



## A qualitative study of Patients perspective of hypertension management in community pharmacies in Edo state, south-south Nigeria

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### ARTICLE HISTORY

Received: 13.05.2019

Accepted: 27.06.2019

Available online: 30.06.2019

### Keywords:

Hypertension, Medication Adherence, Patient Medication Knowledge, Attitudes, Focus Groups and Qualitative Research.

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### ABSTRACT

This study aimed to explore hypertensive patients' perspectives on the use of medication and issues related to hypertension management in community pharmacies. A qualitative study using focus groups discussion (FGD) was employed. With 20 hypertensive patients that were purposively recruited. Five (FGD) with semi-structured interview were carried out in five community Pharmacies in Edo state. Three major themes were developed, including medication adherence, self-care management and patients' knowledge towards hypertension. All the conversations were audio recorded, transcribed verbatim and thematically analyzed. Good medication adherence was found among the participants and was due to their knowledge on the complication of hypertension. Use of orthodox therapies was perceived as the method in controlling blood pressure. The participants were found to have good knowledge on targeted blood pressure and complications of hypertension. The conception about the complications of hypertension and Knowledge on targeted blood pressure level has led to good adherence and remarkable blood pressure monitoring among the participants respectively. Health awareness program and counseling from health care professional should be uninterrupted among the hypertensive patients in order to continually improve other gaps and outcome.

### INTRODUCTION

Hypertension is a leading cause of morbidity and mortality in Africa, and Nigeria, the most populous county in the continent, hugely contributes to this burden [1]. Overall, prevalence of hypertension in Nigeria is 28.9% from a systematic review and meta-analysis [1]. Significant numbers of individuals with hypertension are unaware of their condition and, among those with diagnosed hypertension; treatment is frequently inadequate [1,2].

Poor adherence to antihypertensive medication has greatly increased blood pressure and is associated with higher rate of hospital visits and mortality rate [3]. Some studies have found that many hypertensive patients did not adhere to antihypertensive medication because they had negative views towards hypertension or they were not confident with their antihypertensive medication such as concern of potential side effects [4-6]. Lack of knowledge about quality use of medication and various misleading perceptions of hypertension management have resulted in inappropriate use of medication especially

medication adherence among community-dwelling hypertensive patients [7, 8].

The misconception about the side effect of antihypertensive medication has led to poor adherence among hypertensive patients and lack of knowledge on targeted blood pressure level has also led to poor blood pressure monitoring [9]. Some patients tried to manage their condition on their own, independent of their physicians [10]. Patients with hypertension have their lives adversely affected by this chronic conditions and they tend to make routine decisions about their illnesses and the way to manage them; this may include medication, prophylactic measures and self-management measures.

There is a general believe among hypertensive patients that orthodox medicines are more harmful than beneficial [11] The use of antihypertensive agents only when symptoms are aggravated clearly indicated that patients feel self-management to be more important than pharmacotherapy [11] Interestingly, self-management strategies that are employed by patients are their own decisions and often results in worsening of symptoms

[12].

Focus group discussions on hypertension have gained increasing attention as meaningful and essential sources of information for improving knowledge of hypertension and its management among patients in order to improve quality use of antihypertensive medication [13]. Studies on focus group discussion on hypertensive patients have been carried out in Asia, and Europe [4,5, 14-16].

In Africa and Nigeria, few qualitative studies have been done particularly in primary healthcare setting and in rural communities [17-19], none of these studies were carried out in this southern part of Nigeria.

This study aimed to explore hypertensive patients' perspectives on quality use of medication and issues related to hypertension management in some selected community pharmacies in Benin City, south-south region in Nigeria.

## METHODS

### STUDY DESIGN

This study adopted qualitative methodology via focus group. This qualitative study was based on the COREQ Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups [20].

The content of focus group with semi-structured interview guide questionnaire was prepared based on literature reviews on patients' hypertension management and earlier work on patients' perceptions on quality use of medication [4,5,15,16]. Five focus group discussions were carried out from January to April 2019. In order to achieve the objectives of focus group discussion, the content of semi-structured interview was developed based on the English literatures [4-6, 9] which have highlighted the global hypertension management and quality use of medication issues encountered by the hypertensive patients. The participants were interviewed with the semi-structured questionnaires and they were encouraged to interact with each other, exchange ideas and issues based on their experiences or points of view. The questions were prepared in an open ended format and were pre tested for content validity, face validity, and clarity by three pharmacists with vast experience in pharmacy practice research. The topic of discussion was then sent to an independent experienced moderator for further cleaning. The moderator ensured that topics to be discussed are up to the level of patients.

### STUDY SAMPLE AND SETTING

This study was conducted in some selected community pharmacies in Benin City Edo state. Poster invitations were put on the notice board one month prior the event and those hypertensive patients who were interested in this program contacted the researchers. Participants were recruited by using purposive sampling method. The inclusion criteria were the following: being diagnosed with hypertension by a registered medical doctor for at least six months ago, treated with antihypertensive medication for the past three months prior to the study and aged 18 years old and above. Patients with enduring mental health problems or cognitive impairment were excluded. Twenty-five (25) participants were invited to participate in the focus group discussion, but five participants did not turn up in the discussion due to time constraint. Eventually a total of 20 participants were divided into five groups which followed the standard guideline [22, 23]. A focus group comprising of 4-8 persons are usually recommended as group exceeding more than

eight people are difficult to control [22]. The discussions were focused on the patterns and reasons of irrational use of medicines, and participants' perception and knowledge towards hypertensive management. The focus group discussion was carried out at the multipurpose hall of the community pharmacies. Prior to the focus group discussion, participants were requested to be seated for at least 10 minutes before their blood pressures were being measured with blood pressure monitoring apparatus (Brand: Omron® with model HEM-7080). Information sheet was explained and informed consent was obtained prior to the commencement of focus group discussion.

Prior to focus group discussion, moderator introduced his background and qualification to the participants. Despite of the personal introduction, moderator also briefed the participants about the study goals for this focus group discussion. The moderator encouraged all hypertensive patients to participate actively in the discussion by giving several probes. The examples of probes were: how do you get high blood pressure medications? Elaborate on the difficulties you were telling about, etc. Eventually every participant was given an opportunity to add on anything about medication and hypertension management. In order to achieve the objective of focus group discussion, the participants were encouraged to interact with each other, exchange ideas and issues based on their experiences or points of view [21]. Uneducated participants were interviewed by a trained translator and interviewer. All the conversation and discussion were audio-recorded and field notes were utilized when necessary during the focus group discussion. Five focus group discussions were carried out until saturation of the contents which ranged from 40 to 60 minutes.

### Data Analysis

After the focus group discussion, all the conversations were transcribed verbatim into English and the data were counterchecked by the researcher. The field notes were referred during transcribing process. Textual data were explored using content analysis method. Textual data were read several times by the researcher to identify themes and categories. Numerous codes were identified and relevant quotes were categorized under each code. "Open coding" procedure was carried out by writing down as many categories as necessary to address all aspects of the content. In order to reduce the number of categories, the listed categories were filtered by rearranging based on the priority to produce a new list of categories and sub-headings. At the same time, another researcher carried out the same procedure independently to generate the category system. Then the two lists of categories were compared and adjustments were made when necessary. The final list of categories and sub-headings was compared again with the original transcript to ensure all aspects of data were identified and tested for constant comparison. When there were no new themes identified, a conclusion would be made at this saturation point. In order to add validity to the study, the research findings were presented to the participants and feedback were taken to ensure the participants' own idea and perception were represented and not curtailed by researchers' own agenda and perspective.

## RESULTS

Out of the twenty participants recruited in this study, 12(60.0%) were female, 7(35%) were above 60 years, 13 (65%) were married, 10 (50%) had tertiary education, 7(35%) were under stage I hypertension and 8(40%) had been on antihypertensive medications. The demographic characteristic of

the participants are shown in (Table1)

**Table 1 :** Participants socio-demographics characteristic

Description	Frequency (N) (%)
<b>Sex</b>	
Male	8(40)
Female	12(60)
<b>Age(years)</b>	
31-40	5 (25)
41-50	5 (25)
51-60	3 (15)
Above 60	7 (35)
<b>Marital status</b>	
Single	2 (10)
Married	13(65)
Widowed	4 (20)
Cohabiting	1 (5)
<b>Education</b>	
No formal	3 (15)
Basic	2 (10)
secondary	5 (25)
Tertiary	10(50)
<b>Income</b>	
Less than N 18000	7(35)
More than N 18000	13(65)
<b>Occupation</b>	
Private	6 (30)
Unemployed	3 (15)
Retired	7 (35)
Civil servant	4 (20)
<b>Living status</b>	
Alone	3 (15)
With family	17(85)
<b>Blood pressure (mmHg) Based on JNC7</b>	
Normal	3 (15)
Prehypertension	6 (30)
Hypertension stage I	7 (35)
Hypertension stage II/ severe hypertension	4 (20)
<b>Duration on hypertension treatment (years)</b>	
1-5	6 (30)
6-10	6 (30)
above 10	8 (40)

### Some Patients' quotes about their views on use of medication and hypertension management

**Routine lifestyle** I take my medication every day (P<sub>D</sub>, P<sub>E</sub>, P<sub>G</sub>, Z<sub>IC</sub>, Z<sub>ID</sub>, Z<sub>IA</sub>, Z<sub>C</sub>, Z<sub>A</sub>, P<sub>F</sub>, T<sub>1</sub>, V<sub>1</sub>, V<sub>3</sub>)

**Factors affecting medication adherence** Nothing discourages me from taking my medication (P<sub>A</sub>, P<sub>B</sub>, P<sub>E</sub>, Z<sub>B</sub>, Z<sub>D</sub>, Z<sub>IA</sub>, Z<sub>B</sub>, Z<sub>ID</sub>, Z<sub>IC</sub>, T<sub>1</sub>, T<sub>2</sub>, V<sub>1</sub>, V<sub>3</sub>)

**Barriers** Nothing prevents me from visiting the hospital (P<sub>A</sub>, P<sub>B</sub>, P<sub>C</sub>, P<sub>E</sub>, P<sub>F</sub>, Z<sub>ID</sub>, T<sub>1</sub>, T<sub>2</sub>, V<sub>3</sub>)

**Financial constraints** I do not have financial constraints in getting my medication (Z<sub>A</sub>, Z<sub>B</sub>, Z<sub>C</sub>, Z<sub>D</sub>, Z<sub>IA</sub>, Z<sub>B</sub>, P<sub>A</sub>, P<sub>B</sub>, P<sub>C</sub>, P<sub>F</sub>, V<sub>1</sub>, V<sub>3</sub>)

I have financial constraints because my children still depend on me. I pay their fees, etc (P<sub>D</sub>, T<sub>1</sub>, T<sub>2</sub>)

**Side effects** I experience dizziness and weakness (Z<sub>C</sub>, Z<sub>A</sub>, V<sub>2</sub>)

Amlodipine made me lactate after 2weeks of taking the medication (Z<sub>D</sub>)

**Benefits** I feel better, light, fine, strong and relieved after taking my medication (Z<sub>B</sub>, Z<sub>IC</sub>, P<sub>D</sub>, P<sub>G</sub>, V<sub>1</sub>)

**Storage** I store my medication in a rubber container (P<sub>A</sub>, P<sub>B</sub>, P<sub>C</sub>, P<sub>D</sub>, P<sub>E</sub>, Z<sub>IA</sub>)

**Solutions** I rest and take my medication (P<sub>B</sub>, P<sub>F</sub>, P<sub>G</sub>, Z<sub>IC</sub>, V<sub>3</sub>)

I visit my doctor to make adjustment to my medication (Z<sub>A</sub>, Z<sub>B</sub>, Z<sub>B</sub>, T<sub>2</sub>, P<sub>A</sub>, P<sub>D</sub>, V<sub>1</sub>)

**Herbal/alternative medicine** I do not take any other medication aside the one prescribed by the doctor or pharmacist (Z<sub>B</sub>, Z<sub>B</sub>, P<sub>F</sub>, P<sub>A</sub>, P<sub>B</sub>, T<sub>2</sub>, V<sub>1</sub>)

I take herbal preparation for my arthritis pain (P<sub>D</sub>)

I take bitter leaf and Osu native concussion (P<sub>E</sub>)

**Checking of blood pressure** I only check my blood pressure when I think its high (Z<sub>B</sub>, Z<sub>IC</sub>)

I check once in a week (P<sub>F</sub>, Z<sub>D</sub>, Z<sub>IA</sub>)

**Signs and symptoms** I think headache is a sign and symptom of high blood pressure (Z<sub>IA</sub>, Z<sub>B</sub>, Z<sub>IC</sub>, Z<sub>ID</sub>)

I think over worry and anxiety are signs and symptoms of high pressure (Z<sub>B</sub>, Z<sub>C</sub>)

**Learning** I found out I had high blood pressure when I went for routine antenatal checkup (Z<sub>A</sub>, Z<sub>IC</sub>, Z<sub>ID</sub>, T<sub>1</sub>, V<sub>1</sub>)

I found out when I fell ill and went to the hospital for checkup (P<sub>A</sub>, P<sub>C</sub>, P<sub>D</sub>, P<sub>E</sub>, P<sub>F</sub>, Z<sub>B</sub>, Z<sub>D</sub>, T<sub>2</sub>, V<sub>3</sub>)

**Recognition** I know the drugs by their names (Z<sub>IA</sub>, Z<sub>B</sub>, Z<sub>IC</sub>, Z<sub>ID</sub>, Z<sub>B</sub>, Z<sub>D</sub>, P<sub>D</sub>, P<sub>E</sub>, P<sub>G</sub>, V<sub>1</sub>, V<sub>3</sub>)

**Normal blood pressure** I do not know the normal blood pressure level (P<sub>F</sub>, T<sub>2</sub>, V<sub>2</sub>)

I think the normal blood pressure level is 120/80 (P<sub>A</sub>, P<sub>B</sub>, P<sub>C</sub>, P<sub>D</sub>, P<sub>E</sub>, V<sub>1</sub>, V<sub>3</sub>)

**Hypertension complication** Heart failure, stroke (Z<sub>A</sub>, Z<sub>B</sub>, Z<sub>C</sub>, P<sub>A</sub>, P<sub>D</sub>, P<sub>E</sub>)

Stroke, organ damage, death, heart disease (P<sub>G</sub>, V<sub>1</sub>, V<sub>3</sub>)

Stroke, Your vein and brain can burst, Death (Z<sub>D</sub>)

**Benefits of medication** You look healthy and live long (Z<sub>IA</sub>, Z<sub>B</sub>, P<sub>B</sub>, P<sub>C</sub>, V<sub>2</sub>)

Prolongs your life (Z<sub>IC</sub>, P<sub>A</sub>, P<sub>D</sub>, T<sub>2</sub>, P<sub>E</sub>, V<sub>1</sub>, V<sub>3</sub>)

**Health status** I am OK (Z<sub>B</sub>, P<sub>A</sub>, P<sub>C</sub>, V<sub>1</sub>, V<sub>3</sub>)

I am well( $Z_C, P_B, P_D, P_E, V_2$ )

Just that I have needle like kneel pains ( $Z_iB$ )

Three subthemes were further identified in the context of medication management in hypertension.

### (i) Theme 1 Medication adherence

Twelve participants 12 (60.0%) claimed that they never forget to take medicine. One participant 1 (5.0%) has a good habit by taking her antihypertensive medicine after breakfast.

“I take my medicine everyday” ( $P_D, P_E, P_G, Z_{iC}, Z_{iD}, Z_{iA}, Z_C, Z_A, P_F, T_1, V_1, V_3$ )

“I take my medicine after breakfast” ( $T_2$ )

However, seven participants 7(35.0%) did not take medication every day. Three participant 3 (15.0%) missed antihypertensive medicine for 2 to 3 days or only took their medication once in a week. Four participants 4 (20.0%) did not take medication all the time.

“I take my medicine once in a week” ( $Z_D, V_2$ )

“I take medicine once in 3days or 5days” ( $Z_iB$ )

I do not take my drugs all the time ( $P_A, P_B, P_C, Z_B$ )

In the context of taking antihypertensive medicine, six participants 6(30.0%) were not motivated to consume their antihypertensive medicine due to the side effects they experience with taking the medication.

“Headache discourages me from taking my medication” ( $P_C, P_F$ )

“Frequent urination discourages me from taking my medication” ( $P_D, V_2$ )

“Dizziness discourages me from taking my medication” ( $Z_A$ )

“Lack of sleep and frequent urination discourages me from taking my medication” ( $P_G$ )

One participant 1(5.0%) was not just comfortable taking medication and Thirteen participants 13(65.0%) were not discouraged from taking their medication for any reason.

“I am not comfortable taking medication” ( $Z_C$ )

“Nothing discourages me from taking my medication” ( $P_A, P_B, P_E, Z_B, Z_D, Z_{iA}, Z_iB, Z_{iD}, Z_{iC}, T_1, T_2, V_1, V_3$ )

#### ii) Strategies to overcome barriers to adherence

Eleven participants 11(55.0%) prefer to share their medication related problem with the pharmacists at the pharmacies where they get their medication rather than the doctor at the hospital. The reasons given were too high charges, inconveniences at the hospital, feeling that the doctors do not know what they are doing, delays in seeing the doctor, long queues, lack of privacy, and too many lab tests.

“The hospital charges are too high” ( $Z_A, Z_{iC}, V_2$ )

“I am not comfortable going to the hospital” ( $Z_B, Z_C$ )

“I do not like visiting the hospital because doctors scare me away with their words; I do not feel doctors know what they are doing” ( $Z_D$ )

“I do not visit the hospital because of delays in seeing the doctors” ( $Z_{iA}, V_1$ )

I do not like visiting the hospital because of long queue, too much lab tests, time consumption, and lack of privacy ( $P_G$ )

Financial problems prevent me from visiting the hospital ( $P_D$ )

I do not visit the hospital because of inconveniences ( $Z_iB$ )

These participants preferred to visit the pharmacy rather than the hospital due to the close relationship established between the pharmacist and the patients

Nine participants 9 (45.0%) did not have or experience problems visiting the hospital because they were financially stable or had a health insurance scheme.

“Nothing prevents me from visiting the hospital” ( $P_A, P_B, P_C, P_E, P_F, Z_{iD}, T_1, T_2, V_3$ )

Five participants 5 (25.0%) had financial constraints in getting their medication because their children still depended on them, but got them anyway because they felt it was necessary.

“I have financial constraints because my children still depend on me. I pay their fees, etc” ( $P_D, T_1, T_2$ )

“Sometimes the money is not available” ( $P_G, V_2$ )

Fifteen participants 15 (75.0%) didn't suffer financial constraints because they prioritize their medication and depended on their children to get their medication for them.

“I prioritize my medication, I do not joke with it” ( $Z_{iB}$ )

“My children help me purchase my medication because I am a retiree” ( $Z_{iC}, P_E$ )

“I do not have financial constraints in getting my medication” ( $Z_A, Z_B, Z_C, Z_D, Z_{iA}, Z_iB, P_A, P_B, P_C, P_F, V_1, V_3$ )

### THEME 2: self-management of hypertension

Three subthemes were identified and categorized under self-management of hypertension. Participants have their own way in controlling and reducing their blood pressure.

#### i) Personal Strategy

In the response to the action to be taken if they have elevated blood pressure causing headache, the participants have various ways to manage it. All the participants (100.0%) prefer to take a rest, go for a walk, visit their doctor or take their medications.

“I visit my doctor to make adjustment to my medication” ( $Z_A, Z_B, Z_iB, T_2, P_A, P_D, V_1$ )

“I calm myself down, talk a walk” ( $Z_C$ )

“I take my medication and relax” ( $Z_D, T_1, V_2$ )

“I do not panic, I just rest” ( $Z_{iA}, P_C$ )

“I rest and take my medication” ( $P_B, P_F, P_G, Z_{iC}, V_3$ )

“I will take enough rest, drink water, and exercise” ( $Z_{iD}$ )

“I will adjust the type of food I eat” ( $P_E$ )

Thirteen participants 13 (65.0%) do not take herbal or alternative medication apart from the one prescribed by the doctor or pharmacist.



“I do not take any other medication aside the one prescribed by the doctor or pharmacist” (Z<sub>iB</sub>, Z<sub>B</sub>, P<sub>F</sub>, P<sub>A</sub>, P<sub>B</sub>, T<sub>2</sub>, V<sub>1</sub>)

“I do not take any herbal preparation because I am not a drug person” (Z<sub>C</sub>)

“I have never taken herbal preparation” (Z<sub>A</sub>, Z<sub>iA</sub>, V<sub>3</sub>)

“I do not take herbal preparations” (Z<sub>D</sub>, Z<sub>iD</sub>)

Seven participants 7(35.0%) took herbal or alternative medicine in addition to their antihypertensive medication prescribed by their doctor in controlling blood pressure.

“My children sent me some supplements from abroad omega 3” (Z<sub>iC</sub>)

“I take paracetamol and Agbo native concussion” (P<sub>C</sub>, P<sub>G</sub>, V<sub>2</sub>)

“I take herbal preparation for my arthritis pain” (P<sub>D</sub>)

“I take bitter leaf and Osu native concussion” (P<sub>E</sub>)

“I took herbal preparation once and then stopped” (T<sub>1</sub>)

#### ii) Awareness on signs and symptoms

The participants were found to have different signs and symptoms when their blood pressure levels were elevated. When their blood pressures were elevated twelve respondents reported headache, dizziness and palpitation as the first symptom they experienced. Four participants 4 (20.0%) considered thinking as the alarming signs for the increased blood pressure level. Three participants 3 (15.0%) considered lack of sleep and pains in the neck as signs of increased blood pressure.

“I think headache is a sign and symptom of high blood pressure” (Z<sub>iA</sub>, Z<sub>iB</sub>, Z<sub>iC</sub>, Z<sub>iD</sub>)

“I think over worry and anxiety are signs and symptoms of high pressure” (Z<sub>B</sub>, Z<sub>C</sub>)

“I think palpitation, anxiety and dizziness. I do not think it has a symptom because I didn't experience any in my case” (Z<sub>A</sub>, P<sub>E</sub>)

“I think thinking is a sign of high blood pressure” (P<sub>C</sub>, P<sub>D</sub>, P<sub>F</sub>, V<sub>2</sub>)

“I think palpitation and headache are signs and symptoms of high blood pressure” (P<sub>A</sub>, V<sub>1</sub>)

“I think fever, headache, and dizziness are signs and symptoms of high blood pressure” (P<sub>B</sub>)

“I think pains in the neck, headache and lack of sleep are signs and symptoms of high blood pressure” (P<sub>G</sub>, Z<sub>D</sub>, V<sub>3</sub>)

“I experience dizziness and dry mouth” (T<sub>1</sub>)

A participant 1(5.0%) commented that he did not feel any symptoms until he was told by his doctor about the increased of blood pressure.

“It gives no sign or symptom” (T<sub>2</sub>)

### Theme 3: Patients' knowledge towards antihypertensive medication and hypertension

Participants have different understandings towards hypertension. The various levels of understandings have resulted in the different ways of hypertension management among the hypertensive patients.

#### i) Learning process

Sixteen participants 16 (80.0%) gained the knowledge of hypertension management by chance through passive learning when they went for medical checkup and visit at the hospital

“I found out I had high blood pressure when I went for routine antenatal checkup” (Z<sub>A</sub>, Z<sub>iC</sub>, Z<sub>iD</sub>, T<sub>1</sub>, V<sub>1</sub>)

“I found out when I fell ill and went to the hospital for checkup” (P<sub>A</sub>, P<sub>C</sub>, P<sub>D</sub>, P<sub>E</sub>, P<sub>F</sub>, Z<sub>iB</sub>, Z<sub>D</sub>, T<sub>2</sub>, V<sub>3</sub>)

“I visited my doctor friend in the hospital who asked me to check my blood pressure” (Z<sub>iA</sub>)

“I found out when I took my dad to the hospital when he was sick. I saw people checking their blood pressure so I decided to check mine” (P<sub>B</sub>)

Four participants 4 (20.0%) gained knowledge of hypertension through awareness by health workers at their place of work.

“I found out through awareness when health workers were monitoring blood pressure at the office” (Z<sub>B</sub>, Z<sub>C</sub>, P<sub>G</sub>, V<sub>2</sub>)

#### ii) Knowledge on hypertension

Eight of the participants 8 (40.0%) did not know the acceptable level of normal blood pressure. The lack of knowledge pertaining to targeted blood pressure is worrying and these patients should be educated on this

“I do not know the normal blood pressure level” (P<sub>F</sub>, T<sub>2</sub>, V<sub>2</sub>)

“I usually do not take note” (Z<sub>iB</sub>)

“I think 140/90 according to the them” (Z<sub>A</sub>)

“140/80 according to the doctor” (Z<sub>iA</sub>)

“13something/80” (Z<sub>B</sub>)

“140/80 through health books I read” (Z<sub>iC</sub>)

Twelve participants 12 (60.0%) had an idea as to what the acceptable level of normal blood pressure.

“I think the normal blood pressure level is 120/80” (P<sub>A</sub>, P<sub>B</sub>, P<sub>C</sub>, P<sub>D</sub>, P<sub>E</sub>, V<sub>1</sub>, V<sub>3</sub>)

“I think the normal blood pressure level is 120/80 and varies with age” (P<sub>G</sub>)

“120/80, 110, 100” (Z<sub>iD</sub>)

“I think the normal blood pressure level is 110-120” (T<sub>1</sub>)

“120/78” (Z<sub>C</sub>)

“120/60” (Z<sub>D</sub>)

Fourteen respondents 14(70.0%) did not understand the causes of high blood pressure

“I think too much thinking is the cause of high blood pressure” (P<sub>A</sub>, P<sub>C</sub>, P<sub>F</sub>, P<sub>G</sub>, T<sub>1</sub>)

“I think too much of thinking and fear” (P<sub>B</sub>, V<sub>2</sub>)

“Lack of rest of mind due to things happening around like losing someone” (P<sub>D</sub>)

“I think it's just luck” (P<sub>E</sub>)

“I think anxiety and provocation can lead to high blood

pressure” (Z<sub>B</sub>, Z<sub>C</sub>)

“Over worry, anxiety and being temperamental can cause high blood pressure” (Z<sub>D</sub>)

“Stress is the cause of high blood pressure” (Z<sub>B</sub>)

“Stress, worries overthinking can cause high blood pressure” (Z<sub>IC</sub>)

Six participants 6(30.0%) had an idea of the causes of high blood pressure

“I heard salt mostly causes high blood pressure” (Z<sub>IA</sub>)

“Thinking, stress, excess salt intake, pregnancy” (Z<sub>ID</sub>)

“Too much of salt, drinking alcoholic drinks, eating too much of beef” (T<sub>2</sub>, V<sub>1</sub>, V<sub>3</sub>)

“I think a bad doctor, a stressful life, lifestyle, and type of food we eat can cause high blood pressure” (Z<sub>A</sub>)

Eighteen participants 18 (90.0%) knew about the complication of hypertension, with the eight of them noted death and stroke as the consequences of hypertension

Heart failure, stroke (Z<sub>A</sub>, Z<sub>B</sub>, Z<sub>C</sub>, P<sub>A</sub>, P<sub>D</sub>, P<sub>E</sub>)

Stroke, organ damage, death, heart disease (P<sub>G</sub>, V<sub>1</sub>, V<sub>3</sub>)

Stroke, Your vein and brain can burst, Death (Z<sub>D</sub>)

Stroke, Blindness (Z<sub>IA</sub>)

Stroke (Z<sub>B</sub>, T<sub>1</sub>)

Death and stroke (T<sub>2</sub>, P<sub>B</sub>, P<sub>C</sub>)

Death (P<sub>F</sub>, V<sub>2</sub>)

Only two participants 2(10.0%) did not know the complication of hypertension

“I do not know and I do not want to know” (Z<sub>IC</sub>)

“I do not know” (Z<sub>ID</sub>)

iii) Knowledge on hypertensive medication

Six participants 6 (30.0%) did not know the name of their antihypertensive medication. But they remembered the shape and colour (physical characteristics) of their antihypertensive medications.

“I know my drugs by their colour and shape” (P<sub>A</sub>, P<sub>B</sub>)

“I do not know the name, I just use the old sachet as sample to buy the drug” (P<sub>C</sub>)

“I know my drugs by the color” (P<sub>F</sub>, T<sub>1</sub>)

“I know my drugs by where it was made, shape and cost and the number of sachets in a pack” (T<sub>2</sub>)

Fourteen participants 14 (70.0%) knew the name of their antihypertensive medication

“I know the drugs by their names” (Z<sub>IA</sub>, Z<sub>IB</sub>, Z<sub>IC</sub>, Z<sub>ID</sub>, Z<sub>B</sub>, Z<sub>D</sub>, P<sub>D</sub>, P<sub>E</sub>, P<sub>G</sub>, V<sub>1</sub>, V<sub>3</sub>)

“I know the drugs by their name and shape” (Z<sub>A</sub>, Z<sub>C</sub>, V<sub>2</sub>)

Nineteen participants 19 (95.0%) commented antihypertensive medication could control their high blood

pressure in order to save and prolong their lives.

“Helps one to remain sane and healthy” (Z<sub>B</sub>)

“Gives one assurance that one doesn't die untimely since there is a medication for it” (Z<sub>C</sub>)

“I think it keeps you calm” (Z<sub>D</sub>)

“You look healthy and live long” (Z<sub>IA</sub>, Z<sub>IB</sub>, P<sub>B</sub>, P<sub>C</sub>, V<sub>2</sub>)

“Prolongs your life” (Z<sub>IC</sub>, P<sub>A</sub>, P<sub>D</sub>, T<sub>2</sub>, P<sub>E</sub>, V<sub>1</sub>, V<sub>3</sub>)

“When you take your drugs regularly your BP would be OK” (Z<sub>ID</sub>)

“Makes the body normal” (P<sub>F</sub>)

“Joy of living and happy that I can work” (P<sub>G</sub>)

I think the benefit is to keep me going(T<sub>1</sub>)

I think the benefit is to keep me going(T<sub>1</sub>)

One participants 1 (5.0%) did not know the advantages of taking their antihypertensive medicine.

“I do not know but maybe it just keeps your heart at ease so you do not collapse and die” (Z<sub>A</sub>)

## DISCUSSION

This study focused on exploring hypertensive patients' perspectives on quality use of medication and issues related to hypertension management. In our findings, we have effectively delved into the various views of hypertensive participants appropriate use of medication and hypertension management and as compared to some previous studies [9].

In this study, medication adherence and ways to improve medication adherence were identified as major key factors in the management of hypertension. More than half of the participants (65%) were adherent as they never forgot to take their medication on a daily basis. Reason had been that most of the participants were retiree and also living with other family members for social support. This could assist in reminding and encourage participants to take their medication. This is in line with a study done by Espoti and colleagues [24]. A major key to success in management of hypertension is adherence and persistence to prescribed medicines. Good adherence to antihypertensive medication could prevent elevated blood pressure level and contribute to low morbidity and mortality amongst hypertensive patients [25]. Although, few of the participants were non-adherent, this is contrary to some previous studies [26-28] where majority of hypertensive participants were not adherent to their medications due to side effects

Self-care management of hypertension was also identified as a theme, which comprised of personal strategy and awareness on signs and symptoms of high blood pressure. Use of herbal and traditional therapies was perceived low as majority of participants used more of orthodox medication in controlling blood pressure. This was because the participants believed that orthodox medicines were more effective than herbal preparations since they were prescribed by the doctor or dispensed by the pharmacists. This is in line with the some studies from African and European countries [29, 30] and is contrary to other studies from the Malaysian population [31, 9] which showed majority of the participants preferred herbal preparation to orthodox medicines.

Another theme emerging from this finding is the patients' knowledge towards antihypertensive medication and hypertension. The subthemes included the learning process on how the participants gained knowledge of hypertension, and antihypertensive medication. In the context of patients' knowledge towards hypertension, majority of the participants had an idea of the accepted range of blood pressure. This study is similar to a study conducted by Bhatia and colleagues [32] where patients had good knowledge about normal blood pressure levels but contrary to a study conducted by Wizner et al the patients knowledge on blood pressure level was poor [33]. This knowledge could set a blood pressure target in the minds of the patients thereby expediting blood pressure control among hypertensive patients.

Almost all the participants commented on the benefits of antihypertensive medication being that it could control their high blood pressure in order to save and prolong their lives. This knowledge could be one reason why participants in this study were adherent and persistent with their medication. This is in line with studies carried out by Jolly et al [4] where the majority of participants recognized that taking antihypertensive medication was beneficial to their health but many were not at target blood pressure level, which suggested that patients knowledge and disease awareness were not sufficient on their own to optimize blood pressure control but in contrast with a study done by Tan et al., [9] where majority of the participants did not know the benefits of taking their antihypertensive medication. In addition to, knowledge of hypertension among the participants, it was observed that , almost all (90%) the participants knew the complications of hypertension such as stroke, death, heart failure, blindness and kidney disease. only few participants had no idea of the complication of hypertension. Univariate analysis carried out in Algeria has shown a positive relationship between knowledge about complication and adherence [34]. Other data have reported that fear of complication of hypertension was associated with good adherence to therapy [35]. Furthermore, less than half 45% of the participants experienced some side effects such as headache, dizziness, weakness, erectile dysfunction, ulcer, redness of eye, lactation, hand and leg cramps, frequent urination, fever, and needle like pain in the knee but most of these participants were still adherent irrespective of these drug side effects. This was dissimilar to studies carried out by Tan et al., kretchy et al., Marshall et al., [9,36, 37] where side effects experienced by hypertensive participants led to poor adherence among hypertensive participants.

### LIMITATION

There are some limitations in this qualitative study. Focus group discussion allows a number of participants to air their views and insights. Some of the participants did not feel free to share their experiences. Side effects such as erectile dysfunction was difficult to discuss amongst some male participants, hence the participant in this study preferred to give that information in private.

Unanimous agreements about each other's views or participants perspective was another problem experienced as participants tended to give same response in order to feel knowledgeable.

### CONCLUSION

The conception about the complications of hypertension and Knowledge on targeted blood pressure level has led to good

adherence and remarkable blood pressure monitoring among the participants respectively. Use of orthodox therapies was perceived as the best method of controlling blood pressure. Health awareness program and counseling from health care professional should be uninterrupted among the hypertensive patients in order to continually improve other gaps and outcome.

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