perceptions On Entering Labour

Information on the following variables was only obtained for the support and control groups, as double controls were not asked any questions at this stage. Subjects were asked to rate their feelings on a three point Likert type scale.

3.2.2.1 The Mildly Hypertensive Group

The attitude of this group towards their pregnancy was positive. They were very excited about the prospect of giving birth (55% of supported mothers versus 54% of controls). Overall they felt good about having a baby (59% of supports; 57% of controls) although some mothers were worried about the delivery (20% and 17% of support and control mothers respectively; $\chi^2 = 5.2$; $df = 2$; $p = 0.074$).

This element of the unknown had an impact on the mother's state of anxiety. Seventy eight percent of the control mothers and 72% of the supports reported feeling anxious on entering labour and feared (37% support, 41% control), that giving birth would be very difficult (67% support, 69% control). Sixty nine percent of the mothers, who were subsequently supported, stated that they were already in a great deal of pain (59% of controls) ($\chi^2 = 6.4$; $df = 3$; $p = 0.091$).

3.2.2.2 The Teenage Group

Fewer mothers in this group, under seventeen year olds, were really excited about having a baby. Sixty five percent of the support group and 73% of the controls were unemotional and indifferent about the prospect of giving birth. This attitude was generally reflected in their other responses: 49% of supports and 46% of controls did not feel at all worried about the birth; 40% in both groups, supports and controls, were not at all afraid and

3.2.2.2 The Teenage Group

Fewer mothers in this group, under seventeen year olds, were really excited about having a baby. Sixty five percent of the support group and 73% of the controls were unemotional and indifferent about the prospect of giving birth. This attitude was generally reflected in their other responses: 49% of supports and 46% of controls did not feel at all worried about the birth; 40% in both groups, supports and controls, were not at all afraid and 52% of support and 47% of controls felt despondent about having a baby. Furthermore 74% (supports) and 69% (controls) had a poor self concept and already felt much in pain in the early stages of labour (63% support; 65% controls).

3.2.3 Obstetric Variables

The baseline obstetric data collected across the groups are summarized in Table 5.

The baseline information in the support, control and double control groups were sufficiently similar to confirm the effectiveness of randomization. The marginal discrepancies that may at times be apparent were analysed by means of the Chi-squared test but were found to be statistically insignificant.

TABLE 5: BASELINE OBSTETRIC MEASURES

VARIABLES	MILDLY EXPECTORANTIVE			TENSIVE		
	SUPPORT	CONTROL	DOUBLE CONTROL	SUPPORT	CONTROL	DOUBLE CONTROL
A. SPONTANEOUS RUPTURE OF MEMBRANES.	32%	32%	34%	22%	23%	30%
B. 3 CENTIMETERS DILATED ON ENROLLMENT INTO STUDY.*	50%	50%	50%	50%	50%	50%
C. MEAN CERVICAL DILATATION ON ENROLLMENT INTO STUDY.	$\bar{X} = 5.8$ $R = 4$ $s = 1.0$	$\bar{X} = 3.5$ $R = 4$ $s = 0.4$	$\bar{X} = 4$ $R = 3$ $s = 0.3$	$\bar{X} = 3.5$ $R = 4$ $s = 0.5$	$\bar{X} = 3.5$ $R = 4$ $s = 0.8$	$\bar{X} = 3.1$ $R = 4$ $s = 1.1$
D. MEAN GESTATIONAL AGE ON ENROLLMENT INTO STUDY (WEEKS).	$\bar{X} = 36.6$ $R = 6$ $s = 1.5$	$\bar{X} = 39$ $R = 7$ $s = 2$	$\bar{X} = 38.5$ $R = 6$ $s = 3$	$\bar{X} = 33.4$ $R = 7$ $s = 1.5$	$\bar{X} = 30.5$ $R = 10$ $s = 1.7$	$\bar{X} = 33.1$ $R = 14$ $s = 2.3$
E. AVERAGE NUMBER OF VISITS TO ANTENATAL CLINIC.	$\bar{X} = 6$ $R = 15$ $s = 3$	$\bar{X} = 6.4$ $R = 10$ $s = 2.6$	$\bar{X} = 6.5$ $R = 16$ $s = 3.2$	$\bar{X} = 6$ $R = 13$ $s = 3.3$	$\bar{X} = 3.8$ $R = 11$ $s = 2.8$	$\bar{X} = 5.9$ $R = 17$ $s = 3.7$
F. MEAN GESTATION AGE ON FIRST VISIT (WEEKS).	$\bar{X} = 26$ $R = 11$ $s = 3.5$	$\bar{X} = 28$ $R = 10$ $s = 4.3$	$\bar{X} = 27$ $R = 15$ $s = 3.3$	$\bar{X} = 28$ $R = 24$ $s = 5.2$	$\bar{X} = 28$ $R = 20$ $s = 4.7$	$\bar{X} = 20$ $R = 18$ $s = 5.3$
G. % SUBJECTS WHO HAD RECEIVED ANALGESIA BEFORE ENROLLMENT.	65%	65%	-	75%	65%	-
H. AMOUNT OF DISTRESS ON ADMISSION.	65%	65%	-	69%	75%	-
I. SYSTOLIC BLOOD PRESSURE ON ADMISSION (MEAN VALUE).	$\bar{X} = 140$ $R = 80$ $s = 18$	$\bar{X} = 139$ $R = 90$ $s = 17$	$\bar{X} = 130$ $R = 70$ $s = 17$	$\bar{X} = 118$ $R = 50$ $s = 11$	$\bar{X} = 122$ $R = 60$ $s = 14$	$\bar{X} = 129$ $R = 90$ $s = 17$
J. DYSTOLIC BLOOD PRESSURE ON ADMISSION (MEAN VALUE).	$\bar{X} = 92$ $R = 55$ $s = 12$	$\bar{X} = 94$ $R = 60$ $s = 12$	$\bar{X} = 90$ $R = 40$ $s = 12$	$\bar{X} = 75$ $R = 40$ $s = 7$	$\bar{X} = 79$ $R = 40$ $s = 11$	$\bar{X} = 80$ $R = 60$ $s = 13$

Note: \bar{X} = Mean; R = Range; s = Standard Deviation

There were no statistically significant differences between groups

* This was part of study criteria

** These figures are normal in this population

3.3 INTERVENTION EFFECTS

In this section the outcome of the various interventions are presented. Results on several variables in the support, control and double control (where applicable) groups for the mildly hypertensives will be listed followed by the results on the same variables for the support, control and double control (where applicable) groups in the teenage category.

3.3.1 One Day Postpartum

The variables for which results are presented here relate to the mother's perception of the birth experience, the number of activities she had done with her baby since birth, a rating of her pain, and the state of anxiety, trait anxiety, self-esteem and depression scores.

There was an indication in the mothers in the supported hypertensive group towards a feeling that they coped less well with their labour than their control counterparts (43%; 57%). This difference was not significant for this group nor was it apparent in the teenage group (58%; 59%). More of the controls in both of the groups felt very relaxed during labour (67% of controls versus 59% supports in hypertensives; 83% controls versus 66% supports in the under seventeen year olds), and although significance was not shown the supported subjects appeared to be more tense than controls (41% support; 33% control in hypertensives) and (33% support; 16% control in teenagers) (Figure 2).

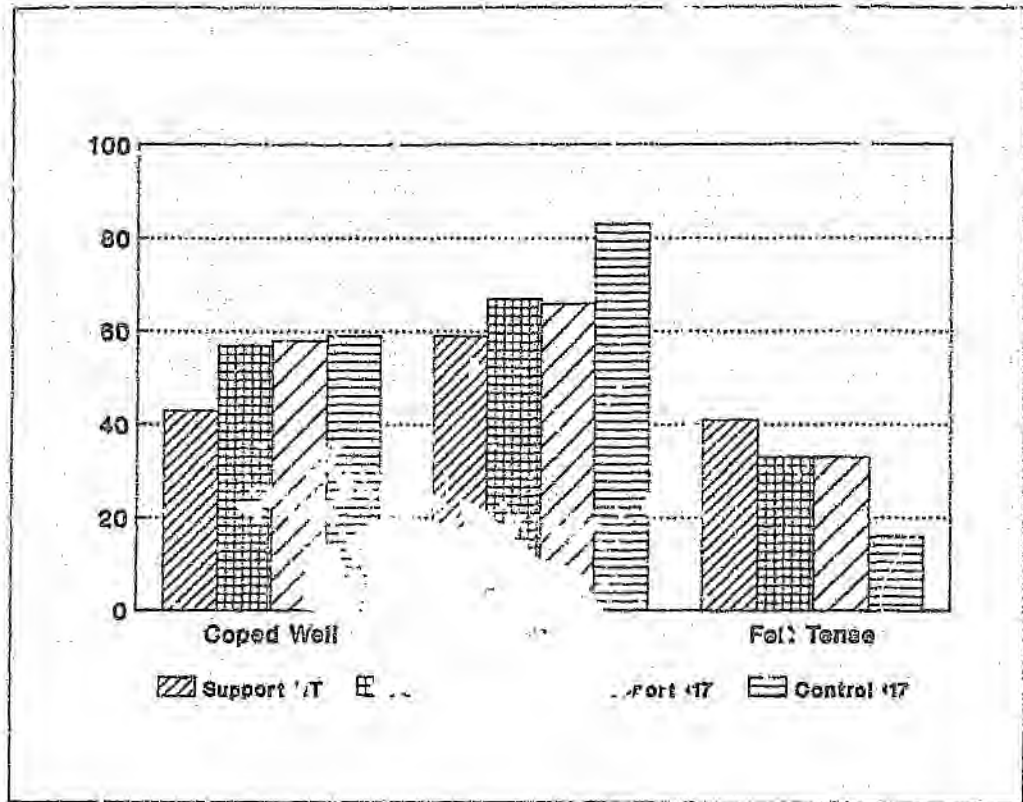


FIGURE 2 : MOTHERS' PERCEPTIONS OF THEIR FEELINGS DURING LABOUR

The supported teenage group, however, felt that their labour had gone much better (63%) than they had anticipated (35% in control group). This result was highly significant in that group ($\chi^2 = 16.928$; $df = 3$; $p = 0.001$), but not in the hypertensives (only 45% of supports and 47% of controls felt they had coped better with labour than expected) (Figure 3).

In general, the controls rated the practical and emotional help they received from doctors and nurses more highly than supported patients. For example, 67% of the hypertensive supports said they received practical help from nurses as compared to 78% of controls (Figure 4).

TABLE 8: OCCURRENCES OF ILLNESSES AT SIX WEEKS IN BABIES OF SUPPORT AND CONTROL MOTHERS

	MILDLY HYPERTENSIVES		TEENAGE MOTHERS	
	SUPPORT	CONTROL	SUPPORT	CONTROL
A. VOMITING	4%	13%	3%	11%
B. COLDS	20%	20%	19%	13%
C. COUGHS	26%	24%	17%	22%
D. DIARRHOEA	6%	11%	5%	13%
E. POOR APPETITE	10%	26%	5%	7%
p values	p = 0.063	p = 0.084	p = 0.069	p = 0.086

(NOTE: This information was not completed in significant detail on the questionnaire by the double control group, to enable statistical analysis to be done).

In the hypertensive group none of the supported mothers were solely bottle feeding their infants whereas 6% of control mothers and 4% of double control mothers were doing so at six weeks ($\chi^2=5.7$; $df=2$; $p=0.058$ for the teenage group). Furthermore, 35% of the supported hypertensives were still breastfeeding their babies exclusively compared to only 26% of the double controls (36% of controls) (Figure 7). This figure was lower amongst the teenage mothers as 28% of the supports and 20% of the controls were feeding their infants on the breast.

Sixty-five percent of the supported hypertensive mothers and 62% of the supported teenage mothers fed their babies on demand, contrasted to half the teenage controls and 52% of hypertensive double controls.

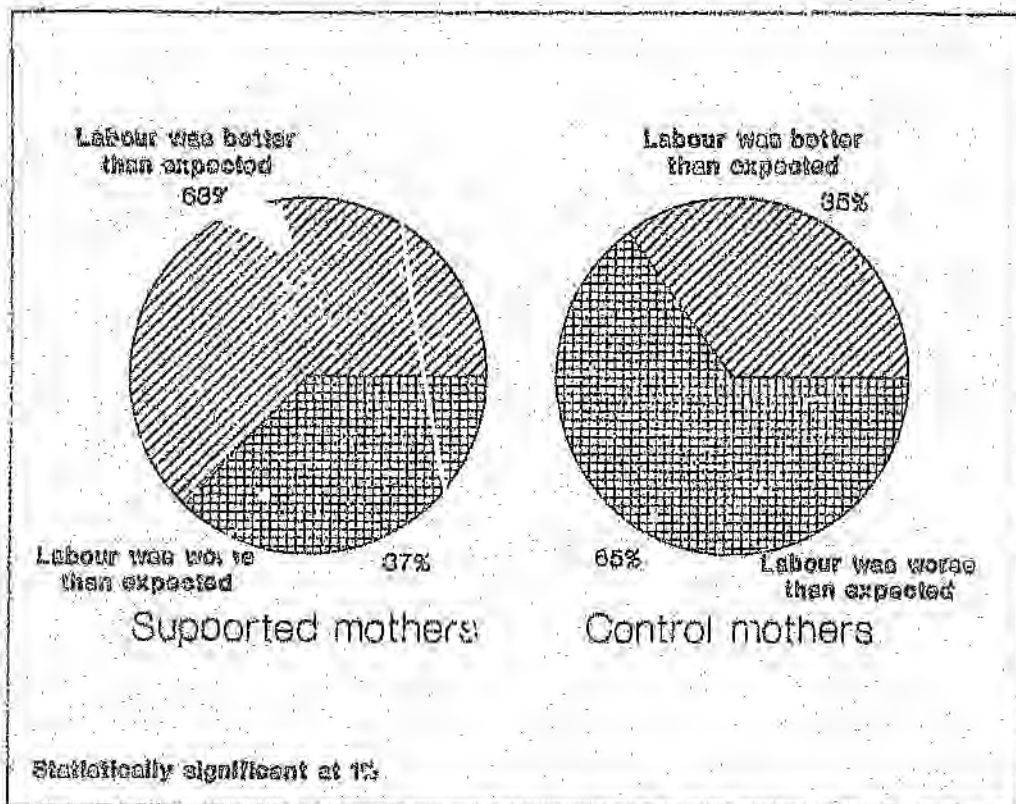


FIGURE 3 : UNDER SEVENTEEN YEAR OLDS' PERCEPTIONS OF LABOUR

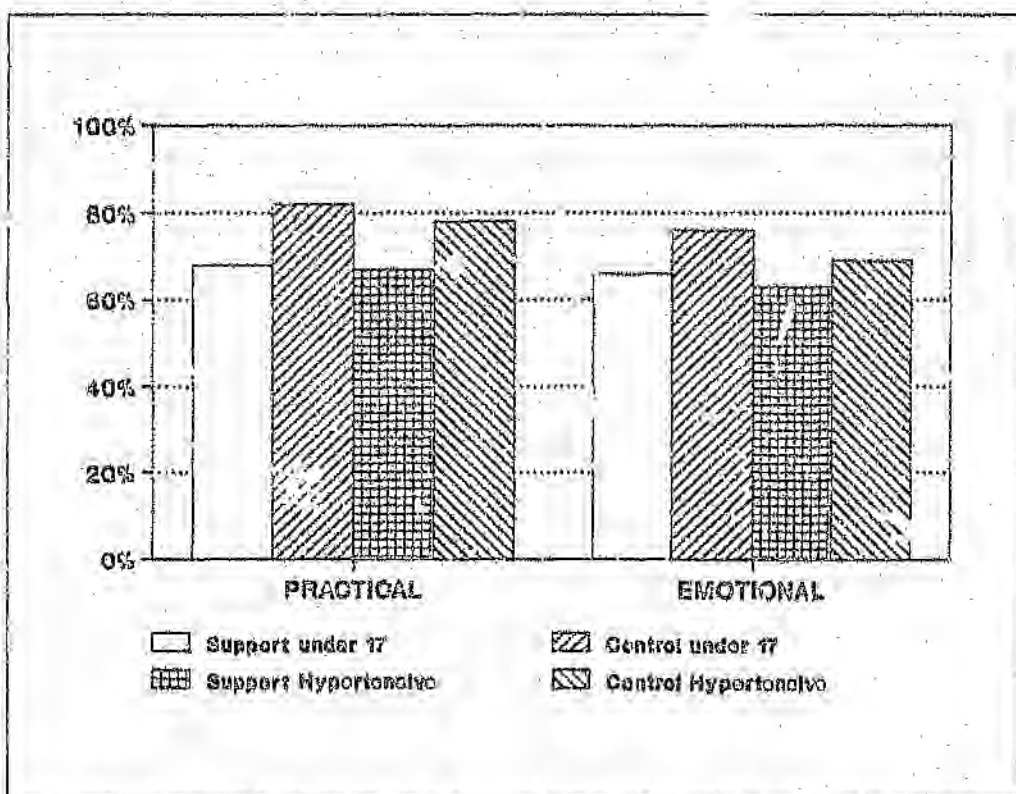


FIGURE 4 : PRACTICAL AND EMOTIONAL HELP DURING LABOUR

Moreover 69% of the hypertensive controls also stated having received emotional support from doctors as compared to 63% of the supported group. Overall nurses were rated more highly than doctors.

Furthermore, in the under seventeen year old age group 82% of the controls (versus 68% of the supports) said they received excellent practical help from hospital staff ($\chi^2 = 16,607$; $df = 5$; $p = 0.05$), and 76% of controls (66% of supports) ($\chi^2 = 12,306$; $df = 5$; $p = 0.03$) said they also received excellent emotional support.

Although statistically not significant, 90% of the supported teenagers (87% of hypertensive mothers) felt that having a hospital supporter with them during labour and delivery was helpful. Notwithstanding the fact that only 43% of supported teenagers had support for the entire labour (i.e. from admission to labour ward to the second stage) (38% of the supported hypertensives), hospital supporters were still elected as the most preferred person to act as the supportive companion. This is depicted in the following breakdown: 63% of hypertensives supports; 67% of hypertensive controls; 65% of supported teenagers and 56% of control teenagers would choose to have a hospital supporter with them should they have another baby (Figure 5).

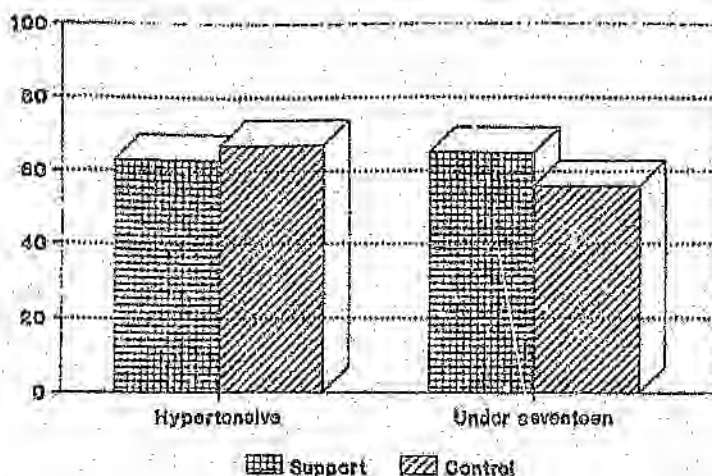


FIGURE 5: PERCENTAGE OF MOTHERS IN THE SAMPLE WHO WOULD CHOOSE A HOSPITAL SUPPORTER AS THEIR COMPANION DURING LABOUR

A small percentage of patients (not statistically significant) would choose never to have a supporter (21% of control hypertensives; 6% of control teenagers) or not to have a supporter again (12% of supported hypertensives; 8% of supported teenagers).

Fifty nine percent of the supported teenage mothers and 61% of the controls were unhappy about becoming a mother. These figures were slightly less in the hypertensive groups (37% of supported mothers; 48% of controls) although still not significantly different between groups. However, unlike the support and control teenage mothers, the supported hypertensive subjects tended to be more involved in actively interacting with their babies. Twenty four hours after birth 65% of these supported hypertensive mothers had dressed their babies, compared with 45% of controls ($\chi^2 = 3.716$; $df = 1$ $p = 0.053$). 70% had also held their infants (versus 50% of controls) ($\chi^2 = 3.738$; $df = 1$; $p = 0.053$) and 65% had bathed them (versus 45% of controls) ($\chi^2 = 3.738$; $df = 1$; $p = 0.053$). They had also fed; talked to; played with, and changed the nappies of their babies slightly more frequently ($\chi^2 = 2.985$; $df = 1$; $p = 0.084$) (Figure 6). None of these activities came up as significant, or as a trend amongst the under seventeen year old mothers.

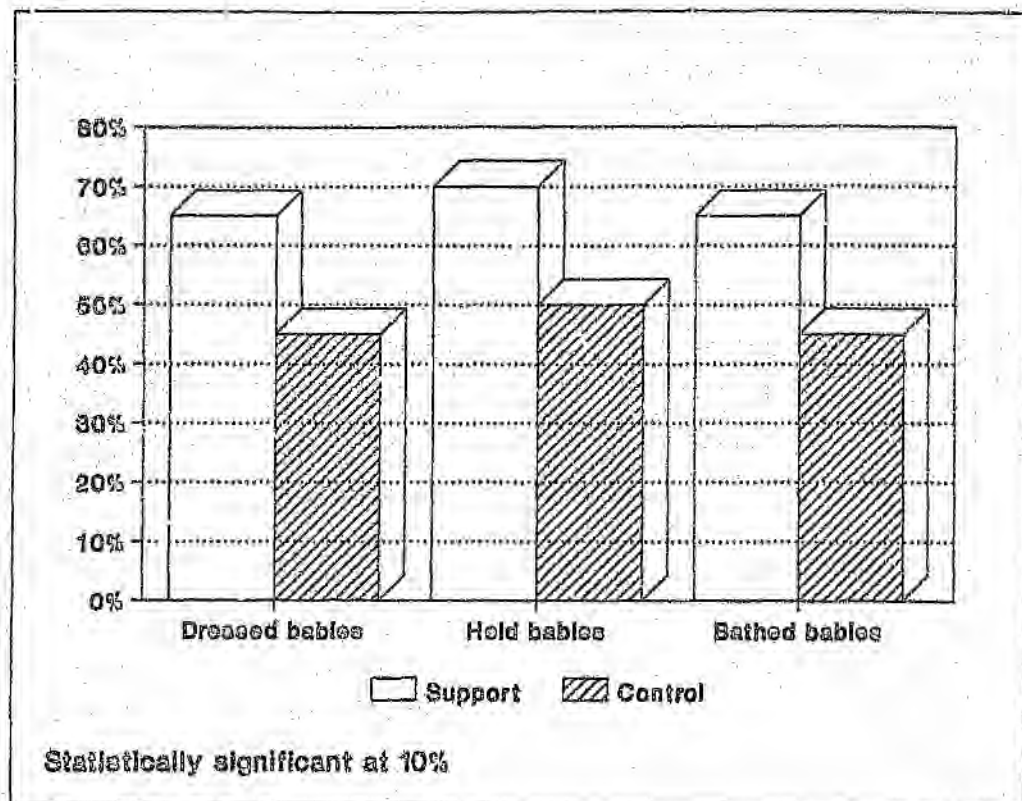


FIGURE 6: EXTENT OF HYPERTENSIVE MOTHERS' INTERACTIONS WITH THEIR BABIES

There was a tendency of the supported groups to report feeling less pain at one day postpartum (54% support, 72% control - teenage mothers; 45% support, 63% control - hypertensive group) and in labour at its worst (72% support, 80% control - teenage group -; 71% support, 80% controls ($\chi^2 = 7.9$; $df = 4$; $p = 0.093$) - hypertensive mothers). Furthermore, the supported mothers in the hypertensive group were feeling less anxious at the twenty four hour interview (40% versus 53% controls; $\chi^2 = 7.732$; $df = 2$; $p = 0.02$). The teenage did not show statistical difference on this measure (47% of supports felt anxious at the interview compared to 54% of the controls).

The Spielberger (1983) trait anxiety score and the Coopersmith (1967) self-esteem score measure stable personality characteristics. They should therefore not be influenced by recent events. The mean trait anxiety scores the day after delivery were comparable within the two groups: ($\bar{X} = 38$, Range = 50, $s = 9.7$ supported teenagers; $\bar{X} = 33$, Range = 49, $s = 9.4$ controls; $\bar{X} = 36$, Range = 33, $s = 9.3$ hypertensive supports; $\bar{X} = 33$, Range = 37, $s = 8.7$ hypertensive controls); as were the self-esteem scores (teenage supports $\bar{X} = 65$, Range = 64, $s = 16$; $\bar{X} = 66$, Range = 77, $s = 19$ controls; $\bar{X} = 68$, Range = 72, $s = 20$ supported hypertensive mothers; $\bar{X} = 71$, Range = 68, $s = 18$ for the control hypertensives). These figures provide further support for the effectiveness of the randomization procedure followed.

The state anxiety score amongst the supported teenager group was not significantly reduced ($\bar{X} = 35$; Range = 57; $s = 8$ versus $\bar{X} = 34$; Range = 44; $s = 8$ controls) when measured twenty-four hours after delivery. Similarly the hypertensive supported mothers did not show a lowered current state anxiety ($\bar{X} = 34$; Range = 40; $s = 8$ versus $\bar{X} = 32$; Range = 32; $s = 8$ controls). Furthermore, the mean Pitt depression scores at one day postpartum were the same in the hypertensive group ($\bar{X} = 13$, Range = 36, $s = 8$ support; $\bar{X} = 13$, Range = 28, $s = 7$ controls); and alike in the under seventeen year old group ($\bar{X} = 13$, Range = 30, $s = 6$ support; $\bar{X} = 14$, Range = 30, $s = 6$ controls). The Pitt depression scale also reflects a stable state and should not be affected by giving birth.

In short, although the supported teenager group felt that their labours had gone better than anticipated, the supported hypertensive mothers did not show this effect. Overall a few significant differences were shown between the support and control groups twenty four hours postpartum (especially for the hypertensive groups), and other trends in the data became apparent.

3.3.2 Physiological Assessment

The obstetric details of patients who were enrolled into the study were recorded in order to assess whether the effects of a supportive companion would result in any measurable physiological changes in the progress of labour.

The number of hours the mother was in labour and birth weight of the babies were comparable across the groups (Table 6).

TABLE 6: BIRTH WEIGHTS AND NUMBER OF HOURS IN LABOUR

	<u>MILDLY HYPERTENSIVES</u>			<u>TEENAGE MOTHERS</u>		
	<u>SUPPORT</u>	<u>DOUBLE CONTROL</u>		<u>SUPPORT</u>	<u>DOUBLE CONTROL</u>	
		<u>CONTROL</u>	<u>CONTROL</u>		<u>CONTROL</u>	<u>CONTROL</u>
<u>NUMBER OF HOURS IN LABOUR</u>	$\bar{X} = 12$ $n = 33$ $s = 6$	$\bar{X} = 12$ $n = 24$ $s = 5$	$\bar{X} = 11$ $n = 13$ $s = 6$	$\bar{X} = 11$ $n = 22$ $s = 5$	$\bar{X} = 10$ $n = 23$ $s = 5$	$\bar{X} = 10$ $n = 43$ $s = 6$
<u>BIRTH WEIGHT</u>	$\bar{X} = 3092$ $n = 1913$ $s = 396$	$\bar{X} = 3144$ $n = 2103$ $s = 430$	$\bar{X} = 3164$ $n = 1800$ $s = 446$	$\bar{X} = 3104$ $n = 1579$ $s = 426$	$\bar{X} = 3009$ $n = 1560$ $s = 371$	$\bar{X} = 3133$ $n = 1720$ $s = 417$

Note: \bar{X} = Mean value; R = Range; s = Standard deviation.

Syntocinon was administered to 65% of the control teenager group, whereas only 54% of the supported teenager group received this drug ($\chi^2 = 18.4$; $df = 4$; $p = 0.001$). Furthermore 58% of the teenage control group received five or more units of Syntocinon as compared to 47% of the supported under seventeen year olds ($\chi^2 = 21.8$; $df = 8$; $p = 0.005$). In the hypertensive control group, the average length of time syntocinon was administered for eight hours, compared with the six hours recorded in the supported group ($\chi^2 = 9.3$; $df = 4$; $p = 0.052$).

Sixty two percent of the supported hypertensive subjects had unassisted natural vaginal deliveries (NVD), as compared to 56% of the controls. This figure was higher in the teenage group with 81% supports having NVD's and 79% controls. The double control groups had slightly lower percentages of vaginal deliveries with a high 15% forceps and vacuum assisted deliveries recorded in the double control hypertensives group. This latter figure is compared with 6% among the control hypertensives. A 19% caesarean section rate was noted in the under seventeen year old control group compared to 15% in the supported teenager group. The hypertensive caesarean section rates were overall moderately but not significantly higher.

The proportions between the various methods of delivery of the placenta were analogous across the groups. Only the double control hypertensive group demonstrated fewer spontaneous placenta deliveries (45% versus 57% control hypertensives) and thus a need for higher intervention.

Overall the rate of maternal complications in the control and double control groups were higher than in the supported groups. Complications included postpartum haemorrhaging, hypertension (in the non-hypertensive group), and pyrexia -amongst others. The mother was deemed as having had a complication if she presented with one or more of these symptoms (Table 7).

TABLE 7: COMPLICATION RATES WITHIN THE GROUPS

	MILDLY HYPERTENSIVES			TEENAGE MOTHERS		
	SUPPORT	CONTROL	DOUBLE CONTROL	SUPPORT	CONTROL	DOUBLE CONTROL
COMPLICATION RATES	12%	20%	20%	5%	10%	12%

(Note: $X^2=8.4$; $df=4$; $p=0.077$ in the teenage group).

Nineteen percent of the teenage control group (15% of the supports) had cephalopelvic disproportion as the indication for an

assisted delivery. This rate was equivalent in both the support (22%) and the control (22%) hypertensive groups. Within the hypertensive groups, however, prolonged second stage was a reason given for assisted deliveries in 11% of the controls compared to 4% of the supports. Fetal distress, as a reason, followed a similar pattern in this group (9% controls versus 2% of supports).

Furthermore, within the mildly hypertensive group, 22% of the babies of control mothers needed resuscitation after delivery. Only 8% of the babies, of the supported hypertensive mothers required this treatment ($\chi^2=7.8$; $df=4$; $p=0.097$). A similar profile was noticed amongst newborns of the teenage mothers, where 2% of babies in the supported group, 7% of the control group and 12% in the double control needed to be resuscitated. A high level of statistical significance on the Chi-squared test was not achieved on any of these differences, although a trend was observed.

3.3.3 Six Weeks Postpartum

Mothers were interviewed on their return to the postnatal clinic at six weeks after delivery. In the hypertensive group 71% of the support and control mothers came to the clinic bringing their infants with them. However it was observed that in the teenage group more of the supported mothers (75%), as compared to the control mothers (63%), brought their babies to the clinic for the check-up with them.

Although not statistically significant, differences were noted between the health of the babies of support and control mothers, there was a slight tendency for the infants of supported mothers to have fewer illnesses than their control counterparts. The figures are depicted in Table 8.

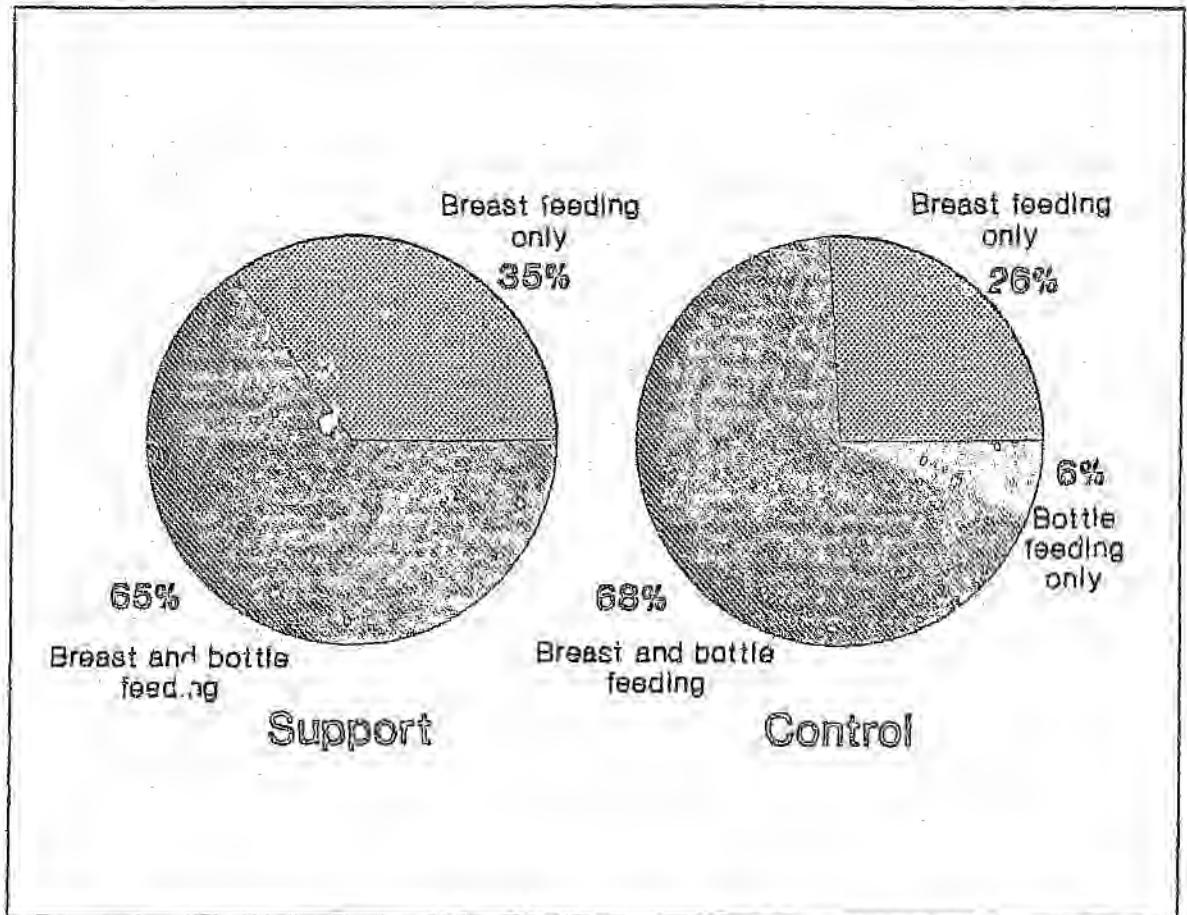


FIGURE 7: METHOD OF FEEDING AT SIX WEEKS IN THE HYPERTENSIVE GROUP.

Overall, as assessed on Raphael-Leff's Mothering Style assessment questionnaire, all the mothers were moderately facilitative in their parenting (Table 9).

TABLE 9: PARENTING STYLE OF MOTHERS

	MILDLY HYPERTENSIVE			TENSIVE MOTHERS		
	SUPPORT	CONTROL	DOUBLE CONTROL	SUPPORT	CONTROL	DOUBLE CONTROL
EXTREMELY FACILITATIVE	11%	23%	9%	14%	6%	8%
MODERATELY FACILITATIVE	43%	37%	42%	42%	35%	41%
INTERMEDIATE GROUP	36%	35%	37%	35%	36%	49%
INHIBITORY	8%	5%	12%	9%	5%	4%

Forty one percent of the hypertensive mothers in each group do not have a daily routine, but are adaptive and flexible to their infants needs. Reciprocally, 41% of the supported teenager mothers, 31% of controls and 32% of double controls adjust to their babies habits.

Supportive companionship during labour and delivery had no statistically significant effects, at six weeks postpartum, on the mother's perceptions of her baby as being especially clever, easy to manage or beautiful. A particular closeness between supported mothers and their babies, was also not demonstrated in this sample of women.

The absence of this special affinity between mother and child was even more apparent in the teenager group, where many of the young mothers had gone back to school and were not the primary caretakers of their infants

The mother's relationship with her partner at six weeks after delivery was also examined. The majority of the mothers in the sample were unmarried and not in a stable relationship. Overall the mother's pregnancy had effected the intimacy of the relationship with her partner, which had consequently deteriorated and was often non-existent at six weeks after the birth. The mother's main form of support, in particular practical help, therefore came from her own mother.

Finally, the standardized psychological tests of state anxiety (Spielberger, 1983) and depression (Pitt, 1968) re-administered at the six week point did not yield significant differences between groups, which makes it conducive to the cultural and environmental background of these women.

Thus; in brief, the results indicate a possible trend towards supportive companionship helping mothers through labour and delivery. The differences between groups however, as measured by this study, are modest and not defined sufficiently clearly enough to enable decisive conclusions of this nature to be made.

CHAPTER FOUR

DISCUSSION

The aim of this thesis was to examine the effects of social support, as related to the area of childbirth. In particular peri-urban African women were studied as their experiences of giving birth at a time of ongoing transition of their culture has not been extensively researched.

This study showed that supported teenagers felt that they had coped significantly better with their labour than their control counterparts. Furthermore, supported hypertensive mothers interacted significantly more with their infants, one day postpartum, than the controls. There were also trends to indicate fewer illnesses in the babies of supported mothers at six weeks after delivery, and more of the supported mothers were still breastfeeding exclusively. Although there was a tendency for support to be effective in countering the high stress situations of being a hypertensive or a teenage mother, social and cultural factors interfered with the support process, and the results yielded on this small sample were statistically not highly significant. A discussion of the study's results will now follow.

In the traditional African birthing environment, the mother to be was surrounded by people she knew and trusted. From them she received the encouragement, moral support and proximal physical contact she needed to feel comfortable and secure for her delivery. The transition of this culture into Westernized society has resulted in incongruencies between the traditional birth rituals and the first world medical approach. Better physical care of the mother and baby has been achieved, but there is less mental, emotional and spiritual preparation for birth and parenthood.

The apartheid system of government is to a considerable extent responsible for this change; both through the fragmentation and segregation of health care policies and most devastatingly the implementation of the migrant labour system (Chalmers, 1990). As a consequence of these factors, not only has the extended family structure been destroyed, but even the nuclear family unit has been desecrated. The outcome has resulted in an often mistrustful, angry and frustrated African society in which the traditionally inherent support systems have been broken down.

The Baragwanath Hospital is, to this day, a reminder of the apartheid system. The hospital, together with its eight satellite clinics serves the entire Sowetan population, estimated at around 3 million people (Chalmers, 1990). The maternity section of the hospital is a referral hospital for all the high risk patients.

Labour ward alone, often through the duration of the study, saw a 200% daily bed occupancy rate. This means that at times there are two delivering mothers per cubicle. This impacts not only on the mother's feelings for the lack of privacy and dignity in delivering in such an exposed setting, but also on the already critical shortage of health care professionals and the supportive roles they are expected to fulfill. For the purposes of this study, mothers were always supported alone together with the supporter in a cubicle. When there were two mothers in a cubicle, the non-supported mother was moved elsewhere.

For the purpose of this study, the Provincial Authorities permitted the hospital supporters into the labour ward. The function of the supporters however was constrained by the rules and conditions laid down by these authorities. The role of social support in the two high stress groups under study, the teenager and the mildly hypertensive mothers, will now be discussed in more detail.

4.1 THE ROLE OF SUPPORT FOR TEENAGE MOTHERS

Approximately 20% of all deliveries in Soweto are to teenage mothers (Chalmers, 1990). The average age of the mothers in the sample was 16 years old. All of them were scholars and 98% of them were single. The majority of them lived with their families or relatives. However, these are not the close-knit nuclear family units envisaged by Westernized society but rather a combination of cousins, aunts, brothers-in-law, grandmothers and sometimes the actual mother and father of the pregnant teenager. These randomly associated groups of people, living under one roof in usually overcrowded facilities, do not provide an environment conducive to intimate, personalized, confiding, supportive relationships. Instead, the teenager is usually chastised for her pregnant state, and needs to come to terms with her pregnancy independent of social support.

In the midst of this scenario, therefore, it is not wholly surprising that over 90% of teenage mothers in all the groups (support, control, double control), had not planned for or expected parenthood. Furthermore, very few of these mothers were excited about having a baby and displayed indifference about giving birth. Their stressful experiences throughout their pregnancy impacted on their already weakened self concept, augmenting their perceptions of their pain, even in the very early stages of their labour.

Following from this, there was a tendency for the control group of teenage mothers to report feeling more relaxed during labour than supported subjects. This may well be related to the environmental and living conditions to which people in Soweto are exposed. There is continual ongoing violence and daily threat to the lives of many thousands of the inhabitants of the township. Under these circumstances mistrust has become inbred in all people towards each other (Turton *et al.*, 1990). The teenage mother's initial reaction to a supporter may therefore have had

the opposite of the desired effect. She may have reacted with mistrust and fear to the stranger she didn't know. Moreover, the teenage mother may have made an association between the elderly supporter and her mother or grandmother, who had persistently reprimanded her for her pregnancy, thus, again reminding her of the state she was trying to forget.

The supporters, however, were impartial, helpful caring women who were there to encourage the teenage mother through her labour and delivery. From the results it can be seen that this function was in fact effective. Significantly more of the supported teenage group felt that their labour had gone much better than they had anticipated. Furthermore, at one day postpartum, this group reported feeling less pain at the time of the interview, and at its worst during delivery, than their control counterparts.

The control group, not having had a supporter with them during labour and delivery, rated the practical and emotional help they received from doctors and nurses more highly than the supported group. The supported teenagers, however, when asked twenty-four hours after birth, rated the supportive companion as having been very helpful and would first elect to have a hospital supporter again, if they had another baby.

As in the Coronation study (Hofmeyr *et al.*, 1991), the dramatic effects on the physiological progress of labour were not found. This may be because these mothers, having been themselves brought up in a fairly urbanized setting, have already been exposed to Westernized high-technology clinical environments. They are therefore not adversely effected by delivering in an environment with frequent medical interventions however the sample size was too small to see tendencies emerging.

The societal stress imposed on the teenage mother is an extremely important impingent factor to consider. At one day postpartum both the control and support mothers did an equal number of

activities with their infants: At six weeks postpartum there was an extremely high dropout rate of control mothers. Also, slightly more of the supported mothers brought their infants with them to the six week postnatal check; a few more supported mothers were still breastfeeding exclusively at six weeks after delivery and in general tended to feed more by demand, than the control and double control mothers. However, these effects were slight and not highly significant. Furthermore, their one day and six week state anxiety and depression score were similar for both the mothers in the support and control groups

All these factors tend to indicate that although support was deemed helpful during delivery and in some respects postpartum it was of too short duration to counteract the intensity of all the societal problems with which the teenage mothers had to cope, to have an overall significant, long term beneficial effect. This is further confirmed by the fact that all the groups (support, control, double control), had very similar scores on all the psychological measures.

4.2 THE ROLE OF SUPPORT FOR MILDLY HYPERTENSIVE MOTHERS

In general, the mildly hypertensive group of mothers were a slightly more stable population. More of their babies were actually planned, and more than half of each of the groups, supports and controls, had a positive attitude towards their pregnancies and were excited about their babies.

The effects of a supportive companion was more apparent in the hypertensive support group. An initial apprehension of the supporter however was nonetheless observed. This was confirmed by the fact that more of the supported hypertensives reported feeling anxious on entering labour than the controls. The expectations of the birth also tended to be higher in the support group. This may have been an effect also related to the presence of a supporter.

At one day postpartum the hypertensive mothers showed greater eagerness for their new parenting role. They interacted with their babies significantly more than the control group and reported feeling less pain both at that point and in labour at its worst. The effects of social support thus appear to have played a role in buffering the deleterious perceptions of pain.

There is a trend towards supported mothers experiencing more control of their deliveries. They had more vaginal deliveries and fewer interventions needed. These results were not as astounding as in the study by Klaus *et al.*, (1986), but nonetheless worthy of note.

The control mothers were breastfeeding their babies exclusively, more often at six weeks than the double controls. This indicates that the control group may have perceived being asked questions about their feelings during labour, and about their mothering roles as a form of support, which in turn may have facilitated self confidence and successful breastfeeding. This notion is further confirmed by the similarity between the support and control groups on these measures.

The average age of this group of mothers was 21 years old with 90% of them still single and not in permanent relationships. A general decline in the mother's closeness with her partner from before until after childbirth was apparent in all groups.

Overall, there were some differences between the supported and control mothers indicating a possible trend towards support proving beneficial. Unforeseen extraneous confounding variables may, however, also have played some part in preventing clearer delineation of this supposition.

4.3 EXTRANEOUS FACTORS

The possible extraneous factors which may have influence the outcome of the study will be discussed under the following headings: effectiveness of the available support; personality

and relationships of the supporter to the supported; frequency and timing of the support; the nature and quality of the support; and the factors and processes in an individual's decision to seek support; the effective use of supportive resources by the individual.

4.3.1 Effectiveness Of The Available Support

The Provincial Authority plays a direct role in setting the hospital and clinic practices in obstetric care. This means that issues such as providing and/or obtaining support for women in labour and during delivery have to be negotiated, not only between the mother and her physician, but also with the hospital authorities. This policy has a restrictive effect.

The Coronation study made use of lay women from the community to act as the supportive companions (Hofmeyr *et al.*, 1991). At Baragwanath Hospital, however, policy dictates that only health care workers are allowed into labour ward. The supporters in this study were therefore elderly retired midwives recruited and employed by the hospital authorities. The present researcher was therefore not able to screen them for suitability as supportive companions, but was required to work with the hospital apprentices in the best possible way. Furthermore, some of the subjects may have felt that, since the companions had been part of the nursing hierarchy they had a vested interest in the hospital establishment. Also the supportive companions were not at all familiar with the concept of "research" and it was thus extremely difficult to keep enforcing the importance of adhering strictly to the methodological design of the study.

Moreover, hospital routine enforced that the mother and baby were separated at most, five minutes after birth. This practice does not allow for immediate extensive bonding to take place, even if it was encouraged by the supportive companions.

4.3.2 Personality Factors And Relationship Of The Supporter To the Supported

The supportive companions had no relationship to the mothers they were supporting. Although they all had children and grandchildren of their own, and therefore knew about and understood the process of labour and delivering, they may possibly have initially appeared as a daunting stranger to the mother (informally observed particularly in the teenage group), thus creating more anxiety at first rather than less.

4.3.3 Frequency And Timing Of The Support

If at all feasible, it may have been more effective to assign the mothers to the support and control groups at the antenatal stage. The reasoning for this would be to enable the supporter to build up a relationship with the mother, from that stage through to delivery. With all the daily societal difficulties to which the subjects are exposed, it may have been more effective for the supporter to firstly, have had more frequent contact with the mother prior to delivery and secondly, for the same supporter to be with the woman from the start of her contractions through to delivery. The four supportive companions were only employed during working hours, each working three days a week which therefore made this implausible.

4.3.4 The Nature And Quality Of The Support

Additional difficulties were experienced in this multilingual population group in that all the questionnaires were in English. This necessitated that the supporters/interviewers constantly translate the English words which the mothers did not understand, to them. Although a list of translations for the words, which may have presented problems, were drawn up, some of the subtleties in the questions asked, may have been lost. Furthermore, although

well-known psychological tests of state-trait anxiety, self-esteem and depression were used, these had not previously been standardized on an African population. Some of the finer tuned aspects of these tests may, once again, have been lost in the translation of some of the words.

It was also noticed by the present researcher that the supportive companions' concept and understanding of support was different to the Westernized concept. From a Western standpoint, the intensity of the support process is vital; to the women in the study, the presence of a supportive companion appeared to be supportive in itself.

4.3.5 The Factors And Processes In An Individual's Decision To Seek Social Support

The findings of this study suggest that social support was not significantly effective in promoting improved pregnancy outcomes. According to Husaini (1982), an individual may be more receptive to the socially supportive behaviours of others towards them, if they themselves initiate the need for the support. In this study support was provided to the support subjects without them actually seeking it. Furthermore, the fact that there is a general mistrust of strangers, inherent in the unsettled Sowetan community, and that many of these mothers themselves were born at Baragwanath Hospital and had probably heard about the conditions there, (including the fact that they were not allowed anyone with them) predisposed these mothers not to expect or maybe even want support. They may therefore not have been as receptive to the supportive overtures of the hospital support companions and perhaps did not view this support as being completely genuine, caring and concerned.

Sarason *et al.*, (1987) examined the different conceptions of the support construct and indicated that the knowledge that someone really cares for us is more important for how we view and receive

the supportive act, than the actual act itself. Since the mothers living in these societal conditions were probably not expecting or wanting support from "outsiders", their mental set may have been different, thus effecting their perceptions of the supportive acts. The supported mothers (i.e. those mothers who had a supportive companion with them the whole time throughout their labour and often also throughout their whole delivery) were initially hesitant about accepting the support, but did appear to benefit somewhat from it. The control groups, on the other hand, who were just asked questions about how they were feeling on entering labour and at one day postpartum, may actually have perceived those questions as a measure of support. It is suggested that the combination of the above two factors made the two groups (supports and controls) similar. The double controls were not interviewed until six weeks postpartum and showed no differences when compared to the control group.

4.3.6 The Effective Use Of Supportive Resources By The Individual

There was a high dropout rate experienced at six weeks postpartum, even though subjects were actively reminded, by means of letters and telephone calls to return for their postnatal check. The worst dropout rate was experienced in the control under seventeen year old group (52%), followed by the supported teenage group (41%). These results tend to indicate that the intervention groups or at least the groups who had contact with a supporter/interviewer seemed to avoid returning to the hospital more often than those groups with no supporter.

Sarason et al., (1986) found that individuals may deny having support even if it is there and available. They showed that an individual's perception of the supportiveness of the environment was the determining factor in how effective the support actually was to the individual. The mothers in this study may not have seen the follow-up as a form of support since the existing

hostile environment may have made them treat every supportive act, by the interviewers/supporters in this case, with suspicion. The mothers may also have felt that being asked questions about how they were feeling and coping with motherhood was an intrusion and an inconvenience.

This is substantiated by the fact that when the mothers did come for their postnatal check they frequently came on a day that was suitable for them and not the day allocated to them by the hospital staff. This was problematic in that the six week postpartum return date had been assigned in such a way so that a different interviewer would interview the mother than the one who had supported/interviewed her previously. In approximately 20% of these instances this factor was therefore not controlled for. Moreover, mothers would arrive up to 15 weeks postpartum for their six week check-up. However after 10 weeks it was deemed inappropriate to interview them and these mothers were thus excluded from participation in the six week questionnaire.

4.4 CULTURAL FACTORS

The cultural factors effecting the study are complex and interwoven. Some of these factors have already been touched on in other parts of the discussion, for example, the value of social support, in the traditional setting, from trusted female companions during labour. There are, however, a few additional points for consideration, which will now be briefly discussed.

In truly traditional African fashion, childbirth is a holistic integration of the physical, intellectual, emotional, spiritual and practical experiences of life. The Western birthing practices concentrate on the physical aspects of birth, paying little attention to the psychological and emotional states, and completely ignoring the existence of this spiritual experience. At Baragwanath Hospital in particular, until very recently no attention at all was given to accommodate the psychological needs

of the mother in labour. The exclusion of this cultural facet, together with the socially hostile environment in which the mothers live may have had meaningful repercussions on the findings of the study.

African women were traditionally also encouraged to remain ambulant and active during the first stages of their labour (Larsen *et al.*, 1983). A squatting or kneeling position was adopted for delivery. At Baragwanath Hospital mothers are not allowed to get out of their bed after they are 3 centimetres dilated and are expected to deliver in a supine position. This facet of cultural childbirth is therefore also not available to mothers delivering in Westernized settings and may thus have impacted on the findings of this research project.

4.5 IMPLICATIONS FOR FURTHER RESEARCH

This study was a preliminary examination of the present day birthing experiences within the society and culture of African women living in Soweto. Trends indicating social support to be effective were found. It is however imperative that data on a larger sample, of approximately one hundred subjects in each group, be collected in order to verify the findings of this study.

Furthermore, in future studies an entirely separate individual, from the supportive companions, should be employed to conduct the interviews, thus eliminating all possible biases. Moreover intersupporter personality differences, as well as personality differences between the supported mothers, could be obtained in order to assess whether there is any degree of distinction between the effectiveness of support and the personality of the supporter and/or of the supported.

Finally, numerous specifically directed sub-studies could be conducted to explore the nature of social support valued by African mothers. Do they like having someone talking to them, touching them, sitting quietly next to them? Do they like having

someone of the same cultural group with them, or would they rather prefer to have their mothers' or partners' with them during labour and delivery? Do they want more information about the birth process or do they see praise as being more important? The contemporary African mothers' needs, as well as, her changing social environment and cultural practices need to be investigated in order to discover the smoothest transition and integration of the African culture with the Western one.

CHAPTER FIVE

CONCLUSION

This research project was conducted at the Baragwanath Maternity Hospital in Soweto. It was a prospective, longitudinal, randomized control trial which looked at, how social support effects different childbirth related health outcomes in African peri-urban women, and what processes are involved in producing these different outcomes.

Overall, the findings suggest a trend towards social support being effective in buffering the deleterious effects of labouring alone during childbirth. Both high stress groups studied, the supported hypertensives and the supported teenagers showed this finding. This is congruent with the results of the work carried out in Guatemala and in South Africa on peoples of a mixed cultural origin. (Hofmeyr *et al.*, 1991; Anelli *et al.*, 1987; Klaus *et al.*, 1986).

The trend apparent in this study was not as predominant as in previous studies. It appears that mothers' responses were moderated by social and cultural factors particular to the groups being studied.

The social factors included, firstly, the effects of the apartheid system which, through the enforcement of the migrant labour law, broke up the extended family structures into units of people (not necessarily families) living together. Secondly, the political situation in Soweto, the violence and the daily threat to the lives of the inhabitants of the township, has been responsible for creating a fear of strangers being bred into people (Turton *et al.*, 1990). It is possible that they in turn see everyone as a threat and treat them with suspicion. Thirdly, almost none of the mothers in the sample were in a stable relationship with the father of their child and they were of a fairly young age group in a very high stress situation.

The cultural factors impacting on the mothers' responses were varied including their concept of social support being different to the Westernized perceptions of it.

Furthermore, hospital policy put constraints on the procedures of the study. The choice of the supporter/interviewer was determined by the hospital authorities, as well as, the times and the number of hours which they worked.

Also, since the individuals did not seek the support, they may initially not have viewed the support as being genuine. It is therefore suggested that a larger sample size may result in clearer trends emerging.

Social support is a multifaceted, multidimensional construct. A thorough analysis of its various components, such as: the timing and nature of the support; the quality and quantity of the support; the receiving and acceptance of the support and the personalities of the supported and the supporter, needs to be made. Furthermore, the cultural and social milieu of the individuals, needs to be considered in order to obtain a holistic integrated perspective of all the elements involved in the support process.

Alder, E. (1984). Postpartum Changes In Mood and Sexuality, and Some Implications For Care. In M.J. Houston (Ed.). Maternal and Infant Health Care. New York : Churchill Livingstone.

Andrews, G.; Tennant, C.; Hewson, D & Schonell, M. (1978a). The Relation Of Social Factors To Physical and Psychiatric Illness. American Journal of Epidemiology, 108, 27-35.

Andrews, G.; Tennant, C.; Hewson, D. & Vaillant, G. (1978b). Life Event Stress, Social Support, Coping Style, & Risk Of Psychological Impairment. Journal Of Nervous & Mental Disease, 166, 307-316.

Aneshensel, C.S.; Frerichs, R.R. (1982). Stress, Support, and Depression: A Longitudinal Causal Model. Journal Of Community Psychology, 10, October, 363-376.

Aneshensel, C.S. & Stone, J.D. (in Press). Stress & Depression: A Test Of The Buffering Model Of Social Support. Archives Of General Psychiatry.

Arpen, S. (1990). Labour of Love: A Volunteer Labour Support Program. IJCE, 29-31.

Baum, A. (Ed.).; Singer, J.E.; Taylor, S.E. (1984). Handbook Of Psychology & Health, 4: 253-63. Hillsdale, N.J: Elbaum.

Bell, R.A.; LeRoy, J.B.; Lin, E. & Schwab, J.J. (1981). Change & Psychopathology: Epidemiologic Considerations. Community Mental Health Journal, 17, 203-213.

Bell, R.A.; LeRoy, J.B. & Stephenson, J.J. (1982a). Evaluating the Mediating Effects Of Social Support Upon Life Event and Depressive Symptoms. Journal Of Community Psychology, 10 (October), 325-340.

Bell, R.A.; Sundel, M.; Ponte, J.A. ; Murrell, S. & Lin, E. (Eds). (1982b). Assessing Health and Human Service Needs : Concepts, Methods & Applications. New York: Human Sciences Press.

Berkman, L.F.; Syme, L.S. (1979). Social Networks, Lost Resistance & Mortality: A Nine Year Follow Up Study Of Alameda County Residents. American Journal Of Epidemiology, 69, 186-204.

Betts, D. (1977). A Shared Journey : The Birth Of a Child. USA : Celestial Arts.

Billings, A.G.; Moos, R.H. (1981). The Role Of Coping Responses and Social Resources In Attenuating The Stress Of Life Events. Journal of Behavioural Medicine, 4, 139-57.

Blanchon, Y.C.; Bourgeois, T.; Grenier, M.P.; Pellet, J. (1989). Neonatology and Maternal Postpartum Depression. Paediatrics, 44, (7), 569-72.

Bowlby, J. (1973). Separation : Anxiety & Anger (Vol. 2) : Attachment & Loss. London : Hogarth.

Broadhead, W.E.; Kaplan, B.H.; James, S.A.; Wagner, E.H.; Schoenbach, V.J. (1983). The Epidemiological Evidence For a Relationship Between Social Support & Health. American Journal Of Epidemiology, 117, 521-37.

Brown, D.; Pedder, J. (1979). Introduction To Psychotherapy : An Outline Of Psychodynamic Principles and Practice. London : Tavistock.

Brown, G.W.; Bhrolchain, M. & Harris, T. (1975). Social Class & Psychiatric Disturbance Among Women In An Urban Population. Sociology, 9, 225-254.

Brown, G.W. & Harris, T. (1978). Social Origins of Depression : A Study of Psychiatric Disorder in Women. London : Tavistock.

Brown, G.W. & Harris, T. (1984). Establishing Causal Links : The Bedford College Studies Of Depression. Bedford College.

73
Brown, L. (1991). Delivering Support. Toronto Star. 28 May 1991.

Browne, C.; Urback, M. (1989). Pregnant Adolescents : Expectations Versus Reality. Canadian Journal Of Public Health, 80 (3), 227-9.

Brindley, M. (1985). Old Women In Zulu Culture : The Old Woman and Childbirth. South African Journal of Ethnology, 8, 78-108.

Burton, A. (Ed.). (1977). What Makes Behaviour Change Possible? New York : Brunner/Mazel.

Cannon, W.B. (1928). The Mechanism Of Emotional Disturbance Of Body Function. New England Journal Of Medicine, 198, 877-884. In R.A. Bell; J.B. LeRoy; J.J. Stephenson. (1982). Evaluating the Mediating Effects of Social Support Upon Life Events and Depressive Symptoms. Journal of Community Psychology, 10 (October), 325-340.

Cannon, W.B. (1939). The Wisdom Of The Body. New York : Norton.

Caplan, G. (1974). Support Systems & Community Mental Health. New York : Behavioural Publications.

Caplan, G. (1976). The Family As Support System. In G. Caplan & M. Killilea (Eds). Support Systems & Mutual Help : Multidisciplinary Explorations. New York : Grune & Stratton.

Caplan, G. & Killilea, M. (Eds). (1976). Support Systems & Mutual Help : Multidisciplinary Explorations. New York : Grune & Stratton.

Cassel, J. & Tyroler, H.A. (1961). Epidemiologic Studies Of Culture Change : Health Status & Recency of Industrialization. Archives Of Environmental Health, 3, 25-33.

Cassel, J. (1974). Psychosocial Processes and "Stress" : Theoretical Formulations. International Journal Of Health Services, 4, 471-82.

Cassel, J. (1976). The Contribution Of The Social Environment To Host Resistance. American Journal Of Epidemiology, 104, 107-127.

Chalmers, B.E. (1979). The Role Of 'Stressful' Life Events In The Development Of Complications Of Pregnancy. Unpublished doctoral dissertation, University of the Witwatersrand.

Chalmers, B.E. (1984). Early Parenthood : Heaven Or Hell? Cape Town : Juta.

Chalmers, B.E. & Chalmers, B.M. (1986). Postpartum Depression : A Revised Perspective. Journal of Psychosomatic Obstetrics and Gynaecology, 5, 93-105.

Chalmers, B.E. (1987a). Social Support In Pregnancy and The Puerperium Amongst Pedi Women. Journal Of Psychosomatic Obstetrics and Gynaecology, 7 (1), 63-70.

Chalmers, B.E. (1987b). Urban-rural Differences Regarding Pedi Childbirth Experiences. Journal Of Psychosomatic Obstetrics and Gynaecology, 7 (2), 131-139.

Chalmers, B.E. (1987c). The Nuclear Family: Blueprint For War Or Peace? Paper presented to the Second Conference of the Association for the Childbirth and Parenthood, Johannesburg.

Chalmers, B.E. (1990). African Birth. South Africa : Berea Publications.

Chalmers, I.; Enkin, M.; Keirse, M. (Eds). (1989). Effective Care In Pregnancy and Childbirth. Oxford : Oxford University Press.

Chard, T.; Richards, M (Eds). (1977). Benefits and Hazards Of The New Obstetrics. Suffolk : Spastic International Medical Publications.

Cobb, S. (1976). Social Support As a Moderator Of Life Stress. Psychosomatic Medicine, 38, (5), 301-314.

Jobb, S. (1979). Social Support and Health Through The Life Course. In M.W. Riley (Ed.). Aging From Birth To Death : Interdisciplinary Perspectives. Boulder, Colorado : Westview.

Coehlo, G.V.; Hamburg, D.A. & Adams, J.E. (Eds). (1984). Coping and Adaptation. New York : Basic Books.

Cogan, R.; Spinnato, J.A. (1988). Social Support During Premature Labour : Effects On Labour and The Newborn. Journal Of Psychosomatic Obstetrics and Gynaecology, 8, 209-216.

Cohen, S.; McKay, G. (1984). Social Support, Stress & The Buffering Hypothesis : A Theoretical Analysis. In Baum, A. (Ed.). Singer, J.E.; Taylor, S.E. (1984.). Handbook Of Psychology and Health. Hillsdale, NJ : Erlbaum.

Cohen, S. & Wills, T.A. (1985). Stress, Social Support and The Buffering Hypothesis. Psychological Bulletin, 98 (2), 310-357.

Colman, A.D. & Colman, L.L. (1971). Pregnancy : The Psychological Experience. USA : The Seabury Press.

Conger, J.J.; Sawrey, W.; Turrell, E.S. (1958). The Role Of Social Experience In The Production Of Gastric Ulcers In Hooded Rats Placed In a Conflict Situation. Journal Of Abnormal Psychology, 57, 214-220.

Cooke, W.L. (1985). Some Determining Factors Of Postpartum Depression. Unpublished masters dissertation, University of the Witwatersrand.

Coopersmith, S. (1967). The Antecedents Of Self-Esteem, San Fransisco : W.H. Freeman and Company.

Cox, J.L. (1983). Clinical and Research Aspects Of Postnatal Depression. Journal Of Psychosomatic Obstetrics and Gynaecology, 2 (1), 46-53.

Cox, J.L. (1986). Postnatal Depression : A Guide For Health Professionals. New York : Churchill Livingstone.

Crandon, A.J. (1979). Maternal Anxiety and Obstetric Complications. Journal Of Psychosomatic Research, 23, 109-111.

Dean, A. & Lin, N. (1977). The Stress Buffering Role Of Social Support : Problems and Prospects For Systematic Investigation. Journal Of Nervous & Mental Disease, 165, 403-417.

Dean, A.; Lin, N. & Ensel, W.M. (1981). The Epidemiological Significance Of Social Support Systems In Depression. In R. Simmons (Ed.). Research In Community and Mental Health, Volume 2. New York : JAI Press.

Dean, A. & Ensel, W.M. (1982). Modelling Social Support, Life Events, Competence & Depression In Th Context Of Age & Sex. Journal Of Community Psychology, 10, 392-408.

Depue, R.A.; Monroe, S.M. (1984). Life Stress and Mental Disorder. Pittsburgh : University.

Di Matteo, M.; Hays, R. (1981). Social Support and Serious Illness. In E.H. Gottlieb. (Ed.), Social Networks & Social Support. Beverly Hills, California : Sage.

Dohrenwend, B.S., & Dohrenwend, B.P. (1970). Class & Race As Status-Related Sources Of Stress. In S. Levine & E.N. Scotch (Eds). Social Stress. Chicago : Aldine.

Dohrenwend, B.S. (1973). Social Status & Stressful Life Events. Journal Of Personality & Social Psychology, 1, 28, 225-235.

Dohrenwend, B.S.; & Dohrenwend, B.P. (Eds). (1974). Stressful Life Events : Their Nature And Effects. New York : Wiley.

Dohrenwend, B.S.; & Dohrenwend, B.P. (1978a). Some Issues In Research On Stressful Life Events. Journal Of Nervous & Mental Disease, 166, 7-15.

Dohrenwend, B.S.; Krasnoff, L.; Askenasy, A.R. & Dohrenwend, B.P. (1978b). Exemplification Of a Method For Scaling Life Events : The PERI Life Events Scale. Journal Of Health & Social Behaviour, 19, 205-229.

Dohrenwend, B.S. (1982). Stressful Life Events & Illness : Implications For Need Assessment. In R.A. Bell; M. Sundel; J.A. Ponte; S. Murrell & E. Lin (Eds). Assessing Health and Human Service Needs : Concepts, Methods & Applications. New York : Human Sciences Press.

Domire, S.L.; Strauss, S.S.; Clarke, B.A. (1989). Social Support and Adaptation To The Parent Role In First-Time Adolescent Mothers. Journal Of Obstetric and Gynaecological Neonatal Nursing, 18 (4), 327-37.

Eaton, W.W. (1978). Life Events, Social Supports, and Psychiatric Symptoms : A Re-analysis Of The New Haven Data. Journal Of Health & Social Behaviour, 19, 230-234.

Elbourne, D.; Oakley, A.; Chalmers, I. (1989). Social and Psychological Support During Pregnancy. In I. Chalmers; M. Enkin; M. Keirse. (Eds). Effective Care In Pregnancy and Childbirth. Oxford : Oxford University Press.

Fiore, J.; Becker, J.; Coppel, D. (1983). Social Network Interactions. A Buffer Or a Stress? American Journal Of Community Psychology, 11, 423-39.

Frydman, M.I. (1981). Social Support, Life Events, & Psychiatric Symptoms : A Study Of Direct, Conditional & Interaction Effects. Social Psychiatry, 16, 69-78.

Ganster, D.C.; Victor, B. (1988). The Impact Of Social Support On Mental and Physical Health. British Journal Of Medical Psychiatry, 61 (M), Part 1, 17-36.

Garine, J.; Anderson, J.; Vacca, A.; Elbourne, D.; Grant, A. and Chalmers, I. (1985). Views Of Women and Their Medical and Midwifery Attendants About Instrumental Delivery Using Vacuum Extraction and Forceps. Journal Of Psychosomatic Obstetrics And Gynaecology, 4, 1-9.

Goldberger L. (Ed.); Breznitz, S. (1982). Handbook Of Stress: Theoretical and Clinical Aspects. New York : Free Press.

Gore, S. (1978). The Effect Of Social Support In Moderating The Health Consequences Of Unemployment. Journal Of Health & Social Behaviour, 19, 157-165.

Gottlieb, B.H. (1978). The Development and Applications Of a Classification Scheme Of Informal Helping Behaviours. Canadian Journal Of Behavioural Science, 10, 105-115.

Gottlieb, B.H. (1981). Social Networks & Social Support. Beverly Hills, CA : Sage.

Gottlieb, B.H. (1983). Social Support Strategies. Beverly Hills, CA : Sage.

Gove, W.R. (1972). The Relationship Between Sex Roles, Marital Status & Mental Illness. Social Forces, 51, 34-44.

Gumede, M.V. (1987). Traditional Zulu Practitioners and Obstetric Medicine. South African Medical Journal, 53, 823-825.

Haan, N. (1982). The Assessment Of Coping, Defense and Stress. In L. Goldberger. (Ed.); S. Breznitz. Handbook Of Stress : Theoretical and Clinical Aspects. New York : Free Press.

Harding, J.J. (1989). Postpartum Psychiatric Disorders : A Review. Comprehensive Psychiatry, 30 (1), 109-112.

Heiser, B. (1990). Reaching Out To All. La Leche League International, 9 (4), 19-20.

Hemminki, E.; Virta, A.L.; Koponen, P.; Malin, M.; Kojic-Austin, H.; Tuimala, R. (1990). A Trial On Continuous Human Support During Labour : Feasibility, Interventions and Mother's Satisfaction. Journal Of Psychosomatic Obstetrics And Gynaecology, 11, 239-250.

Henderson, S. (1977). The Social Network, Support & Neurosis : The Function Of Attachment In Adult Life. British Journal Of Psychiatry, 131, 185-190.

Henderson, S.; Duncan-Jones, P.; McAuley, H.; Ritchie, K.A. (1978). Patients' Primary Group. British Journal Of Psychiatry, 132, 74-86.

Henderson, S. (1980). A Development In Social Psychiatry : The Systematic Study Of Social Bonds. Journal Of Nervous & Mental Diseases, 168, 63-69.

Henry, J.P.; Cassel, J. (1969). Psychosocial Factors In Essential Hypertension: Recent Epidemiologic and Animal Experimental Evidence. American Journal Of Epidemiology, 90, 171-200.

Hodnett, E.D. (1982). Patient Control During Labour : Effects Of Two Types Of Fetal Monitors. Journal Of Obstetric, Gynaecologic and Neonatal Nursing, 11 (2), 94-99.

Hodnett, E.D.; Osborn, R.W. (1989a). Effects Of Continuous Intrapartum Professional Support On Childbirth Outcomes. Research In Nursing and Health, 12, 289-297.

Hodnett, E.D.; Osborn, R.W. (1989b). A Randomized Trial Of The Effects Of Monitrice Support During Labour : Mothers' Views Two To Four Weeks Postpartum. Birth, 16, 177-83.

Hofmeyr, G.J.; Nikodem, V.C.; Wolman, W.L.; Chalmers, B.E.; Kramer, T. (1991). Companionship To Modify The Clinical Birth Environment : Effects On Progress and Perceptions Of Labour and Breastfeeding. British Journal Of Obstetrics and Gynaecology, 98, 756-764.

Holmes, T. & Rahe, R. (1967). The Social Readjustment Rating Scale. Journal Of Psychosomatic Research, 11, 213-218.

Holmes, T. & Masuda, M. (1974). Life Change and Illness Susceptibility. In B.S. Dohrenwend and B.P. Dohrenwend (Eds). Stressful Life Events : Their Nature and Effects. New York : Wiley.

Houd, S.; Oakley, A. (1983). Alternative Perinatal Services. In J.M.L. Phaff. (Ed.). Perinatal Health Services In Europe. London : Croom Helm.

House, J.S.; McMichael, A.J.; Wells, J.A.; Kaplan, B.H. & Landerman, L.R. (1979). Occupational Stress & Health Among Factory Workers. Journal Of Health & Social Behaviour, 20, 139-160.

House, J.S. (1981). Work Stress and Social Support. MA : Addison - Wesley.

Houston, M.J. (Ed.). (1984). Maternal and Infant Health Care. New York : Churchill Livingstone.

Husaini, B.A. & Neff, J.A. (1980). Characteristics Of Life Events & Psychiatric Impairment In Rural Communities. Journal Of Nervous & Mental Disease, 168, 159-166.

Husaini, B.A.; Neff, J.A. (1981). Social Class & Depressive Symptomatology : The Role Of Life Change Events & Locus Of Control. Journal Of Nervous & Mental Disease, 168, 638-647.

Husaini, B.A. (1982a). Stress & Psychiatric Symptoms : Personality & Social Support As Buffers; Special Editor's Comments. Journal Of Community Psychology, 10 (October), 291-292.

Husaini, B.A.; Neff, J.A.; Newbrough, J.R. & Moore, M.C. (1982b). The Stress Buffering Role Of Social Support & Personal Competence Among The Rural Married. Journal Of Community Psychology, 10 (October), 409-426.

Hwang, C.P. (1981). Aspects Of The Mother - Infant Relationship During Nursing, One and Six Weeks After Early Extended Postpartum Contact. Early Human Development, 5, 279-287.

Inch, S. (1989a). Antenatal Preparation For Breastfeeding. In I. Chalmers; M. Enkin; M. Keirse. (Eds). Effective Care In Pregnancy and Childbirth. Oxford : Oxford University Press.

Inch, S.; Garforth, S. (1989b). Establishing and Maintaining Breastfeeding. In I. Chalmers; M. Enkin; M. Keirse. (Eds). Effective Care In Pregnancy and Childbirth. Oxford : Oxford University Press.

Jensen, M.D.; Benson, R.C. & Bobak, I.M. (1977). Maternity : The Nurse and The Family. Saint Louis : C.V. Mosby Company.

Johnson, S.H. (1979). High Risk Parenting : Nursing Assessment and Strategies For the Family At Risk. USA : J.B. Lippincott.

Kahn, R.L. (1979). Aging and Social Support. In M.W. Riley (Ed.). Aging From Birth To Death : Interdisciplinary Perspectives. Boulder, Colorado : Westview.

Kaplan, B.H. & Cassel, J. (Eds). (1975). Family & Health : An Epidemiological Approach. Chapel Hill, NC. : Institute For Research In Social Science, University of North Carolina.

Kaplan, B. (1975). Toward Further Research On Family Health. In B.H. Kaplan & J. Cassel (Eds). Family and Health : An Epidemiological Approach. Chapel Hill, N.C. : University of North Carolina.

Kaplan, B.H.; Cassel, J.C. & Gore, S. (1977). Social Support and Health. Medical Care, 15, 47-58.

Kaplan, B.H. (Ed.). (1983). Psychosocial Stress : Trends In Theory and Research. New York : Academic.

Kaufman, K.J.; Hall, L.A. (1989). Influences Of The Social Network On Choice and Duration Of Breastfeeding In Mothers Of Preterm Infant.. Research In Nursing and Health, 12 (3), 149-159.

Keeping, K.D.; Najman, J.M.; Morrison, J.; Western, J.S.; Andersen, M.J.; Williams, G.M. (1989). A Prospective Longitudinal Study Of Social, Psychological and Obstetric Factors in Pregnancy : Response Rates and Demographic Characteristics Of The 8556 Respondents. British Journal Of Obstetrics and Gynaecology, 96, 289-297.

Kemp, V.H.; Hatmaker, D.D. (1989). Stress and Social Support in High Risk Pregnancy. Research In Nursing and Health, 12, 331-336.

Kennell, J.H. (1982). The Physiological Effects Of a Supportive Companion (Doula) During Labour In M.H. Klaus and S.S. Robertson (Eds). Birth, Interaction and Attachment. New York: Skillman, Johnson and Johnson.

Kennell, J.; De Chateau, P. & Wasz-Hockert, O. (1987). John Lind Memorial Symposium. Infant Mental Health Journal, 8 (3), 190-209.

Kennell, J.; McGrath, S.; Klaus, M.; Robertson, S.; Hinkley, C. (1989). Labour Support : What's Good For The Mother Is Good For The Baby. Paediatric Research, 25, 4.

Kessler, R.C. (1979). Stress, Social Status, & Psychological Distress. Journal Of Health & Social Behaviour, 20, 259-272.

Kessler, R.C. & Essex M. (1982). Marital Status & Depression. The Role Of Coping Resources. In B... Husaini; J.A. Neff; J.R. Newbrugh & M.C. Moore. (1982b). The Stress Buffering Role Of Social Support & Personal Competence Among The Rural Married. Journal Of Community Psychol. v. 10 (October), 409-426.

Kessler, R.C.; Price, R.H.; Wortman, C.B. (1985). Social Factors In Psychopathology : Stress, Social Support and Coping Processes. Annual Review of Psychology, 36, 531-72.

Klaus, M.H. & Kennell, J.H. (1976). Maternal - Infant Bonding. USA : C.V. Mosby Co.

Klaus, M.H.; Robertson, S.S. (Eds). (1982). Birth, Interaction and Attachment. New York : Skillman, Johnson and Johnson.

Klaus, M.H.; Kennell, J.H.; Robertson, S.S. & Sosa, R. (1986). Effects of Social Support During Parturition On Maternal and Infant Morbidity. British Medical Journal, 292, 585-587.

Kobasa, S.C.; Maddi, S.R.; Kahn, S. (1982). Hardiness and Health : A Prospective Study. Journal Of Personality and Social Psychology, 52 (2), 244-52.

Koniak, G.D. (1989). Psychosocial and Clinical Variables In Pregnant Adolescents. Journal Of Adolescent Health Care, 10 (1), 23-29.

Kumar, R.; Robson, K. (1978). Neurotic Disturbance During Pregnancy and The Puerperium : Preliminary Report Of a Survey Of 119 Primiparae. In M. Sandler (Ed.). Mental Illness In Pregnancy and The Puerperium. London : Oxford University Press.

Langner, T.S. & Michael, S.T. (1963). Life Stress & Mental Health : The Midtown Manhattan Study. (Volume 2). London : Collier - Macmillan.

LaRocco, J.M.; House, J.S. & French, J.R.P., Jr. (1980). Social Support, Occupational Stress, and Health. Journal Of Health & Social Behaviour, 21, 202-218.

Larson, J.; Msane, C. & Monkhe, H. (1983). The Zulu Traditional Birth Attendant. South African Medical Journal, 63, 540-542.

Leavy, R.H. (1983). Social Support and Psychological Disorder : A Review. Journal Of Community Psychology, 11, 3-21.

Levine S.; Scotch, E.N. (Eds). (1970). Social Stress. Chicago : Aldine.

Lin, N.; Simeone, R.S.; Ensel, W.M. & Kuo W. (1979). Social Support, Stressful Life Events and Illness : A Model and An Empirical Test. Journal Of Health and Social Behaviour, 20, 108-119.

Lin, N. & Ensel, W.M. (1981). Casual Interpretation Of Interaction Effects. Journal Of Health & Social Behaviour, 2, 195-196.

Lindemann, E. (1944). Symptomatology & Management Of Acute Grief. American Journal Of Psychiatry, 101, 141-148.

Lomas, J.; Dore, S.; Enkin, M.; Mitchell, A. (1987). The Labour and Delivery Satisfaction Index : The Development and Evaluation Of a Soft Outcome Measure. Birth, 14 (3), 125-129.

Lowenthal, M.F. & Haven, C. (1968). Interaction & Adaptation : Intimacy As a Critical Variable. American Sociological Review, 33, 20-30.

Lynch, J.J. (1977). The Broken Heart : The Medical Consequences Of Loneliness. New York : Basic Books.

Madge, W. & Marmot, M. (1987). Psychosocial Factors and Health. The Quarterly Journal Of Social Affairs, 3 (2), 81-134.

- Marmor, J. (1977). Common Operational Factors In Diverse Approaches To Behaviour Change. In A. Burton (Ed.). What Makes Behaviour Change Possible?. New York : Brunner/Mazel.
- Martin, C.J.; Brown, G.K.; Goldberg, D.P.; Brockington, I.F. (1989). Psychosocial Stress and Puerperal Depression. Journal Of Affective Disorders, 16 (2-3), 283-293.
- Mechanic, D. (1984). Social Structure and Personal Adaptation. In G.V. Coehlo; D.A. Hamburg & J.E. Adams (Eds). Coping and Adaptation. New York : Basic Books.
- Melzack, R. (1975). The McGill Pain Questionnaire : Major Properties and Scoring Methods. Pain, 1, 277-299.
- Menaghan, E.G. (1983). Individual Coping Efforts : Moderators Of The Relationship Between Life Stress and Mental Health Outcomes. In B.H. Kaplan. (Ed.). Psychosocial Stress : Trends In Theory and Research. New York : Academic.
- Meyer, A. (1961). The Life Chart and The Obligation Of Specifying Positive Data In Psychopathological Diagnosis. In E.E. Winter. (Ed.). Collected Papers Of Adolf Meyer, Vol III : Medical Teaching. Baltimore : John Hopkins Press.
- Meyerowitz, J.H. (1970). Satisfaction During Pregnancy. Journal Of Marriage and The Family, 32 (1), 38-42.
- Miller, P. M.; Ingham, J.G. & Davidson, S. (1976a). Life Events, Symptoms & Social Support. Journ l Of Psychosomatic Research, 20, 516-522.
- Miller, P.M. & Ingham, J.G. (1976b). Friends, Confidants & Symptoms. Social Psychiatry, 11, 51-58.
- Moore, M.L. (1978). Realities In Childbearing. Philadelphia : W.B. Saunders Company.

Moos, R.H.; Billings, A.G. (1982). Conceptualizing and Measuring Coping Resources and Processes. In L. Goldberger. (Ed.); S. Breznitz. Handbook Of Stress : Theoretical and Clinical Aspects. New York : Free Press.

Moriwaki, S.Y. (1973). Self Disclosure, Significant Others and Psychological Self-Being In Old Age. Journal Of Health & Social Behaviour, 11, 226-232.

Morris, J.B. (1987). Group Psychotherapy For Prolonged Postnatal Depression. British Journal Of Medical Psychology, 60 (3), 279-281.

Murray, J.B.; Callahue, L. (1987). Postpartum Depression, Genetic, Social and General Psychological Monographs, 113 (2), 193-212.

Murray, L.; Stein, A. (1989). The Effects Of Postnatal Depression On The Infant. Baillieres Clinical Obstetrics and Gynaecology, 3 (4), 921-933.

Myers, J.K.; Lindenthal, J.J. & Pepper, M.P. (1971) Life Events & Psychiatric Impairment. Journal Of Nervous & Mental Disease, 152, 149-157.

Myers, J.K.; Lindenthal, J.J. & Pepper, M.P. (1972). Life Events & Mental Status : A Longitudinal Study. Journal Of Health & Social Behaviour, 13, 398-406.

Myers, J.K.; Lindenthal, J.J. & Pepper, M.P. (1975). Life Events Social Integration, & Psychiatric Symptomatology. Journal Of Health & Social Behaviour, 16, 421-427.

Mueller, D.P. (1980). Social Networks. A Promising Direction For Research On The Relationship Of The Social Environment To Psychiatric Disorder. Social Science & Medicine, 14A, 147-161.

Neser, W.B.; Tyroler, H.A. & Cassel, J.C. (1971). Social Disorganisation and Stroke Mortality In The Black Population Of North Carolina. American Journal Of Epidemiology, 93, 166-175.

Norbeck, J.S.; Anderson N.J. (1989). Life Stress, Social Support and Anxiety In Mid- and Late -Pregnancy Among Low Income Women. Research In Nursing and Health, 12, 281-287.

Norr, K.L.; Block, C.R.; Charles, A.; Moyerling, S. and Meyers, S.E. (1977). Explaining Pain and Enjoyment In Childbirth. Journal Of Health and Social Behaviour, 18, 260-271.

Nuckolls, K.B.; Cassel, J. & Kaplan, B.I. (1972). Psychosocial Assets, Life Crisis, and The Prognosis of Pregnancy. American Journal of Epidemiology, 95, 431-441.

Oakley, A. (1980). Can Social Support Influence Pregnancy Outcome? Commentary in the British Journal Of Obstetrics & Gynaecology, 96, 260-262.

Oakley, A.; Chamberlain, G. (1981) Medical and Social Factors In Postpartum Depression. Journal Of Obstetrics and Gynaecology, 1, 182-184.

Oakley, A. (1988). Is Social Support Good For The Health Of Mothers and Babies? Journal Of Reproductive and Infant Psychology, 6 (1), 3-21.

Oakley, A. (1989). Who's Afraid Of The Randomized Controlled Trial? Some Dilemmas Of The Scientific Method and "Good" Research Practice. Women's Health, 15 (4), 25-59.

Oakley, A.; Rajan, L.; Grant, A. (1990). Social Support and Pregnancy Outcome. British Journal Of Obstetrics and Gynaecology, 97, 155-162.

Odent, M. (1984). Birth Reborn. London : Random House, Inc.

O'Driscoll, K.; Meagher, D. (1980). Active Management Of Labour. Philadelphia : W.B. Saunders.

Paykel, E.S.; Myers, J.K.; Dienelt, M.N.; Klerman, G.L.; Lindenthal, J.J. & Pepper, M.P. (1969). Life Events and Depression : A Controlled Study. Archives Of General Psychiatry, 21, 753-760.

Paykel, E.S.; Emms, E.M.; Fletcher, J.; Rassaby, E.S. (1980). Life Events and Social Support in Puerperal Depression. British Journal Of Psychiatry, 136, 339-346.

Pearce, J.C. (1977). The Magical Child. Toronto : Phantom Books.

Pearlin, L.I. & Schooler, C. (1978). The Structure Of Coping. Journal Of Health & Social Behaviour, 19, 2-21.

Pearlin, L.I.; Lieberman, M.A.; Menaghan, E.G. & Mullan, J.T. (1981). The Stress Process. Journal Of Health & Social Behaviour, 22, 337-356.

Phaff, J.M.L. (Ed.). (1983). Perinatal Health Services In Europe. London : Croom Helm.

Pitt, B. (1968). "Atypical" Depression Following Childbirth. British Journal Of Psychiatry, 114, 1325-1335.

Prince, J.; Adams, M.E. (1978). Minds, Mothers and Midwives : The Psychology Of Childbirth. USA : Churchill Livingstone.

Rabkin, J.G. & Struening, E.L. (1976). Life Events, Stress & Illness. Science, 194, 1013-1020.

Radloff, L.S. (1975). Sex Differences In Depression : The Effects Of Occupation and Marital Status. Sex Roles, 1, 249-265.

Rahe, R.H. (1968). Life Change Measurement As a Predictor Of Illness. Proceedings Of The Royal Society Of Medicine, 61, 1124-1126.

Rahe, R.H. (1975). Epidemiological Studies Of Life Change and Illness. International Journal Of Psychiatry In Medicine, 5, 133-146.

Raphael-Leff, J. (1985a). Facilitators and Regulators; Participators and Renouncers : Mothers' and Fathers' Orientations Towards Pregnancy and Parenthood. Journal Of Psychosomatic Obstetrics and Gynaecology, 4, 169-184.

Raphael-Leff, J. (1985b). Facilitators and Regulators : Vulnerability To Postnatal Disturbance. Journal Of Psychosomatic Obstetrics and Gynaecology, 4, 151-168.

Riley, M.W. (Ed.). (1979). Aging From Birth To Death : Interdisciplinary Perspectives. Boulders, Colorado : Westview.

Robinson, J.P. & Shaver, P.R. (1976). Measures Of Psychological Attitudes. Michigan : Institute For Social Research.

Rook, K.S. (1984). The Negative Side Of Social Interaction : Impact On Psychological Well-Being. Journal Of Personality and Social Psychology.

Rosenbaum, M.; Palmon N. (1984). Helplessness And Resourcefulness In Coping With Epilepsy. Journal Of Consulting and Clinical Psychology, 52 (2), 244-252.

Rosenberg, M. (1965). Society & The Adolescent Self-Image. Princeton, New Jersey : Princeton University.

Sandler, M. (Ed.). (1978). Mental Illness In Pregnancy and The Puerperium. London : Oxford University Press.

Sarason, I.G. & Sarason, B.R. (Eds). (1985). Social Support : Theory, Research and Applications. The Hague : Martinus Nijhof.

Sarason, I.G.; Sarason, B.R. (1986a). Experimentally Provided Social Support. Journal Of Personality and Social Psychology, 50 (6), 1222-1225.

Sarason, I.G.; Sarason, B.R.; Shearin, E.N. (1986b). Social Support As An Individual Difference Variable : Its Stability, Origins and Related Aspects. Journal Of Personality and Social Psychology, 50 (4), 845-855.

Sarason, B.R.; Shearin, E.N.; Pierce, G.R.; Sarason, I.G. (1987). Interrelations Of Social Support Measures : Theoretical and Practical Implications. Journal Of Personality and Social Psychology, 52 (4), 813-832.

Seligman, M.E. (1975). Helplessness : On Depression, Development and Death. San Francisco : Freeman.

Selye, H. (1956). The Stress Of Life. New York : McGraw-Hill.

Simmons, R. (Ed.). (1981). Research In Community and Mental Health, Volume 2. New York : JAI Press.

Sosa, R.; Kennell, J.; Klaus, M.; Robertson, S.; Urrutia, J. (1980). The Effects Of a Supportive Companion On Perinatal Problems, Length Of Labour and Mother-Infant Interaction. New England Journal Of Medicine, 303, 597-600.

Spencer, B.; Thomas H.; Morris, J. (1989). A Randomized Controlled Trial Of The Provision Of a Social Support Service During Pregnancy : The South Manchester Family Worker Project. British Journal Of Obstetrics and Gynaecology, 96 (3), 281-288.

Spielberger, C.D.; Gorsuch, R.L. & Lushene, R.E. (1970). Manual For The State-Trait Anxiety Inventory. Palo Alto, CA : Consulting Psychologists Press.

Steele, R. (1978). Relationship Of Race, Sex, Social Class and Social Mobility to Depression In Normal Adults. Journal Of Social Psychology, 104, 37-47.

Surtees, P.G. (1980). Social Support, Residual Adversity and Depressive Outcome. Social Psychiatry, 15, 71-80.

Susman, V.L.; Katz, J.L. (1988). Weaning and Depression Another Postpartum Complication. American Journal Of Psychiatry, 145 (4), 498-501.

Tausig, M. (1982). Measuring Life Events. Journal Of Health & Social Behaviour, 23, 52-65.

Thoits, P.A. (1982a). Life Stress, Social Support & Psychological Vulnerability : Epidemiological Considerations. Journal Of Community Psychology, 20, 341-362.

Thoits, P.A. (1982b). Conceptual, Methodological And Theoretical Problems In Studying Social Support As a Buffer Against Life Stress. Journal Of Health & Social Behaviour, 23, 145-159.

Thoits, P.A. (1983). Dimensions Of Life Events That Influence Psychological Distress : An Evaluation and Synthesis Of The Literature. In B.H. Kaplan. (Ed.). Psychosocial Stress : Trends In Theory and Research. New York : Academic.

Turner, R.J. (1981). Social Support As a Contingency In Psychological Well-Being. Journal Of Health & Social Behaviour, 22, 357-367.

Turner, R.J. (1983). Direct, Indirect and Moderating Effects Of Social Support On Psychological Distress and Associated Conditions. In B.H. Kaplan (Ed.). Psychosocial Stress : Trends In Theory and Research. New York : Academic Press.

Turton, R & Chalmers, B. (1990). Apartheid, Stress and Illness: The Demographic Context Of Distress Reported By Black South Africans. Social Science And Medicine.

Tyrrell, B.; Jurgens, P. (1983). African Heritage. Johannesburg : Macmillan.

Von Windegah, B.J.; Urbano, R.C. (1989). Teenagers and The Mothering Experience. Paediatric Nursing, 15 (5), 517-520.

Wandersman, L.; Wandersman, A.; Kahn, S. (1980). Social Support In Transition To Parenthood. Journal Of Community Psychology, 8, 332.

Warheit, G.J.; Holzer, C.E. & Schwab, J.J. (1975). An Analysis Of Social Class & Racial Differences In Depressive Symptomatology : A Community Study. Journal Of Health & Social Behaviour, 14, 291-299.

Warheit, G.J. (1979). Life Events, Coping, Stress and Depressive Symptomatology. American Journal Of Psychiatry, 136, 502-507.

Warheit, G.; Vega, W.; Shimizu, D.; Meinhardt, K. (1982). Interpersonal Coping Networks and Mental Health Problems Among Four Race Ethnic Groups. Journal Of Community Psychology, 10, 312-324.

Watson, J.P.; Elliott, A.; Rugg, A.J. & Brough, D.I. (1984). Psychiatric Disorder In Pregnancy and The First Postnatal Year. British Journal Of Psychiatry, 144, 453-462.

Weissman, M.M. & Klerman, G.L. (1977). Sex Differences & The Epidemiology Of Depression. Archives Of General Psychiatry, 34, 98-111.

Wheaton, B. (1980). The Sociogenesis Of Psychological Disorder : An Attributional Theory. Journal Of Health & Social Behaviour, 21, 100-124.

Wilcox, B.L. (1981). Social Support, Life Stress & Psychological Adjustment : A Test Of The Buffering Hypothesis. American Journal Of Community Psychology, 9, 371-386.

Williams, A.W.; Ware, J.E., Jr. & Donald, C.A. (1981). A Model Of Mental Health, Life Events, and Social Supports Applicable To General Populations. Journal Of Health & Social Behaviour, 22, 324-336.

Winter, E.E. (Ed.). (1951). Collected Papers of Adolf Meyer, Volume III : Medical Teaching. Baltimore : John Hopkins Press.

Holff, H.G.; Wolf, S. & Hare, C. (Eds). (1950). Life Stress & Bodily Disease. Baltimore, Maryland : Williams & Wilkins.

Wolman, W.L. (1992). Social Support During Childbirth . Unpublished Doctoral Thesis, University of the Witwatersrand. Degree still to be conferred.

Wortman, C. (1984). Social Support And The Cancer Patient. Cancer, 3 (9), 2334-2360.

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