



# A Descriptive Exploratory Study of the Causes and Effects of Hypertension Among Ghanaian Soldiers and Their Families

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## Abstract

**Introduction:** The quality of life of any soldier can be affected by a simple diagnosis of Hypertension. Hypertension has not been directly linked to a single cause; however, knowing the associated risks and early diagnosis can help with its management. This study aimed to explore and describe the causes of hypertension among soldiers and its effects on their families.

**Objective(s):** To explore and describe the causes of hypertension and its effects on soldiers and their families.

**Methods:** A qualitative technique and an exploratory descriptive design were used in this study. At saturation, a total of 10 soldiers were face-to-face interviewed and gathered data simultaneously transcribed and subjected to a content analytic method of analysis. Participants approved being audio recorded on tape with an audio recording device.

**Results:** Effects of hypertension on personal lives of soldiers, effects of hypertension on family life, and effects of hypertension on social life were identified as the causes and risk factors of hypertension among the soldiers. These themes are further expanded by their subthemes in the areas of decreased physical activity including sex life, decrease interaction with family, and isolation from friends.

**Conclusion:** This study revealed that hypertension does have effects on one's personal life, family life, and social life. Hence, it is recommended that frequent health education on hypertension and its effects should be organized in the various Garrisons by the public health department for all soldiers and their families. Screening programs should be organized for early hypertension detection. Soldiers should be educated on appropriate eating habits, weight and financial management, and reduction in tobacco and alcohol.

## Keywords

causes, effects, family, hypertension, and soldiers

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## Introduction

Hypertension is a serious public health problem with a high mortality rate, particularly in developing countries like Ghana. It adds to the global burden of heart disease, including stroke, renal failure, premature mortality, and many forms of disability (World Health Organization, 2013). The summation of risk factors, comorbidities, and general low awareness puts an intense medical and economic burden on the limited resources of the West African countries (Bosu, 2015). The current prevalence of hypertension in many developing

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countries, particularly among urban societies, is reported to be already as high as seen in developed countries (Addo et al., 2012). Work-related stress and shift work resulting from high job demands, low job control, and poor relationship at work has been implicated in the etiology of hypertension (Abubakari, 2018; Rosenthal & Alter, 2012). Unfortunately for soldiers, combat stress resulting from unfamiliar and difficult terrains, strenuous shift systems, and long working hours without adequate rest has been linked with hypertension. Their typical lifestyle of late eating, high intake of carbonated and caffeinated drinks mostly for alertness on duty, and unavailability of nutritious diets at some duty posts, junks, and smoking coupled with irregular medical check-ups are major contributing factors (Piotrowski et al., 2020).

Beyond the need for hospital visits and therapy, having high blood pressure causes several other problems. It can also affect one's daily work life and day-to-day activities. Treating and controlling hypertension is for life and that means making lifestyle changes, taking prescribed medication, and following medical plans and soldiers are not different in this case (Shamsi et al., 2017).

This study became necessary because some soldiers were observed exhibiting some level of anxiety concerning their exclusion from some duties and the high probability of not being included in extended responsibilities that may yield extra remuneration due to the glaring effects of hypertension. To get a piece of first-hand information on what caused their conditions and how they are affected, a qualitative design was employed for this study.

## Review of Literature

### *Definition of Hypertension*

High blood pressure, also called hypertension, is a chronic medical condition in which there is an elevation in the pressure with blood flow through the arteries during contraction and relaxation of the heart. It is classified as either primary (essential) or secondary. About 90–95% of cases are primary and occur when no medical cause can be found (Oparil et al., 2018). For persons aged 18 years and above, hypertension is defined as systolic blood pressure of  $\geq 140$  mmHg or a level of diastolic blood pressure of  $\geq 90$  mmHg (World Health Organization, 2017).

### *Burden and Prevalence of Hypertension*

According to World Health Organization (WHO), an estimated 17.7 million people died from cardiovascular disease in 2015, which represents 31% of all global deaths. Coronary heart diseases from these deaths were 7.4 million. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke (World Health Organization, 2017). Hypertension is higher in low- and middle-income countries (31.5%) than in high-income countries (28.5%)

(Mills et al., 2016). According to the WHO, an estimated 1.56 million of adult population will have raised blood pressure by the year 2025 (World Health Organization, 2017). Hypertension, the most common cardiovascular disorder affecting approximately one billion people globally, remains the leading single contributor to the global burden of disease and mortality accounting for approximately 9.4 million deaths annually (Singh et al., 2017). In a community-based survey of adults in rural and semi-urban Ghana, the prevalence of hypertension was 28.7% (Ataklte et al., 2015). Another study conducted on the prevalence of hypertension among four rural community residents in Ga District of Ghana was 25.4%. Of those with hypertension, only 32.3% had prior knowledge of their condition (Agyei-Baffour et al., 2018).

### *Risk Factors of Hypertension*

There are modifiable and nonmodifiable risk factors that contribute to the development of hypertension. Modifiable risk factors for hypertension are mainly behavioral factors such as tobacco use, alcohol consumption, physical inactivity, unhealthy diet, job stress, overweight/obesity, and abnormal blood cholesterol levels (World Health Organization, 2017). Age, race/ethnicity, sex, and family history are nonmodifiable risk factors that contribute to the development of hypertension (Bosu & Bosu, 2021). Systolic blood pressure and diastolic blood pressure have been found to be increased with increasing age in both sexes in different geographic settings (Bosu & Bosu, 2021). In sub-Saharan Africa, hypertension affects about 80 million of the adult population. Although a preventable disease with modifiable risk factors, the number of undiagnosed hypertension is high in the adult population (Ataklte et al., 2015). Tackling the rising burden of hypertension in sub-Saharan Africa is most likely a cost-effective approach to curbing the societal and economic impact of cardiovascular disease. A study on risk factors of hypertension among security workers at University of Ghana found the prevalence of 45% (Bosu & Bosu, 2021). Another study in Hohoe found the prevalence of hypertension among rural adults to be 37.4% (Solomon et al., 2017).

Target organ damage such as heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage, and visual impairment are complications associated with hypertension (Mills et al., 2016). Prevention, detection, and control of hypertension should be regarded as a high priority (Ataklte et al., 2015). This study, therefore, seeks to explore and describe the causes of hypertension and its effects on soldiers and their families.

## Materials and Methods

### *Study Design*

In an exploratory descriptive approach, a qualitative method was employed in this study to explore the causes and effects

of hypertension among soldiers and their families. This study design was chosen to enable the acquisition of in-depth information about the causes and effects of hypertension on soldiers at the military barracks and how their condition affects the people around them (Adipa et al., 2015). Qualitative approaches aid in the exploration of new or understudied phenomena as well as the creation of conceptual and theoretical frameworks since they allow for the construction of rich textual descriptions of experiences (Stake, 2010). The study was carried out at military barracks Medical Reception Station in Ghana.

### *Sample and Sampling Technique*

The study targeted only soldiers at military barracks who were known to be hypertensive. Out of 15 potential participants who were identified from patients' records and approached, 10 consented to be interviewed. The study included only soldiers on anti-hypertensive therapy. Purposive sampling was employed in this study and data saturation was reached after the 10th participant. Saturation was reached when additional data did not lead to any new emergent themes (Chun Tie et al., 2019; Given, 2016).

### *Research Instrument and Data Collection Techniques*

A semistructured interview guide was used to obtain the desired information from the participants. The structure and design of the interview guide were based on the objectives and the literature review of the study. A mercury sphygmomanometer with a stethoscope was used to establish the blood pressure reading of participants before the interview. Data collection was done through individual in-depth interviews using a semistructured interview guide (Holloway & Galvin, 2017). Each interview session lasted between 30 and 50 min and was conducted at the convenience of the participants. The participants' permission was sought before the interview. The interviews were taped and afterward transcribed using a digital voice recorder. The first section of the semistructured interview guide collected demographic information and blood pressure readings from participants, whereas the second section collected information based on these sample questions "How did you know you have high blood pressure? What do you think caused your high blood pressure? Have you ever been told the cause? Do you take in alcohol? Which type? How many bottles or glasses a day or at a sitting? Do you smoke cigarette? How many sticks a day? How was your eating habit? Do you take in a lot of meat? What about fatty foods? How often were you eating fruits and vegetables? How often were you exercising? What type of exercise? How is the condition affecting your personal life? How is the condition affecting your social life? How is the condition affecting your family? What are the measures you are taking to control the blood pressure?" Participants' nonverbal behaviors were recorded as field notes to provide further context to the findings.

### *Data Management and Analysis*

Data were analyzed alongside data collection to ensure that the themes that emerged from the data were fully explored (Adipa et al., 2015). Transcripts were read several times to gain an understanding of the participants' perspectives. The data analysis followed the steps of the thematic content analysis approach (Maguire & Delahunt, 2017), and data were transcribed manually. Codes were developed into themes and subthemes for the write-up. The researchers reviewed and discussed the categories and themes to ensure that participants' views were represented. The researchers transcribed all the audio tape-recorded information verbatim into readable texts after listening to the audios severally. Direct quotations from participants were presented to ensure that the participants' responses were reflected in the study. Field notes were also reviewed to add depth to the analysis.

### *Rigor*

The data's trustworthiness was ensured by applying the criteria of authenticity, reliability, confirmability, and transferability (Wiggins & Stevens, 2020). To enhance authenticity and confirmability, member tests were done by reviewing interpretations of participant-generated data. To ensure reliability, all participants were interviewed using the same semistructured interview manual. A detailed explanation of the research method has been made for the replication of the analysis in a similar environment by other researchers. Peer debriefing was undertaken where participants explored topics to ensure that all facets of the data were protected. Transferability was ensured by using a detailed description and documentation of all phases of the research process so that a similar study can be carried out by other researchers (Maher et al., 2018).

## **Research Question Results**

### *Sample Characteristics*

The demographic characteristics of respondents in the study included: age, sex, rank, educational level, number of years in the service, marital status, number of children, ethnicity, religion, and finally blood pressure reading. The minimum age of the study participants was 30 years, whereas the maximum age was 45 years. Four of the respondents were between the ages of 30 and 39 years, while the remaining were between the ages of 40 and 45 years. All the respondents were males. Eight of the study participants were Christians, one Muslim, and one traditionalist. The ranks of the participants included three Warrant officers (WO 1) Class I who had served in the army from 20 to 24 years, two WO II who served from 20 to 22 years, two Staff Sergeants with 15–16 years in the service, two Sergeants with working experience of 13–20 years and one

Bombardier who had served for 11 years. Seven of the participants were married, two were divorced and one was widowed. Additionally, three of the participants had four children, four had three children, two had two children, and one participant had one child. All of the participants had had formal education, ranging from secondary to tertiary level. Among the participants were three Ewes, two Fantes, two Ga-Adangbes, one Guan, one Ahanta, and one Wale.

### Blood Pressure Reading

The respondent's blood pressure was measured, with a minimum systolic reading of 130 mmHg and a maximum of 160 mmHg, respectively, and a diastolic reading of 80 mmHg and 110 mmHg.

### Main Results

The study's findings are organized into themes and sub-themes. Three main themes and subthemes emerged from the outcomes of the study. The following were the three (3) key themes that emerged from the data analysis: effects of hypertension on personal life, effects of hypertension on family life, and effects of hypertension on social life.

#### 1. Effect of hypertension on the personal life of soldiers

Participants were asked to describe how hypertension affected their personal life. The account showed the elements of personal life considered affected negatively by the illness were physical activity tolerance, psychological well-being, finance, and sexual life. There was a perceived connection between their energy level, state of mind, and sexual life.

##### (i) Reduction in physical activity tolerance level

Physical activity was identified as one of the major components of the soldiers' work life. Every soldier must be fit physically and because of that, the unit organizes exercises for soldiers twice a week lasting for about 2 h. The account

Themes	Subthemes
1. Effects of hypertension on personal life	(i) Reduction in Physical activity tolerance (ii) Psychological distress (iii) Financial burden (iv) Changes in sexual life
2. Effects on family life	(i) Decrease family interaction (ii) Changes in the family budget (iii) Increased workload on spouse
3. Effects on social life	(i) Isolation from friends (ii) Decreased work output

of participants in this study suggested hypertension affected the physical activity tolerance of the soldiers. A participant indicated this in the extract:

“As a soldier, you must stay fit, formally I used to jog for long, long hours but these days if I jog for a few meters then I will be very tired. Soldiers have a distance to cover but I can't usually cover the distance any more” (RS 7, Age 40)

The concerns about physical activity also included difficulty carrying out the task at the workplace and cleaning the compound.

It has become very difficult to perform some physical activities at work. For example, grounds work and other physical activities that we normally do on our compounds (RS 2, Age 45).

##### (ii) Psychological distress

The diagnosis and treatment regimen of hypertension was perceived as a source of psychological distress for the participants. The distress was associated with perceived labeling, long-term taking of medication, concerns about adherence, and fear of death. Almost all the Soldiers believed that being diagnosed with hypertension and the labeling “hypertensive” puts a lot of pressure on the individual resulting in brooding. This is demonstrated in the following extracts:

“Okay, I would say that it puts a lot of pressure on me, and I think a lot because the doctor told me that I must be taking the drugs for the rest of my life and personally I don't enjoy that because it kind of put too much stress on you. I know the drug is not food and I will have to be taking it every day. Ah! so personally, I think I'm not comfortable with taking the drug every blessed day” (RS 4, Age 43)

“The condition affects me a lot. The first time that the doctor told me that I have high blood pressure and that he is putting me on medication, I was very scared and since then there are a whole lot that I must go through. Whenever I think about the fact that I am now a hypertensive patient I don't feel comfortable, I feel very nervous, and then taking the medications too has been a problem for me because I am not used to taking them every day, so sometimes I even forgot it” (RS 3, Age 42)

The anxiety and discomfort were made worse by the experiences of a participant who recalled how some colleagues with similar diagnoses died.

“Thinking about past events frankly sometimes scares me. Somewhere last year or so, three of my mates died because they had BP [blood pressure]. Three of them in the same

year! Three, so me it sometimes put some fear in me” (RS 1, Age 38).

### (iii) Financial burden

Narrations that depict financial burden were concerns about buying medications, increase in housekeeping expenditure, inadequate insurance cover, and cost of complementary therapy. Expenditure for medications was not part of previous financial commitments; however, the condition had necessitated its inclusion. Meanwhile, complying with dietary approaches to stop hypertension also meant an increased cost of family meals because separate meals were prepared.

“The medications are draining my pocket. The medicine I buy every month, some are not on the national health insurance so, I will have to pay from my pocket, and it is expensive too. It’s having a toll on me because every month I have to be buying drugs” (RS 1, Age 38).

“You know because they said I should not be taking too much salt and I have to eat more fish than meat, I give my wife extra money to cook my food separately from that of the kids and it’s affecting my finances” (RS 10, Age 42)

Others also complained of financial burden due to their quest to seek other alternative medications to manage their condition.

“It is really affecting my finances because of the medication and sometimes you need to resort to some other treatments apart from the one given at the hospital. The reason is maybe you have to try some herbal stuff. You have to see one doctor here and try all the alternatives. Because of the medication and moving from one hospital to the other trying to get a solution to it you turn to spend a lot” (RS 7, Age 40)

### (iv) Changes in sexual life

Changes in sexual life were of major importance to the participant although they seldom mentioned this in their initial comment. There were moments of weakness during sexual intercourse that some found embarrassing. They assumed that the sexual weakness was because of the medications especially those that have been on treatment for longer durations.

“One most important thing in marriage is sex, and if you cannot manage, I don’t know what you expect your wife to do” (RS 9, 30).

One of the participants said he feels very tired anytime he had sex. He referred to sex as “shine.”

“Another thing too is that, it has affected me more than my wife. I can’t shine well if I try to shine small, I get tired.

Shine is a soldier term for sex, having sex, yeah so if try to have sex with my wife, I get tired easily, small then I will be tired” (RS 1, Age 38).

## 2. Effects on the family life

Participants reported that living with hypertension affected their family life. This was reflected in stories involving the attempts to self-isolate, the decline in quality of time spent with family, adjustment of the family budget, and the increase in the workload for spouses.

### (a) Reduced family interaction

The effects of living with hypertension on the family included reduced family interaction. The participant did not strike a fine balance between rest and the essence of family interaction. Most of the participants isolate themselves from their families. They used to chat with them and spend time.

“At first, I used to chat with my wife and my kids a lot but now I have been thinking about myself. I’ve become so much isolated from them” (RS 8, Age 41).

“I don’t sit and watch a movie and converse with my wife and kids like before, now I’m thinking and I’m having that kind of fear that if I don’t live well this sickness can even kill me” (RS 5, Age 39)

Participants reported that their spouses and children are worried about the way the soldiers are isolating themselves from the family:

“I’ve been thinking and because of that my interaction with my family is becoming bad and my wife is also worried, you know kids they can’t tell you but you can always see from their actions” (RS 3, Age 42).

One participant reported that he finds it difficult to go out with the family after the diagnosis. This is because he uses his free time to rest:

“This condition keeps me thinking a lot you know. Hmmm, I hardly make time for my wife and kids, it’s like I don’t take them out any longer because the little time I get I want to have enough rest. It’s like the family bond is destroying ‘aha’” (RS 4, Age 43).

### (b) Changes in the family budget

The cost associated with managing hypertension had a direct effect on the family budget. This problem is linked to the financial burden reported as a personal effect of hypertension. Participants were responsible for financially supporting the family, therefore, whatever affected their personal life had a residual and reciprocal effect on the family. The

income and expenditure balance sheet had to be adjusted to accommodate the cost of food and other expenses.

“I have to give my wife extra money to cook my food differently, because of salt and spices that I have to avoid. They said I shouldn’t take animal protein. I have to eat fish or plant protein, and these are more expensive” (RS 2, Age 45).

The participants also noted the inability to generally support family demands and the dwindling source of income because of the inability to engage in other businesses. Raising additional income to support the family budget is described as difficult.

“The presence of the disease is making me not to be able to meet all the demands at home. I used to work hard to get goods for my side business from time to time, [but] now those goods are not coming again. Now, support to my family has been quite difficult because I only rely on my salary” (RS 9, Age 30)

#### (c) Increased workload on spouse

Participants reported that their current condition causes an increased workload on their wives. They lamented that the women get tired because they combine taking care of them. Spouses multitask in meeting care demands and playing their role as managers of the home. The situation worsens during hospitalization because of juggling activities in the hospital and at home. It was disclosed that almost all the participants had an issue with their wives although they are supportive of the care. One participant also said this

“Sometimes my condition makes them think a lot because they have to be sending me to the hospital now and then. They have to be accompanying me to the hospital. Sometimes I get severe headaches and that makes me not sleep so they will all be worried. They have to stay awake and be worried and so I will say my condition is putting a lot of pressure on my family because they have to stay around me when I’m not feeling well” (RS 4, Age 43)

“For the family, it is worrying them actually because I was told at the hospital that I should take food which has small salt so now my wife prepares a separate meal for me and another for the children so every time too she is tired.” (RS 7, Age 40)

“Sometimes I crack jokes about the situation then she will say that because of me she was sleeping at work” (RS 10, Age 42)

The interplay of increasing workload and emotional and physical drain on spouses was shown in the increased burden of performing house chores, caring for the children,

and doubling as informal caregivers for sick family members.

### 3. Effects on social life

Social life was described in the context of a relationship with friends and social roles. Participants mentioned that hypertension had affected their social interaction with friends and their job roles. Some sort to avoid engaging with friends and attempt to minimize exposure to risk such as having fun with friends. Negotiating role changes at work and dealing with the reactions of colleagues to these role changes negatively affected some of the soldiers.

#### (a) Isolation from friends

The majority of the participants stated that they avoid socialization because of their current condition. Most of them are no longer cheerful since they were diagnosed and started taking antihypertensive medications. They believed that they had the condition because of having fun with friends but now they want to avoid certain habits to control their blood pressure.

“...it affects my social life because I could see the vast difference between when I was not a BP patient and now that I’m one because I could see how I used to go with friends, how we move together and play all these things affect me” (RS 3, Age 42)

“My social life with friends has been affected since I was told I have high blood pressure, sometimes it makes me isolate myself because I was thinking that those are some of the things that led me to have it so now, I’m not able to get close to my friends again and it keeps me away from people because I don’t want to look odd amongst them when we are together having fun.” (RS 9, Age 30)

All the participants seem to be experiencing the same thing.

“Social life, its, now I’m kind of isolated from my friends they complain a lot, you know initially we go out, I’m the outing type, we go out to have fun enjoying ourselves but now I’m not able to go out with my friends especially on weekends and holidays anymore because the nurses told me that if I continually do that it may get to a time where I may even get a stroke, I don’t associate with my friends anymore like I used to. You know life is so precious so I thought that I should listen to what my doctor and my nurses are telling me (RS 4, Age 43).

#### (b) Decreased work output

Participants indicated that hypertension interferes with their work. They explained that due to the symptoms they experience they are not able to work effectively. They claimed

occasional reporting to the hospital for check-ups and pleading to be exempted from certain duties reduces their work output. This is described in the following extracts

“I’m not able to give up my best I’m always more than careful at work. My officers don’t get too much of me like it used to be when I was younger. Because I think that when I get too much on board maybe I may have the effect again coming up.” (RS 6, Age 35)

“Sometimes when there is so much work to be done and you have to ask permission to go for review for medicine, people complain and play bad cassettes like ‘you know worry a lot when you have to help at work you are on your way to the hospital’. Sometimes too you have to be begging small they put you on duty around, otherwise, when they send you far away and the medicine gets finished you have to wait and come back. You won’t be able to take the medicine for some time” (RS 10, Age 42).

Participants were affected by the attempts by other colleagues to ridicule them for seeking permission to attend to their health needs. Deployment to duty post was seen as supportive when it promoted access to medication refill opportunities.

### *Discussion of Findings*

Observations from this study suggest that negative events affected the life of soldiers living with hypertension. These events were associated with their personal life and psychosocial well-being. The condition had a rippling effect on the family life of soldiers as well. The ability of the soldiers to achieve the standard fitness level required by their job was compromised because their energy levels had declined. The physiologic resilience of soldiers is important to their work life because it determines their performance. Physiologic resilience is enhanced through physical and metabolic endurance (Nindl et al., 2018). This means that a soldier can survive extreme physical activity even if they have not eaten for days or were deprived of sleep. The nature of training prepares the soldier with requisite energy stores which are mobilized by the body when required. However, hypertension compromises these functions because the soldiers cannot do endurance training and metabolic activities are also affected. There is a paucity of evidence on the relationship between increased blood pressure and physiologic resilience among this population.

The reduction in tolerance to physical activity affected their work life because their work involves physical strength and endurance. These findings agree with Sharma and Srivastava (2020) report that events in persons with hypertension such as less satisfactory sex life, poor physical fitness, and lack of control of personal life affected their quality of life. Meanwhile, De Boer et al. (2017) and Guimaraes and

Portugal (2010) argued the inverse association between physical activity level and the incidence of cardiovascular diseases.

Increases in expenditure due to purchasing medications and the additional burden of family support are congruent with Nazir et al. (2019) findings on increased expenditure on medications purchase in patients with hypertension in India. Notably, while income is dwindling, expenditure is increasing. The likelihood that soldiers with hypertension will be deployed for combat duties is minimal. Some of these international duties come with juicy financial packages which they might miss. How best can soldiers sustain the cost of treatment of hypertension when health insurance packages do not adequately address the direct cost of treatment. The indirect cost of living with hypertension requires exploring the benefits of indigenous social support systems that enable family and friends to respond to the financial needs of their associates.

Furthermore, it was also evident in this study that there was a decline in sexual activity in the participants’ marital lives. This finding is consistent with Atinga et al. (2014) who highlighted that anti-hypertensive therapy exacerbates the incidence of sexual dysfunction. This problem is more likely to affect the quality of life in young and middle-aged patients with hypertension. Regardless of the perspectives, soldiers must be fit no matter their blood pressure levels. Nursing interventions should therefore target blood pressure control with moderated physical activity and diet. Once the blood pressure is under control, the emotional well-being will also improve.

The soldiers in this study mentioned experiencing psychological distress because they were anxious about their condition and its consequences. This finding is congruent with the study conducted by Lall et al. (2018), who found a low quality of life in the psychological domain among people living with hypertension in Vietnam. The psychological stability of soldiers determines their responsiveness and decision in the event of emergencies or combat duties. The implication for soldiers diagnosed with hypertension is that their work output could be compromised. Military personnel are generally under a lot of pressure and work-related stress right from training till they retire. Stress from the change in climatic conditions, combat exposure and separation from family and friends, and emergency response to deployment. This could be related to the sensitive and demanding nature of their work. The work of soldiers includes operating and handling sophisticated guns, and providing security for the nation which requires alertness to be able to prevent problems. Sometimes, there are not enough troops to perform all of these and the few would have to overwork adjust, leading to excessive stress predisposing them to high blood pressure. On the contrary, research according to Jiménez-Rodríguez et al. (2019) expounds that relaxation therapy had positive effects in improving blood pressure, thus, reducing the blood pressure of hypertensive clients.

Knowledge of diagnosis further created anxiety among participants in this study. This finding is in line with studies conducted by Hamer et al. (2010) where participants who were aware of their hypertension had a higher risk of psychological discomfort, whereas participants who were uninformed of their hypertension had no such risk. In the same study, the use of antihypertensive medicines was linked to psychological discomfort (Hamer et al., 2010). Fears about death and possible complications have been documented in other studies. Anthony et al. (2012) reported that people with hypertension often perceive it as a risk factor for myocardial infarction or stroke rather than an illness. They do not see it as a continual, degenerative process of circulatory system damage, but rather as a binary risk process in which you may either win (not get sick) or lose (become sick). This makes nonadherence to treatment a gamble with a potential positive outcome (Anthony et al., 2012). Soldiers need to be supported to have a positive perspective of their condition through cognitive interventions that build psychological resilience.

The study revealed the negative effects of hypertension on the participant's social life. Most of them complained about not being able to socialize with their friends. This development contradicts the research findings in a study by Allan et al. (2015) using the national health interview survey data which found emotional support and social integration to be independently associated with decreased odds of hypertension. Allan and colleagues further stressed the positive aspects of social ties to directly enhance health and reduce the negative effects of stressful experiences on health by enhancing the capacity of individuals to cope with stress (Allan et al., 2015). Similarly, in a study by Paul et al. (2017), social relationships serve as sources of emotional support (empathy), informational support, and instrumental support. The problem with the soldiers in this study was that they were avoiding family and social interaction activities because of their belief that these events increased their risk. The use of avoidance as a negative coping mechanism raises questions about the quality of patient teaching that occurred at the time of diagnosis. Poor client education results in misinformation and disinformation and these should be explored further. It is possible to assume that the soldiers by their education and exposure should know about hypertension and its effects. Leaning on the existing social systems and established institutions caring for the social needs of soldiers must be carefully considered in view of some of the operational rules surrounding the family life of a soldier living in the barrack.

### **Strengths and Limitations of the Study**

The findings of this study should be viewed in light of some strengths and limitations. In terms of strength, this study is one of the few studies that directly expose the effects of hypertension among Soldiers and their families in Ghana.

The explorative nature of the study assisted in the understanding of the phenomenon more broadly and in context.

However, the sample size of 10 participants limits the possibility of generalizability. Besides, the study recruited soldiers who were males (not purposeful), and there could be limitations with the application of findings to female soldiers. The effect of hypertension on the family was reported from the lens of the participant, therefore, should be interpreted with caution.

### **Implications for Practice**

One of the noncommunicable chronic diseases with a long duration and gradual progression is hypertension. In order to regulate HTN, it is imperative to increase public awareness, which will cut down on the expense of medical care and its associated consequences. Hypertension has not been directly linked to a single cause; however, adequate knowledge of the associated risks factors and effects can facilitate the health promotion and control of HTN. These findings have important implications for developing proper and continuous education programs and campaigns for early detection even in nursing and public health practice, primary prevention, and control of HTN.

### **Conclusions**

Soldiers living with hypertension are faced with personal issues such as maintaining physiologic and psychological resilience while living with hypertension. There are also concerns about the strain on family relationships and finance resulting from the effects of treatment. Social networks such as friends and colleagues that forms support mechanisms are either being poorly utilized or misrepresented in the mind of the sick soldier. This study recommends the development of context-specific nursing care models that promote continuity and holistic care for clients and their families. Cognitive intervention therapies for ensuring psychological resilience should be explored for context relevance and adopted to enable positive coping in soldiers living with hypertension. Lenient duty schedules should be drawn for soldiers to forestall the menace of extraneous stress that officers go through in the discharge of their mandates and to curtail any ensuing health consequences from work stress. This could be made possible through the introduction of the "flexible service strategy" as done in developed countries. Moreover, frequent comprehensive health education on hypertension and other diseases of interest should be conducted at the garrisons. Counseling services on stress control and management of diseases should be provided to soldiers in the various garrisons. Education on health investment packages will be important to ensure that there is adequate financial strength in the event of long-term illnesses such as hypertension.



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## Authors' Note

The study was approved by the Ethical Review Committee at the University of Health and Allied Sciences, Ho, Ghana with reference (UHAS-REC A.1[50] 19-20). Approval was also obtained from the local military hospital and individual participants signed the consent form as appropriate. The nature, purpose, and procedure of the study were explained to the participants. Participants were informed that participation in the study was completely voluntary and that they might drop out at any time without consequence. Confidentiality and anonymity were ensured by assigning pseudonyms to participants' names (participant 1, participant 2, etc.).


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