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(RESEARCH ARTICLE)

Public health information needs of urban residents: An opportunity to promote pharmacists role in community health

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Abstract

Health information is a foundational component of public healthcare education that is intended to promote individual and community health, prevent diseases and optimize treatment outcomes for patients. Generally, health information assist people make healthcare decisions, adjust lifestyle and promote self-care. Health information needs within the community is less well studies in Nigeria, so this study aims to explore the needs for health information within an urban community.

This was a cross sectional questionnaire based survey study among randomly selected adults (≥ 18 years). Data was analyzed using descriptive statistics as well as Chi square to determine association between demographic variables and health information needs. P values ≤ 0.05 was considered statistically significant.

The results showed that about half of respondents expressed their need for information related to sexual/reproductive health, childhood diseases, vaccination, identification of disease symptoms and how to participate in the medical decision making process. There was significant association between demographic variables and the need for health information.

There was diversity of health information needs which reflected the desire to participate in many aspects of healthcare through access to relevant and accurate information. This will provide opportunity for pharmacists to deepen their involvement in providing health information in the course of pharmaceutical care services.

Health information needs of the community was largely unmet by the cadre of health workers providing them. It's therefore important that Pharmacists at the community level step up to fill this huge information gap as part of value added services to the public

Keywords: Health information needs; Pharmaceutical care; Public health; Pharmaceutical care

1. Introduction

The desire and search for information arise from basic human need to meet physiological, cognitive, psychological needs that facilitate positive interactions with the environment. Many theorists proposed that the need for information emerge out of either dissatisfaction or deficiency in personal knowledge [1, 2], gaps in experience, situational uncertainty [3] or the desire to achieve predetermined goal(s) [4]. The need for health information therefore is reflective of existing knowledge gaps, in addition to the desire to solve problems through acquisition of new information and/or education [5, 6].

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The need for health information is usually within the context of other purposes or tasks such as coping with a health threatening situation, participation in medical decisions or adoption of behavioural changes to avoid or mitigate known health problems which often occur in the presence of multiple and sometimes conflicting situations [7, 8]. There is abundant literature relating to information needs of "patients" with chronic diseases, however this has not received much research in many developing countries. While health information needs concept may be somewhat ambiguous to the public, the need for information by patients is often subject to professional bias. Health care professionals typically consider certain information to be more appropriate for patients which do not necessarily address the actual needs of patients.

While literature supports the perspective that health goals are hierarchical, information needs are directly related to the relevance to specific situation and context [9, 10, 11, 12, 13]. However it has been recognized that cognitive, psychological, physiological and emotional variables interact in a complex way to determine the expression of that need. These variables include level of existing knowledge, preferences, self-perception, interests, emotions, prejudices, attitudes, personality, motivations, stereotypes and outlook on life all of which influence how needs are conceived and expressed [14, 15].

Furthermore, disease specific variables can affect individuals ability to recognize and express the need for information as frequently observed in dementia [16], anxiety and depression (14, 17], stress and coping mechanism [11] etc. The need for health information may also be influenced by "self-efficacy" and "sense of coherence" [18, 19] as well as the motivation to act [20, 21]. Demographic variables such as age, gender, education and economic status, health status and disease diagnosis are other intervening variables that have been reported to influence the need for health information [11, 22].

Individuals within the family and community setting often play multiple roles in the society and as caregivers; these roles require specific information to be effective in discharging those functions. This is particularly crucial information needs arise within the context of constantly evolving situations requiring constant flow of information along the disease care continuum [18, 23].

A number of studies that evaluated health information needs in specific disease states have been reported in literature over the last few decades [24], however that of the general population is less well studied particularly in developing countries [25]. In a German study, it was noted that knowledge about population health information needs was scanty [26]. A number of other studies focused on information needs in chronic disease like hypertension, diabetes mellitus, HIV/AIDS, cancers and myocardial infarct, however not much is known about the need for information over the course of managing these diseases [27, 28, 29, 30, 31, 21].

The need for health information have been reported in pregnancy [33, 34], infectious disease outbreaks [35, 36], health promotion [37], asthma [38, 39], polycystic ovarian disease [40], chronic kidney disease [41, 42], multiple sclerosis [43], spinal cord injury [44], cancers [45] and heart attacks [9]. Several studies have reported that meeting information needs of patients positively influence treatment outcomes [46, 47, 48, 49, 50]. This is in addition to improved satisfaction with therapy and psychological wellbeing as well as helping individuals achieve better quality of life [51]. When information provided match the needs of patients, there is improved self-care, competence, improvement in adherence and less dependence on healthcare resources [52].

Pharmacists are in a unique position within the community and can deliver a broad range of public health and medication related information as part of their pharmaceutical care. They possess untapped knowledge, skills and competences to enable them address information gaps, resolve therapy related information inconsistencies as well as promote public health through cost effective preventive health services. This is important for people with chronic diseases, maternal/child health programmes, infectious diseases, control of epidemic diseases, sexual/reproductive health services, nutrition, dental care and access to vaccine preventable diseases as well as other health promotional activities. The major aim of this study is to assess the need for health information in an urban community and its determinants.

2. Methods

2.1. Study setting

The study was carried out in Maiduguri, the cosmopolitan capital city of Borno State in North east region of Nigeria. The town currently host the largest population of internally displaced persons camps in the region, and a major hub for

humanitarian operations in the region. The population of the city is ethnically diverse and the city host many tertiary educational and healthcare institutions.

2.2. Study design

The study was a cross sectional questionnaire based survey among residents of Maiduguri.

2.3. Sample size/Sampling

The sample size was determined by using Fishers formula at 95% confidence interval, Z score at 1.96 and proportion of people with health information need was estimated to be 50% of the general population. A non-response rate of 10% was assumed and the final sample size was determined to be 633, although 1513 respondents completed the survey. A multistage cluster sampling method was used to select survey five clusters for the survey. In each cluster one housing district was selected and consenting adult residents were surveyed.

2.4. Data collection

The health information need questionnaire was pretested for internal validity [Cronbach alpha = 0.861]. The questionnaire was administered on 350 randomly selected adult residents self-administered on consenting adults per survey area. Data obtained included demographic data, sources of health information and unmet need for health information. Respondents who were illiterate were assisted by trained data collectors who were fluent in the dominant local language spoken in the area.

2.5. Data analysis

A total of 1513 completed questionnaires were used for final analysis representing 86.4% return rate. The data was cleaned and entered into Microsoft Excel before being loaded into SPSS 21 for descriptive and inferential analysis. While Chi square was used to assess any association between demographic variables and health information needs, descriptive statistics was used to estimate gaps existing in information need. P values ≤ 0.05 was considered statistically significant.

3. Results

The demographic data of respondents showed that females [51.3%] were slightly more than males [48.7%]. A third of respondents were married [34.5%] and majority had at least primary level education [81.8%] and above. The major occupation of respondents were students [46%], civil servants and business [12.7%] [31.1%]. The mean age of respondents was 25.6 ± 6.8 years with a monthly income of $101.6 ± 83.9 [Table 1].

Table 1 Demographic data

Variable	Number [%]
Gender	
Male	737 [48.7]
Female	776 [51.3]
Education	
Illiterate	275 [18.2]
Primary	547 [36.2]
Secondary	447 [29.5]
Tertiary	244 [16.1]
Marital status	
Single	522 [34.5]
Married	566 [37.5]
Divorced	361 [23.9]

Separated	58 [3.8]
Widowed	6 [0.3]
Occupation	
Business	192 [12.7]
Civil service	470 [31.1]
Student	686 [46]
Teaching	154 [10.2]
Age [yrs.]	
≤ 20	562 [37.1]
21 – 30	478 [31.6]
31 – 40	269 [17.8]
41 – 50	145 [9.6]
51 – 60	47 [3.1]
61 – 70	12 [0.8]
Mean [SD]	**25.6 ± 6.8**
Income [$]	
≤ 80	780 [51.6]
81 – 160	521 [34.4]
161 – 240	50 [3.3]
241 – 320	109 [7.2]
321 – 400	53 [3.5]
Mean [SD]	**101.6 ± 83.9**

There appeared to be wide diversity in the areas of need for health information particularly in areas related to curative, preventive and health promotion. For instance, more than half of respondents needed information to enable them participate in the medical decision making process [68.3%], management of childhood diseases [55.1%], vaccination [53.1%], sexual/reproductive health [54.2%] etc. [Table 2]

Table 2 Areas of health information need

Areas of information need	Number [%]
Understand my medical condition	618 [40.80]
Exercise	615 [40.6]
Disease treatment	505 [33.4]
Medicine side effects	485 [32.1]
Disease symptoms	751 [49.6]
Self-care	735 [48.6]
Personal health promotion	554 [36.6]
Lifestyle adjustment	592 [39.1]
Sexual/reproductive health	820 [54.2]

Contraception/pregnancy	516 [34.1]
Diet/nutrition	486 [32.1]
Childhood diseases	833 [55.1]
Vaccination	803 [53.1]
Sexually transmitted infections	404 [26.7]
Stress	541 [35.8]
Better discuss my health issues	399 [26.4]
Decide on medical care	1033 [68.3]

The results showed significant association between demographic variables and the need for health information with the exception of gender. Age, marital status, educational level, occupation and income level were significantly associated with health information needs [Table 3].

Table 3 Demographic determinants of health information needs

Variable	P value
Gender	
Male	
Female	0.549
Marital status	
Single	
Married	
Divorced	
Separated	
Widowed	<0.001
Education	
Illiterate	
Primary	
Secondary	
Tertiary	<0.001
Occupation	
Business	
Civil service	
Student	
Teaching	<0.001
Age [yrs.]	
≤ 20	
21- 30	
31 – 40	
41 – 50	

51 – 60	
61 - 70	0.001
Income [$]	
≤ 80	
81 – 160	
161 – 240	
241 – 320	
321 - 400	<0.001

4. Discussion

Health information is require to promote individual and public health, prevent diseases and optimize treatment outcomes for patients as well as support the growth of a healthy population. In many low and middle income countries, it has not received adequate administrative support and budgetary allocation to ensure that the health care system have the capacity and resources needed to provide adequate public health information. The result of this study revealed huge gaps in health information needs in many areas covering health promotion, self-care, sexual/reproductive health and desire to participate in medical decision making process. A number of previous studies highlighted these information needs and also noted their importance in improving individual and community health [53, 54, 55, 56].

The need for information and knowledge of causes of chronic diseases, disease symptoms and treatments found in this study was comparable to other studies [24, 57, 58, 59, 60, 61, 62]. Many of these studies however focused on disease specific information needs rather than on general population health information needs. The effectiveness of public health information must however be based on community wide perspective, because of the increasing frequency of old and emerging epidemics for which community participation is critical for success [26].

While the results of this study revealed a wide range of health information needs, similar studies have also highlighted the need for information to promote self-care [63, 64, 65], contraception [66], lifestyle adjustment [67, 68], disease diagnosis [68.69], childhood diseases [70], disease symptoms [71], sexually transmitted infections [72, 73], coping with stress [74, 75], medicine side effects [76, 77, 78, 79] and sexual/reproductive health [80, 81, 82, 83]. Other areas of health information needs mentioned included diet/nutrition [84], medical diagnosis [85], vaccination [86, 87], pregnancy [88, 89, 90] and participation in medical decision making process [91, 92].

The need for health information is dynamic within the community and depends on a number of factors some of which include socio-demographic variables, culture, health system structure, prevalent disease pattern and other variables. Literature evidence indicate that among patients information need is much more extensive than healthcare providers think is necessary and believe should be provided to them [78, 79]. This often leaves patients dissatisfied and unable to comprehend their role in therapy [93]. It is also well recognized that health information need of communities, individuals and patients constantly change over time and studies have reported that they are largely unmet [94, 94, 96, 97]. The dynamics of community based health information need revolve round individual, community, environment, demographic factors, socio-cultural and health system structure as reflected in the results of this study [57, 98].

A number of previous studies have reported that information need is influenced by demographic variables similar to the results of this study [67, 99, 100], with the exception of gender [101]. Higher levels of educational has been reported to increase the need for health information similar to the results of this study [64, 102], though contrary results has been reported [66]. A similar association was also reported with marital status [103] and income level [104].

The high variability of study results may be largely due to differences in demographic characteristics of such as age, marital status etc. Respondents who are relatively young with low level of education may have less need for health information due to their ability to perceive and comprehend medical information. Some studies have also reported that married women are more likely to actively seek health information related to sexual/reproductive health, maternal/child care, contraception and vaccination compared to unmarried individuals [90]. Single people were reported to frequently seek information on sexually transmitted infections, contraception, abortion etc. [80].

In this era of frequent epidemics of communicable and non-communicable diseases, community participation is critical to health promotion, disease prevention and self-care which in turn are predicated on adequate health information. It also empower individuals to make informed healthcare choices as well as actively participate in disease prevention, better manage chronic diseases and also ensure proper nutrition for the most vulnerable [105]. It is increasingly becoming a component of quality of care particularly among patients with chronic diseases when they are able to actively participate in medical decision with care providers [25,106].

Health information tailored to meet the needs of healthy individuals and patients with chronic diseases has not received much critical appraisal in developing countries [107, 108]. Literature evidence has indicated that adequate and relevant information is associated with better therapy outcomes, higher quality of life and better health status [109]. Health information need assessment therefore among the basic building blocks of public health that enable providers to design and disseminate information to target health care challenges of individuals and the community.

The gaps in health information needs noted in this study are areas in which pharmacists are competent to provide within the community with simple tools and technology that are now available. This is particularly important in the management of non-communicable diseases and when responding to outbreaks of infectious diseases in the community. Pharmacists are not only the most accessible healthcare professional, they also possess an array of competencies that can make invaluable contributions to health information management in the community. The role of pharmacist led public health information and education is becoming more critical as emphasis shifts from curative to disease preventive model of healthcare.

5. Conclusion

The need for health information is required to improve participation of individuals in health promotion, self-care and healthcare decision making process. The diversity of information need must be taken into consideration in public health education programming and patient consultations with healthcare providers.

Compliance with ethical standard

Disclosure of conflict of interest

The authors declare no conflict of interest

Author's contribution

Paul Otor Onah: [Concept, study design, Literature reviewing, manuscript draft]

Aliyu Kaigama: [Data analysis, manuscript editing and revision]

Catherine Chioma Idoko: [Study concept, data analysis, literature review]

Statement of ethical approval

Ethical approval was obtained from the health research committee of Borno State Ministry of health.

Statement of Informed consent

Respondents verbally consented to participate in the survey.

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