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KNOWLEDGE AND SELF- CARE PRACTICES OF HIGH BLOOD PRESSURE PATIENTS IN RURAL ZIMBABWE- IMPLICATIONS FOR ADULT LEARNING

Morgan Peter Mabuto
Great Zimbabwe University,
P.O Box 1235, Masvingo,
Zimbabwe.
mpmabuto@gzu.ac.zw

Tsitsi Handara
Collin Saunders Hospital,
9 Kean Street, Triangle,
Zimbabwe.

ABSTRACT
This study sought to examinerural- based high blood pressure patients' levels of knowledgeand perceptions of self- care practices following evidence of rising rates of mortality and morbidity due to hypertension, globally and locally. Orem's (1991) Self-care Nursing Theory which emphasises knowledge of disease and self- care practices by practitioners and patients guided the study. A descriptive survey design was used to solicit rich data from a random sample of thirty (30) hypertensive patients. The descriptive qualitative data that were collected using semi- structured interviews were presented and analysed qualitatively through coding and theme building processes. The findings showed a mean score of seventy- four (74%), for the number of participants with low levels of knowledge of causative factors and self- care practices of high blood pressure. The results had implications for adult learning and policy reform by government towards health for all.

Keywords: High blood pressure, perceptions, self-care, adult learning, descriptive survey

1. INTRODUCTION
High blood pressure, also called hypertension has grown exponentially to become a major cause of morbidity and mortality globally (Alharf, 2012). The severity of high blood pressure is statistically expressed as an alarming 7.5 million deaths and 57 million disability adjusted life years (DALY), says the World Health Organisation (WHO), in its Global Health Observatory Data (2017). In developing countries, as many as sixty-five percent of the population are high blood pressure victims, with the number predicted to grow to 1, 5 billion by 2025 (WHO, 2015). With regards to Zimbabwe, figures in the World Health Organisation Non- Communicable Disease Report(2011), show that 39% of the population is inflicted with high blood pressure, chiefly deriving from globilisation and industrialisation (Cordialis, 2013). The negative socio- economic impact of these numbers is quite significant due to the loss of productive people, reiterate Druss, et al, 2001; and Alharf, 2012), a situation that the world cannot afford to ignore anymore.As such, risk reducation measures include early diagnosis and counseling (Gulec, 2013).

Admittedly, the cause of hypertension has evaded scientists but some of the risk factors are high salt intake, obesity and overweight, physical inactivity, alcohol intake and excessive cigarette smoking (Nordqvist, 2017). Empirical reviews show that sufficient knowledge about risk factors and control measures helps in minimizing catastrophic complications such as stroke, which can result in permanent paralysis. Compliance with medication and self- care practices improves drastically when a client with high blood pressure understands the causative factors underlying high blood pressure (Doenges, Moorhouse, & Murr, (2010). In addition, attitudes of

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clients with hypertension also contribute to the control of hypertension. In a study conducted in Sao Paulo, Harris et al (2006), discoveredthat over a third of clients with hypertension sometimes either forgot to take medication or often neglected to follow the recommended medication schedules. These actions aggravate the risk to the body's hormonal balance and a shortage of brain chemicals due to poor control of blood pressure levels often results in death (Woods, Froh and Geraghty, 2010).

1.1 Statement of the Problem

There is a high prevalence of hypertension globally leading to high levels of mortality and morbidity (WHO, 2015), which is aggravated by a lack of knowledge and awareness on control practices (Alexander, Gordon,. Davis, Roland & Chen, 2003). This study sought to investigated the knowledge levels of participants about blood pressure and perceptions of self- care practicesin Masvingo Province in Zimbabwe.

1.2 Objectives

The objectives of the study were:

A. To determine the participants' level of knowledge of high blood pressure.
B. To examine participants' perceptions of high blood pressure on self-care practices.
C. To explore participants' perceived strategies for improving knowledge and self-care practices for the prevention and control of high blood pressure.

2. REVIEW OF LITERATURE

2.1 Empirical reviews

Researches reveal that factors thought to contribute to high blood include gender, age, sex, ethnicity and socio-economic status (Matenga, 1997). A study by Mufunda, Scott, Chifamba, Matenga, Sparks, Cooper & Sparks, (2000), in Marondera district in Zimbabwe, showed that more women than men had high blood pressure, while another study undertaken in South Africa also revealed that women had slightly higher prevalence than men (Seedat, 2007). Undergirded in the reviews is fact that the socio-economic status of people has a bearing on blood pressure levels with regards to level of awareness and self- care practices as reported by Seedat (ibid), that patients of low economic-status were prone to high blood pressure. It can be deduced that high blood pressure is a problem resulting from a number of factors and is closely related to life styles(Feinstein, Sabates, Anderson, Sorhaindo, & Hammond, 2006). The disease affects all categories of people; the poor, middle income and higher groups. However, literature is suggests that what is important is to focus on the proven benefits of lowering blood pressure such as providing patients with pharmacological means and an education that promote modified life styles (Alsairafi, Alshamali, & Al-rashed, 2010). Life style modification should be one of the major goals of public health education for adults with research focusing on the knowledge and needs of rural people of Zimbabwe. There is a lack of evidence of similar recent research, thereby creating space for this study that investigated knowledge levels and perceptions of self-care practices that rural hypertensive patients possess in order to inform adult education interventions and policy makers.

2.2 Understanding Blood Pressure

The American Heart Association (2017), says that blood pressure is the force that is exerted on blood vessel walls while, high blood pressure (HBP), also called hypertension, refers to the pressure in the arteries that exceeds 140mmh for systolic pressure and diastolic pressure above 90mmhg (140/90). Blood pressure level is a complex physiological parameter which influences factors within the individual even the factors surrounding and impacting on individuals (Harris et al, 2006). Any factor that produces alterations in peripheral vascular resistance, heart rate and stroke volume, affects arterial blood pressure. (Huether, McCance & Parkinson 2013).

2.2.1 Significance of Knowledge of Blood Pressure

Studies point to a strong relationship that exists between clients' level of health literacy and adherence to treatment (Brown & Bussell, 2011). Knowledge of the many factors of the disease and of the control measures may be helpful in minimizing catastrophic complications such as stroke that can result in permanent paralysis. Luckman & Soknsen (1987), highlighted that compliance with instructions improves dramatically when the patient understands the causative factors underlying high blood pressure as well as the consequences of inadequate interventions. This statement serves to reinforce the point that education has important social impacts on health (Feinstein, Sabates, Anderson, Sorhaindo, & Hammond, 2006). In Jamaica, a study on females concluded that thirty-three percent of the respondents lacked knowledge regarding predisposing factors and characteristics of the condition (Grant, 1996), with

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limitations in knowledge and skills required for given self-care actions. A lack of knowledge affects the effectiveness of health care programmes on hypertension. Positively, equipping hypertensive clients with knowledge and skills to take care of themselves encourages them to actively take full responsibility of their own health and subsequent life styles. The patient must therefore possess sufficient health literacy in order to be involved in making important treatment decisions, state Brown & Bussell (2011).

The generally accepted public health approach to achieving blood pressure control involves patient's awareness of the causes, diagnosis, treatment and blood pressure control (Shea et al, 1992; WHO, 2013). Patients may only appreciate the importance of adherence to self-care practices (life style modification) and to prescribed medication regimes based a sound knowledge base (Orem, 1991).

2.2.2 Diet and blood pressure

Diet is thought to be closely linked to blood pressure levels. Nutritional factors play a large role, not only in reducing the risk that high blood pressure will occur, but also in managing the condition after it has been diagnosed (Appel,et al, 2003). Diets rich in fruits and vegetables and reduced saturated fat can lower both the risk for high blood pressure and assist with blood pressurecontrol (Mahan et al,2012). Diets that are low on salt have been encouraged since the surfacing of salt restriction as an effective method of lowering blood pressure in the 1990s (Beare and Myres, 1994). The relationship between sodium intake and blood pressure has been extensively examined in both adults and children and positive associations between sodium intake and elevated blood pressure have been noted with upward change of two comma two millimeters of mercury (2, 2 mmhg) in a systolic pressure for a hundred mill moles change in sodium intake (Noh, Park, Lee, Oh, Paek, Song & Park, 2015). Sodium intake above physiologic need is related to the development of hypertension (Duffy, 2006), while hypertension is rare in societies whose sodium chloride intake is low, adds Duffy (ibid). In Africa, salt remains the cheapest cooking ingredient for every meal except milk and at times it has even been added to sugared-tea consumed with sweet jam sandwiches. Even historically communities shared it freely. Today the majority of people in Zimbabwe add salt to food before tasting it. Thus, some Zimbabweans,regardless of economic status have become 'hypertensioned' through excessive salt intake..

2.2.3 Alcohol and blood pressure

Excessive alcohol intake is another frequently unrecognized cause of high blood pressure. Moderation of intake or abstinence from alcohol is important to prevent and control hypertension (as well as many other medical conditions), state Norman et al (1999). Excessive alcohol intake is associated with prevalence of high blood pressure, poor adherence to treatment and occasionally refractory hypertension (Viera & Hinderliter, 2009). The risk of hypertension increases two to three fold in frequent or heavy drinkers and the casual role of alcohol in elevating blood pressure was confirmed by studies showing that alcohol reduction lowers blood pressure levels. In a study conducted in Zimbabwe, Matenga (1997), produced evidence that led to recommendations for drinking guidelines of one to two pints of beer or two glasses of wine or two shots per day. Therefore, reduction in alcohol consumption is an important non-pharmacological maneuver to prevent and control high blood pressure. In rural Zimbabwe, people drink the affordable opaque traditional brew and a potent alcoholic drink in the class of gin called ' kachasu or tototo'.

2.2.4 Cigarette smoking and blood pressure

Cigarette smoking is also a powerful risk factor for cardio vascular diseases and avoidance of tobacco is important (Norman et al, 1999). Nicotine produces peripheral vasoconstriction and increases heart rate, resulting in increases in arterial blood pressure (Doe and De Santos, 2009). All large scale trials of treatment of high blood pressure have confirmed that excessive smoking is bad for health.

2.2.5 Weight and blood pressure

Numerous studies conducted by researchers have shown a positive relationship between weight and blood pressure (Beare and Myers, 1999), with as many as thirty percent cases of high blood pressure cases being attributable to obesity. Moderate loss of weight can improve blood pressure and general maintenance of a healthy body making weight loss an important preventive measure of high blood pressure. Norman et al (1999), expressed that on average a nine comma two kilogramme (9,2 kg) weight loss decreases blood pressure by six comma three millimeters of mercury (6,3 mmhg) systolic pressure and three comma one millimeters of mercury diastolic pressure. An overview of studies conducted by Ramsey, (1994), showed that weight loss reduces blood pressure significantly by as much as fifteen percent (15%) and that the effect of weight reduction exceeds that of all other non-pharmacological interventions. Ramsey et al (ibid), however expressed that these findings have been generally accepted for many years but enthusiasm for weight

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reduction remains somehow limited probably because it is perceived as difficult and impossible to achieve and poorly sustainable in the long term.

In the Zimbabwe culture, obesity in women is viewed by many as a sign of being well looked after or living a better and comfortable life, hence efforts to reduce weight by obese clients may not receive social support which is essential for control of high blood pressure. Results by Mafunda et al, (2000), revealed that there is a relatively large increase in systolic blood pressure levels per unit increase of body mass index (weight in kilograms divided by height in metre square) and concluded that prevalence of hypertension in the studied population could reach even higher rates as the clients become older and heavier.

2.2.6 Understanding Hypertension Self-care Practice

Self-care in health practice refers to the activities individuals, families and communities undertake with the intention of enhancing health, preventing diseases, limiting illness and restoring health (Webber, Guo & Mann, 2013). Self- care practices are undertaken by patients either on their own or in participative collaboration with health professionals. It is what people do for themselves to establish and maintain health, and to prevent and deal with illness. Management of blood pressure is a broad concept encompassing hygiene (general and personal), nutrition (type and quality of food eaten), life-style (sporting activities), and environmental factors (living conditions, social habits), socio-economic factors (income level, cultural beliefs) and self-medication (WHO, 1998). It is from this range of factors that a sound health literacy and self- care curriculum is based on in order to make patients aware of what it takes to alter a lifestyle and to plan a behaviour change regime from an informed position (Webber, et, al, 2013).

One of the major life style changes is through physical exercises.

2.2.7 Physical activity

There is a relationship between physical fitness and blood pressure in epidemiology studies (Ramsey et al, 1994). Exercise has been identified as an effective non-pharmacological way of to reduce blood pressure and such research is continuing (De Fátima & Sobral Filho. 2004). Physical exercise has a physiological effect and treatment effect. The benefits of combating BP through regular physical programmes such as aerobics have been promoted in developed countries for several years but with less intensity in developing countries. Among African rural based clients, an exercise such as jogging or weight lifting is likely to be seen as unrealistic and culturally unsound. However since much of the work which people do in rural areas is physical labourintensive, in many situations this would be fairly good substitutes for physical exercise.

3. THEORETICAL CONCEPT- OREM'S SELF-CARE THEORY, (1991)

The Orem's Self-Care Theory, (1991), argues that health practitioners and patients should increase their understanding of disease and self- care. It recognises the individual as a self-care agent who is a responsible human being (Parissopoulos, & Kotzabassaki, 2004), with unique needs. In so doing, the theory upholds key principles of adult learning (andragogy) as propounded by Knowles (1980), that the adult learner seeks responsibility and learning is needs- based. Oriem's theory postulates that there should be congruence between the nurse and patients' perceptions in order for collaborative learning and management of health care. Similarly, this survey identified the perceptions of patients at a rural hospital as a foundation of adult education. However, the theory does not prescribe the actions to take thereby leaving the door open for health educators to rely on their knowledge of their clients and the unique contexts of adults to provide effective learning opportunities. For instance, Mosca,(2000), states that education, especially in developing countries with high illiteracy rates is very important. There is evidence that high rates of hypertension have been associated with low levels of awareness among rural populations in Africa (Kavima, Wanyanze, . Katamba, Leontsini, & Nuwala, 2013).

4. METHODOLOGY

The research used a descriptive survey design. A descriptive study involves a systematic collection and presentation of data in order to obtain a clear picture of a particular situation (Nachmias & Nachmias, 1996). An initial sample of forty- three participants was randomly selected from every seventh name on the population of 301 patients that had lived with hypertension for at least three years. Only those patients who had visited the hospital in the last three months made the final list since the chances of locating them were thought to be high. Ultimately, thirty (30) participants who were located were interviewed individually at their places of residence.

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5. DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

5.1 Knowledge of Weight and Height Risk factor

The findings revealed that as many as 70% of the participants professed ignorance of their body mass and none had a knowledge of their height thereby making them ignorant of the importance of weight and height knowledge in relationship to high blood pressure. It is critical that one should know their body mass and should monitor related developments given that as the body weight increases leading to fatness, the blood pressure level rises. Fatness or obesity is generally defined as having a Body Mass Index (BMI) greater than thirty kilograms per kilogram body weight which is calculated against weight since there is a correlation between mass and height WHO, 2006).

5.2 Knowledge of Salt in- take Risk factor

Adding salt before eating food was a common habit and results from this study revealed that twenty (67%) of the participants were not aware the risk of eating salty foods and even of adding salt to meals. However, ten (33%) of the participants indicated that they did not add salt before and during eating. The results from this study showed that a disturbing level of a third of the study population had the tendency to over indulge in the consumption of salt, thus exposing themselves to high blood pressure risks. Dietary information is essential in the control of high blood pressure, especially low salt-intake. Many studies have been made on salt and they showed that salt restriction has significant value in reducing blood pressure levels (Blood Pressure Association, 2008).

5.3 Knowledge of Cigarette Smoking Risk factor

Twenty-one participants (72 %), had information regarding risks of smoking in general supplied by various media and of these, only eight (28%) of the participants were ignorant that one should reduce smoking. There is overwhelming evidence that smoking is a contributory factor to high blood pressure (American Cancer Society, 2015). Smoking is the most important preventable cause of premature death in the United States. For overall healthy life style and to reduce risk of heart attack and stroke, smoking must be avoided (WHO Report, 2009). Smoking and exposure to the smoke have many other effects on one's cardiovascular and overall health, adds the American Cancer Society (2015). These effects are, fatty build-ups in arteries, proneness to many types of cancer and chronic obstructive pulmonary disease (lung problems). Atherosclerosis (build-up of fatty substances in the arteries), is a chief contributor to the high number of deaths from smoking (WHO Report, 2010).

5.4 Knowledge of Excessive Alcohol Risk factor

Forty-seven percent (47%) of the participants reported frequent consumption of alcohol while ignorant that alcohol contains calories which may contribute to unwanted weight gain which is a risk factor for high blood pressure. Alcohol can also interfere with the effectiveness of medication and may also increase side effects of high blood pressure. Halanych, Safford, Kertesz, Pletcher, Person, Lewis &Kiefe (2010), state that drinking too much alcohol can raise blood pressure to an unhealthy level and that an excess of three beers is above the recommended limit. Reduced alcohol intake and avoidance can help reduce blood pressure levels. Matenga (1997),stated that it was imperative that hypertensive clients should be educated on the benefits of reducing or stopping alcohol consumption completely.

5.5 Knowledge of Signs and Symptoms of High Blood Pressure

A majority of twenty-four participants (80%), had suffered a headache and did not associate it directly with high blood pressure but linked it to fatigue from manual work and attacks by evil spirits. Sixty- three percent knew that dizziness and blurred vision were linked to high blood pressure. The consequences of a lack of knowledge on symptoms affects seeking medical attention early and compliance to self-care instructions, hence hypertension is sometimes called a 'silent killer' (American Heart Association, 2017). Above all, basic knowledge of high blood pressure symptoms is vital.

5.5.1 Knowledge of High Blood Pressure Complications

Regarding participants' level of knowledge on complications that may result from high blood pressure, twenty-three (77%) of the participants were unsure that stroke or paralysis, renal or kidney failure were some of the complications of high blood pressure. Nine (30%) of the participants knew that heart failure could ensue from a complication of high blood pressure and ten (33%) of the participants said that death could result from high blood pressure complications. Orem, (1991), argues that individuals with adequate knowledge will adapt to behaviours that are health promoting.

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5.6 Patients' Perceptions of some Self- care practices.

5.6.1 Diet

Ten participants (33%) knew that a low salt diet was ideal for hypertensive clients. Ten (33%) indicated that plenty vegetables were also ideal for the hypertensive clients. On any other type of food recommended for the hypertensive clients, five (17%) indicated the need for a reduction in starch. The above results indicate that only athird of the participants were aware of the ideal food that hypertensive clients should consume.

5.6.2 Food Preparation

Cooking food separately from the rest of the family members is presumed to safe guard it from excess salt(Yoffee, 2017). However only seven (23%) of the participants indicated that they cooked their food since the lived alone and could control salt and oil in- take. This aspect validated the earlier findings that only 33% of the participants were mindful of excessive salt. Twenty- three (77%) of the participants indicated that they did not cook their food separately from the rest of the family and were in the habit of adding more salt in their food, even before tasting, thereby increasing the risk of high blood pressure. Dietary information is essential in control of high blood pressure, especially low salt-intake. There is a dose- response relationship between high blood reduction and reduced salt intake, says the Blood Pressure Association, UK (2008).

5.6.3 Physical Activity

Twenty- one participants (70%),were engaged in physical activities related to life styles of the necessity of 'rurality', namely gardening and farming, general household chores of cleaning, nursing children and walking to and from work. Nine participants, (30%) participants reported doing less strenuous work such as driving to work and menial household chores. These finding reveal that all the participants were not engaged in physical activities intentionally in order to manage hypertension but unconsciously did so from the dictates of rural life. The participants were unaware of the beneficial effects of programmed physical activity on physiologically and psychologically decreasing blood pressure. As such these activities were unorganized, intermittent and seasonal thus lacking the regularity needed to achieve lasting reductions of blood pressure. The participants needed to adhere to a strict physical exercises plan if blood pressure control targets are to be met (Alsairafi, Alshamali & Al-rashed, 2010).

5.7 5.7 Suggested Intervention Strategies

In response to a question on how knowledge of high blood pressure of risks and perceptions of self- care may be improved in order to control BP, the findings were as follows:

- One-on- one counseling on risks and symptoms of high blood pressure. Participants referred to hypertension as a 'white man's disease' and were understandably skeptical about its roots, what it is, how to prevent it and invariably how to live with it. The participants requested confidentiality in such sessions.
- Adult education and training programmes on understanding high blood pressure and self- care practices such as through lessons on diet and preparation of health foods.
- Participants suggested participation in physical activities involving ball sports namely netball, soccer and basketball. Running and traditional song and dance were also suggested.
- Government was urged to make policies that ensure that all citizens get to know their BP status periodically and learn how to control the disease

6. RECOMMENDATIONS

The research recommended that health institutions (public, private and voluntary), should engage their constituencies in education programmes in order to raise the knowledge levels and perceptions of patients on blood pressure. There is need for vigorous education campaigns through various media in Zimbabwe's covering all the sixteen languages. National policies should promote, 'sport for all,' in both rural and urban areas and for workers and the public. There is need for curriculum reform at all levels of education. Tariffs on unhealthy foodstuffs such as sugar, salt, cooking oil and alcohol are also recommended. The government should also provide national nutrition guidelines which prohibit the sale of foods with a high concentration of animal fats such as chicken skins and unprocessed animal cooking fats. Most of all, it is time that the Zimbabwe government should have a policy on free voluntary testing and counseling (VTC) on high blood pressure and lifestyle audits similar to the VTC programme on HIV and AIDS. Lastly, an understanding of blood pressure should spur more interest in similar research.

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