

# Analyzing Residents' Health Information Requirement and Intention for the Library of Medical University and Its Influencing Factors

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## Abstract

### Objective

To investigate the residents' requirement for health information in a library of medical university and its influencing factors to provide suggestions for health information service and activities to popularize scientific knowledge.

### Methods

Convenience sampling method was used in the study to select some residents in 2 communities of ShaPingba for a face-to-face questionnaire survey.  $\chi^2$  test and logistic regression were used to analysis data by SPSS v25.0 software.

### Results

Among the 317 residents, the contents of health information that individuals preferred included 70.7% for disease prevention and health care, 81.1% for disease preservation and rehabilitation, 37.2% for diagnosis and treatment of disease, 6.6% for medical policies and regulations, 5.4% for drugs information, 5.0% for preclinical medicine. The way of health information that persons preferred contained 16.4% for newspaper and journals reading services, 22.1% for book loan services, 69.4% for training and lecture services, 45.8% for information inquiry service. Multivariate logistic regression results showed that age was a significant factor influencing the status of health information contents. Age and education were significant factors influencing the status of health information ways. **Conclusion** Residents' health information requirement is affected mainly by age and education. So it is essential to take the dominated influencing factors into consideration for spreading

health information by various ways and channels when libraries prepare health information service and activities to popularize scientific knowledge, especially, more concerns should be put on practicability, maneuverability and accessibility of health information.

**Key words:** Residents; Library; Medical; Consumer health information

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## 1. INTRODUCTION

Recently, the people's health information demands is growing all the time and more people are aware of the importance of physical and mental health and they shift from receiving information passively to searching for health information actively. In China, 81.7% of respondents showed interest in information related to "medicine and health" (Tang, 2015). It has showed that the demand for health information has become the fastest-growing need for information, which stems from the public's enhancement of health awareness. Thus, the China central government approved the plan for a Healthy China 2030 that covered every field to improve the nation's health care provision and help the public develop healthy lifestyles and behavior. In order to release the goal, it is crucial to promote national health literacy with high quality medical resources.

Normally, people still give priority to hospitals and health care provider when they need health support. There is, however, a gap between the increasingly need and limited medical resources. Furthermore, health information from the Internet brings some issues, such as miscellaneous health information derives from unreliable

source( Lee, 2014),these may lead irrational health behaviors for the public without higher health literacy. So it is necessary to offer trusted access to health information.

All the time our government attempts to encourage more institutions and communities to join in the public health service system for health information delivery. For example, many institutions that get financial support from government combine with universities to establish medical science museum to disseminate health information. In particular, medical libraries have tremendous potential to support health information service for the public due to a huge of academic materials collations, such as professional books and journals, even librarians with medical education background and. physical condition Additionally, the medical libraries have some collaboration with afflicted hospitals, it is more likely to invite professors attend medical science acclivities. Surprisingly, two medical universities' libraries try to open to the public for health information service in China.

The aim of this paper is to identify the public's demand and intention of health information service from medical schools' libraries in Chongqing, China. The influencing factors of access to health information service are also investigated for providing suggestions for health information service and activities to popularize scientific knowledge.

## 2. METHOD

### 2.1 Subjects and Methods

This cross-sectional survey study was conducted in ShaPingba district, which owned 2 medical universities and 1 medical college. We used convenience sampling (Alborzkouh, 2015) issuing anonymous, self-administered questionnaires to 350 residents randomly selected from 2 communities in ShaPingba district. Each community had 1 field visitor for data collection. The questionnaire composed of 2 parts, part 1, involving obtaining demographic data of the study sample, such as gender, age, education, job. Part 2 contained questions about individual's needs and intention for health information contents and ways.

### 2.2 Statistical Analysis

The data was analyzed with the Statistical Package for the Social Sciences Software (SPSS) for  $\chi^2$  test and logistic regression. The qualitative data was presented as frequency and percentage .

## 3. RESULTS

### 3.1 Demographic Data

A total of 350 questionnaires were distributed in this survey, only 317 participants returned the completely filled questionnaire, giving a response rate of 90.6%.

Among the survey respondents, there were 144 males (45.4%) and 173 females (54.6%). According to the WHO's age classification standards and actual investigation, this article divided the participates into 4 age groups: 5 people (1.6%) under 18 years old (juvenile group), and 144(45.4%) people aged 18 44 (youth group), 45 59 years old (middle-aged group) 145 (45.7%), and over 60 years old (elderly group) 23 (7.3%). About half of the respondents (41.3%) received middle school/ technical school education, the following was primary school or below(30.6%).The number of People with junior college and bachelor degree or above covered 12.9% and 15.1% retrospectively. The majority of people did other work (51.4%).The proportion of persons worked for government or institutions occupied 18.6%.The ratio of people employed in enterprises and self-employed businesses was 14.2% and 15.8%.As shown in the Table 1.

**Table 1**  
**The results of demographic data**

Demographic data	N	%
Gender		
Male	144	45.5
Female	173	54.6
Age		
<18	5	1.6
18	144	45.4
45	145	45.7
≥60	23	7.3
Education		
Primary school or below	97	30.6
Middle school/ Technical school	131	41.3
Junior college	41	12.9
Bachelor degree or above	48	15.1
Occupation		
Employees in government agencies or institutions	59	18.6
Employees in enterprises	45	14.2
Self-employed businesses	50	15.8
Others	163	51.5

### 3.2 The Individuals' Demands of Health Information

#### 3.2.1 The Individuals' Demands of Health Information in Form and Content

The majority of the participants preferred health information related to for prevention/ health care (224/70.7%) and preservation/rehabilitation (257/81.1%). Other noticeable needs of health information were diagnosis and treatment of disease (118/37.2%).Totally, 21 persons expected to acquire health information related to medical policies and regulations. Retrospectively, 5.4% and 5.0% of persons have a tendency to obtain health information related to drugs and preclinical

medicine (anatomy, pathology, etc.). Shown in Table 2. Additionally, the forms of acquiring health information that persons preferred contained 16.4% for newspaper and

journals reading services, 22.1% for book loan services, 69.4% for training and lecture services, 45.8% for information inquiry service. Shown in Table 3.

**Table 2**  
**Comparison of the content of residents' health information needs**

Factors	Disease Prevention/Health care		Disease Preservation/Rehabilitation		Diagnosis and Treatment of Disease		Medical Policies and Regulations		Drugs Information		Preclinical Medicine (anatomy, pathology, etc.)		Others		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Gender	Male	106	47.3	116	45.1	59	50.0	13	70.0	8	47.1	6	38.0	1	50.0
	Female	118	52.7	141	54.9	59	50.0	8	30.0	9	52.9	10	62.0	1	50.0
Age	<18	2	0.9	2	0.8	1	0.8	0	0.0	0	0.0	1	6.3	1	50.0
	18	106	47.3	110	42.8	63	53.4	16	76.2	11	64.7	13	81.3	0	0.0
	45	102	45.5	128	49.8	44	37.3	3	14.3	5	29.4	1	6.3	1	50.0
	≥60	14	6.3	17	6.6	10	8.5	2	9.5	1	5.9	1	6.3	0	0.0
Education	Primary school or below	63	28.1	86	33.5	25	21.2	1	4.8	0	0.0	0	0.0	1	50.0
	Middle school/ Technical school	99	44.2	109	42.4	48	40.8	3	14.3	6	35.3	2	12.5	1	50.0
	Junior college	32	14.3	29	11.3	20	7.8	7	33.3	3	17.6	7	43.8	0	0.0
	Bachelor degree or above	30	13.4	33	12.8	25	21.2	10	47.6	8	47.1	7	43.8	0	0.0
Occupation	Employees in government agencies or institutions	43	19.2	43	16.7	27	22.9	8	38.1	7	41.2	6	37.5	0	0.0
	Employees in enterprises	35	15.6	35	13.6	25	21.2	7	33.3	3	17.6	3	18.8	0	0.0
	Self-employed businesses	41	18.3	43	16.7	14	11.9	0	0.0	3	17.6	0	0.0	0	0.0
	Others	105	46.9	136	52.9	52	44.0	6	28.6	4	23.5	7	43.8	2	100.0

**Table 3**  
**Comparison of the forms of residents' health information needs**

Factors	Newspaper and journals reading services		Book loan services		Training and lecture services		Information inquiry service		
	N	%	N	%	N	%	N	%	
Gender	Male	26	50.0	35	50.0	96	43.6	74	51.0
	Female	26	50.0	35	50.0	124	56.4	71	49.0
Age	<18	1	1.9	2	2.9	3	1.4	0	0.0
	18	27	52.0	53	75.7	90	40.9	71	49.0
	45	23	44.2	12	17.1	110	50.0	67	46.2
	≥60	1	1.9	3	4.3	17	7.7	7	4.8
Education	Primary school or below	12	23.1	3	4.3	75	34.1	36	24.8
	Middle school/ Technical school	14	26.9	22	31.4	92	41.9	64	44.1
	Junior college	7	13.5	20	28.6	23	10.5	23	15.9
	Bachelor degree or above	19	36.5	25	35.7	30	13.6	22	15.2
Occupation	Employees in government agencies or institutions	19	36.5	20	28.6	39	17.7	34	23.4
	Employees in enterprises	6	11.5	13	18.6	34	15.5	23	15.9
	Self-employed businesses	2	3.8	9	12.9	38	17.3	25	17.2
	Others	25	48.1	28	40.0	111	50.5	63	43.4

**3.2.3 Comparison of Health Information Demands of Residents**

The result showed that:1)There were no statistically significant differences among residents of different genders, ages, educational backgrounds and occupations ( $P>0.05$ ) for accessing prevention/health care;2) There

were statistically significant differences among residents of different ages ( $\chi^2=13.227, P=0.004$ ) and education ( $\chi^2=11.634, P=0.009$ ) for accessing preservation/rehabilitation;3)There were statistically significant differences among residents with different education backgrounds ( $\chi^2=12.341, P=0.006$ ) and occupations

( $\chi^2=12.109$ ,  $P=0.007$ )for accessing disease diagnosis and treatment;4) There were statistically significant differences among residents of different ages ( $\chi^2=10.065$ ,  $P=0.018$ ), education ( $\chi^2=12.341$ ,  $P=0.000$ ) and occupation ( $\chi^2=31.788$ ,  $P=0.001$ ) for accessing medical policies and regulations;5)There was a significant difference among residents with different educational backgrounds ( $\chi^2=18.048$ ,  $P=0.000$ ) for accessing drug information and 6)There was a significant difference among residents with with different educational backgrounds ( $\chi^2=30.024$ ,  $P=0.000$ ) for accessing basic medicine (anatomy, pathology, etc.)

The result demonstrated that:1)In the newspaper and journals reading services, there were statistically significant differences among residents with different educational backgrounds ( $\chi^2=23.093$ ,  $P=0.000$ ) and occupations ( $\chi^2=16.795$ ,  $P=0.001$ );2) In book loan services, there were statistically significant differences among residents of different ages( $\chi^2=36.231$ ,  $P=0.000$ ), education ( $\chi^2=64.553$ ,  $P=0.000$ ) and occupation ( $\chi^2=8.762$ ,  $P=0.033$ ) and 3) In training and lecture services, there were no statistically significant differences among residents of different genders, ages, educational backgrounds and occupations.

### 3.4 Logistic Regression Analysis

Separately,the content and form of health information were used as dependent variables,significant factors in the  $\chi^2$  test were extracted as independent variables for multivariate logistic regression analysis. The results showed that 1) For preservation/rehabilitation,there was 0.235, 1.142 and 2.656 times that of the elderly group in the juvenile group, the young group and the middle-aged group, and there was no significant difference was in different groups( $P>0.05$ );2) For disease diagnosis and treatment , the population with a primary school degree or below was 0.319 times that of the population with a bachelor degree or above, and there was a significant difference among them( $P<0.05$ );3) For medical policies and regulations, the population with primary school or below and middle school/ technical school were 0.040 times and 0.089 times that of the population with bachelor degree and above, respectively, the difference was statistically significant ( $P<0.05$ );4) For drug information, the population with a middle school/technical school degree was 0.240 times that of the population with a bachelor degree or above, and the difference was statistically significant ( $P<0.05$ ) ;5)For basic medical,the population with a middle school/technical school degree was 0.065 times that of the population with a bachelor degree or above, and the difference was statistically significant ( $P<0.05$ );6)For newspaper and journals reading services, the population with primary school degree or below, middle school/ technical school and junior college degree were 0.215, 0.193 and 0.314 times that of the population with bachelor degree and above, and the differences were statistically

significant ( $P<0.05$ );and 7)For book loan services, the population with primary school degree or below, middle school/technical school were 0.053 and 0.241 times that of the population with bachelor degree and above, and the differences were statistically significant ( $P<0.05$ ).Showed in Table 3.

**Table 3**  
**Logistic regression analysis results of residents' demand for health information**

Dependent variables	Group	P	OR
<b>Prevention/ Healthcare</b>			
Age	<18	0.160	0.235
	18	0.796	1.142
	45	0.071	2.657
	≥60	0.009	1
<b>Diagnosis and Treatment of Disease</b>			
Education	Primary school or below	0.002	0.319
	Middle school/ Technical school	0.064	0.532
	Junior college	0.756	0.876
	Primary school or below	0.007	1
<b>Medical policies and regulations</b>			
Education	Primary school or below	0.002	0.040
	Middle school/ Technical school	0.000	0.089
	Junior college	0.653	0.782
	Primary school or below	0.000	1
<b>Drugs information</b>			
Education	Primary school or below	0.996	0.000
	Middle school/ Technical school	0.012	0.240
	Junior college	0.193	0.395
	Primary school or below	0.092	1
<b>Basic medicine (anatomy, pathology, etc.)</b>			
Education	Primary school or below	0.996	0.000
	Middle school/ Technical school	0.014	0.065
	Junior college	0.678	1.281
	Primary school or below	0.061	1
<b>Newspaper and journals reading services</b>			
Education	Primary school or below	0.000	0.215
	Middle school/ Technical school	0.000	0.183
	Junior college	0.023	0.314
	Primary school or below	0.000	1
<b>Book loan services</b>			
Age	<18	0.163	4.989
	18	0.264	2.187
	45	0.840	0.860
	≥60	0.050	1
Education	Primary school or below	0.000	0.053
	Middle school/ Technical school	0.000	0.241
	Junior college	0.974	0.986
	Primary school or below	0.000	1



## DISCUSSION

In general, the health information about prevention/health care is becoming the most popular demand. The similar results has also demonstrated in related study (Xu, 2015) and showed traditional Chinese health opinion in wellness and reasonable diet. Furthermore, residents pay more attention to self-health condition (Guo, 2016). On one hand, great change have taken place in their health behavior, and they begin to obtain health information positively instead of receiving health information passively gradually. On the other hand, people have a performance in acquisition of more training lectures and information inquiry services from libraries in medical universities and colleges. Additionally, persons pay more attention to disease prevention and health promotion rather than disease treatment. For medical libraries, as health information service providers, hold a large amount of health information resource and human resource, and is capable of providing health information services in the form of consultation and training lectures for the public.

Age and education have a significant impact on the health information needs of residents. First of all, the elderly are more willing to obtain health information about health preservation/rehabilitation, which is consistent with related research (Guo, 2016). Because most of the elderly over 60 years of have retired that results to reduced social interactions in China, so they prefer to spend more time and attention to their own health. Secondly, the physiological functions of the old people are on the decline and a high risk for disease (Fried, 2001), like renal hypo function, immunity decline. In order to keep health and improve health outcome, the old pay more attention, even expenses, to health information and health care service. In addition, people with higher education tend to obtain health information on diagnosis and treatment of disease, medical policies and regulations, drug information and basic medicine. Usually, these health information often contain professional terms, people with higher education have better reading abilities and comprehension skills.

People with a bachelor's degree or above are more willing to obtain newspaper and journals reading services and book loan services, which may be related to personal experience and reading habits. On the one hand, people with a bachelor's degree and above may develop the habit of obtaining information from the libraries when they study in colleges and universities. On the other hand, residents with higher education read books more frequently and have a stronger ability to process information. On the contrary, people with a primary school education may be busy with their livelihoods due to limited financial expenditure, can not spare extra time to care health, even lack of effective access to information. Moreover, the individuals have weak understanding

capabilities, so they prefer to obtain health information in an intuitive way rather than written language, like video from social-media.

## 5. CONCLUSION/RECOMMENDATION

Given to the preliminary investigation, residents have tremendous demand for health information in medical universities libraries. However, as lack of funding and policy support from government, none of the three medical universities/colleges libraries in Shapingba District provides health information outreach services for the public. Actually, it is also the current situation of most universities libraries. Although in 2015, the Ministry of Education of the People's Republic of China pointed out that "*libraries should make full use of material collection and human resources to provide outreach services to the public.*" ,this advice has not be put practice well. Therefore, under the guidance of this general policy, it is more important to identify advantages of medical universities/colleges libraries and try to explore the creative health information services. For example, the science activities related to diversity healthy themes which are developed by the affiliated Life Museum of library in Chongqing Medical University attracts a large number of citizens to visit each year. It is beneficial for the public to improve science literacy and health literacy.

Currently, lots of public libraries have explored health information services (Betsy L Humphreys, 2007), like health website links and health-related videos. For medical universities/colleges libraries, there are more advantages in providing health information outreach services for the public. One hand, it is probable to invite medical experts to hold health lectures and give accurate information such as hospitals outpatient information and experts introductions. On the other hand, the libraries can also play an important role to bridge gap between the people's requirement and resources with social media. For instance, WeChat is a supplementary way to spread health information with authenticity and practicability. In addition, medical student serve as volunteers in libraries, they always have ideals and passions to disseminate health information with a range of activities. They can carry out free consultation activities for the old, and provide simple physical examinations, such as measurement of blood weight and blood pressure measuring, distribution of chronic diseases brochures.

Nowadays, with the improvement of daily life, the public's has begun to shift from disease treatment to disease prevention. Under the background of "Healthy China", medical universities/colleges libraries should combine resources and support in every field and explore effective health information service to enhance the public's health literacy and health promotion.

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