Knowlegde, Awareness and Perception of Hypertensive and Diabetic Patients about Pharmaceutical Care in a Teaching Hospital

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ABSTRACT

The need to know the level of awareness of pharmacist roles by patients versus incidence of sub-optimal therapeutic outcomes particularly for chronic illnesses and how the situation can be improved upon through pharmaceutical care prompted thus study. The objective is to determine the knowledge, awareness and perception of hypertensive and diabetic patients about the emerging roles of pharmacists. The study involves administration of interviewer administered pre-tested questionnaires to 108 patients. These are hypertensive and diabetic patients attending medical Out-Patient Clinic. Fifty Two percent of the patients did not know or did not believe that pharmacists are experts as regards the use of medicine. Even though they are ambulatory patients, 31 (28.7%) claimed to have been admitted within the last one year due to their disease condition(s) indicating poor outcome of therapy. Thirty Eight patients (35.2%) also claimed that they sometimes take more or less of their medicine than recommended. The most encountered problems with their medication were occurrence of side effects and forgetting to use medicine. Yet they hardly discuss these problems with their pharmacists. The perception of pharmacists' image and pharmaceutical services by the patients is not encouraging, and the existing relationship is very weak. Formidable pharmaceutical care services cannot be built on such relationship. Hence, concerted efforts by Pharmacists are necessary, to improve their knowledge base, skills and inter-personal relations for satisfactory therapeutic relationships. Legislation and political support from government and professional bodies for pharmaceutical care is mandatory for improved outcome of therapy.

INTRODUCTION

Cardiovascular disease is a leading cause of mortality and is responsible for one third of global deaths[1]. Moreover nearly 85% of the global mortality and disease burden from Cardiovascular Disease is borne by low and middle-income countries such as Nigeria,[1] where health often is inaccessible due to cost. Hypertension is the most prevalent affecting at least 600 million people; about 15%-37% of adult population world wide is affected.[1] In Nigeria the prevalence of hypertension is put at 10%-12% in rural and urban areas respectively.[2,3] Diabetes Mellitus is also a major health problem[4] and an important risk factor for hypertension. It is a chronic illness, which in most cases is treated for life, hence the cost associated with it is enormous and its impact on quality of life can be devastating. The prevalence of diabetes mellitus in Nigeria has been reported but with very wide variation. Owoaje *et al* in 1997 reported a prevalence rate of 2.8% in a Yoruba community in Ibadan, South-West, Nigeria, Olatubosun et al[6] in 1998 reported a rate of 2.2% in the same region. Obasohan and collegues.[7] 1997 found abnormal glucose tolerance in 36% of newly diagnosed hypertensives compared to 1.9 % in normotensive. One in three individuals with impaired glucose tolerance (IGT) will develop type 2 diabetes within 10 years if left untreared.[8] Despite the wide variation there is no controversy as to the increase in its prevalence world-wide.[4,8] Diabetics, as a group, are at increased risk for hypertension, heart disease, blindness (due to glaucoma, cataract, retinopathy), neuropathy, nephropathy, gangrene etc.[9] All these contribute to the cost of management and to poor quality of life in cases where the blood glucose level, is poorly controlled. Despite the prevalence rate, possible complications and enormous cost implications, control rates in those already on treatment for hypertension vary from 13%-29% and as low as 2% in some African countries.[1] The 1999 guidelines subcommittee of the World Health Organization (WHO) on the management of hypertension stated that, "it is clear that one of the biggest challenges facing Public Health Authorities and Medical Practitioners is the control of hypertension worldwide, both to the individual patient and at the population level.[10]

The reasons for the low control rate might partly be due to poor compliance ▶

to drug as well as non-drug therapy, poverty, and non-optimal selection of drug therapy. Hence the need for improved treatment modality at hospital and community levels. Pharmaceutical care practice offers a golden opportunity for such improvements with easy accessibility and affordability particularly at community level. The concept is pharmacist-initiated and involves the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life.[11] Pharmaceutical care is a process where pharmacists identify, prevent, resolve, document, monitor and evaluate drug related problems in collaboration with other members of the healthcare team and the patient.[11] How well informed and equipped are pharmacists, particularly hospital and community pharmacists, to take up these challenges and seize the opportunity to improve the lives of needy patients and better the lot of the pharmacists? Are the patients aware of

this increasingly emerging roles of pharmacists? The existing relationships, perceived image of pharmacist by patients are equally important for a sustainable therapeutic relationship to be established, which is essential for effective and efficient pharmaceutical care interventions.

As hypertension and diabetes are chronic illnesses requiring life long treatment, proper management is needed at all times to preserve the patients' quality of life, but this is not so. A survey amongst General Medical Practitioners on hypertension reveals that though their knowledge of its care is adequate, management may be unsatisfactory resulting in inappropriate patient care.[12] More-so with the high incidence of adverse effects common to anti-hypertensive and diabetic drugs and compliance problems, pharmaceutical care at hospital and community level is indispensable. Assessing the perception of present pharmacists roles by patients, is

pertinent for probable and worthwhile intervention.

Improved knowledge and perception of patients will make it easier for pharmacists to implement pharmaceutical care activities. Health education and health promotion which, are integral parts of pharmaceutical care, would be less tasking.

Methodology

The study was carried out among hypertensive and diabetic patients attending medical Out-Patient Clinic in Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State, Nigeria. The study involves administration of interviewer administered pre-tested questionnaires to 108 patients. Being interviewer administered, there was an opportunity of interpretation where necessary. In addition to demographics, questions related to their perception and interaction with pharmacists and problems encountered with medications among others, were included.

Results
Demographic Profile of Patient Respondents   n = 108

Gender:	No	%	
Male	45	41.6	
Female	63	58.4	
Age:			
Under 40	9	8.3	
40-60	39	36.1	
>60	60	55.6	
Occupation			
White Collar Job (Office workers)	20	18.5	
Self Employed (Trading, Mechanic, Butchery etc)	57	52.8	
Retired	31	28.7	
Address			
Within Ogun State	94	87.0	
Outside Ogun State	14	13.0	

Diagnosis	No	%		
Hypertension alone	65	60.2		
Diabetes Mellitus alone	29	26.9		
Both Hypertension & Diabetes Mellitus	14	12.9		
Total	108	100.0		

Other Concurrent Disease Condition

	N	%		N	%
Osteoporosis	4	3.7	Cough	1	0.9
Retinopathy	10	10.8	Toothache	1	0.9
Angina	2	1.9	Asthma	4	3.7
Peptic Ulcer	3	2.7	Paraesthesia	1	0.9
Arthritis	2	1.9			
Total				28	25.9

1. How often do you visit the Pharmacy for your medicines per month?

	No	%
Once	78	72.2
Twice	23	21.3
>Twice	7	6.5

2. Do you always get information leaflets with you medicines?

	No	%
Always	5	4.6
Occasionally	20	18.5
Rarely	9	8.3
Never	74	68.5

3. If yes (# 2), do you understand those leaflets?

	No	%
Always	4	11.7
Occasionally	7	20.6
Rarely	6	17.6
Never	17	50.0
Total	34	100.0

4. Have you been admitted to the hospital within the last one year because, of your hypertension or diabetes mellitus?

	No	%
Yes	31	28.7
No	77	71.3

5. Do you sometimes have one of the following problems with your medicines

			No	%
a.	Swallowing medicines	Yes	17	15.7
		No	77	71.3
		Can't say	14	13.0
b.	Opening containers	Yes	2	1.9
		No	102	94.4
		Can't say	4	3.7
c.	Nasty taste of medicines	Yes	3	2.8
		No	102	94.4
		Can't say	3	2.8
d.	Forgetting to use medicine	Yes	44	40.7
		No	61	56.5
		No response	3	2.8
f.	Occurrence of side effects	Yes	53	49.1
		No	43	39.8
		No response	12	11.1

6. Do you personally know the pharmacist in your pharmacy?

	No	%
Yes	70	64.8
No	34	33.5
No response	4	3.7

7. Do you think the pharmacist is an expert on usage of medicines?

	No	%
Yes	52	48.1
No	20	18.5
Don't know	36	33.3

8. Did you talk with the pharmacist personally during the last year?

	No	%
Yes	56	51.9
No	44	40.7
Don't know	8	7.4

9. What did you talk about with your pharmacist?

		No	%
a. The action of your medicines	Always	3	2.8
	Sometimes	3	2.8
	Rarely	2	1.9
	Never	75	69.4
b. The side effect of your medicines	Always	9	8.3
	Sometimes	12	11.1
	Rarely	2	1.9
	Never	61	56.5
c. The correct use of your medicines	Always	13	12.0
	Sometimes	9	8.3
	Rarely	-	-
	Never	64	59.3
d. The use of over the counter medications	Always	-	-
	Sometimes	-	-
	Rarely	-	-
	Never	83	76.9
e. Your disease and complaints	Always	19	17.6
	Sometimes	5	4.6
	Rarely	-	-
	Never	59	54.6
f. Your lifestyle habits (smoking drinking, exercise)	Always	2	1.9
	Sometimes	16	14.8
	Rarely	2	1.9
	Never	64	59.3
g. Hobbies	Always	-	-
	Sometimes	-	-
	Rarely	-	-
	Never	83	76.9
h. Your home situation	Always	2	1.9
	Sometimes	3	2.8
	Rarely	2	1.9
	Never	77	71.3

10. Do you sometimes take more or less of a medicine than marked on the label?

	No	%
Yes	38	35.2
No	70	64.8

11. Are your daily activities sometimes disturbed by symptoms of hypertension/diabetes such as dizziness headaches, weakness, fatigue? E.t.c.

	No	%
Yes	57	52.8
No	51	47.2

DISCUSSION
Demographics

In Nigeria, awareness about hypertension and its risk factors is poor, and only 33.8% of those with elevated blood pressure are aware of their condition. This level ranges from 10%-51.7%[13] Therefore, perceived nature of pharmacists' role by patients for possible intervention is necessary for screening of at-risk individuals and recognition for such.

Of the 108 patients, 63 (58.4%) were female and most of the patients were above 60 years (55.6%) indicating the need for cautious use of medication due to diminishing renal function. Twenty (18.5%) are occupied with white-collar jobs and 31(28.7%) retired, these make them prone to sedentary life styles, the implications of which must be explained and non- strenuous exercise encouraged. Fifty-Seven patients (52.8%) are self employed, occupied with trading, butchery, and mechanic among others pointing to the fact that they are very active and contributing to the economy of the country.

Diagnosis

Seventy-Nine (73.1%) of the patients were hypertensive, which co-exist with diabetes mellitus in 14 of the patients. The remaining 29 (26.9%) were just diabetic. Diabetics are highly prone to become hypertensive, and for patients with hypertension control of blood pressure is more challenging if diabetes occurs because renal function, which can be easily compromised, needs to be stabilized.[14]

Twenty-Eight (25.9%) of these patients also suffers from other illnesses, the most common being retinopathy which occurred in 10 (9.3%) of cases followed by asthma and osteoporosis/osteoarthritis which occurred in 4 (3.7%) patients. This makes poly-pharmacy inevitable hence close monitoring and evaluation of therapy for adherence and effectiveness will help prevent further complications and worsened quality of life. Poly-pharmacy reduces adherence to therapy and motivation of patients by pharmacists on drug use is more challenging. While counseling patients, the pharmacists should link each prescribed medication to its indication and implications of default should be explained in a professional manner.

Visit to the Pharmacy and Medication Information leaflet

Majority of the respondents (72.2%) claimed to visit the pharmacy once in a month for their medicines, 21.3% visited twice and 6.5% more than two times. This may be because their condition (s) (hypertension and/or diabetes) is/are probably well controlled but subject to optimal adherence to drug and non-drug therapy advice.

Only 34 patients (31.4%) claimed to have ever received information leaflets with their medicine, out of this, 17 (50%) claimed never to have understood the content because of literacy level and medical terminology used. Most of the time, patient medication are dispensed from bulk dosage pack hence there can be no information leaflets. This is a pointer to need to educate patients and counsel them appropriately and adequately. Abridged information insert may be helpful to capture important facts,

which, cannot be contained on the package label as is mandated by The European Union Legislation (Council Directive 92/97 EEC).[15] This can at least be done for selected patients if not all. This must, however, be well explained in local dialect.

Encountered problems with disease condition(s)

Out of the 108 respondents, 31(28.7%) claimed to have been admitted in the previous one year because of their disease condition(s). If this claim is true, then, it is a cause for concern, and an indication of poor outcomes which, might have resulted from inadequate patient education about their disease condition(s), poor counseling about medication and inadequate adherence to drug and non drug therapy. The overall effect is worsened quality of life, increased cost of therapy, more days away from work and over stretching of limited health facility. The national cost implications of hypertension and diabatic mellitus has been estimated to be in excess of N450 billion and N150 billion respectively.[16,17] These studies considered only the direct cost alone on Out-Patient basis which implies gross underestimation. The cost implications is enormous and a pointer to the needed serious attention by all the stakeholders, pharmacists inclusive. Therefore a closer monitoring and regular evaluation through pharmaceutical care in the hospital or neighbourhood pharmacy could improve patient knowledge, adherence to therapy, better outcomes, improved quality of life a reduction in needless hospital admissions and reduction in overall cost. Non adherence to medication and life style are often due to lack of knowledge of duration of therapy. For instance, Familoni and Ogun (2004),[13] reported that only 35.4% of patients are aware that hypertension should be treated for life.

Encountered problems with medication use

Occurrence of side effects is the most widely encountered problem according to the patients and this was claimed by 53 (49.1%) of them. This was followed by 'forgetting to use medicines' in 44 patients (40.7%). Since there is no drug without side effects, regular reassurance

by healthcare professionals in addition to appropriate choice for age group and social life of the patient is important. Most of them being elderly, forgetfulness is an inherent problem, hence, the need for constant reminder by relatives and easily accessible health professionals. The search for alternative health provision such as herbal, homeopathy, acupuncture among others is as a result of perceived and/or experienced inaccessible, non affordable and sub-optimal outcomes of conventional therapy and failure to meet patient expectations. Opportunities, therefore exists, for well-determined pharmacists to improve their practice as well as the quality of life of the people in their community of operation.

Perception, Interaction and Discussion with pharmacists

Seventy patients (64.8%) claim to personally know the pharmacist in their pharmacy. Only fifty-two patients (48.1%) think that pharmacists are experts with respect to medicine usage while 20 (18.5%) do not think so. The remaining 36 (33.3%) do not know either. This actually indicates the perceived image of most pharmacists by patients and is not helpful for pharmaceutical care implementation. Pharmacists need to urgently improve their knowledge base, skills and confidence, interact appropriately and adequately with patients, demonstrate their expertise and concern for patient wellness and uplift their professional self-esteem. As far back as 1997, the WHO[18] had encouraged special attention to be placed on knowledge, skills, attitudes and behaviours, which support a pharmaceutical model even right from under graduate curricular.

Fifty-Six patients (51.9%) claimed to have personally talked with the pharmacist during the last one year! The responses of the respondents, indicates that there is no "active ingredients" in their discussions with pharmacists. This is evident in the responses of the interviewer-administered questionnaires. Seventy-five patients (69.2%) claimed never to have talked about the activity (efficacy) of their medicines, 61 (56.5%) have never talked about side effects, 83 (76.9%) never talked about over the counter medication usage and 64

(59.3%) never talked about life styles. 38 patients (35.2%) indicated that they take more or less than the recommended dose as advised. A study in University of Benin Teaching Hospital indicates that patients experienced low satisfaction with pharmaceutical services in the absence of pharmaceutical care.[19] In another study, 80% of the respondents expect the hospital pharmacist to ask them how their medication is working, discuss health with them, and communicate with physicians on their behalf.[20]

The patients can hardly be blamed if most of them do not know that the pharmacist as an expert on medicine usage. It is left to the pharmacist to prove their worth are cultivate the habits of initiating a fruitful dialogue with patients such as conduct interviews and ask probing questions related to drug therapy problems. If through these activities, drug therapy problems are identified, prevented, documented and resolved, then patients would really recognize pharmacists and even be fighting for them.

Conclusion

The perception of pharmacists' image and pharmaceutical services by the patient is not encouraging, and the existing relationship is very weak. Formidable pharmaceutical care services cannot be built on such a relationship. Concerted efforts are necessary, by pharmacists, to improve their knowledge base, skills and inter-personal relations for satisfactory therapeutic relationships. It is only natural that patient's recognition of pharmacist expertise can only come from contribution to their care. This is exactly what pharmaceutical care preaches. Respect is earned because it is deserved not necessarily by paper qualification, licensure to practice or theoretical claims to be drug experts. Patients and the public should also be well enlightened and be encouraged to clarify any medication related problems from pharmacists. There should be a legislation mandating pharmacists to carry out pharmaceutical care at all levels and supported by enabling environment, as was the case of the Omnibus Budget Reconciliation Act of

1990 in the US[21] which was principally for improved outcomes of therapy from health care professionals. This will assist in strengthening our professional relevance, create more opportunities and improve our image with the public.

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