

THE RELATIONSHIP BETWEEN SELF-CARE KNOWLEDGE AND SELF-CARE PRACTICES ON
PREGNANCY INDUCED HYPERTENSION (PIH) AMONG WOMEN AGED 15 - 49 YEARS WITH PIH
ATTENDING ANTENATAL CLINIC AT HARARE MATERNITY HOSPITAL

BY

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ABSTRACT

Pregnancy induced hypertension (PIH) is a gestational hypertensive disorder. It is the commonest unavoidable medical condition encountered in pregnancy, complicating approximately 10% of all pregnancies. The purpose of this study was to examine the relationship between PIH self-care knowledge and PIH self-care practices in women aged 15 to 49 years with PIH. Orem's Self-care Model was used to provide a theoretical framework to guide this study. A descriptive correlational study research design was adopted to guide the study. A sample of 78 participants was selected using the convenience sampling technique. The investigator wished to examine the relationship between the PIH self-care knowledge levels the women possessed and their PIH self-care practices. Data was collected through a face to face interview interaction using a structured interview schedule. Descriptive statistics, frequencies, percentage, mean and range were used to analyze the data on the level of PIH self-care knowledge they possessed and the PIH self-care practices done by the women. Inferential statistics, the Pearson's product-moment correlation co-efficient was used to analyze the relationship between PIH self-care knowledge levels and PIH self-care practices. The major findings of the study showed that the extent of PIH self-care practices was above average for all (78) (100%) participants. Fifty-seven (73.08%) participants demonstrated an above average level of PIH self-care knowledge, whilst only 11 (14.1%) had a level below average. Scores varied, and ranged from 4 to 14. Pearson correlation coefficient showed a non-significant, positive weak association ($r = .203$, $p > 0.01$) of PIH self-care knowledge and PIH self-care practices. Midwifery practice should therefore reinforce on areas with weak scores of PIH self-care knowledge such as recognition of oliguria and severe headache as danger signs, and the importance of taking correct action when they manifest.

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CHAPTER 1

BACKGROUND AND ORGANIZING FRAMEWORK

Introduction

Pregnancy induced hypertension (PIH) is a form of hypertensive disorder. It is also known as gestational hypertension. According to Fraser and Cooper (2003) it is the commonest medical condition encountered in pregnancy, complicating approximately 10% of all pregnancies. Pregnancy induced hypertension refers to hypertension with onset in the latter part of pregnancy (>20 weeks gestation), and followed by normalization of the blood pressure postpartum. Of women who initially present with apparent pregnancy induced hypertension, about one third develops the syndrome of preeclampsia. As such, these patients should be observed carefully for this progression (Harmon & Gilbert, 2003). If these complications do not develop, but PIH remains mild, the outcome of pregnancy is usually good for both the mother and newborn (Fraser & Cooper, 2003).

PIH is diagnosed when, after resting, the woman's diastolic blood pressure rises 25mmHg above the basal blood pressure recorded early in pregnancy or when the blood pressure rises above 140/90mmHg, on at least two occasions, four hours or more apart after the 20th week of pregnancy in a woman known to be normotensive (Fraser & Cooper, 2003). The cause is unknown, however it is associated with kidney disease, diabetes mellitus, extremes of age, that is <18 or >35 years, and first pregnancy.

Cardiovascular alterations which occur as a consequence of pregnancy may induce hypertension in women who have been normotensive prior to pregnancy, or may aggravate existing hypertensive conditions. The exact etiology of this disorder, PIH, is unknown, with several theories being advanced. Data have suggested that PIH may be the result of increased peripheral vascular resistance secondary to generalized vasospasm when the vessels are no

longer refractory to the effects of presser agents (Macdonald & Henderson, 2004). The hypertension occurring in PIH, which may lead to pre-eclampsia, is due primarily to vasospasm with arterial constriction. Vasospasm decreases the diameter of blood vessels, which results in endothelial cell damage and a decrease in endothelium-derived relaxing factor (EDRF). Vaso-constriction leads to impeded blood flow and elevated blood pressure (Murray & McKinney, 2006). The vasculature of normal pregnant women typically demonstrates decreased responsiveness to vaso-active peptides such as angiotensin II and epinephrine.

However, in contrast, women who develop PIH typically show a hyper-responsiveness to these hormones, an alteration that may be seen even before the hypertension and other manifestations of preeclampsia become apparent. Regardless of the mechanisms, PIH has a progressive disease process and it remains throughout pregnancy, with a decrease in placental perfusion occurring before the late signs of PIH are detected, hence it is known as the silent killer. Thus self-care becomes a vital component of management of this condition to prevent it from progressing to preeclampsia and eventually eclampsia. According to Fraser and Cooper (2003) eclampsia refers to the onset of convulsions during pregnancy or post partum, unrelated to other cerebral pathological conditions in a woman with preeclampsia.

Increased resistance results in impaired blood flow to vital organs such as the liver, brain, kidneys and the utero-placental unit. If uncontrolled, PIH predisposes to a number of problems. Severe maternal complications include eclamptic seizures, intracerebral haemorrhage, pulmonary oedema and acute renal failure. Fetal complications include abruption placentae leading to intrauterine growth restriction, intrauterine asphyxia, preterm delivery and intrauterine death.

The following are the most common signs and symptoms of PIH progression as it now manifest as preeclampsia: increased blood pressure, oedema, sudden weight gain, protein in

urine, nausea and vomiting, visual changes such as blurred or double vision, oliguria (Murray & McKinney, 2006). However, it is important to note that each woman may experience symptoms differently. The investigator was concerned about self-care knowledge on these issues which affect practices so that PIH does not progress to preeclampsia and eclampsia.

PIH has no cure, but may be controlled (Fraser & Cooper, 2003). If detected and managed early and correctly through accessing high quality antenatal care services, pregnancies can be made safe and result in healthy babies and mothers. According to Dekker and Sibai (2001), since PIH is unlikely to be prevented, early detection and appropriate care can minimize the severity of the condition. The goal of management is to prevent the condition from becoming worse and to prevent it from causing complications. There is also need for promotion of positive maternal/fetal outcome and provision of information to enhance self-care and therapeutic management. In-patient care is generally not required, unless there is fetal compromise or eclampsia develops or when labour process begins. In PIH, regular check-ups during pregnancy and after delivery are needed for the prevention and early detection of preeclampsia and chronic hypertension (Truestar Health Encyclopedia, 2010). If hospitalized, socio-economic issues arise such as increased financial needs and these result in stress which further raises blood pressure.

Problem Statement

PIH as a hypertensive disorder may cause maternal and fetal morbidity due to its pathophysiology, and still remains a leading cause of maternal and fetal mortality. Health education on self care knowledge can facilitate self-care practices. Self-care knowledge is a crucial element in the management of PIH. PIH is not preventable but good management may assist in controlling it. Good management includes effective self-care practices at home. That

is why the study sought to find out PIH self-care knowledge level and practices among the PIH women.

A Maternal and Peri-natal Mortality study conducted in Zimbabwe in the year 2007, revealed that PIH was the second major cause of maternal deaths contributing 15,7% of the 364 notified maternal deaths that year and, the majority of these deaths 47% were considered avoidable (Munjanja, 2009). The first delay which includes delay in seeking medical care due to lack of recognition of danger signs was cited as a contributing factor. This thus places emphasis on the need for women to have self-care knowledge on issues such as recognition of danger signs, which in turn will produce behaviour change (i.e. self-care practices). Statistics from antenatal registers at Harare Maternity Hospital Antenatal Clinic indicate that from July 2009 to June 2010 a total of 1286 PIH cases were attended to in the 12months, with an average of 107 per month.

In Malawi, a study on prevalence, maternal complications and perinatal outcomes revealed that only 51% of 70 pregnant women with PIH booked for antenatal care and therefore should have had knowledge on self-care. This under- utilization of maternity services is a factor which could have contributed to the following outcomes: 34 preterm deliveries, 7 still births, 17 cases of severe preeclampsia and 1 maternal death (Kilimbe, 2004). In South Africa, eclampsia, a complication of PIH accounted for 55.3% (N= 344) of the deaths in the period 2005-2007 (Moodley, 2010).

According to the World Health Organization (WHO) (2004), PIH is one of the leading direct causes of maternal mortality world -wide. In the United States of America (USA) between 1991 and 1999 PIH accounted for 15.7% of maternal deaths (WHO, 2005). Nicalaou (2010) concurs and further highlights that it is the single identifiable risk factor in pregnancy associated with still birth (one in five in otherwise viable babies). PIH is strongly

associated with fetal growth restriction, low birth weight, premature delivery and respiratory distress syndrome. In the United States of America approximately 5 to 6% of pregnancies are complicated by PIH (without proteinuria) and 1 to 2% by preeclampsia (Gibson, 2010). This becomes a great burden if the women are admitted. Admission may create socio-economic and psychological problems for the woman and her family. The nation will need to increase its health budget to cater for admitted cases since they require drugs and specialized care if complications arise.

Self-care knowledge and self-care practices are vital components of management in order to reduce effects of PIH. Part of the management includes self-care practices by the pregnant woman. Life style changes that may be helpful are regular check-ups during pregnancy and after delivery for the prevention and early detection of signs and symptoms (Fraser & Cooper, 2003)

Purpose

The purpose of this study was to examine the relationship between PIH self-care knowledge level and antenatal PIH self-care practices of pregnant women with PIH.

Theoretical Framework

A theoretical framework is the abstract logical structure of meaning that guides the development of study and enables the researcher to link the findings to nursing's body of knowledge (Burns & Grove, 2005). For guiding this study the researcher selected Orem's (1991) Self-care Model. Orem (1991) takes into consideration the four central concepts in nursing. These are nursing, environment, person and health. This model is expressed in three theories, the theory of nursing systems, theory of self-care deficit and theory of self-care. The theory of nursing systems proposes that nursing systems are action systems designed and produced by nurses through exercise of their nursing agency for persons with health associated

limitations in self-care. Basic nursing systems are wholly compensatory, where the nurses accomplish the patient's therapeutic self-care demand; partly compensatory where the nurses perform some of the self-care activities for the patient, and supportive -educative (Orem 1991). In supportive educative system the nurse provides education and support to the patient as he or she performs self-care activities. In this study the supportive- educative system was chosen since the woman with PIH was taking care of self at home in the absence of the health worker. The central idea of the theory of self-care deficit is that the requirements for persons for nursing are associated with the subjectivity of mature and maturing persons to health-care related action limitations (Orem, 1991). Limitations, limit the ability to engage in the continuing of performance of care measures to control or in some way manage factors that are regulatory of their own functioning and development. According to Orem (1991), the theory of self-care proposes that self-care is a human regulatory function that individuals must, with deliberation, perform themselves or have performed for them to maintain life, health, development and wellbeing. Self-care must be learned, performed deliberately and continuously in time in conformity with regulatory requirements of the individuals which are associated states of health.

Nursing

According to Orem (1991) nursing is goal oriented. Nursing is a specialized health service necessitated by an adult's inability to maintain the amount and quality of self-care that is therapeutic in sustaining life and health, in recovering from disease or injury, or in coping with their effects (Orem, 1991). Orem (1991) portrays nursing as a unique field of knowledge and as a professional practice which is goal oriented. Nursing in every instance of its practice is action deliberately performed by some members of a social group to bring about events and results that benefit others in specified ways. The goal of achieving optimum health is central to

nursing practice. In this study the goal of nursing is to enhance self-care so as to improve the health outcome for both mother and baby through control of pregnancy induced hypertension.

Environment

The environment according to Orem (1991) consists of basic conditioning factors which are classified as physical, chemical, biological and social in nature. It incorporates the family system, socio-cultural orientation, patterns of living, health care system as well as availability and adequacy of resources. Orem (1991) states that an individual is able to adapt to an environment given the resources. Data on some social and family factors, such as age, marital status, parity and religion were elicited as part of the demographics in this study as these have a bearing on self-care practices.

Person

A person is self-care agent or total being with ability to promote growth and development and capable of, continuous self-care (Orem, 1991). Orem (1991) depicts the person as someone able to appraise situations, reflect upon them and reason and understand them. This implies that a person can deliberately choose to perform a certain specific action regardless of contrary internal and external pressure. In case of self-care deficit, a supportive educative nursing system will be appropriate. Orem (1991), views individuals as health care agents who have health deviation self-care requisites. The person in this study was the pregnant client with self-care needs imposed by a pregnancy risk factor such as PIH, as it created a self-care demand, which may appear to be more than the client's abilities (self-care agency) to cope.

Health

Health is an outcome of self-care. It is a state of soundness and wholeness (Fitzpatrick & Whall 1996; Orem, 1991). This state of soundness and wholeness can be

achieved through maintenance and support of life processes and reduction of complications of pregnancy induced hypertension. In this study health therefore equates to the results of effective self-care which is executed by the self-care agent (pregnant woman with PIH). Self-care knowledge strengthens self-care practices as the self-care agent easily identifies anomalies and takes appropriate action, for the client to remain in good health. Interaction between Orem's model concepts and this study's concepts are illustrated in figure 1.

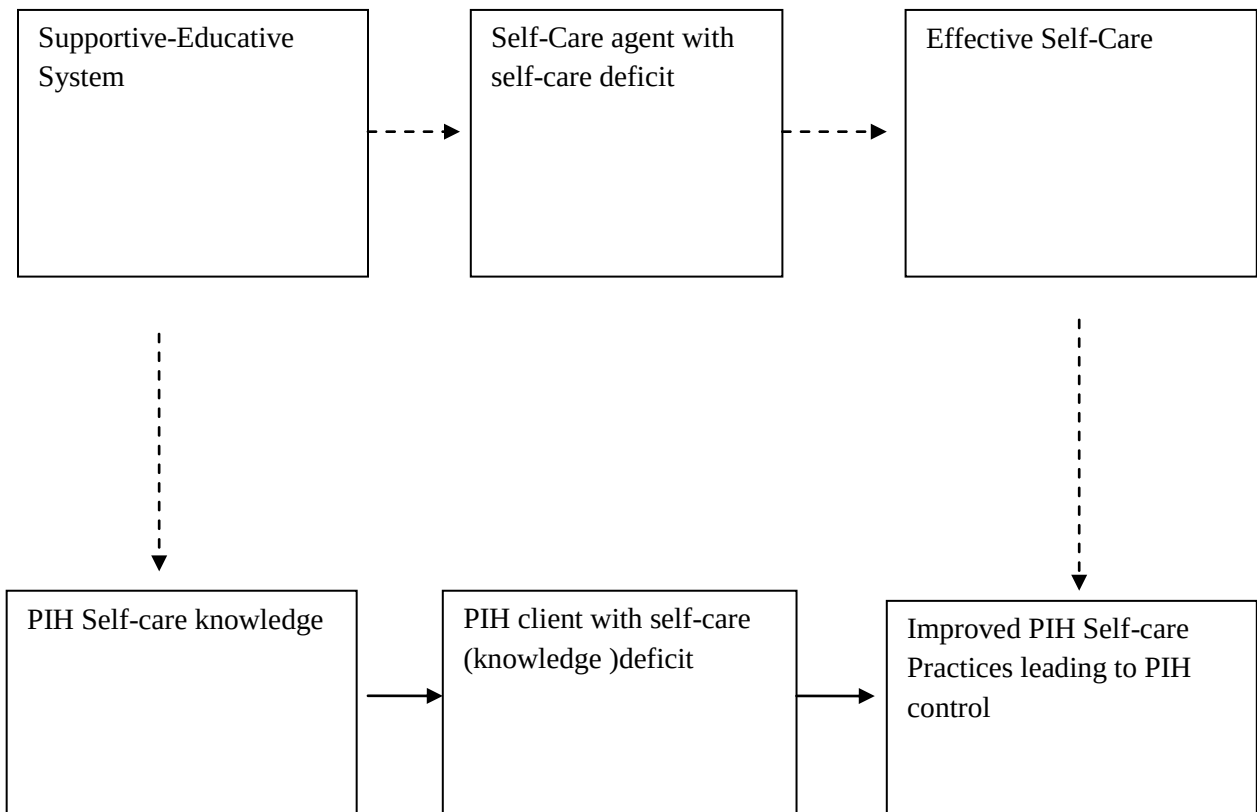


Figure 1: Interaction between concepts in the Self-care Model.

Adapted from Orem, (1991).

Conceptual Definition of Terms

Supportive–Educative System

According to Orem (1991) nursing systems are helping systems in which the method of helping is determined by the degree to which the patient is able to accomplish his self-care requirements. In supportive-educative system assistance is given to the client by a nurse to promote decision-making, behavior control and acquisition of knowledge and skills. In supportive- educative system nurse provides education and support to the patient as he or she performs self-care activities. In this study the supportive-educative system was chosen since the woman with PIH was taking care of self at home in the absence of the health worker.

Self- care Agent

The self-care agent engages in a course of action or has the power to do so (Orem, 1991). In this study the agent was the pregnant woman with PIH. The self-care agent possesses self-care agency. Self-care agency refers to the complex acquired ability to meet one's continuous requirements for care that regulates life processes in maintaining structural and functional integrity and promoting development and well-being (Fitzpatrick & Whall, 1996). The ability may be influenced by environmental factors, which include the pregnant woman's interaction with the health care system as she attends Antenatal Clinic.

Self-Care

Self-care refers to activities that an individual initiates and performs on their behalf in maintaining life, health and well being (Orem, 1991). According to Alligood & Mariner-Tommy (2006) self-care must be learned and must be performed deliberately. It helps the individual meet requirements associated with state of health. In this study self-care will be

exhibited by the pregnant woman as she performs activities to control PIH, such as regular antenatal clinic attendance, rest and exercise.

Self-care knowledge

Knowledge refers to sum of what is known or certain or clear apprehension of truth or fact (Hayward & Sparkes, 1989). Self-care knowledge is the gap known between therapeutic self-care demand and the ability to perform therapeutic or dependent care (Orem, 1991). The imbalance between self-care requisite and self-care demand is thought to result in self-care deficit. In this study, self-care knowledge refers to the knowledge gained by the woman with PIH following health education on PIH self-care practices.

Self-care Deficit

Self-care deficit is a term that expresses the relationship between the action capabilities of individuals and their demands of care (Orem, 1991). Self-care deficit is an abstract concept that when expressed in terms of action limitations, provides guides for selection of methods for helping and understanding the patient roles in self-care. The nursing agency tries to fill the gap to meet the person's self-care demands through supportive-educative system. Therapeutic self-care demands consist of care measures necessary at specific times or over duration of time for meeting all of an individual's known self-care requisites particularized for existent conditions (Orem, 1991). Self care deficit in this study was represented by the hypothesized ineffective self-care practices among pregnant women. Nursing was then required to address the imbalances through a supportive-educative nursing system, which strengthens self-care practices.

Self-care practices

Self-care practices are the activities performed to promote wellbeing or meet basic health needs such as adhering to prescribed diet, drugs, symptom management rest and

activity (Makhubela, 2002). In this study, this refers to those habits, which the patient performs in order to maintain health to reduce progression of PIH to preeclampsia and eclampsia. These self-care practices include identification of signs and symptoms, resting, exercises and seeking medical attention when appropriate.

Objectives

The study was guided by the following objectives:

1. To establish PIH self-care practices among women aged 15-49 years with PIH attending Antenatal clinic at Harare Maternity Hospital.
2. To determine PIH self-care knowledge level among women with PIH aged 15-49 years attending Antenatal clinic at Harare Maternity Hospital.
3. To examine the relationship between PIH self-care knowledge levels and self-care practices regarding pregnancy induced hypertension among women aged 15-49 years with PIH attending Antenatal clinic at Harare Maternity Hospital.

The study sought to answer the following questions:

1. What are the PIH self-care practices of women aged 15-49 years with PIH attending Antenatal clinic at Harare Maternity Hospital Maternity Hospital?
2. What is the level of PIH self-care knowledge among women with PIH aged 15-49 years attending Antenatal clinic at Harare Maternity Hospital.
3. What is the relationship between PIH self-care knowledge levels and PIH self-care practices among women with PIH aged 15-49 years attending Antenatal clinic at Harare Maternity Hospital?

Significance to Nursing

Midwifery Practice

The significance of this study is that it is hoped that it will generate self-care knowledge on PIH self-care practices which will help improve the knowledge base for midwifery practice. The filling in of knowledge gaps will help to improve clinical management of women with PIH. Midwives will improve on the information they give on PIH self-care. This in turn may contribute to a reduction in maternal mortality and morbidity as well as perinatal mortality. Women with PIH may progress from a mild condition to a more serious condition, preeclampsia, which may in turn progress rapidly to eclampsia. Early detection and management of pregnancy induced hypertension is critical to prevent complications. Knowledge gained from this study may give insight to midwives on issues related to the identified gaps in self-care knowledge and self-care practices.

Research

The study may also contribute to the building of the body of knowledge in nursing so as to promote evidenced based practice. Although this study was done on a small sample, in an urban setting, it is hoped that the findings will provide a base for other studies to be conducted on a larger scale, and in different settings. It is also hoped that the study findings will help nurse administrators to come up with policies that are evidenced. Evidence-based practice may help reduce maternal mortality and morbidity.

Education

The findings may help the nursing education system to produce professionals who understand management of pregnancy complications such PIH, thereby improving on information delivered to clients during health education sessions. Relevant information may

help to promote effective self-care practices. Improved self-care practices may contribute to reduced complications and hence reduced maternal mortality and morbidity.

CHAPTER 2

LITERATURE REVIEW

Introduction

A review of the relevant literature is conducted to generate a picture of what is known and not known about a particular situation (Burns & Grove, 2005). It is concerned with gathering and summarizing relevant theoretical and empirical data on a topic of interest (Polit & Hungler, 1997). It helps the investigator put things into perspective so as to identify gaps, weaknesses in previous research in order to justify a new investigation. Literature review also assists researchers to identify suitable research designs and data collection methods used by other researchers. This literature review will focus on the following variables; PIH self-care practices (dependent variable) and PIH self-care knowledge (independent variable). The magnitude to which the independent variable aspects such as awareness of signs and symptoms, rest and exercises, and when to seek medical attention affect self-care practices. Orem's self-care model was also reviewed to identify where it was used in guiding studies to assess relationship between variables. The purpose of this study was to examine the relationship between PIH self-care knowledge and the self-care practices instituted in relation to PIH by the pregnant women.

PIH and its complications

PIH is a global problem and contributes significantly to maternal mortality (WHO, 2005). Fraser and Cooper (2003) state that PIH is diagnosed when, after resting, the woman's diastolic blood pressure rise 25mmHg above the basal blood pressure recorded early in pregnancy or when the blood pressure rises above 140/90 mmHg, on at least two occasions, four or more hours apart after the 20th week of pregnancy in a woman known to be

normotensive. The blood pressure is checked over a 24 hour period after resting as it may continually vary due to emotional state and physical activities of an individual (WHO,2004).

According to WHO (2004), PIH occurs in approximately 5 to 8% of all pregnancies, 10% of first pregnancies and 20-25% of women with a history of chronic hypertension. Hypertension disorders in pregnancy lead to maternal and fetal morbidity and remains a leading cause of maternal mortality globally (WHO, 2005).PIH remains a major public health concern in Sub-Saharan Africa, Zimbabwe included. Its prevalence varies according to age and race. PIH occurs after 20 weeks of gestation and subsides after delivery (Fraser & Cooper, 2003).

Maternal complications of PIH include multi-organ damage. There may be permanent nervous system damage, liver damage and acute renal failure due to recurrent seizures and intra-cerebral haemorrhage which compromise flow of blood to vital organs. Fetal complications which result in death are intrauterine growth restriction and fetal hypoxia.

The exact cause of PIH is unknown; however there are several postulated theories. Endothelial function disorder associated with vasospasm leads to vasoconstriction of arteries leading to raised blood pressure thereby compromising the health of the mother and fetus.

PIH Self-care practices

Since PIH cannot be prevented, the midwife's concern is prevention of progression to severe pre-eclampsia and eclampsia. This can be achieved through lifestyle changes that are self-care practices. The woman must be willing to adhere to prescribed treatment plan (Murray & McKinney, 2006).

Antenatal Clinic Attendance

PIH self-care practices that may be helpful are: early booking at Antenatal clinic and regular prenatal care which is essential for the prevention and early detection of pre-eclampsia

(Fraser & Cooper, 2003; Sellers2001). According to James, Mgbekem and Edem (2009) regular antenatal care is essential for early detection and management of complications. This in turn leads to positive maternal and fetal outcome resulting in reduced maternal mortality rates. Regular antenatal attendance also gives the woman an opportunity to receive information on self-care. The Central Statistical Office (CSO) (2007), in the 2005-2006 Zimbabwe Demographic and Health Survey (ZDHS) reported that 50% of women who received antenatal care were informed of signs and symptoms of pregnancy complications. In this study, PIH is the pregnancy complication of concern.

Rest

Fraser and Cooper (2003) advocate for rest at home as it is cost effective. Bed-rest lying on the left side, which a position that helps to reduce oedema, and to reduce PIH. Sellers (2001) adds that bed rest on the left lateral side helps to improve placental perfusion. Murray and McKinney (2006) concur with Fraser and Cooper (2003) on the issue of rest. They advocate for bed rest in a lateral position at least for one and a half hours per day as this results in decrease in pressure on the vena cava, thereby increasing cardiac return and circulatory volume, thus improving perfusion of the woman's vital organs and the placenta. Bed-rest reduces progression of PIH to severe disease that is preeclampsia and eclampsia (Truestar Health Encyclopedia, 2010).

Exercise

Regular physical exercises are beneficial both physiologically and psychologically as they reduce blood pressure and stress (Fraser and Cooper 2003). Fortner, Pekow, Whitcomb, Sievert, Markenson and Chasan-Taber (2011), in their study on physical activity and hypertensive disorders of pregnancy among Hispanic Women between 2000 and 2004, noted that there was 70% reduction in the risk of hypertensive disorders with physical activity which

included household care giving activities. They concluded that exercise in early pregnancy had a positive effect on hypertensive disorders of pregnancy by reducing risk of hypertension in pregnancy.

Diet

In terms of diet, diet rich in protein, fibre, vitamins and plenty of fluids is recommended (Fraser & Cooper, 2003; Gilbert & Armon 2003). According to Sellers (2001) there is an increased incidence of pregnancy complications such as pre-eclampsia and eclampsia due to malnutrition. This therefore implies that pregnant women should always have a balanced diet in order to avoid some of the complications stated here.

Seeking Medical Attention

It is important to seek medical attention as soon as features of progression of PIH are noted in order to prevent progression and complications. Eighty percent of respondents out of sample of 100 pregnant women, in a study by James, Mgbekem and Edem (2009) reported visiting the hospital if oedematous. It is important to seek medical attention as soon as features of progression of PIH are noted in order to prevent progression and complications. Munjanja (2009) cites the first delay identified as time lost in recognizing the seriousness of the situation and deciding whether or not to seek medical attention as contributing to 56.4% of all maternal deaths in the 2005 -2006 Maternal and Perinatal Mortality Study.

When home care fails, admission to hospital is necessary to manage PIH related complications such as pre-eclampsia, eclampsia and this creates economic strain on Health Institutions which are already economically constrained. PIH not only contributes to a physiological burden on the pregnant woman, but also to psychological, sociological and economic problems. A study by Soya, et al (2003) to materialize self-care activities and maternal outcome among women with PIH attending outpatient department of selected

hospitals in Kozhikode district, in India based on Orem's self-care model, revealed that practice of self-care activities by the primi-gravid women helped attain favourable maternal outcomes.

Therefore, self-care practices which are effective can go a long way in reducing the risk of PIH complications. For self-care practices to be effective there may be need to involve significant others to ensure psycho-social and economic needs are met, which if not met may further raise the blood pressure through anxiety (Fraser & Cooper, 2003). The investigator was interested in identifying self-care practices women with PIH undertake as these have an influence on outcome of pregnancy.

PIH Self-care knowledge

Knowledge is certain or clear apprehension of truth or fact (The Concise English Dictionary, 1987). It is the sum of what is known and it reflects awareness. Knowledge is acquired in a variety of ways, which include experience. Self-care knowledge comprises knowledge on the nature of the condition (signs and symptoms, and dangers) diet, rest, exercises and when to seek medical care (Sellers, 2001). A good number (80%) of women with adequate knowledge of signs and symptoms of PIH through antenatal health education immediately sought medical attention without delay (James, Mgbekem and Edem, 2009). Murray and McKinney (2006) emphasize that the women should be taught about signs and symptoms that indicate worsening of PIH to eclampsia and report these at once to a health worker. This, therefore implies that the midwife through the supportive-educative system plays a vital role in imparting knowledge on PIH self-care practices to women with PIH. PIH self-care knowledge is knowledge required to control PIH, knowing what activities are to be performed and having the skills to perform the action. In a study conducted by Mahaka (2006) to determine the relationship between hypertensive pregnant women's hypertension

knowledge and hypertension control at a referral centre in Harare, the results revealed that complications related to PIH occur due to maternal negligence or unawareness of the disease and its management. Self-care offers potential for improving the health status of the clients and thus prevents progression of PIH at a low health cost (Mahaka, 2006).

Knowledge on Signs and Symptoms of PIH

There is need to empower not only women but also traditional birth attendants and other health-care workers with knowledge on signs and symptoms of PIH for early recognition and making of informed decision on what action to take. Signs and symptoms of PIH include headaches, sudden weight gain, and blurred vision (Fraser & Cooper, 2003). Knowledge deficit on signs, symptoms and dangers of PIH may contribute to problems in its management and control as the woman may report late for effective intervention; therefore it is vital for pregnant women to have this knowledge.

Knowledge on rest

On rest, Sellers (2001) and Murray and McKinney (2006) advocate for sufficient bed rest lying on the left lateral side to prevent aorto-caval occlusion, thereby promoting utero-placental perfusion. According to Gilbert and Harmon (2003), bed-rest reduces oedema and promotes perfusion. It is therefore vital for PIH clients to acquire knowledge on resting techniques: bed rest in a quiet environment; occupational activities to divert the mind from focusing on the condition leading to reduced mental stress and blood pressure. The woman should rest for 8 hours at night and 1 ½ hours during the day (Murray and McKinney, 2006). Rest has the added advantage of reducing oedema, facilitating kidney filtration (Fraser & Cooper, 2003; Murray and McKinney, 2006). Rest is vital even if the woman feels well and energetic. According to TruSTAR Health Encyclopedia, (2010), the common practice of prescribing bed rest for women with PIH has been questioned by some researchers. In the few

studies examining this issue, results have been inconsistent. While one controlled study found that bed rest reduced progression of PIH to severe hypertension, evidence is currently insufficient to determine whether bed rest reduces blood pressure in women with PIH.

Knowledge on Diet

Gilbert and Armon (2003) advocate for a balanced diet unless patient had chronic hypertension in which salt is reduced. Sellers (2001) recommend a high protein diet which assists in preventing oedema by increasing osmolarity, Fraser and Cooper (2003) concur as they advocate for a diet rich in protein, fibre, vitamins and plenty of fluids. Advice can be given on using locally available foods such as beans, vegetables, fruits and milk to come up with a balanced diet.

Knowledge on physical activity

Physical activity is encouraged in the form of regular un-strenuous exercises to promote blood flow and elimination of blood waste products. Regular exercises are beneficial both physiologically and psychologically as they reduce blood lipids, blood pressure and stress (Fraser & Cooper, 2003). Regular, not strenuous exercises are advocated for, such as walking and non-strenuous house work.

Antenatal Clinic Attendance

According to James, Mgbekem and Edem (2009) and Truestar Health Encyclopedia (2010), regular antenatal care is essential for early detection and management of complications. This, in turn leads to positive maternal and fetal outcome resulting in reduced maternal mortality rates. Regular antenatal attendance also gives the woman an opportunity to receive information on self-care. The CSO (2007), in the 2005-2006 ZDHS reported that 50% of women who received antenatal care were informed of signs and symptoms of pregnancy complications. In this study, PIH is the pregnancy complication of concern. Armed with

relevant self-care information, the woman may stand to save her life and that of the fetus. Self-care activities undertaken by women include attending antenatal clinic regularly for monitoring purposes for prevention and early detection of preeclampsia, bed-rest lying on the left side, a position that helps to reduce PIH; and immediately seeking medical attention if any signs of progression are noted (Truestar Health Encyclopedia, 2010).

The midwife should therefore identify any self-care deficit first so as to fill in the gaps. Health education enhances self-care knowledge. The assumption is that increased health promotion programs enhance self-care knowledge, which in turn positively affects self-care. Orem (1991) states that self-care knowledge is needed to regulate factors that affect the individual's own function in the interest of wellbeing.

Theoretical Framework

According to Burns and Grove (2005), a theoretical framework is the abstract logical structure that guides the development of a study and enables the researcher to link the findings to nursing's body of knowledge. This study was based on Orem's Self-care Model proposed in 1991. The theory focuses on a person's capabilities and limitations for self-care (Orem, 1991). The investigator chose this model on the assumption that it addresses the relationship of knowledge and practices, where knowledge may be translated into practices. This in turn will ensure a positive outcome for both the mother and fetus. The concepts derived to serve as a guiding framework for this study are supportive-educative system, self-care agent, self-care deficit and self-care.

Self-care

Self-care comprises of the practice of activities that maturing and mature persons initiate and perform, within time frames, on their behalf in the interest of maintaining life, healthful functioning, continuing personal development, and well-being (Orem, 1991). In this

study self-care was developed and measured around the role of patient to control self-care activities. Therefore, PIH self-care knowledge among the women with PIH is necessary for individualized self-care practices to enhance reduction of complications. It is assumed that if a person has self-care knowledge, she is likely to use it in practice. It is also assumed that the more self-care knowledge women have the less complications occur hence improved pregnancy outcome. For the purpose of this study, self-care comprises of those activities performed independently by the PIH client individually to promote and maintain personal well being when there is no health worker as she is managed as an outpatient. These activities include rest, attending antenatal clinic regularly, early recognition of signs and symptoms, seeking medical assistance when necessary.

Self-care agent

The self-care agent who in this study is the pregnant woman with PIH is described as a deliberate actor, or agent (Alligood & Mariner-Tommy, 2006). The agent forms the basis of the theory. The agent engages in a course of action or has the power to do so (Orem, 1991). The power of an individual to engage in productive activities essential for self-care is referred to as self-care agency by Orem (1991). The agent does not stay in a vacuum, but is influenced by a variety of factors known as the basic conditioning factors. These factors include family systems, availability and adequacy of resources for self-care, health care systems, and age and these are found within the environment where the agent lives.

Supportive-Educative System

Supportive-educative system is a component of nursing systems which are series and sequences of deliberate practical actions of nurses performed at times in coordination with actions of their patients to know and meet components of their patients' therapeutic self-care demands and to protect and regulate the exercise or development of patients' self-care agency

(Orem, 1991).In this study the supportive-educative system will focus on antenatal health education on PIH given by midwives to clients with PIH. The information given includes signs and symptoms of PIH, antenatal care practices and complications of PIH. Since self-care will assist the individual to facilitate the management and control of PIH, it will minimize progression of the condition. This self-care is increased by increasing knowledge and skills which is achieved through nursing systems.

A study done focusing on the relationship between two variables will be highlighted below. In a study to determine the relationship between knowledge of testicular cancer and testicular examination, that is the practice, in British and Zimbabwean undergraduates, knowledge was found to be low, 14% for British and 5 % for Zimbabwean subjects (McMasters, Pitts & Wilson, 1994). The low knowledge on testicular self-examination was accompanied by further low percentage of the knowledge of actual details involved and practice of testicular self-examination. These findings suggest that lack of knowledge on a particular concept will prevent practice.

Orem's (1991)Self-care model has been used in a study by Mahaka (2006) to determine the relationship between hypertensive pregnant women's hypertension self-care knowledge and hypertension control at a referral centre in Harare. The results suggested that there was a negative relationship between hypertensive pregnant women's hypertension self-care knowledge and control of diastolic blood pressure.

Summary

This chapter focused on the dependent variable PIH self-care practices and the independent variable PIH self-care knowledge, and Orem's (1991) self-care model. Self-care knowledge increases adoption of healthy self- care practices. As knowledge increases, risks of complications related to PIH are expected to decrease since knowledge assists the pregnant

women to adopt lifestyles or self-care practices that are consistent with positive pregnancy outcomes. Adequate self-care knowledge on PIH can mean that pregnant women can easily identify problems and take appropriate action. The theoretical model has been used successfully in other descriptive correlational studies to find relationship between two variables.

CHAPTER 3

RESEARCH METHODS

Introduction

The purpose of this study was to examine the relationship between PIH self-care knowledge level and PIH self-care practices. This chapter focuses on the methodology. The following aspects of methodology were addressed: research design, sampling plan, sample size, sampling procedure, conceptual and operational definitions of variables, data collection procedures and data analysis procedures.

Research Design

According to Burns and Grove (2005) a research design is a blue print for conducting the study that maximizes control over factors that could interfere with the validity of the study's desired outcome. It directs the investigator on population selection, sampling procedures and data collection and analysis.

In this study, the descriptive correlational research design was used. The purpose of descriptive research is the exploration and description of phenomena in real life situations. There is no manipulation by the investigator. The descriptive element of the study was to examine accurate occurrence of phenomena of interest (Polit & Hungler, 1997). In this study, the descriptive aspect allowed for description of the self-care knowledge and self-care practices of the pregnant women. Correlational research involves the systematic investigation of linear relationships between two or more variables and to determine the type (positive or negative) and degree (strength) of the relationship (Burns & Grove, 2005). The correlational component helped to establish the type and degree of any relationship that exists between phenomena of interest. This study the sought to examine the relationship between PIH self-care practices and PIH self-care knowledge levels.

Study Setting

The study was conducted at Harare Central Hospital in Zimbabwe. This setting was chosen since it is a major referral centre, receiving patients from various City of Harare Clinics and several provincial and other referring hospitals. As a result of the wide catchment area from which the population was drawn, the results may be generalized.

Sampling Plan

This is the strategy used by the investigator to obtain study participants from a defined population (Burns & Grove, 2005). It involves selection of a group of people for the purpose of acquiring knowledge about a phenomenon that is present in an entire group (Burns & Grove, 2005). For this study, convenience sampling, a non- probability sampling technique, was used due to limited time available to conduct the study. A subset of the population which is selected for this study is known as a sample (Burns & Grove, 2005). In this study, the sample comprised of PIH women on repeat visits. A sample is used to make a generalization of the entire population, therefore a good sample in a quantitative study should be as representative of the population as much as possible (Polit & Hungler, 1997). The use of a sample is advantageous in that it is less costly and more practical to study a sample than a whole population. The use of a sampling plan involves the selection of a sampling method, selection of a sample size and the procedures used for recruiting the study participants.

Population

The target population for this study was pregnant women aged 15 to 49 years, diagnosed PIH, being treated as outpatients at the Antenatal Clinic at Harare Central Hospital, not too ill to answer questions, able to speak English or Shona and on repeat visits.

Sample Size

Polit and Hungler (1997) define sample size as the number of study participants required in the research study. There is need to determine an adequate sample size so as to describe a phenomenon and detect a relationship or determine effect (Burns & Grove, 2005). A recommended sample size is determined by power, effect size and significant level (Polit & Sherman, 1990). The larger the sample the more representative it is to the population of interest, the vice versa. For this study, the Lipsey (1990) chart of pre-calculated sample sizes was employed. To calculate a sample of 65, the following was taken into account: power of 0.8, a significance level of 0.05 and an estimated effect size of 0.5. The investigator included an additional 13 participants (20% of 65) to cater for potential attrition of participants thereby making a total of 78 participants.

Power

Power is the capacity of a study to detect differences on relationships that exist in the population (Burns & Grove, 2005). Power tries to control the likelihood of making a type II error or beta (β) error which occurs when an investigator fails to reject a null hypothesis when it is false (Polit & Sherman, 1990). If the power is small, there may be failure to detect the true relationship between PIH self-care knowledge and PIH self-care practices. According to Burns and Grove (2005), a high power enables one to detect a small difference that exists through statistical test. In this study, a power of 0.80 was used. It is important that a study should neither be under-powered (leads to a non-significant result) or over-powered (leads to an unnecessary use of more resources.).

Significance level

Significance level refers to the probability of making a type I error of wrongly rejecting the null hypothesis when it is true (Burns & Grove, 2005). It is also known as alpha

(α) or p value. The conventionally accepted level for a Type I error is 0.05 for nursing and social studies (Polit & Sherman, 1990). This implies that the investigator was willing to assume the risk of committing such an error 5 times out of 100. In this study a significance level of 0.05 was used.

Effect size

According to Polit and Sherman (1990), effect size is an index of how strong the effect of the independent variable is on the dependent variable that is the degree to which the null hypothesis is false. Effect size has a negative relationship on sample size. As the effect increases, the sample size decreases and vice versa (Burns & Grove, 2005). The smaller the sample size the more difficult it is to detect the difference. Effect size ranges from small (0.2) through to medium (0.5) up to large (0.8) (Burns & Grove, 2005). For the purpose of this study, a medium effect (0.5) was used as it yields an achievable sample size.

Sampling Procedure

Burns and Grove (2005) state that sampling involves selecting a group of people, events, behaviours or other elements for the purpose of conducting a study. Sampling will thus allow the investigator to draw inferences and make generalization about a population, without necessarily examining each element in the population (Burns & Grove, 2005). It is important to ensure that the sample is representative of the target population so as to minimize bias, and draw conclusions that are generalized to the population.

Convenience sampling technique was used due to limited time available to conduct the study. It is a non- probability sampling technique whereby subjects are included in the study because they happen to be in the right place at the right time, and the available subjects are simply entered into the study until the desired sample size is reached (Burns & Grove, 2005). Convenient samples are accessible, inexpensive, usually require less time to acquire

subjects than other types of sampling, and provides means to acquire information in unexplored areas. However, biases may be present though no serious ones (Burns & Grove 2005). Prospective participants were asked to participate in the study, and upon voluntary consent, they were entered into the study. The same procedure was repeated till sample size required was achieved.

Inclusion Criteria

Inclusion criteria refer to the sampling requirement by the investigator, which must be present for the subject to be included in the study (Burns & Grove, 2005). For this study, inclusion criteria were as follows: The client must have had a diagnosis of PIH. The clients' age ranged from 15 to 49 years. Clients were also supposed to be able to communicate in Shona or English since the instrument was in these two languages. Clients should have been attending a repeat visit since they would have been exposed to health education pertaining to the PIH condition's control and management. It was assumed that this exposure to health education would manifest in self-care practices. It was then applicable to measure the self-care practices in those who had been diagnosed PIH and given pertinent health education who were outpatients. They would have had the opportunity to practise knowledge gained.

Exclusion Criteria

This refers to characteristics people must not possess. Polit and Hungler (1997) state that exclusion criteria refer to the characteristics that study participants should not possess, for them to be eligible. In this study, all clients without PIH were excluded. Clients below 15 and above 49 were excluded. Those not able to communicate in Shona or English were not included, as this could have hindered data collection. Mentally impaired clients were excluded since they would not have been competent in self-care requisites. Clients diagnosed PIH on day of data collection were excluded as they would not have had the opportunity to put into

practice knowledge gained through health education. Participants, who were too ill, admitted or on their first visit were not included in the study as this could have impaired data collection.

Variables

A variable is a quality, property or characteristic of a person, thing, or situation that changes or varies and is manipulated or measured in research (Burns & Grove, 2005). The variables that were assessed in this study were antenatal PIH self-care practices as the dependent variable and PIH self-care knowledge as the independent variable, and Demographic variables.

Conceptual and Operational Definitions

According to Burns and Grove (2005), a conceptual definition provides a variable or concept with connotative (abstract, comprehensive, theoretical) meaning and is established through concept analysis, concept derivation, or concept synthesis. An operational definition is a description of how variables or concepts will be measured or manipulated in a study (Burns & Grove, 2005). It is vital to define concepts to allow for consistence in terms used in the study. Terms used in quantitative research are specific to field of study; therefore understanding of the terminology is critical to understanding the study discussion (Burns & Grove, 2005).

PIH Self-care practices

These self-care practices are correct practices and activities that women with PIH have to perform on their own in the management and control of their condition when the health worker is not present. This is done in order to maintain life and well being so as to ascertain good pregnancy outcome (Fraser & Cooper, 2003). PIH self-care practices were assessed in relation to how much rest the pregnant woman gets, what diet she takes, physical activities

undertaken, recognition of signs and symptoms of progression, seeking medical attention when appropriate, and regular antenatal clinic attendance, keeping appointments.

PIH self-care knowledge

PIH self-care knowledge is the cognitive understanding or awareness a pregnant woman has, which assists her to control PIH. This knowledge regarding PIH self-care includes awareness and recognition of signs and symptoms of progression, and knowing appropriate action to take if they are present; knowledge on diet to be taken, rest needed, physical activity and when to attend antenatal clinic. A client with self-care knowledge will be able to understand and put into practice concepts of reducing modifiable risks such as reduced sodium intake (Sellers, 2001). In this study, self-care knowledge on PIH was measured against knowledge levels the women possessed regarding awareness of signs and symptoms of progression and action to take in their presence; management and control in terms of diet, rest, physical activity, regular antenatal clinic attendance as per appointment or in the presence of danger signs.

Demographic variables

Demographic variables are characteristics or attributes of the subject that are collected to describe the sample. Some common demographic variables are age, educational level, gender and race (Burns & Grove, 2005). These variables when analyzed at the end of a study will provide a picture of the sample or sample characteristics. Operational demographic characteristics will be elicited through the Demographic Data Section of the Interview Schedule. Demographic characteristics that were elicited in this study included age, marital status, level of education and parity.

Instrument

An instrument is a tool or device or technique the investigator uses to collect data, for example a questionnaire (Polit & Beck, 2010). Questionnaires may either be self-administered when participants complete a set of questions themselves on paper or computer, or may take the form of structured interview schedules. The use of structured interview schedules entails that questions are asked verbally either through face to face interview or by telephone (Polit & Hungler, 1997). For this study, the investigator used a structured interview schedule for face to face interaction, based on reviewed literature. The interview schedule consisted of three sections, namely the Demographic Data Section (DDS), PIH Self-care Practices (SCP) Section and the PIH Self-care Knowledge (SCK) Section.

PIH Self-care Practices Section B

This section had questions developed from related literature (Fraser & Cooper, 2003; Sellers, 2001; Macdonald & Henderson, 2004; Gilbert & Harman, 2003). The questions focused on the self-care practices the women were engaged in, in the control and management of PIH. These self-care practices were related to booking for antenatal care; regular antenatal clinic attendance; rest and relaxation; physical activity; diet and seeking immediate medical attention. Questions 8 to 16 addressed the indicators of PIH self-care practices. Question 8 addressed the gestational age when the woman booked for antenatal care. The scores for this question ranged from 1 to 4, with 1 point being awarded for booking at and after 28 weeks of gestation, and 4 points for early booking that is before 13 weeks of gestation.

Regular antenatal care attendance was addressed by questions 9 and 10. Question 9 awarded 0 points for missing visits, and 1 point for not missing any scheduled visit. On question 10, one point was awarded for missing 3 or more visits and 4 points for not missing any scheduled visit.

The issue of rest is addressed by questions 11 to 13. On question 11, 1 point was awarded affording self time to rest and 0 points for no rest at all. On question 12, 3 points were awarded for resting more than twice a day and 0 points for no rest at all. On question 13, a score of 4 was awarded for sleeping for 8 hours or more per day and 1 point for sleeping for less than 4 hours per day. On physical exercises, scores on question 14 ranged from 0 to 1, with 1 point being awarded for exercising, and zero for no exercise at all.

The subsection on nutritional practices addressed the types of foods the woman takes, with focus on balanced diet with plenty of fluids (minimum 2 litres in 24 hours); scoring 5 points for a balanced diet, whilst fewer points were awarded for a non balanced diet. This was addressed in question 15.

Question 16 addressed the issue of seeking immediate medical assistance. One point was awarded for seeking medical attention on recognition of each danger sign, and zero points for incorrect or no action at all.

The possible self-care practices scores ranged from 0 to 27 with a mean of 13.5. Scores ranging from 0 to 12 scores signifying below average and scores from 14 to 27 above average level of self-care practices.

PIH Self-care Knowledge Section C

As the previous section, questions were also derived by adapting from related literature (Fraser & Cooper 2003; Sellers, 2001; Gilbert & Harmon, 2003). This section focused on the level of knowledge the women had on PIH self-care. Questions 17 to 24 addressed the self-care knowledge indicators such as knowledge regarding awareness about the condition's danger signs; its control using measures namely diet, rest and exercises; when to attend antenatal clinic.

Question 17 addressed knowledge levels on the condition's signs of progression, with scores ranging between 0 and 4. A score of 0 indicated low levels of knowledge whilst a higher score indicates higher levels of knowledge. Control of PIH knowledge was addressed in questions 18 to 24. Question 18 had scores ranging from 0 and 1, with a score of 1 representing highest level of knowledge. Knowledge about foods to be avoided by women with PIH was addressed in question 19, with scores ranging from 0 to 1, a score of 1 represented high level of knowledge, whilst a score of 0 represented lack of knowledge. On knowledge about importance of rest, scores in question 20 ranged from 0 to 1; and question 21 scores ranged from 0 to 2. The lowest scores represented low levels of knowledge and the high scores represented high levels of knowledge. Question 22 and 23 addressed knowledge levels on physical activity or exercises. Scores for question 22 range from 0 to 1 and for question 23 from 1 to 2.

Knowledge level regarding when to attend antenatal clinic was addressed in question 24 with a scores ranging from 1 to 2.

The possible scores for self-care knowledge level ranged from 0 to 14; 0 to 6 signifying below average level, and 8 to 14 above average level of knowledge, with a mean of 7.

Demographic Data Section A

This section of the interview schedule captured the relevant personal data, namely age, educational level, marital status, parity and occupation, who they lived with and religion. Questions 1 to 7 elicited data on the participants' demographics. There is an association between some demographic variables and PIH self-care knowledge and practices. Macdonald (2004) and Fraser and Cooper (2003), state that PIH is common in women below 18 and above 35 years of age. Level of education can have an influence on self-care knowledge as

reported in the 2005-2006 ZDHS where the CSO (2007) reported that 6 out of 10 women with at least secondary were informed of pregnancy complications compared to 4 out of 10 with primary or no education. Munjanja (2009) reported that certain religious sects do not encourage their women to seek medical care for health issues, even MCH problems.

Validity

The validity of an instrument is a determination of the extent to which the instrument actually reflects the abstract construct being examined. It is examined in each study situation (Burns & Grove, 2005). Content validity evidence examines the extent to which the method of measurement includes all major elements relevant to construct being measured. Evidence can be obtained from literature, content experts and representatives of the relevant population (Burns & Grove, 2005). The instrument was given to midwives and guidance was received from the supervisor in Department of Nursing Science: and a small number of PIH clients to check whether the instrument measured the self-care practices and the self-care knowledge as intended. These clients were not included in the actual study.

Reliability

Reliability of a measure denotes consistency of measures obtained in the use of a particular instrument and is indication of the extent of random error in the measurement. A reliable instrument enhances power of the study to detect significant differences or relationships actually occurring in the population under study (Burns & Grove, 2005). Testing for reliability is concerned with issues such as precision and consistency. A pretest was conducted to examine reliability of the research instrument. Subjects used in the pilot study were not used in the actual study.

Pilot Study

A pilot study is defined as a miniature version of the anticipated research (Burns & Grove, 2005). It is carried out so as to assess feasibility of the planned study, adequacy of instrumentation, and problems in the data collection strategies and proposed methods. A pilot study was conducted at the Antenatal Clinic at Harare Maternity Hospital. The participants were not included in the actual study. Findings from the Pilot study led to a few changes on the instrument on the demographic data section. A question on income was omitted because it was vague. The question on who the woman stayed with was adjusted slightly, instead of the term husband, the word partner was used since some women may not be married but living with their partners; and friend was also added as another option on the same question.

Data Collection Plan

This plan comprises of human rights considerations and the data collection procedure.

Human Right Considerations

Permission to conduct the study was sought from the Department of Nursing Science and the Chief Executive Officer of Harare Central Hospital. The department of Nursing Science in turn forwarded the research proposal to the Medical Research Council of Zimbabwe (MRCZ) for clearance. This ensured that ethical considerations requirements were met. In addition, individual consent forms were used to explain the purpose of the study and data collection procedures using a language study participants understood.

Participants were informed that the findings would be used to help improve health education on antenatal care for PIH clients. A private room was used for conducting interviews to afford clients privacy. Confidentiality was ensured by use of serial numbers instead of names of clients on the interview schedules. Completed schedules were only accessible to the investigator and kept in a lockable cupboard. At the end of the study, the

completed schedules will be destroyed. Participants participated voluntarily and they were free to withdraw from the study without victimization or penalty. No harm was envisaged.

Data Collection Procedure

The investigator interviewed at least six clients per day for 4 days a week, between March and April 2011. On the first day the investigator introduced self to the Hospital Management, Matron and Sister-in-Charge of Antenatal Clinic staff. The purpose of the visit was to explain the purpose of the study and seek permission to use one of the rooms as a private room for interviews. The purpose was also to create rapport with staff in the department in order to gain cooperation in identifying potential clients.

Convenience sampling technique was used for selecting participants for the study. Potential clients were identified using the sampling criteria. Every eligible client was approached, greeted and taken to a private room and offered a seat. Study purpose was explained and informed consent sought. Upon signing of consent form, the interview was conducted, with the investigator asking questions and waiting for the response which she documented. Privacy was maintained by closing the door of the interview room to minimize interference. Each interview lasted approximately 15 minutes for each participant. The investigator thanked the participants at end of interview. The procedure was repeated until required sample size was met. In order not to strain the participants, interviews were conducted in the morning during the client's usual visit to the Antenatal Clinic.

Data Analysis

Data analysis is conducted to reduce, organize and give meaning to collected data (Burns & Grove, 2005). Raw data was coded and entered into a code book created by the investigator. The data was then entered into a computer for analysis using the Statistical

Package for Social Sciences (SPSS/pc). Descriptive statistics were used to allow the investigator to organize data in a way that gives meaning.

Demographic Variables

Descriptive statistics such as frequencies, mean, range and percentage were used to analyze demographic data. Data was displayed in tables

PIH Self-care Practices

These addressed the first objective of the study. These were analyzed using descriptive statistics like percentages, mean and range and frequencies. Data was displayed in tables.

PIH Self-care Knowledge

PIH Self-care knowledge addressed the second objective of the study. Data was presented in tables. The self-care knowledge was analyzed using descriptive statistics such as mean, range, percentage and frequencies.

Relationship between PIH Self-care Practices PIH Self-care Knowledge

Inferential statistics, namely Pearson's Product-Moment Correlation Coefficient was used to examine the relationship between PIH Self-care knowledge levels and PIH self-care knowledge practices. Regression analysis was not done since the relationship was not significant. The relationship was also presented in a table.

CHAPTER 4

RESULTS

Introduction

In this chapter, findings of the study will be presented. Data were analyzed using descriptive and inferential statistics. The purpose of the study was to examine the relationship between PIH self-care knowledge levels and PIH self-care practices among women with PIH aged 15 to 49 years at Harare Central Hospital. The research questions to be answered were:

1. What are the PIH self-care practices of women aged 15-49 years with PIH attending Antenatal clinic at Harare Maternity Hospital?
2. What is the level of PIH self-care knowledge among women with PIH aged 15-49 years attending Antenatal clinic at Harare Maternity Hospital?
3. What is the relationship between PIH self-care knowledge levels and PIH self-care practices among women with PIH aged 15-49 years attending Antenatal clinic at Harare Maternity Hospital?

Orem's (1991) Self-care Model was used as a framework to guide the study. The study was conducted at Harare Maternity Hospital Antenatal Clinic. Data was collected between March and April 2011. Data was collected using face to face interviews based on a structured interview schedule. Seventy-eight (78) participants were selected using the non-probability sampling technique of convenience sampling. The study findings were categorized into three sections. Section A addressed demographic data. PIH self-care practices were addressed in Section B. Section C addressed PIH self-care knowledge levels. Analysis was done using descriptive statistics, frequencies, mean, percentage and range for PIH self-care practices and PIH self-care knowledge. Inferential correlation statistics (namely the Pearson's Product-Moment Correlation Coefficient) was used to analyze the relationship between PIH self-care

practices and PIH self-care knowledge levels. Findings revealed that there was a weak positive relationship between PIH self-care practices and PIH self-care knowledge levels. Regression analysis was not done because the relationship was not significant.

Sample Demographics

Table 1 displays the findings of the demographic characteristics pertaining to age, level of education, marital status and occupation. The age range of the 78 participants was 22 years. Results show that minimum age was 18 years and maximum 40 years for the participants, although the target population's age group was 15 to 49 years. Mean age was 30.53 years. Women aged above 35 years were 18 (23.1%) and those aged from 18 to 35 years were 60 (76.9%). Fifty-nine (75.7%) participants had secondary education. Five (6.4%) had tertiary education, and 14 (17.9%) had primary education. Information on marital status revealed that 66 (84.6%) of the participants were married and one (1.3%) was widowed. Nine (11.5%) were single, and two (2.6%) were cohabiting. Fifty-three (67.9%) participants were unemployed, 17 (21.8%) were self-employed and 8 (10.3%) were formally employed.

Table 2 provides information on parity, who participants stayed with and religion. Twenty-one (26.9%) had no children, and 23 (29.5%) had one child. Twenty-two (28.2%) participants had two children. Nine (11.6%) had three children and 3 (3.8%) had four or more children. Two (2.6%) participants stayed alone, eight (10.3%) stayed with their parents, and 4 (5.1%) stayed with in-laws. Sixty-four (82.0) participants stayed with partner. Seventy-five (96.2%) participants were Christians and three (3.8%) did not practise any form of religion.

Table 1: Sample Demographics (1)

(N=78)

Variable	Frequency	Percentage
<u>Age in Years</u>		
18	1	1.3
20	3	3.8
21	4	5.1
22	1	1.3
23	1	1.3
24	1	1.3
25	3	3.8
26	4	5.1
27	5	6.4
28	4	5.1
29	5	6.4
30	4	5.1
31	5	6.4
32	4	5.1
33	6	7.8
34	6	7.8
35	3	3.8
36	8	10.3
37	3	3.8
38	4	5.1
39	2	2.6
40	1	1.3
<u>Level of Education</u>		
Primary	14	17.9
Secondary	59	75.7
Tertiary	5	6.4
<u>Marital status</u>		
Single	9	11.5
Married	66	84.6
Cohabiting	2	2.6
Widowed	1	1.3
<u>Occupation</u>		
None	53	67.9
Self-employed	17	21.8
Formally employed	8	10.3

Table 2: Sample Demographics (2)

(N=78)

Variable	Frequency	Percentage
<u>Parity</u>		
Zero	21	26.9
One	23	29.5
Two	22	28.2
Three	9	11.6
Four	3	3.8
<u>Stays with</u>		
Alone	2	2.6
Parents	8	10.3
Partner	64	82.0
In-laws	4	5.1
<u>Religion</u>		
None	3	3.8
Christianity	75	96.2

PIH Self-care Practices

Table 3 display findings on the extent of PIH self-care practice activities done by the participants, pertaining to antenatal visits, rest and physical exercises. Forty-one (52.6%) participants had booked after 28 weeks of gestation, and 19 (24.4%) booked between 21 and 27 weeks. Fourteen (17.9%) booked between 14 and 20 weeks, and 4 (5.1%) booked between 0 and 13 weeks. Five (6.4%) participants reported to have missed scheduled antenatal clinic visits. Seventy-three (93.6%) participants reported to never have missed any visit. On number of missed visits, two (2.6%) had missed two visits, and three (3.8%) had missed one visit. Seventy-five (96.2%) participants afforded themselves time to rest during the day, with 3 (3.8%) reporting that they did not afford to rest. Forty-nine (62.8%) participants rested more than twice a day, and 10 (12.8%) rested twice a day. Sixteen (20.6%) rested at least once a day. On sleeping hours, findings revealed that 25 (32.0%) participants slept for more than eight hours, 30(38.5%) slept for eight hours. Participants who slept for six hours were 22(28.2%). One (1.3%) participant reported that she slept for less than four hours. Seventy-five (96.2%) participants indicated that they exercised, three (3.8%) revealed that they did not exercise at all.

Table 3: PIH Self-care Practices (1)

(N= 78)

Variable	Frequency	Percentage
<u>First Antenatal visit</u>		
28 weeks onwards	41	52.6
21-27 weeks	19	24.4
14-20 weeks	14	17.9
0-13 weeks	4	5.1
<u>Missed visit</u>		
Yes	5	6.4
No	73	93.6
<u>Number of missed visits</u>		
2	2	2.6
1	3	3.8
0	73	93.6
<u>Rest</u>		
Yes	75	96.2
No	3	3.8
<u>Rest frequency</u>		
No rest	3	3.8
Once a day	16	20.6
Twice a day	10	12.8
More than twice a day	49	62.8
<u>Sleep</u>		
Less than 4 hours	1	1.3
Up to 6 hours	22	28.2
Up to 8 hours	30	38.5
8 hours or more	25	32.0
<u>Physical exercises</u>		
Yes	75	96.2
No	3	3.8

Table 4 presents findings on nutritional practices and action to take in the event of danger signs. On types of food taken, 78(100%) participants indicated that they took carbohydrates and proteins in their diet. Seventy (89.7%) indicated that they took fat in their diet and 8 (10.3%) were not having fat in their diet. Those who took fruits and vegetables in their diet were 77 (98.7%); one (1.3%) was not. On fluid intake 57 (73.1%) were taking plenty of fluids (minimum 2 litres in 24 hours) and 21 (26.9%) were having less than 2 litres per day. The participants' responses on what action they would take in the event of signs symptoms of progression of PIH were as follows, sixty-two (79.5%) participants said that they would seek medical attention if they had oedema. Of the 78 participants, 13 (16.7%) indicated incorrect actions such as placing the oedematous legs in cold water, and three (3.8%) revealed that they would not take any action. On the presence of blurred vision, 66 (84.6%) participants reported that they would seek medical attention, and 6 (7.7%) mentioned incorrect actions such as taking drugs and using glasses. On headache, 64 (82.0%) participants reported that they would seek medical attention, and 13 (16.7%) and one (1.3%) reported incorrect actions and not taking any action respectively. Some of the incorrect actions mentioned were resting and taking plenty of water. When asked about action to take in the event of oliguria 59 (75.6%) participants indicated correctly that they would seek medical attention. Seven (9%) participants indicated an incorrect action of taking plenty of water, and 12 (15.4%) said they would not take any action.

Table 5 shows results on scores on PIH self-care practices. The PIH self-care practices actual scores ranged from 14 to 25. Minimum score was 14 and maximum score was 25 out of a possible total of 27. The mean score on PIH practices was 21.76. All (78) (100%) the participants demonstrated an above average level of self-care practice.

Table 4: PIH self-care Practices (2)

(N =78)

Variable	Frequency	Percentage
<u>Nutritional practice</u>		
<u>Carbohydrates</u>		
Yes	78	100
<u>Protein</u>		
Yes	78	100
<u>Fats</u>		
Yes	70	89.7
No	8	10.3
<u>Fruits and vegetables</u>		
Yes	77	98.7
No	1	1.3
<u>Fluids</u>		
Yes	57	73.1
No	21	26.9
<u>What to do for features of PIH</u>		
<u>Oedema</u>		
Seek medical attention	62	79.5
Incorrect	13	16.7
Nothing	3	3.8
<u>Blurred vision</u>		
Seek medical attention	66	84.6
Incorrect	6	7.7
Nothing	6	7.7
<u>Severe headache</u>		
Seek medical attention	64	82.0
Incorrect	13	16.7
Nothing	1	1.3
<u>Oliguria</u>		
Seek medical attention	59	75.6
Incorrect	7	9.0
Nothing	12	15.4

Table 5: Total PIH self-care Practices Scores

(N =78)

Variable	Frequency	Percentage
<u>Scores</u>		
14	2	2.6
17	2	2.6
18	4	5.1
19	6	7.7
20	3	3.8
21	9	11.5
22	19	24.4
23	14	17.9
24	15	19.3
25	4	5.1

PIH Self-care Knowledge

Table 6 displays findings on PIH self-care knowledge signs and symptoms of worsening PIH. Forty-seven (60.3%) participants knew that oedema was a sign of progression and 31 (39.7%) did not associate oedema with progression of PIH. On blurred vision, 55 (70.5%) participants knew that it was a feature of worsening PIH and 23 (29.5%) did not know. Forty-two (53.8%) participants knew that severe headache was a feature of worsening PIH and 36 (46.2%) participants did not know. When asked about oliguria 21 (26.9%) participants indicated that it was a feature of progression of PIH whilst 57 (73.1%) did not know.

Table 7 gives a summary of the participants' responses questions pertaining to PIH control self-care activities. On whether PIH could be controlled, (60) (76.9%) participants knew it could be controlled and one (1.3%) gave a negative response. Seventeen (21.8%) had no clue on whether PIH could be controlled. The ways mentioned by 14 (23.33%) of the participants for controlling PIH included use of prescribed drugs and rest. Of the 60 (76.9%) who said that PIH could be controlled 29 (48.3%) mentioned use of prescribed drugs as a control measure, 14 (23.3%) mentioned rest; and 14 (23.3%) prescribed drugs plus rest. About foods that women with PIH should avoid, 65 (83.3%) participants indicated that they knew that certain types of foods were to be avoided. Foods to be avoided cited by the participants were heavily salted foods and fatty foods. Of these 65 participants, 32 (49.2%) cited heavily salted foods; 9 (13.9%) fatty foods and 20 (30.8%) both heavily salted foods and fatty foods. Seventy-two (92.3%) participants knew that rest was important for women with PIH. Results on importance of rest were as follows: 51 (70.8%) participants said that rest lowered elevated blood pressure; nine (12.5%) improved circulation; seven (9.7%) reduced oedema; one (1.4%) improved circulation and lowers blood pressure. One (1.3%) participant gave a negative response and 5 (6.4%) indicated that they did not know. About resting techniques which could

be employed, 3 (3.8%) participants did not have any idea about techniques that could be used. Twenty-three (29.5%) participants knew that sitting with legs elevated could be used and twenty nine (37.2%) knew that bed rest, lying on left side could be used. Those who knew about both the above techniques were 23(29.5%). That regular exercise had effect on PIH was known by 51(65.3%) participants. Those who indicated that it was important as it lowered elevated BP were 26 (50.9%), improved circulation 13 (25.5%) and reduced oedema 2 (3.9%). Five (9.8%) said regular exercise had effects on PIH but did not know the importance. Two (2.6%) of the participants thought it did not have any effect and 25 (32.1%) did not know if it had any effect at all. Effects cited were lowering of elevated BP, improvement of circulation and reduction of oedema. On the kind of exercises that could be done, 3(3.8%) participants did not know of any. Sixty-six (84.7%) knew about non-strenuous housework and 3 (3.8%) knew about walking. Six (7.7%) mentioned both. When asked whether they knew when a woman with PIH should attend Antenatal clinic, 5(6.4%) participants did not know. Twenty-four (30.8%) said they would only attend if there were danger signs and 27 (34.6%) said they would only attend on scheduled dates. Number of subjects who knew that they should attend for both above reasons was 22 (28.2%).

Table 8 displays summary of PIH self-care knowledge level scores. The actual scores' range was 10. Minimum score was 4 whilst maximum score was 14 out of a possible total of 14. The mean PIH self-care knowledge level score was 8.88. Fifty-seven 57 (73.1%) of the participants demonstrated above average PIH self-knowledge levels and 11 (14.1%) had below average level of knowledge because their scores were below the mean of 7.

Table 6: PIH self-care Knowledge (1)

(N=78)

Variable	Frequency	Percentage
<u>Knowledge on signs and symptoms</u>		
<u>Oedema</u>		
Yes	47	60.3
No	31	39.7
<u>Blurred vision</u>		
Yes	55	70.5
No	23	29.5
<u>Severe Headache</u>		
Yes	42	53.8
No	36	46.2
<u>Oliguria</u>		
Yes	21	26.9
No	57	73.1

Table 7: PIH self-care Knowledge (2)

(N=78)

Variable	Frequency	Percentage
<u>Knowledge on PIH control</u>		
Yes	60	76.9
No	1	1.3
I don't know	17	21.8
<u>Knowledge on foods to avoid</u>		
Yes	65	83.3
I don't know	13	16.7
<u>Knowledge on importance of rest</u>		
Yes	72	92.3
No	1	1.3
I don't know	5	6.4
<u>Knowledge on resting techniques</u>		
None	3	3.8
Sitting with legs elevated	23	29.5
Bed rest	29	37.2
Sitting with legs elevated and bed rest	23	29.5
<u>Knowledge on effect of regular exercise</u>		
Yes	51	65.3
No	2	2.6
I don't know	25	32.1
<u>Knowledge on how to exercise</u>		
I don't know	3	3.8
Non-strenuous house work	66	84.7
Walking	3	3.8
Non-strenuous house work and walking	6	7.7
<u>Knowledge on when to attend Antenatal clinic</u>		
I don't know	5	6.4
When there are danger signs	24	30.8
A scheduled	27	34.6
As scheduled; when there are danger signs	22	28.2

Table 8: Summary of PIH self-care Knowledge Levels Scores

(N =78)

Scores	Frequency	Percentage
4	5	6.4
5	2	2.6
6	4	5.1
7	10	12.8
8	11	14.1
9	15	19.3
10	10	12.8
11	11	14.1
12	6	7.7
13	3	3.8
14	1	1.3

Relationship between PIH Self-care Knowledge and PIH self-care Practices.

Table 9 shows the results of the Pearson Correlation matrix of PIH self-care knowledge. According to the results there was a weak non-significant positive relationship ($r = .203$, $p > .01$) between PIH self-care knowledge and PIH self-care practices among pregnant women with PIH. According to Burns and Grove (2005) a coefficient (r) of .1 to .3 is considered a weak linear relationship, of .3 to .5 a moderate linear relationship and above .5 a strong linear relationship. The result was non-significant because the p value was greater than 0.05. This result suggested that to a small extent, as PIH self-care knowledge levels increase, there is an increase in extent of PIH self-care practices. Regression analysis was not done because the relationship was not significant.

Table 9: Pearson Correlation Matrix of PIH Self-care Knowledge and PIH Self-care Practices
(n=78)

		Y
X		1.000
		.203
*p<.05		**p<.01
		***p<.001

Y= PIH Self-care practices

X= PIH Self-care knowledge

Summary

This chapter presented the research findings on the descriptive correlational study conducted on 78 pregnant women with PIH attending antenatal clinic at Harare Maternity Hospital. The sample comprised of pregnant women with PIH aged 18 to 40 years. Most of the participants were married, unemployed and had secondary education. All (78) (100%) participants scored above average on PIH self-care practices. Fifty-seven (73.1%) participants demonstrated above average level of PIH self-care knowledge. Pearson's correlation coefficient analysis was used to examine the relationship of PIH self-care knowledge levels and PIH self-care practices. Findings revealed that there was a weak correlation between PIH self-care knowledge level and PIH self-care practices ($r = .203$, $p > .01$), suggesting that as PIH self-care knowledge level increases, PIH self-care practices improve. Regression analysis was not done because the relationship was not significant.

CHAPTER 5

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

Introduction

A summary of the findings and discussion of major findings are presented in this chapter. Implications of the findings and suggested recommendations will be presented. Implications to Maternal and Child Health (MCH)/ Midwifery Practice, Nursing Education and Nursing Research, including discussion of conceptual framework will be presented.

Summary

The purpose of the study was to examine the relationship between PIH self-care knowledge level and PIH self-care practices among pregnant women with PIH aged 15 to 49 years attending antenatal clinic at Harare Maternity Hospital. A descriptive correlational study design was used. Convenience sampling technique was used to select participants who met the inclusion criteria. The sample consisted of 78 pregnant women with PIH who were attending repeat visits at the Antenatal Clinic at Harare Maternity Hospital.

The dependant variable was PIH self-care practices and was measured by Section B of the instrument with 9 questions. The minimum score was 14 and maximum 25 out of a possible total score of 27, and the mean was 21.76. Three categories, below average, average and above average were used to rate the extent of self-care practices. The lowest possible score was 0. Scores from 0 to 12 were rated as below average, 13.5 as average, and 14 to 27 as above average. Study findings suggest that all (78) (100%) participants had PIH self-care practices above mean of 13.5.

The independent variable measured was PIH self-care knowledge. Section C of the instrument measured the variable. The section contained 8 items with scores varying per item. The lowest possible score was 0 and highest 14. The scores were rated as below average,

average and above average. Scores from 0 to 6 were rated as below average, a score of 7 as average and 8 to 14 as above average. The PIH self-care knowledge level of the participants was above average in 57 (73.1%) participants and below average in only 11 (14.1%). Lowest possible score was 0 with a maximum of 14, and mean of 7.

Inferential statistics, Pearson's product moment correlation coefficient was used to analyze the relationship between PIH self-care knowledge level and PIH self-care practices. The relationship between PIH self-care knowledge level and PIH self-care practices was a weak, positive non-significant one ($r=.203$, $p > .01$). Regression analysis was not done because the relationship was not significant.

Discussion and Implications

Sample Demographics

A sample of 78 participants was selected using the convenience sampling technique. The ages of the participants ranged from 18 to 40 years therefore young and middle-aged participants had their PIH self-care knowledge level and PIH self-care practices examined. PIH is common in women below 18 and above 35 years (Henderson & Macdonald, 2004; Fraser & Cooper, 2003). In this study the majority 60 (76.9%) participants were aged between 18 and 35 years. James, Mgbekem and Edem (2009) in their descriptive study of a 100 women aged 14 to 49 years, to determine knowledge, attitude and preventive practices towards PIH, the majority (78%) of the participants were below 40 years and 22% were over 40. Their findings were almost similar to those of Moodley (2010) who found out that out of 344 women who died of eclampsia, 83 (24.13%) were below 20 years whilst 50 (14.53%) were above age of 35 years suggesting that as age increases risk of complications like PIH and other pregnancy related complications. In the current study only 18 (23.1%) participants were above the recommended child bearing age of 35 whilst 60 (76.9%) were below 35.

The participants' level of education varied from primary to tertiary level, with the majority (59) (75.7%) having had secondary education. Level of education has a marked positive association with receiving information of the signs of pregnancy complications (Central Statistics Office, 2007) (CSO). In the 2005-2006 Zimbabwe Demographic and Health Survey (ZDHS) the CSO (2007) reported that, more than 6 in 10 women with higher than secondary education were informed of pregnancy complications contrasted to 4 in 10 with primary or no education.

Sixty-six (84.6%) participants were married, with 64 (82.0%) staying with their partners. This may determine the support the woman gets, since one who stays on their own may not get adequate family support. The CSO (2007) in the 2005 -2006 ZDHS reported that the most important concern impeding women from accessing health care for themselves was not having money (58%). The majority (72%) of the women who raised this concern in the survey were divorced, separated or widowed suggesting that they did not receive financial support which may lead to delay or not seeking medical attention in the event of complications which in turn may lead to maternal and peri-natal mortality and morbidity.

Majority (53) (67.9%) of the participants were unemployed. Being unemployed may raise issues concerned with support because of lack of empowerment. The pregnant woman with PIH requires financial support as well as other forms of support from family in order for her to carry out self-care practices effectively. These findings reflect almost similar findings by the CSO (2007) in the 2005-2006 ZDHS were only 44.8% of the women aged 15 to 49years who were married were unemployed. The extent to which the woman's status influence MCH decision making may be limited due to lack of empowerment. The same authority suggests that employment and earnings are more likely to empower women,

especially if the women themselves control their own earnings and perceive them as significant relative to those of their partner.

On parity, the study findings revealed that, 21 (26.9%) were primi-gravidae; 23 (29.5%) were para 1; 54 (69.3%) were para 2-3, whilst only 3 (3.8%) were of para 4 or greater. These findings support the findings of Moodley (2010) who noted that most of the 344 women who died of eclampsia, a complication of PIH were of low parity: 182 (52.9%) were primigravidae and 129 (37.5%) were of parity 1-3. Henderson and Macdonald (2004) concur as they state that PIH is more common in primigravidae than in multigravidae.

The study findings revealed that 64 (82.0%) participants stayed with partner, 8 (10.3%) with parents. Four (5.1%) stayed with in-laws and only 2 (2.6%) alone. Women who stay with family may have the opportunity of receiving support in different forms. Staying with a partner may not be a guarantee of getting this support.

Seventy-five (96.2%) participants were Christians and 3 (3.8%) practiced no form of religion. These study findings are almost similar to the findings by James, Magbekem and Edem (2009) where 81 (81%) of their respondents were Christians whilst 5 (5%) had no religion, and 14 (14%) were Muslims. Religion may influence how women behave in terms of self-care practices. In Zimbabwe, Munjanja (2009) in the Maternal and Perinatal Mortality Report of 2007 reported that a higher number of deliveries contributing to 0.7% of maternal deaths were conducted by non-skilled persons if the woman belonged to the Apostolic Faith religious sect. This is attributed to some religious sects not encouraging their members to seek medical attention for any health issues including MCH ones.

PIH Self-care Practices

In this study measurement of self-care practices focused on the following indicators: Antenatal clinic attendance, rest, sleep exercises, nutritional practices and action to take in the

event of danger signs. Recognition and management of pregnancy related complications, particularly PIH, is essential. Findings revealed that the self-care practice scores had a range of 14 to 25 out of a possible score of 27. All (78) (100%) participants scored above the mean of 13.5 meaning that their scores were above average. However, in health issues the ideal is that self-care practices should have a 100% score as the percentages on the negative side may result in mortality of the mother or fetus which we strive to prevent. Good care during pregnancy is important for the health of the mother and development of the fetus. The goal of antenatal care includes the detection and alleviation of health problems during pregnancy that affect the mother and fetus, that is complications of pregnancy itself, these include PIH. According to the TruSTAR Health Encyclopedia (2010), management of PIH includes bed-rest, restriction of sodium intake. The other lifestyle change that may be helpful is regular check - ups during pregnancy for the prevention and early detection of eclampsia.

The first antenatal visit should be as early as possible in pregnancy, preferably in the first trimester of pregnancy to allow for early identification of complications (Fraser and Cooper, 2003). Findings in this study are in contrast to the CSO (2007) report findings which revealed that 70% of the pregnant women had their first Antenatal visit before 6 months, 22% in the 6th to 7th month, and 3% at 8 months of pregnancy. This study's findings revealed that the majority 41 (52.6%) booked after 28 weeks of gestation (after 7 months) with the minority 4 (5.1%) booking at less than 13 weeks (4 months).

On Antenatal attendance, findings revealed that 73 (93.6%) participants never missed a scheduled visit compared to 2 (2.6%) and 3 (3.8%) who had missed two and one visit respectively. The first antenatal visit should be as early as possible in pregnancy, preferably in the first trimester of pregnancy (to allow for early identification of complications) then followed by regular antenatal attendance. Regular Antenatal clinic attendance is vital for early

diagnosis and management of complications thereby promoting positive maternal and fetal outcome (James, Mgbekem and Edem 2009; Truestar Health Encyclopedia, 2010). Women who attend antenatal clinic have the opportunity to receive useful information. According to the CSO (2007) the 2005-2006 ZDHS revealed that half 2049 (50%) of the women who attended received antenatal care were informed of the signs of pregnancy complications. According to James, Mgbekem and Edem (2009), women who have a good knowledge of signs and symptoms of PIH through Antenatal health talk, a good number (80%) of them will immediately go to hospital without delay for prompt attention. Information may help women improve their attitude towards self-care practices.

In the study, only 3 (3.8%) participants reported no rest during the day. The majority 49 (62.8%) of the participants reported resting at least twice a day. Bed-rest lying on left side reduces progression of PIH to severe hypertension and eclampsia, and this position helps reduce oedema, and lowers blood pressure by increasing urinary output (Truestar Health Encyclopedia, 2010). Only one (1.3%) slept for less than the recommended 6 to 8 hours. Seventy-seven (98.7%) participants had a minimum of 6 hours of sleep per night. When a pregnant woman does not get adequate rest and sleep, it implies that she stands not to benefit from the benefits associated with rest, such as improved circulation, reduction in elevated blood pressure, and a reduction in oedema. However, support is required from the family and the significant others to allow the woman to rest as well as get adequate sleep. Even if she is unemployed the woman may fail to rest as she attends to household chores (especially if staying with her in-laws or very young children).

Concerning physical exercises, 75 (96.2%) participants exercised compared to 3 (3.8%) who did not. A study by Keefer and Patrick (2006) involving 120 pregnant women with a history PIH which sought to describe self-reported health-promoting lifestyles during

pregnancy, scores were higher for women receiving walking intervention than control group. Their findings suggested that women may be more willing to practice health- promoting behaviours in pregnancy to promote fetal wellbeing. The findings also suggested that some women independently practise health behaviour change during pregnancy especially in areas of improved activity, rest and nutrition. This can be attributed to their readiness to learn, which midwives should take advantage of.

On foods taken, 57 (73.1%) had a balanced diet including adequate fluids. Only 21 (26.9%) had less than 2 litres of fluid in 24 hours. A balanced diet is an important aspect in self-care (Truestar Health Encyclopedia, 2010). Though a balanced diet is a must for every pregnant woman, resources may be insufficient.

About action to take in the event of danger signs, the findings revealed that the following participants would seek medical attention for the following features 62 (79.5%) for oedema, 66 (84.6%) for blurred vision, 64 (82.1%) for severe headache, and 59 (75.6%) for oliguria. Eighty percent of respondents out of sample of 100 pregnant women, in a study by James, Mgbekem and Edem (2009) reported visiting the hospital if oedematous. It is important to seek medical attention as soon as features of progression of PIH are noted in order to prevent progression and complications. Munjanja (2009) cites the first delay, identified as time lost in recognizing the seriousness of the situation and deciding whether or not to seek medical attention as contributing to 56.4% of all maternal deaths in the 2005 -2006 Maternal and Perinatal Mortality Study. In a cross-sectional survey conducted by Vizeshfar, Fatemer-Mhdizader and Kadege (2008) to evaluate knowledge and behavior related to self-care among women who attended Shiraz Health Center 52.2% of the women had good knowledge about self-care behavior therefore midwives need to teach women about self-care behaviour

PIH Self-care knowledge

Measurement of PIH Self-care knowledge was based on the following indicators of self-care knowledge: knowledge on recognition of signs and symptoms of PIH progression; control measures in terms of foods to avoid, importance of rest, resting techniques, effect of regular exercise, types of exercises; and when to attend antenatal clinic.

PIH self-care Knowledge level scores ranged from 4 to 14 out of a possible total score of 14, with a mean of 8.8 by the participants. Fifty-seven (73.08%) participants demonstrated above average PIH self-care knowledge level, whilst 11 (14.10%) had below average level of knowledge. However, a 100% score is the ideal percentage which midwives should strive for through effective health education and support. Pregnancy complications, which include PIH, are a primary source of maternal morbidity and mortality, therefore ensuring that pregnant women receive information on signs and symptoms of complications and testing for complications should be done routinely at all Antenatal Clinic visits (CSO,2007).

On recognition of features of worsening PIH most participants were knowledgeable that the following were signs of worsening PIH as indicated: oedema 47 (60.3%), blurred vision 55 (70.5%), severe headache 42 (53.8%). These findings are in partial support of the findings by Mahaka (2006) in her study on the relationship between hypertensive pregnant women's self-care knowledge and hypertension control at a referral centre in Harare. She reported that 66 (88%) of the participants were knowledgeable about oedema, 66 (88%) about visual disturbances, 63 (84%) about constant headache. These results revealed that women did not have 100% knowledge about signs and symptoms of progression of PIH, which means they may not have been in a position to seek prompt medical attention if they occurred. Not recognizing and seeking prompt medical attention when danger signs are present may contribute to adverse maternal and fetal outcomes.

Sixty (76.9%) participants were aware that PIH could be controlled, 17 (21.8%) did not know, whilst one said that it could not be. The mean percentage of those who had knowledge on the clinical features of PIH , in this study was 52.88, which is far below that reported by Mahaka (2006) of 84%, in her descriptive correlational study on 75 pregnant women with mild hypertension in pregnancy aged 17-40years at a central hospital in Harare, Zimbabwe. According to James, Mgbekem and Edem (2009) complications related to PIH could be prevented if women were aware of the danger signs. It is therefore vital for women to have good knowledge on the features of PIH progression so that they could promptly seek attention.

About foods that women with PIH should avoid 65 (83.3%) participants knew that there were certain foods to be avoided and the foods cited were salted foods. Restricted sodium intake is recommended as one of the measures to control elevated blood pressure in PIH (Truestar Health Encyclopedia, 2010).

Seventy-two (92.3%) participants knew that rest was important in PIH control and they cited the following reasons were given reduction of elevated BP, promotion of circulation and reduction of oedema. These findings are in line with the recommendations by Truestar Health Encyclopedia, (2010). On resting techniques, 23 (29.5%) participants knew about both sitting with legs elevated and bed-rest, the same number of participants knew about sitting with legs elevated only , whilst 29 (37.2%) knew about bed-rest only. Only 3 (3.8%) participants had no idea of what resting techniques a woman with PIH could use. These findings are not concurring with those in a study by Mahaka (2006). Her study revealed that 71(94.7%) participants knew about sitting, and 59 (78.7%) about bed-rest lying on left side. Findings suggest that the need for family and community involvement is crucial for healthy home behaviours during pregnancy.

Fifty-one (65.4%) knew that regular exercise had some effect on PIH, 25 (32.1%) did not know if there was any effect whilst 2 (2.6%) said that there was no effect. Benefits cited were reduction of raised BP, reduction of oedema and promoting circulation. On types of exercises, 66 (84.7%) participants named non-strenuous housework as a form of exercise. The result is almost similar to that by Mahaka (2006) in which 71 (94.7%) knew about it. Walking was named by 3 (3.8 %) participants, in contrast to 73 (97.3%), in Mahaka (2006) who knew about walking. Those who mentioned both forms were 6 (7.7%), only 3 (3.8%) participants did not know.

Twenty-four (30.8%) thought that a woman with PIH should attend Antenatal clinic only if there are danger signs, whilst 27 (34.6%) said that she should only attend on scheduled visits. Participants who knew that she should attend for both reasons were 22 (28.2%). Five (6.4%) participants had no knowledge as to when one should attend. Lack of knowledge may contribute to first delay that is time lost in deciding whether or not to seek medical attention contributing to 56.4% of all maternal deaths (Munjanja2009). Avoidable factors which contributed to maternal deaths were mainly related to delay in seeking help and infrequent antenatal attendance, 180 (60%) of the 344 participants reported in the deaths associated with eclampsia, a complication of PIH (Moodley, 2010). These findings suggest the need for intensified health education to clients to increase levels of knowledge on self-care practices in order to decrease maternal mortality and morbidity due to PIH.

Relationship between PIH Self-care Knowledge and PIH Self-care Practices

From the findings there was weak positive relationship between PIH self-care knowledge level and PIH self-care practices ($r = .203$, $p = >.01$). Findings suggest that as PIH self-care knowledge levels increase and PIH self-care practices improve. The CSO (2007) reported that half (50%) of the women who received Antenatal, care were informed of pregnancy complications, thus suggesting the need for intensive health education to all pregnant women who attend Antenatal clinic. James, Mgbekem and Edem (2008), also reported that 18 (18%) of their respondents had never had any formal lecture on PIH, suggesting that midwives were losing valuable opportunities when mothers have a readiness to learn. It is therefore vital to empower pregnant women through education. For this reason the pregnant woman with PIH should have their self-care knowledge levels improved through intensive health education at time of diagnosis and during subsequent Antenatal visits so as to allow them to be fully equipped to take care of self in the absence of the health worker.

Theoretical Framework

Orem's (1991) Self-care model was used as a framework to guide the study. The model focused on nursing as the supportive-educative system providing the self-care information to PIH pregnant women (self care agent) with the aim of promoting effective self-care leading to control of PIH. The concept of supportive –educative system was chosen as it explains how nursing agency uses education to empower the self-care agent (woman with PIH) so that she improves on self-care activities geared to control PIH. Demographic factors (basic conditioning factors) such as age, family system resource availability have an impact on self-care practices of the pregnant woman with PIH. If there is no adequate support to promote rest and other self-care practices the woman may not be able to cope on her own to perform

the required self-care activities. Family involvement is crucial for healthy home behaviours during pregnancy. The support can help the woman follow antenatal clinic recommendations, encourage shared decision making and improve health for both mother and baby. Orem (1991), states that persons who are mature are able to perform effective self-care so as to maintain health. In this study all participants were considered to be responsible for own self-care suggesting that they were aware of their role as self-care agents. Ability to perform self-care activities empowers the woman with PIH to care for self. The study proposed that as the woman's PIH self-care knowledge increased, the PIH self-care practices improve. This was supported from the findings and correlation analysis as there was a positive relationship, The link between PIH self-care knowledge level and PIH self-care practices was confirmed, with self-care knowledge promoting PIH self-care practices resulting in improved PIH control. Orem's (1991) Self-care model can be utilized to give and direct health education delivered to women with PIH.

Implications to Maternal and Child Health (MCH)/ Midwifery

Practice

Findings of the study revealed that 57 (73.1%) participants had above average self-care knowledge levels, and 78 (100%) demonstrated above average self-care practices. The rather low self-care knowledge levels in relation to extent of self-care practices may suggest role of supportive nursing educative system in improving knowledge base so that clients have adequate information on actions they take, that is the why of their actions. This will help to promote their ability to promote self-care thus reduce chances of progression of PIH and complications. Lack of knowledge on appropriate action to take in the presence of danger signs contribute to the first delay (a hindrance in health seeking behaviours) leading to increase in maternal mortality therefore there is an urgent need to address the knowledge

deficit. In teaching clients, midwives should encourage self-care practices based on self-care knowledge to control PIH. Patients with mild PIH to be managed as outpatients with support from family instead of admission to hospital facilities which are already overburdened as this can be stressful to the woman continuity of care is thus promoted, and the resource constrained hospitals will be less burdened.

Education

Lack of knowledge on the midwife's part can be detrimental to maternal self-care. According to the research findings, there are gaps in knowledge as the pregnant woman with PIH demonstrated ignorance on the indicators that were under study as shown. There was marked lack of knowledge on identification of clinical features of worsening PIH especially severe headache 36(46.2%) did not know, only 42(53.8%) knew; and oliguria 21(26.9%) knew, whilst 57 (73.1%) did not link it to worsening PIH. These findings call for strengthening of the health education component on PIH self-care in both pre-service and in-service training programmes. The curricula in schools of midwifery should incorporate topics on self-care practices for women with PIH. It is also vital that midwives teach not only mothers, but the community in general on these features to ensure early recognition of danger signs and promote prompt seeking of medical attention. In order for midwives to accomplish this there is need for them to be well equipped with current research-based information on self-care activities. This is vital if they are to give relevant information, for effective behavior change.

Research

Findings revealed that the majority (57) (73.1%) of the participants had an above average body of self-care knowledge on PIH; however there is need to improve or reinforce on areas of low scores. The participants' scores ranged from 4 to 14 out of a possible total score

of 14. Therefore midwives should have inquiring minds in order to identify gaps of knowledge that can be improved on. This study can be used as a base for further exploration on this relationship. The study was only conducted at one urban centre; hence the investigator suggests the need for further studies at other sites using larger sample sizes which may yield different results. Other studies to include sources that pregnant women receive information from, as this can have an influence on the nature of information they receive. The investigator also suggests further research to determine other factors affecting self-care practices since the relationship was weak implying other sources of influence on PIH self-care practices. The low knowledge levels explained the inconsistencies in self-care practices.

Recommendations

These are given to assist improve PIH self-care knowledge so as to promote PIH self-care practices which in turn may result in improved maternal and fetal outcome and reduce maternal mortality rate.

1. Midwives during health education should teach about recognition of danger signs since failure to recognize them is a barrier contributing to first delay. Emphasis should be put on the importance of seeking medical care in the advent of danger signs
2. There is need for further studies to refine the instrument as it was developed from literature and used for the first time.
3. Studies on relationship of PIH self-care knowledge and PIH self-care practices needed with larger samples.
4. Midwives should create community awareness on the signs and symptoms, and dangers of PIH so as to promote community support for the women.

5. There should be empowerment of women to be self sufficient financially to reduce the delay in seeking medical attention due to lack of financial resources.

Limitations

The following limitations were identified by the investigator: The study was done at single urban site because of limited time. The sample consisted of pregnant women from the urban setting and there were no representatives from non-urban areas, therefore, results may be urban biased hence care should be taken in generalizing the study findings to the entire population of pregnant women with PIH in Zimbabwe.

The instrument was developed by the investigator based on available literature and was used for the first time hence its validity and reliability not tested in other studies. Consultation was made to supervisor at the Department of Nursing Science and midwifery practitioners to ensure validity. It was also tested through pilot study which led to necessary adjustment of the instrument. The sample size was too small for generalization. Instead of systematic sampling, convenience sampling, a non-probability sampling technique was used. This may have introduced sampling bias where there is systematic overrepresentation or under representation of the target population. No literature was found on relationship of PIH self-care knowledge and PIH self-care practices. However, some literature with self-care knowledge and self-care practices of hypertensive disorders in pregnancy and hypertension in general was found locally and from elsewhere.

Summary

PIH is one of major contributors to maternal mortality and morbidity. According to Moodley (2010) in a report on maternal deaths in South Africa, eclampsia, a complication of PIH accounted for 55.3% (N=344) of the deaths in the period 2005 to 2007 in the subcategories of hypertensive disorders. A descriptive correlational study was used to examine the relationship PIH self-care knowledge and PIH self-care practices. The purpose of the study was to identify PIH self-care knowledge and PIH self-care practices, and examine the relationship between these two variables. Orem's (1991) Self-care Model was used as framework to guide the study. A non-probability sampling technique of convenience sampling was used to select the sample of 78 pregnant women with PIH, because of limited time available to conduct the study. Data collection was done by face to face interview using a structured interview schedule. The data was coded and entered into the computer and analyzed using the Scientific Package for Social Sciences (SPSS/pc). Data analysis was done using descriptive statistics for objectives 1 and 2, and these included the mean, range frequency and percentage. Findings indicated that the PIH self-care practices extent scores for all (78) (100%) participants were above average. Mean score was 21.76. The PIH self-care knowledge varied among the participants scores ranged from 4 to 14. Mean score was 8.8. Inferential statistics, Pearson's product moment correlation coefficient was used for objective 3, to establish the relationship between PIH self-care knowledge levels and PIH self-care practices. A weak, positive and non-significant relationship was noted ($r = .203$, $p = >.01$). Regression analysis was not done because the relationship was weak. The findings, therefore, suggest that self-care knowledge has some effect or influence on self-care practices though to a weak extent. The use of Orem's self-care model assisted in identification of self-care

knowledge as a predictor of positive self-care practices hence the model was partially supported by the study findings

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APPENDIX A

Structured Interview Schedule: Face to Face Interaction

Interview Schedule Number:

Section A: Demographic Data

1. Age in years
2. Level of formal education
 - a. None
 - b. Primary
 - c. Secondary
 - d. Tertiary
3. Marital status
 - a. Single
 - b. Married
 - c. Co-habiting
 - d. Divorced
 - e. Widowed
- 4. Occupation
 - a. None
 - b. Self-employed
 - c. Formally employed
5. Parity
 - a. Zero
 - b. One
 - c. Two
 - d. Three
 - e. Four or more
6. Who do you stay with?
 - a. Alone
 - b. Parents
 - c. Partner
 - d. In-laws
 - e. Friends

7. Religion

a. None

b. Traditional

c. Christianity

Other: specify.....

Section B: PIH Self-care Practices

Antenatal attendance.

8. When was your first antenatal visit?

a. 3rd trimester 28 weeks onwards

b. 2nd half of 2nd trimester 21 – 27 weeks

c. 1st half of 2nd trimester 14 – 20 weeks

d. In the 1st trimester 0 – 13 weeks

9. Have you missed any scheduled antenatal clinic visits?

a. Yes

b. No

10. How many visits have you missed?

a. 3 or more

b. 2

c. 1

d. 0

Rest

11. Do you afford yourself time to rest?

a. Yes

b. No

12. How frequently do you rest every day?

a. No rest

b. Once a day

c. Twice a day

d. More than twice a day

13. How many hours do you sleep at night?

- a. Less than 4 hours.
- b. Up to 6 hours
- c. Up to 8 hours
- d. 8 hours or more

Physical exercises

14. Do you exercise?

- a. Yes
- b. No

Nutritional Practices

15. Which types of foods do you eat?

- a. Carbohydrates
- b. Protein
- c. Fats
- d. Fruit and vegetables
- e. Plenty of fluids

Yes No

Seeking Medical Attention

16. What would you do if you noticed the following signs and symptoms?

	Correct	Incorrect	Nothing
Oedema	Seek medical attention		
Blurred vision	Seek medical attention		
Severe headache	Seek medical attention		
Oliguria	Seek medical attention		

Section C: PIH Self-care Knowledge

17. What are the signs and symptoms which indicate that PIH is getting worse?

Yes No

- a. Oedema
- b. Blurred vision
- c. Severe headache
- d. Oliguria

18. In your opinion can PIH be controlled?

- a. Yes
- b. No
- c. I don't know

If yes, mention the ways you think it can be controlled

by.....

19. Are there any foods women with PIH should avoid?

- a. Yes
- b. No
- c. I don't know

If yes, name

them.....

20. Is rest important for women with PIH?

- a. Yes
- b. No
- c. I don't know

If yes, give

reasons.....

21. What resting techniques do you know which can be used by women with PIH?

- a. None
- b. Sitting with legs elevated
- c. Bed rest, lying down on left side
- d. Sitting with legs elevated; Bed rest, lying down on left side

22. Do you think regular exercise has any effect on PIH?

- a. Yes
- b. No
- c. I don't know

If yes, name the effects.....
.....

23. What kind of exercises can be done by a woman with PIH?

- a. I don't know
- b. Non-strenuous housework
- c. Walking
- d. Non-strenuous housework; walking

Others specify.....

24. When should a woman with PIH go to the antenatal clinic?

- a. I don't know
- b. When there are danger signs
- c. As scheduled
- d. As scheduled; when there are danger signs

APPENDIX B

Shona Structured Interview Schedule

Interview Schedule Number:.....

Chikamu chokutanga: Mibvunzo iri pamusoro pezvenyu

1. Mune makore mangani?
2. Makadzidza kusvika rugwaro rwupi?
 - a. Handina kumboenda kuchikoro
 - b. Ndakapedza zvidzidzo zvepuraimari
 - c. Ndakapedza zvidzidzo zvesekondari
 - d. Ndakapedza zvidzidzo zveku yunivhesiti/koreji
3. Makaroorwa here?
 - a. Handinakuroorwa
 - b. Ndakaroorwa
 - c. Ndinogara nemurume zvekungowirirana
 - d. Takarambana
 - e. Ndakafirwa
4. Munoita basa rei?
 - a. Handishandi
 - b. Ndino zvishandira
 - c. Ndino shandira vamwe
5. Mune vana vangani?
 - a. Handina
 - b. Mumwe chete
 - c. Vaviri
 - d. Vatatu
 - e. Vana kana kupfuura

6. Munogara naani?

- | | |
|------------------------|--------------------------|
| a. Ndogo | ☐ |
| b. Nevabereki vangu | ☐ |
| c. Nemurume wangu | ☐ |
| d. Nevabereki vemurume | ☐ |
| e. Neshamwari | ☐ |

7. Munopinda svondo ipi?

- | | |
|----------------|--------------------------|
| a. Hapana | ☐ |
| b. Chivanhu | ☐ |
| c. Chikirisitu | ☐ |

Zvimwewo.....

Chikamu chechipiri: Mibvunzo iri pamusoro pekuzvichengetedza

Kutariswa kukiriniki

8. Makanyoresa kutariswa pamuviri penyu pakura zvakadii?

- | | |
|---|--------------------------|
| a. Masvondo makumi maviri nemasere zvichipfuura (28 weeks and above) | ☐ |
| b. Pakati pemasvondo makumi maviri nerimwe nemasvondo makumi maviri nemanomwe (21-27 weeks) | ☐ |
| c. Pakatipemasvondoguminemanakusvikamakumimaviri (14-20 weeks) | ☐ |
| d. Pachangobata kusvika masvondo gumi nematatu (0-13 weeks) | ☐ |

9. Kubva zvamakanyoresa makarovha here?

- | | |
|----------|--------------------------|
| a. Hongu | ☐ |
| b. Kwete | ☐ |

10.Makarovha kangani?

- a. Katatu kana kupfuura
- b. Kaviri
- c. Kamwe chete
- d. Handina

☐
☐
☐
☐

Kuzorora

11.Muno zvipa nguva yokuzorora here?

- a. Hongu
- b. Kwete

☐
☐

12. Munozorora kangani pazuva?

- a. Handizorori
- b. Kamwe chete
- c. Kaviri
- d. Kanopfuura kaviri

☐
☐
☐
☐

13. Munorara kwenguva yakareba sei husiku?

- a. Maawa asingasviki mana.
- b. Maawa anokwana matanhatu
- c. Maawa anokwana masere
- d. Maawa anodarika masere

☐
☐
☐
☐

Maekesesaizi

14. Munaita maekesesaizi here?

- a. Hongu
- b. Kwete

☐
☐

Zvokudya.

15. Ndezvipi zvokudya zvamunodya?

Hongu Kwete

- a. Kudya kunopasimba
- b. Kudya kunovaka muviri
- c. Kudya kunopa simba zvakanyanya
- d. Michero nemiriwo
- e. Zvokunwa zvakawanda

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

Kuenda kuchipatara

16. Ndezvipi zvamunoita kana maona zvinotevera?

	Zvakanaka	Zvisizvo	Hapana
Kuzvimbamuviri	Kuenda kuchipatara		
Kusaona zvakanaka	Kuenda kuchipatara		
Kutemwa nemusoro zvakanyanya	Kuenda kuchipatara		
Kuita weti shoma zvakanyanya	Kuenda kuchipatara		

Chikamu chechitatu :Ruzivo pamusoro pekuzvichengetedza muine PIH

17. Zviratidzo zvinotevera zvinokonzerwa (BP) yakakwirisa here?

Hongu Kwete

- a. Kuzvimba muviri
- b. Kutemwa nemusoro zvakanyanya
- c. Kusaona zvakanaka
- d. Kuita weti shomashoma

☐	☐
☐	☐
☐	☐
☐	☐

18. Semaonero enyu chirwere chePIH chingarapika here?

- a. Hongu
- b. Kwete
- c. Handizivi

☐
☐
☐

Kana muchiti hongu, domai nzira dzinga shandiswa

.....

.....

19. Pane zvekudya zvingafaniri kudyiwa nemukadzi ane PIH here?

- a. Hongu
- b. Kwete
- c. Handizivi

☐
☐
☐

Kana muchiti hongu, zvidomei

.....

.....

20. Kuzorora kunobatsira here kumudzimai ane PIH ?

- a. Hongu
- b. Kwete
- c. Handizivi

☐
☐
☐

Kana muchitihongu, tsanangurai

.....

.....

21. Ndedzipi nzira dzokuzorora dzamunoziva dzinga shandiswa nemudzimai ane PIH?

- a. Hapana
- b. Kugara pasi makumbo ari pakakwirira
- c. Kurara neruboshwe
- d. Kugara pasi makumbo ari pakakwirira : kurara neruboshwe

☐
☐
☐
☐

22. Munofunga kuti kugara munhu achiita maekesesaizi kunobatsira here pachirwereche PIH?

a. Hongu

☐

b. Kwete

☐

c. Handizivi

☐

Kana muchiti hongu, taurai zvaanobatsira.....

23. Ndeapi maekesaizi angaitwe nemudzimai ane PIH?

a. Handizivi

☐

b. Basa remumba risingaremi

☐

c. Kufamba

☐

d. Basa remumba risingaremi; kufamba

☐

Zvimwewo:.....

24. Mudzimai ane PIH anoenda kunotariswa kukiriniki riini?

a. Handizivi

☐

b. Kana pane zviratidzo zveblood pressure yakakwirisa

☐

c. Sezvakatarwa

☐

d. Kana pane zviratidzo zveblood pressure yakakwirisa; Sezvakatarwa

☐

APPENDIX C

Informed Consent

My name is Mrs. Rose Mhiripiri, and I am a Masters in Nursing Science student in the Department of Nursing Science at the University of Zimbabwe. I am trying to find out the relationship between pregnancy induced hypertension (PIH) self-care practices and PIH self-care knowledge among pregnant women aged 15 to 49 years. Permission to carry out this study has been granted.

If you choose to participate in this study you will be required to respond to some questions which will last 15 minutes. The information you contribute may assist nurses to improve on information on self-care given to women with PIH, which in turn may help improve maternal and fetal health. Your participation in this study is voluntary and you may withdraw from the study at any time. Your withdrawal will not interfere with services you or your family any receive from health care providers. The interview schedule will be marked with a number, not your name, and will be kept locked in a file cabinet and later destroyed when the study is complete.

You will not be paid for your involvement. There is no financial cost associated with your participation. In case of comments or questions related to the research, please contact:

Mrs. Rose Mhiripiri
Department of Nursing Science
College of Health Sciences
University of Zimbabwe
P.O. Box A178
Avondale
Harare

The study described above has been explained to me and I voluntarily consent to participate in this study. I have had the opportunity to ask questions and understand that future questions I may have about the study will be answered by the investigator.

Subject's signature:.....Date:.....

I have explained this study to the above subject and have sought her understanding for informed consent.

Investigator's signature:..... Date:.....

APPENDIX D
Gwaroremvumo

Ndinonzi Mai Rose Mhiripiri. Ndirikudzidzira Masters ye Nursing Science paUniversity of Zimbabwe. Ndiri kuedza kuongorora hukama hungangove pakati pekuzvichengetedza kunoita madzimai ane pregnancy induced hypertension (PIH) neruzivo rwavanarwo pamusoro pekuzvichengetedza kwavanoita vaine chirwere ichi.

Kana masurudza kuti munoda kupindura mibvunzo iyi zvichatora maminiti gumi nemashanu (15minutes). Mhinduro dzenyu dzichabatsira vana mukoti padzidziso dzavachapa pamusoro pekuzvichengetedza kwemadzimai ane pamuviri aine chirwere chePIH, zvinova zvinogona wokuzobatsira pahutano hwamai vane pamuviri nemwana asati azvarwa.

Hamumanikidzwi kupindura mibvunzo iyi. Munokwanisa kuregera kupindura pamunenge mazvifungira. Kurega kwenyu hakukanganisi kurapwa kwenyu kana kwemumwe wemhuri yenyu. Fomu remubvunzo rinenge rakanyo rwanhamba chete, kwete zita renyu. Richange rakavharirwa mukabhodhi yakakiyiwa, richozopiswa pandichapedza kunyora zvese. Hamubhadhari kana kubhadharwa mari pakupindura kwamuchaita mibvunzo iyi. Kana mune zvamungade kutsinhira kana kubvunza zvakanangana nenyaya iyi munotsvaga:

Mrs. Rose Mhiripiri
Department of Nursing Science
College of Health Sciences
University of Zimbabwe
P.O. Box A178
Avondale
Harare

Ongororo yakanyorwa pamusoro ndaitsanangurirwa, uye ndazvipira kubatsira muongororo iyi. Ndawana mukana wekubvunza mibvunzo uye ndanzwisisa kuti ndikazove nemibvunzo pamusoro peongororo iyi ndichapindurwa nemuongorori.

Signature yemuongorowi:.....Date:.....

Ndatsanangura zvinangwa zvemibvunzo iyi kuti vanzwisise vasati vapindura.

Signature yemuongorori:.....Date:.....