



RELATIONSHIP BETWEEN PATIENTS' BELIEFS ABOUT THEIR ANTIHYPERTENSIVES AND ADHERENCE IN A SECONDARY HOSPITAL IN NORTHERN NIGERIA

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ABSTRACT

Poor adherence to medication is a major public health concern, especially in patients with hypertension because it is sometimes difficult to convince them to take medication in the absence of symptoms. The aim of this study was to assess the relationship between patients' beliefs about their antihypertensive drugs and adherence to treatment. The study was a cross-sectional study on hypertensive patients in General Hospital Katsina State. The data were collected using patient administered questionnaires. Data were analyzed using SPSS version 20.0. The study recorded a total of 127 hypertensive patients, majority of whom were females (58%) and mostly above 40 years (76%). Significant number of the respondents (98%) agreed their antihypertensives were effective in protecting them from the effects of high blood pressure. All adherent patients (100%) were strongly concerned about possible future effects of their medication, suggesting a high counter-balancing effect of this belief on their adherence. Majority (77%) believed they were receiving the necessary advice about their medicines from the pharmacist. Overall adherence to treatment was excellent (80%). A statistically significant relationship ($p < .05$) was established between patient's beliefs and adherence. In conclusion, the study revealed that adherence to antihypertensive medication is attributed to patients' beliefs and the role of pharmacists cannot be overemphasized.

Keywords: Antihypertensive, Adherence, Beliefs, Pharmacist

INTRODUCTION

Hypertension is the most common cause of disability and death amongst the adult Nigerian population, and plays an important role in the causation of hypertensive heart failure, heart attack, arteriosclerosis, renal failure and stroke (Amadi, 2013). Despite availability of various antihypertensive medications that have been shown to effectively control blood pressure, thereby reducing the attendant risk of cardiovascular morbidity and mortality, poor adherence to antihypertensive drugs has been a challenge in the care of patients with hypertension (Ajayi *et al.*, 2013). Several studies have shown that 50% of hypertensive patients do not take their medication as prescribed (Bhandari *et al.*, 2015). When patients have positive belief regarding the efficacy of their treatment and also trust that their medication is working well to control their illness, their adherence often improves (Holzemer *et al.*, 1999; Fraser *et al.*, 2001). Patients assess the success of their treatment and may not continue with it if they perceive it to be unsuccessful, hence certain beliefs act as barriers to adherence leading to reduced

quality of life (Mpinda *et al.*, 2014). The objective of this study was to determine whether patients' beliefs about their antihypertensives influence their adherence and whether there was possible pharmacist role on the adherence.

MATERIALS AND METHODS

Study design

This was a cross-sectional interviewer administered questionnaire study. All hypertensive patients attending out-patient hypertension clinic in General Hospital Katsina who were ≥ 18 years and consented to participate were included. The study was conducted in July 2016. Ethical clearance was obtained from Health Research Ethics Committee of Ministry of Health, Katsina State.

Study setting

The study was conducted in General hospital Katsina in Katsina state Nigeria. It has 12 departments including pharmacy. Patients were recruited from the general out-patient department during hypertension clinics. The hypertension clinic was run twice every week. About 500 hypertensive patients attend the clinic every week.

Sampling and data collection

One hundred and twenty-seven hypertensive patients were administered questionnaires. Convenience sampling method was employed. A total of five visits were made to the clinic every Tuesdays and Thursdays from 7:00am to 3:00pm for a period of three weeks. No sampling frame was used though but patients were included at random from different consulting rooms. The questionnaire used comprised of three sections; Section one comprised of demographic information such as age, gender. Section two comprised of one item to determine adherence and section three comprised of six items to evaluate beliefs about antihypertensives. These items were adopted and modified from the necessity-concerns framework used in the beliefs about medicines questionnaire (BMQ). They include; “These medicines are effective in protecting me from the effects of high blood pressure”, “I am concerned about the possible future effects of these medicines”.

Data analysis

Data collected were coded and analysed using statistical package for social sciences (SPSS) version 20.0. Chi square test was used to compare the relationship between beliefs and

adherence to antihypertensives. Null hypothesis was tested and considered statistically significant at probability $p \leq .05$. For the hypothesis test patient were grouped into having either strong or weak beliefs and cross tabulated against the adherence and non-adherence.

Results

A total of 127 patients participated. Fifty-three (42%) were males and 74 (58%) were females. Half of the patients (n = 63; 50%) were at the age range of 40 years to 59 years old. Thirty-one (24%) were at the range of 20 years to 39 years old and 33 (26%) were above 60 years old (Table 1). Out of 127 patients studied, 102 (80%) were adherent to their antihypertensive medications while, 25 (20%) were not adherent. Most of the patients (n = 124; 98%) had agreed their antihypertensives are effective in protecting them from the effects of high blood pressure. Likewise most patients (n =126; 99%) expressed concern over the possible future effect of their medicines. Eighty-nine (70%) of the patients admitted feeling comfortable with pharmacists regarding their medications (Table 2). Statistically significant relationship($p < .05$) exists between adherence and beliefs (Table 3).

Table 1: Distribution of patients’ demographic information (n = 127).

Description	N	%
Age		
20 - 39	31	24
40 - 59	63	50
≥ 60	33	26
Gender		
Male	53	42
Female	74	58
Marital status		
Single	11	9
Married	100	79
Divorced	5	4
Widow	11	8
Religion		
Muslim	108	85
Christian	19	15
Ethnicity		
Hausa	100	79
Yoruba	19	15
Igbo	8	6
Educational status		
Primary	13	10
Secondary	39	31
Tertiary	43	34
No formal education	34	25
Employment		
Employed	36	36
Unemployed	81	64
Occupation		
Civil servant	44	35
Business	21	16
House wife	42	33
Farmer	6	5
Others	14	11

Table 2. Patients' beliefs about their antihypertensive medications (n = 127).

Item	N (%)	
	Agree	Disagree
These medicines are effective in protecting me from the effects of high blood pressure	124 (98)	3 (2)
I am concerned about the possible future effects of these medicines	126 (99)	1 (1)
Without these medicines I would be very ill	125 (98)	2 (2)
I am comfortable with the pharmacist regarding my medicines	89 (70)	38 (30)
I am receiving the necessary advice about my medicines from the pharmacist	98 (77)	29 (23)

Table 3. Relationship between patients' beliefs about their antihypertensives and adherence.

Item	Strong Adherent		Weak Non-adherence		Pearson Chi-Square
	N (%)	N (%)	N (%)	N (%)	
These medicines are effective in protecting me from the effects of high blood pressure	102 (100)	0 (0)	22 (88)	3 (12)	< .05
I am concerned about the possible future effects of these medicines	102 (100)	0 (0)	24 (96)	1 (4)	< .05
Without these medicines I would be very ill	102 (100)	0 (0)	23 (92)	2 (8)	< .05
I am comfortable with the pharmacist regarding my medicines	79 (77)	23 (23)	8 (32)	17 (68)	< .05
I am receiving the necessary advice about my medicines from the pharmacist	89 (87)	13 (13)	9 (36)	16 (64)	< .05

DISCUSSION

The higher proportion of female patients from this study is in agreement with a study by Kirscht and Rosenstock (1977) in which 132 hypertensive patients assessed for adherence 60% were females. Another study conducted in Abia state Nigeria by Amadi *et al.* (2013) revealed that 60% of study participants were females.

This study has shown that majority of the participants were adherent to their medication. This finding is consistent with a claim by Chelkeba *et al.*, (2013) that adherence to antihypertensive medication was shown to vary between 0 and 100% depending on the study population. However another study by Ungary *et al.*, (2010) showed that estimates of the extent to which patients adhere to their medication for hypertension range between 50% and 70%. This difference may be explained by the report by Neutel and Smith (2003) that many factors such as demographic characteristics, medication side effects, the complexity of the medication regimen, quality of life, patient's knowledge, beliefs and attitudes, depression and health system issues can affect the level of adherence.

This study has shown that there was statistically significant relationship between patients' beliefs about antihypertensives and adherence to treatment. Patients who were adherent had strong belief that their medicines are effective in protecting them from

complications. This finding is consistent with the studies conducted by Holzemer *et al.*, (1999) and Frase *et al.*, (2001) which revealed that when patients have positive beliefs regarding efficacy of their treatment, their adherence often improves. Patients who had strong belief that their medicines are effective in protecting them from the effect of hypertension were found to be more adherent. However, those patients who expressed strong concern about the future effects of their medicines were also identified to be more adherent. Although, previous studies have shown that strong concerns about adverse effects were associated with non-adherence, but also, it has been reported that beliefs can have counter-balancing effects on adherence, such as when patients continue to take a medication they believe is essential for their health despite concerns regarding adverse effects (Horne and Weimann, 1999; Horne *et al.*, 2013).

Further, patients who strongly believed that they were comfortable discussing with the pharmacist about their medicines and that they were receiving the necessary advice from them were more adherent to their antihypertensive medicines. This is consistent with several previous studies which have shown the positive impact of pharmacist intervention on adherence (Al-Jumah and Qureshi, 2012; Kooiji *et al.*, 2016; Yasmin *et al.*, 2016).

CONCLUSION

This study have shown that strong beliefs about the necessity for antihypertensive medication positively impact on patients' adherence. The counter-balancing effect of the concerns beliefs was beneficial because despite strong

concerns about the possible future effects of the medicines most patient remained adherent. The development of interventional strategy to possibly impact positively on patients beliefs about the necessity for their medication may improve adherence to treatment.

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