Factors Influencing Health Information Seeking Behaviour on Internet: Case of MBA Students of Africa Nazarene University, Kenya

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Factors Influencing Health Information Seeking Behaviour on Internet: Case of MBA Students of Africa Nazarene University, Kenya

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ABSTRACT

Purpose: The internet has become a valuable source of information of all kind to everyone but more specifically to the young adults. There is a growing literature on health information seeking behaviours in the developed countries but in Kenya this is a grey area and this study attempted to shed light on this new phenomenon. This study examined health information search from the internet by MBA students, African Nazarene University.

Methodology: The study evaluated the characteristics of online health information searchers, prevailing health situation of these individuals, type of information sought and applications. Study participants were the entire population of continuing MBA students of Africa Nazarene University. Data collection instrument was a web based self-administered structured questionnaire emailed to participants. Descriptive statistics was used to describe data. Multiple logistics regressions were used to show relationship of variables. SPSS software was used for the analysis of the data. Results are presented in form of line text, charts, figures and tables.

Results: The findings showed majority of the respondents had positive health information seeking behaviour and had good health. Socio-Demographic factors mainly age, gender and income influence health information seeking behaviour online. A high percentage of the respondents discussed information obtained online with a healthcare provider.

Unique contribution to theory, practice and policy: This study recommends use of internet by the Government and other healthcare providers as one of the health information dissemination tools.

Keywords: socio-demographic factors, internet accessibility, health information, health situation

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1.0 INTRODUCTION

A piece of information is considered valueless if, after receiving it, things remain unchanged. The scope of information in this study is limited to Human Health information. Knowledge is crucial in the health sector with information being pivotal to planning, care, delivery and management (Ngari & Bor, 2011). Health according to Pender's is the realization of intrinsic and acquired human potential through objective directed behaviour , competent self-care and satisfying relationships with others as well as making adjustments to maintain structural integrity and harmony with relevant environments (Williams & Wilkins, 2009). To exhibit competence in self-care the quality and quantity of information an individual is exposed to is important. Information also influences the level of adjustment to be made by individuals concerning their health plus the health of those under their care.

Over the past three decades internet has changed from an information technology, only used by universities and governments to become a gigantic information communication network connecting millions of people worldwide. Though the population of internet users has grown exponentially, the main reason why people utilize the internet has not changed which is mainly to seek information.

According to Levy and Strombeck (2002) cited by Berry (2006) the four most popular subjects search online, ranked in order of popularity are: News, travel, weather and health and medicine. Health information is the most popular activity on web after checking emails and use of search engines (Stellefson *et al*., 2010).The internet technology has integrated itself into our lives as a key tool of communication and information source. The internet technology explosive adoptability is rooted in its relatively low cost, user confidentiality and friendliness. Internet was introduced in Kenya in the early 1990s and it development was mainly spearheaded by Kenyans returning from overseas studies. Non-governmental organization (NGOs), intergovernmental organization (IGOs) and western expatriates were other major contributors to internet introduction because of the need for these groups to communicate with their counterparts elsewhere; they were early adopters of the internet. Other early adopters of internet were import/export, industries with overseas operations, academic institution mainly University of Nairobi and United States international university (USIU). During this period the only access to internet was through Gopher.

Searching for health information online seems to be a prevalent activity among adults in the United States of America; data from 2001 to 2007 suggest the number of adults who search online to seek for medical information doubled and that adults are more likely to seek health information online than from interpersonal sources such as doctors, friends, family members and co-workers. Research recognizes Internet as potential tool for medical information dissemination as well as a tool for public health education (Cohen *et al.,* 2011). Searching for information from the internet is an interactive process that requires the user to overcoming certain barriers which include operation of computer hardware and software successfully. The MBA students are targeted in this study as this sub group of the population are assumed to be self-efficacy in searching for information online and also are likely to look for information from reputable sites on the World Wide Web pages.

In Kenya patient negligence by healthcare providers is reported to be on the rise, Kenya

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Practitioners' and Dentists Board (KPDB) received 100 complaints cases on patient negligence in 2011 and by March 2012 they had received 88 cases. Lack of adequate health information and public ignorance on their role to be active participants on decisions concerning their health are contributors to this problem as well as the full trust bestowed on the healthcare providers by health services seekers (Cheruiyot, 2012). This study highlights the importance of the internet as another medium of transmitting health information that if used strategically can increase health literacy levels in our society and also influence health behaviour changes (Lam, 2012). Much as the internet is an important source of information, the web is not regulated and the site one retrieves information from is crucial. This study targeted MBA students who are assumed to have the capacity to know credible sites to visit when seeking health information from the internet and are self-efficacy internet users (Percheski & Hargittai, 2010).

1.2 Statement of the Problem

In Kenya the doctor patient ratio is 14 per 100,000 populations (Cheruiyot, 2012). This ratio is below the World Health Organization (WHO) recommended ratios of doctor: patient ratio of 1: 600 (World Health statistics, 2010). The nurse-patient ratio is 49 nurses to 100, 000 persons. WHO recommended nurses ratios are 143 nurses to 100,000 populations (Oduor, 2013).Thus it is speculated that Kenya's population tend to resort to some other sources of information on health issues, for example, the internet and traditional medicines. It has been argued that health information from the internet has an impact on how individuals manage their health as well as those of their family members or associates. Information obtained online related to health have been reported to make individuals feel empowered to manage their own health (Rains, 2008). Most of the information on the internet may not have been reviewed for accuracy and quality thus health information consumers are at a risk of making health decisions based on non-credible health information (Niekerk, 2012). Therefore this study attempted to expose the degree to which Kenya population is searching health information from the internet so as to bridge the deficit of health experts in the sector and how such information is influencing the consumers' health behaviour. Specifically how this is influencing young adults in particular the MBA students from looking for health information from traditional sources like healthcare providers such as doctors, books in preference to the internet.

1.3 Objectives of the Study

    i. To determine the extent to which socio-demographic factors influence health information seeking behaviour on the internet. ii. To determine the extent to which internet accessibility influence search for health information seeking behaviour on the internet. iii. To determine the extent to which health situation (s) faced by individuals influence health information seeking behaviour on the internet.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

The theoretical scope of the health behaviour and technology adoption in health information search from the internet. Two models are used as theoretical model in this study, Health Belief Model (HBM), and Technology acceptance model (TAM). HBM developed in the 1950s by psychological

social scientists Contento (2010) is built on the perceived threat of a disease or condition which causes an individual to want to take a health related action to avoid or minimise the perceived risk. A person who believes he or she is at a risk of contracting a certain illness or condition is likely to search for health information associated with that particular disease (Nahar et al., 2013). A health situation is a key predictor to an individual intention to explore health information. Demographic factors such as age, income, status are other stimuli to a person's health information behaviour. TAM hypothesizes the persuasiveness to utilize a technology depends on its perceived ease of use and helpfulness (Marton & Choo, 2011).

2.2 Empirical Review

An exploratory study by Yan (2010) found that 44.0% of the respondents indicated to have sought health information online. In this study 62.2 % of non-health information seekers online had an income of below $10,000 while those who did not were computer and internet illiterate were 27.8%. Seventy eight per cent of the respondent visited professional websites. These sites included: Hospitals, Government, non-profit organizations and drug companies. Chat rooms, newsgroups and commercial were other sites visited by health information online seekers (Yan, 2010).

A study by Marrie *et al*., (2013) found the internet to be the most common source of general health information reported the respondents in the study, internet was reported 8 fold higher than the health providers and 13 fold higher than patient advocacy institutions. However the participants had trust on the physicians' than the internet at only about 23.00 %.

A study by Yoo and Robbins on middle aged women seeking health information on the web revealed that approximately 80 per cent of these women visited health related websites, 91 per cent sought for personal health information while 82 per cent for their children. Women aged 18 and above were found to be more likely to look for health information on the internet than men. Similarly adults aged 18 to 64 with higher incomes were more likely to have searched for health information on the internet than adults in the same age brackets with lower incomes. In this age bracket of 18 to 64 years employed adults were more likely to use the internet for health information than unemployed adults Yoo & Robbins, 2008 cited by (Marton & Choo, 2012).

A study contacted on six Latinos on health seeking behaviour showed one young mother found it useful to read Internet-based information on asthma that her doctor showed her during a visit (Courtright, 2005). A visit to a health practitioner and presence of a terminal illness as well as a disability influences the frequency of use of the internet for health issues (Andreassen, 2007). For patients with multiple sclerosis (MS) though internet was not their first choice source of health information, consulting internet as source of health information was still high at 59.23% (Marrie*et al*., 2013).

An observational study on colorectal cancer cases (Sajid *et al*., 2010) found that web browser sought for information on general information on cancer, nutrition, alternative treatments, research on cancer and how to live with cancer. Although only 13 % of the participants reported the information obtained from internet to be helpful. Those who had a computer and internet access but did not look for information on the web said they got enough information from colorectal service providers or had interest for more information. However this study concluded by recommending the use of internet reputable pages to disseminate information on colorectal cancer

as a means to assist patients understand more about colorectal cancer as well the free the colorectal surgeons time hopeful by reducing the number visits to the consultants.

The internet subscription in Kenya has continued to grow by March 2013 it was 16.4 million and 99 % of these used mobile internet connectivity. The Kenya Government has created a favourable environment which has seen increases internet access in the country key being the undersea fibre infrastructure, inclusion of ICT sector as one of the goals stated in the 2030 vision, the ICT policy which has encouraged innovation as well as health competition among players in the industry (Ndung'u & Waema, 2013). The other element contributing to growth in internet access in Kenya is 3G services rolled out by the three mobile operators in the country (CCK, 2011).

Health information seeking behaviour is how actively individual look for health information. This was the dependable variable in this study and it focused on how MBA students actively seek for health information online .Kenya population is considered a young population with only 30 % older than 35 years of age. Majorly of the MBA students fall within the category of young adults, hence the category is expected to be early adopters of technology and even those above 35 years e because of the elitist nature are candidates of technology adopters (Ngari & Bor, 2011).

Availability of submarine fibre optic connectivity infrastructure in Kenya is another ingredient fuelling internet adoption. A conducive legal environment has been created by the government in partnership with the private sector for the adoption of information communication technology in the health sector namely in these areas; guidelines for electronic Medical records, ICT policy (2006),Health information systems strategic plan (2009 to 2014) and Kenya Communications Act 2009 (Juma *et al*., 2012).

2.3 Conceptual Framework

3.0 RESEARCH METHODOLOGY

The research design in this study was a cross-sectional study. The study site for this research was African Nazarene University (ANU) Nairobi Town Campus. The target population in this research
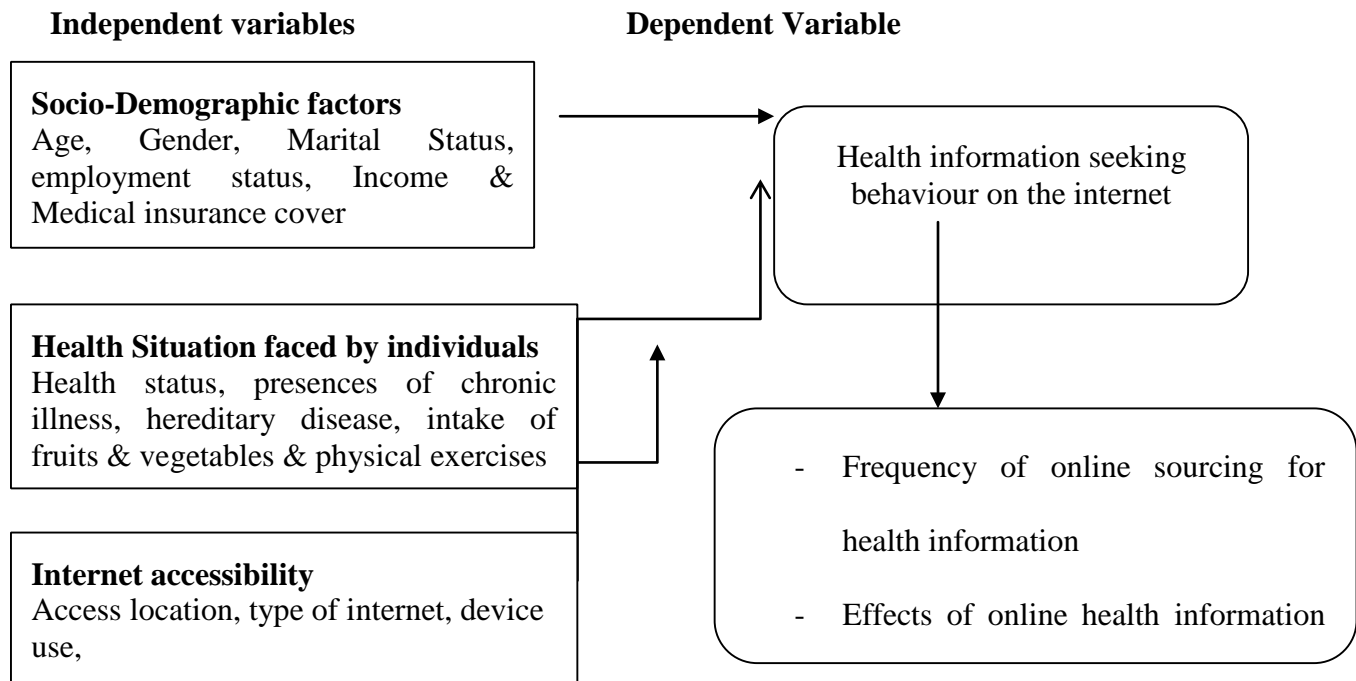
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Independent variables   **Dependent Variable**

```
Socio-Demographic factors
Age, Gender, Marital Status,
employment status, Income &
Medical insurance cover
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```
Health information seeking
behaviour on the internet
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Health Situation faced by individuals
Health status, presences of chronic
illness, hereditary disease, intake of
fruits & vegetables & physical exercises
```

```
Internet accessibility
Access location, type of internet, device
use,
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```
-   Frequency of online sourcing for
    health information

-   Effects of online health information
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Figure1: Conceptual framework

was MBA students of ANU. Therefore the target population was 290 MBA students. Research instrument notably the web based questionnaire was piloted to test its effectiveness.

Validity of data collection instrument was assured by: Employing the recommendation of having 4 to 10 question on one page. A movement indicator was provided to guide the respondent navigation on the web based questionnaire. Reliability of the data collection instrument were enhanced by: Encryption of data during transmission from respondent to researcher because data transfers on internet are susceptible to fraud. Data collection instrument was a self-administered structured online web-based questionnaire. Data was analyzed using SPSS software. Descriptive statistics was used to show how the demographics factors influence health information search online and the results tested at 95 % confident interval using the chi-square to establish the significance influence of the demographic variables on health information behaviour online. Logistic regression was used to show what influences the kind of health information MBA students search online. Basic research ethical considerations were also observed.

4.0 FINDINGS AND DISCUSSIONS

4.1 Response rate

The data for this study was collected through administration of a web based questionnaire to the target study population of ANU MBA students. Two hundredth and forty eight questionnaires were emailed to the study population and 74 (29.8%) responses received back.

4.2 Demographic Characteristics

This section consists of information that describes basic characteristics such as age, gender, marital status, current employment status of the respondent.

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4.2.1 Gender of the Respondents

The respondents were asked to indicate their gender. Majority of the respondents were female which represented 60% of the sample while 40% were male as shown in figure 2 below.
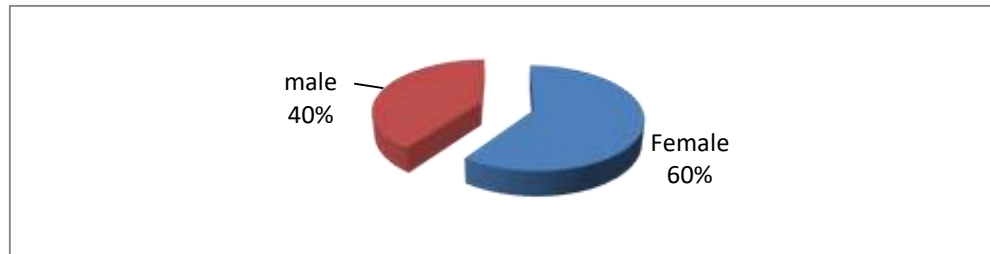

Figure 2: Gender of Respondents

4.2.2 Age Bracket of the Respondents

On the question of the age of the respondents, majority of the respondents (62) had the age bracket of 25-34 years, 22 of the respondents were between 35-44 years. Those who were between 45-54 years were 12 respondents while both cases (18-24 years and 55-64 years) were 2 respondents as shown in figure 3
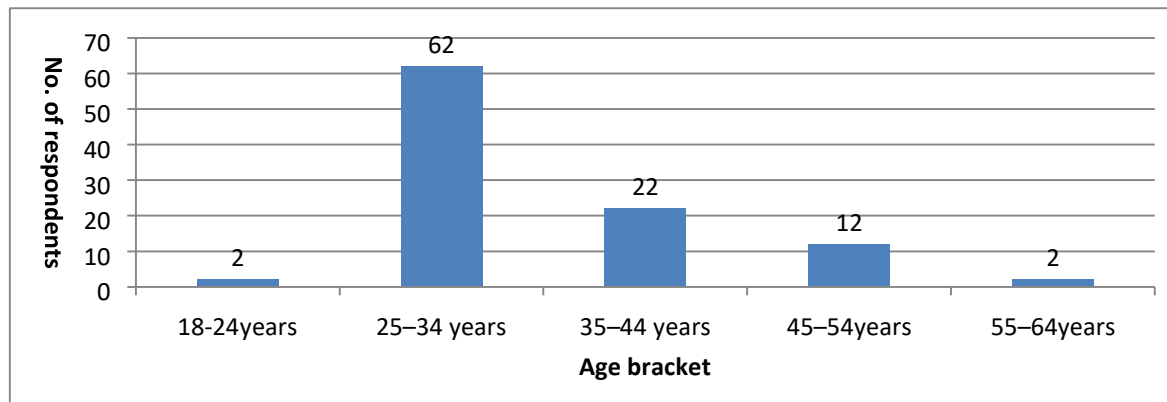

Figure 3: Age of Respondents

4.2.3 Marital status of the Respondents

The respondents were asked to indicate their marital status. Results in figure 4 show that majority (53%) of the respondents were married, while 47% were single
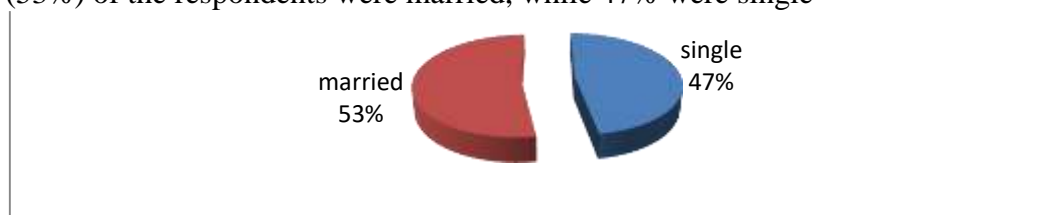

Figure 4: Marital Status of Respondents

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4.2.4 Household/Family Size

The respondents were asked to indicate their household/family size categories. Results in figure 5 show that majority (29) of the respondents were from a family of between 2 to 3 members, 26 were from a family of between 3 to 5 members, while 21 were from a family with over 5 members. Sixteen were from a family with 1 to 2 members while 8 were from individuals.
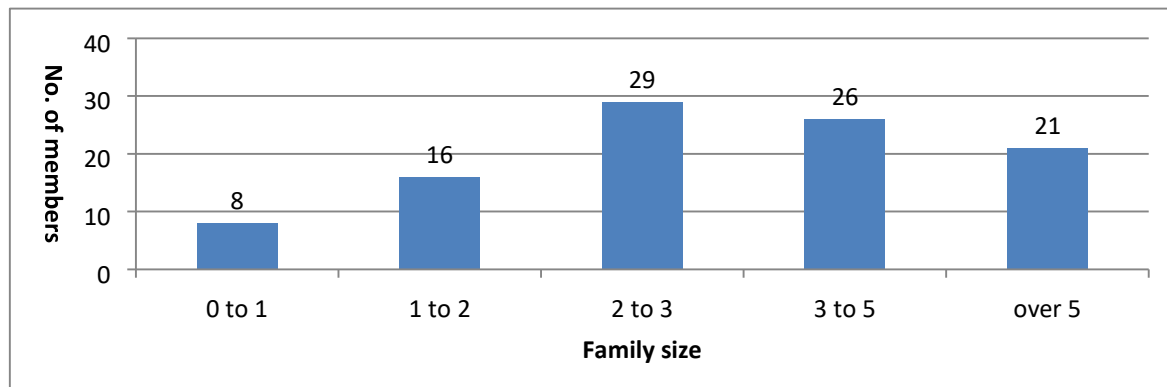
Figure 5: Household/Family Size

4.2.5 Employment Status of the Respondents

The respondents were asked to indicate their current employment status. Results in Figure 6 show that 82% of the respondents and who were the majority were employed, while 18% of the respondents were unemployed.

Figure 6: Employment status of the Respondents

4.2.6 Monthly income of the Respondents

The respondents were asked to indicate their approximate monthly income bracket. Results in Figure 7 show majority (51) of the respondents had approximate monthly income bracket of ksh51,000 to 100,000, 23 had less than 50,000, seven had 151,000 and above while 6 had

101,000 to 150,000 .
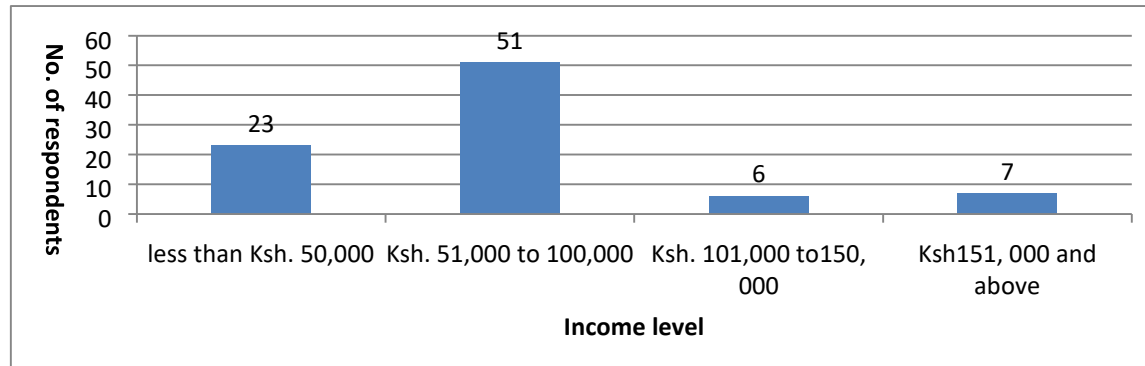
Figure 7: Monthly Income of the Respondents
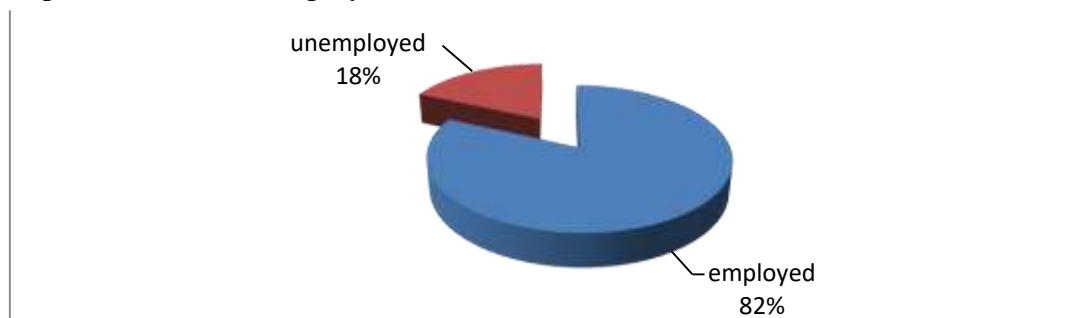
4.3 Descriptive statistics

4.3.1 Relationship between Socio-Demographic Factors and Health Seeking Behaviour Age and Health Seeking Behaviour

A cross tabulation of age and health seeking behaviour indicates that there is significant relationship between age and health seeking behaviour. This is supported by a chi-square of 0.015. Since a p-value of 0.015 is less than the conventionally accepted significance level of 0.05 (i.e. p < 0.05) we reject the null hypothesis. In other words, there is statistically significant relationship between age and health seeking behaviour.

Table 1: Cross-tab of Age and Health Seeking Behaviour

		1824years	25–34 years	35–44 years	45–54years	55–64years	Chi Square
Health seeking behaviour	positive behaviour	2	54	20	6	2	
	poor behaviour	0	8	2	6	0	**0.015**

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4.3.2 Relationship between Health Situation and Health Seeking Behaviour

Health Status and Health Seeking Behaviour

A cross tabulation of health status and health seeking behaviour indicates that there is significant relationship between health status and health seeking behaviour. This is supported by a chisquare of 0.001. Since a p-value of 0.001 is less than the conventionally accepted significance level of 0.05 (i.e. $p < 0.05$) we reject the null hypothesis. In other words, there is a statistically significant relationship between health status and health seeking behaviour.

Table 2: Health Status and Health Seeking Behaviour

		Excellent	Very Good	Good	Fair	Poor	**Chi Square**
Health seeking behaviour	positive behaviour	41	27	13	1	0	
	poor behaviour	4	1	6	2	3	**29.33(0.001)**

4.3.3 Relationship between Internet Accessibility and Health Seeking Behaviour

Place of Internet Accessibility and Health Seeking Behaviour

A cross tabulation of place of accessing internet and health seeking behaviour indicates that there is no significant relationship between place of accessing internet and health seeking behaviour. This is supported by a chi-square of 0.448. Since a p-value of 0.448 is greater than the conventionally accepted significance level of 0.05 (that is $p > 0.05$) hence we reject the null hypothesis, there is no statistically significant relationship between the place of accessing internet and health seeking behaviour.

Table 3: Place of Internet Accessibility and Health Seeking Behaviour

		University Library	Office	Home	Office and Home	Office,home and library	Library and Home	Library and Office	3 3	Chi Square
Health seeking behaviour	positive behaviour	2	15	18	36	8	2	2	1	
	poor behaviour	0	1	7	8	0	0	0	0	**6.82 (0.448)**

4.5 Correlation Analysis between Socio-Demographic Factors and Health Seeking Behaviour

Correlation results indicate that age had a positive correlation (0.203) and statistically significant (0.043) with health seeking behaviour. Further the correlation results indicate that gender and health seeking behaviour are positively (0.325) and significantly (0.002) related .The correlation also showed income and health seeking behaviour are positively (0.212) and significantly (0.049) related. Family size, marital status, employment status are positively and insignificantly related with health seeking behaviour while insurance cover is negatively related with health seeking behaviour as shown in table 4

Table 4: Correlation Analysis

Gender

	Health seeking behaviour	Age	Gender	Marital status	Family Size	Employment	Income	Insurance cover

Health seeking behaviour	Pearson Correlation								
	Sig. (2-tailed)	1.000							
Age	Pearson Correlation		1.000						
	Sig. (2-tailed)	.203* 0.043							
	Pearson Correlation	.325**	0.056	1.000					
	Sig. (2-tailed)	0.002	0.595						
	Pearson Correlation	0.088	.475**	0.001	1.000				
	Sig. (2-tailed)	0.390	0.000	0.996					
	Pearson Correlation	0.005	0.113	0.046	-0.063	1.000			
	Sig. (2-tailed)	0.957	0.262	0.666	0.540				
	Pearson Correlation	0.078	.294**	0.074	-.287**	0.105	1.000		
	Sig. (2-tailed)	0.445	0.003	0.485	0.005	0.300			
	Pearson Correlation	.212*	.313**	0.055	.252*	-0.117	.331**	1.000	
	Sig. (2-tailed)	0.049	0.003	0.632	0.020	0.282	0.002		
Insurance cover	Pearson Correlation	-0.081	0.185	0.102	0.124	.242*	0.088	0.173	1.000
	Sig. (2-tailed)	0.426	0.0	0.33	0.232	0.016	0.389	0.1	

Marital status
Family Size
Employment
Income tailed) 68 8 13

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

4.6 Multivariate Logistic Regression Analysis for Health Information Seeking Behaviour (Overall Model)

A multivariate logistic regression was used to model relationship between all independent constructs and health information seeking behaviour that were found significant in binary stage. Table 5 showed that the gender was positively and statistically associated with health information seeking behaviour (Exp (B) =49.728, P=0.008). Thus, the odds of a female seeking for health information are 49.728 times larger than the odds of male seeking for health information. Income is positively and significantly related to health information seeking behaviour (Exp (B) =4.374, P=0.017). Thus, the odds of those with higher income seeking for health information are 4.374 times larger than the odds of those with low income seeking for health information. The results also showed that Health status is associated health information seeking behaviour (Exp (B) =4.71, P=0.009). Thus the odds of those with hereditary disease in their families seeking for health information are 4.71 times larger than the odds of those with no hereditary disease in their families.

Table 5: Overall Logistic Regression for Health Information Seeking Behaviour

		B	S.E.	Wald	df	Sig.	Exp(B)	EXP(B)	95% Lower	C.I.for Upper
Step 1a	Age	0.383	0.626	0.375	1	0.54	1.467	0.43	4.999	
	Gender	3.907	1.482	6.951	1	**0.008**	49.728	2.725	907.493	
	Income	1.476	0.618	5.708	1	**0.017**	4.374	1.304	14.674	
	Health status	1.55	0.596	6.766	1	**0.009**	4.71	1.465	15.14	
	Hereditary disease	1.986	1.187	2.801	1	0.094	7.29	0.712	74.66	
	Frequency exercise	0.221	0.235	0.882	1	0.348	1.247	0.786	1.979	
	Internet type	-0.314	0.257	1.488	1	0.223	0.731	0.441	1.21	
	Internet device	0.736	1.145	0.413	1	0.521	2.087	0.221	19.684	
	Constant	-20.488	7.201	8.094	1	0.004	0.000			

a Variable(s) entered on step 1: Age, Gender, Income, Health status, hereditary disease, Frequency exercise, internet type, Internet device.

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5.0 DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

5.1 Findings

The first objective of the study was to investigate the influence of socio demographic factors on health information seeking behaviour. Results indicated that age had a positive correlation and statistically significant with health seeking behaviour. Further the results indicated that gender and health seeking behaviour are positively and significantly related.

The second objective of the study was to determine the extent to which internet accessibility influence search for health information seeking behaviour on the internet. The results showed that the type of device used to access internet and health seeking behaviour indicated that there is significant relationship between the two. The results showed that the type of internet service and health seeking behaviour indicated that there is significant relationship between the two.

The third objective sought to determine the extent to which health situation (s) faced by individuals influence health information seeking behaviour on the internet. The results indicated that there is significant relationship between health status and health seeking behaviour. Further, the results revealed that there is significant relationship between hereditary disease and health seeking behaviour. In addition, the results showed that there is significant relationship between frequency of doing exercise and health seeking behaviour.

The results on multivariate logistic regression showed that gender was positively and statistically associated with health information seeking behaviour. Thus, the odds of a female seeking for health information are 49.728 times larger than the odds of male seeking for health information. Income is positively and significantly related to health information seeking behaviour. Thus, the odds of those with higher income seeking for health information are 4.374 times larger than the odds of those with low income seeking for health information. The results also showed that Health status is associated health information seeking behaviour. Thus the odds of those with hereditary disease in their families seeking for health information are 4.71 times larger than the odds of those with no hereditary disease in their families.

5.2 Conclusions

The study concluded that majority of the respondents had a positive health information seeking behaviour. This goes hand in hand with the finding of the study which showed that majority of the respondents searched for health information for more than one reason, which include searching for information so as to get more information after a visit to a doctor/ healthcare provider and to get information for self/ family member/ associate diagnosis when not feeling well.

The study concluded that majority of the respondents had a good health as indicated by the majority of the respondents indicating that they have a good health. The good health may be associated with the positive health seeking behaviour of the responds. The positive health seeking behaviour is expected to translate to a good health which was the case in this study.

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The study also concluded that the health information which retrieved online are very beneficial and this may be associated with a positive attitude/trust which the respondents have on the online health information since majority of them indicated that they trust the online health information. In addition, the study concluded that among the demographic factors age, gender and income level influence the health information seeking behaviour, while on internet accessibility factors, the type of device used to access internet and the type of internet service influence the health information seeking behaviour. Lastly on health situation factors; health status, hereditary diseases present in a family and the frequency of doing exercise influence the health information seeking behaviour.

5.3 Recommendations

The study recommends that the government should put more resources in establishing internet access facilities so as to be more convenient to the individuals to access health information on the online.

Since income was one of the significant factor influencing health information seeking behaviour, the study recommend that the government need to revise on the minimum wage rate of employees so as to improve on the health information seeking behaviour.

Since the type of device used to access internet and the type of internet service influence the health information seeking behaviour the study recommend that more training should be offered to the entire population on the use of internet access devices so as to make them appreciate the use of internet in accessing health information.

The study recommend that health providers need to post relevant information on health on the internet since majority of the people use internet to access the information. The health providers need also to support individuals who visit their offices seeking further clarification on the information they obtained from internet.

REFERENCES

Berry, D. (2006).*Health communication: Theory and practice*. New York, NY: Open university press

Cheruiyot, K. (2012). Here is what ails Kenya's health sector. *The people, Sunday* (ed.).June 24, pp.5-6.

Cohen, R.A., & Adams P.F. (2011). Use of the Internet for Health Information: United States, U.S department of Health and Human services centres for disease control and prevention. *National center for health statistics data brief*, 66,1-4. Retrieved from http://www.cdc.gov/nchs/data/databriefs/db66.htm

Contento, R. I. (2010). *Nutrition Education: Linking Research, Theory and Practice*. Sadbury, Jones and Barlette Publishers.

Courtright, C. (2005).Health information-seeking among Latino newcomers: an exploratory study.*ir information research*, 10 (2), .Retrieved fromhttp://www.informationr.net/ir/102/paper224.html

Depression, Anxiety and Suicidality Among University Students. *America journal of orthopsychiatry,* 77(4), 534-542.Retrieved from

www.iprjb.org

http:www.*depts.washington.edu/brtc/dbtca/.../eisenberg-07-depanxsuicidality.pdf*

Epidemiology. *America Journal of Epidemiology*, 172(11), 1292-1298.Retreived from http://aje.oxfordjournals.org/content/172/11/1292.short.

Firth, M., & Mesureur G. (2010). Innovative uses for Google Docs in a University language program. *Jaltcall journal*, *6,* 3-16.Retrieved from http://journal.jaltcall.org/articles/6_1_Firth.pdf

Flick, U. (2011). *Introducing Research Methodology: A beginner's Guide to Doing a Research*. London, Sage Publications Ltd.

Government of the Republic of Kenya. (2007). Kenya Vision 2030 The popular vision. Retrieved from *http://www.vision2030.go.ke/cms/vds/Popular_Version.pdf*.,1-32

Hailu, A., & Rahman, M.S. (2012). Security for web-based Research survey. *7th international conference on electrical and computer engineering*, 2012,.358-361.Retrievved from http:/http://www.linkedin.com/pub/dir/Alemayehu/Hailu

International Encyclopaedia of the Social Sciences. (2008). Retrieved from (https://www.lsa.umich.edu/soc/research/socialdemography).

Lam, M. K., & Lam, L. T. (2012). Health information-seeking behaviour on the internet and health literacy among older Australians. *Electronic journal of health informatics,* 7(2), 15.

Lin, Che-Wei., Abdul S.S,Clinciu D.L., Scholl, J., Jin, X,, Lu, H., Chen. S.S., Iqbal, U., Heineck, M.J., & Li, Y. (2013). Empowering village doctors and enhancing rural healthcare using cloud computing in a rural area mainland China. *Elsevi*er, 113,585-592. Retrieved on from http:*www.intl.elservierhealth.com/journals/cmpb*.

World health organization. (2004).*Global Burden of disease 2004*. Retrieved from http:*www.google.co.keke/#q=who+depression +2030*

World Health Organization. (2005).*Health and the Millennium Development Goals*. Retrieved fromhttp://www.who.int/hdp/publications/mdg_en.pdf.

World health organization. (2010). *2010World health statistics*. Retrieved from http://www.who.int/gho/publications/world_health_statistics/EN_WHS10_Full.pdf?ua=1

Yan, Y.Y. (2010). Online Health Information Seeking Behaviour in Hong Kong: An Exploratory Study. *Department of Geography Journal Articles*,34(2),147-153.doi:10.1007/s10916008-9226-9