Original Research Article

The Utilisation of Internet for Health Information in a Nigerian University

Titus Onyi[1], Abdulkadir Isa Itopa[2]

[1]Medical Academic, Department of Public Health/Community Medicine, College of Medical Sciences, Abubakar Tafawa Balewa University ATBU, Nigeria.
[2]Engineer, Directorate of Information Communications and Technology, DICT, ATBU, Bauchi Nigeria;

Corresponding Author: Titus Onyi

ABSTRACT

Background: Internet is beneficial for health information and a good option for students especially in limited health resources. Existing studies have not extensively explored the utilisation of internet for health information. The study complements other studies and identifies gaps in students' internet access for health information. It assessed the use of internet for health information among students of Abubakar Tafawa Balewa University, ATBU, Bauchi.

Objectives: The study assessed: the frequency of use of internet and internet for health information; the nature of the health information accessed; the search engines, websites and data bases utilized for searching health information; the perceived usefulness of internet for health information and the perceived barriers in the use internet for health information

Methodology: Pre-tested, self-designed 25-item questionnaires were administered to randomly selected sample of students. Data was analysed using SPSS vs. 23 and Microsoft Excel 2013.

Results: Respondents (n=400) reported high rates of internet access and for health information .The health information sourced was for personal health information, academics and leisure. The most frequently accessed search engine, website and database were Google, WHO and Medline respectively. Majority of respondents perceived lack of internet access and poor knowledge and skills for accessing quality health information as barriers in accessing health information through the internet.

Conclusion: The Students have good use of internet for health information. However, there are gaps in appropriate and optimal use of websites, search engines and databases for health information. Strengthening e-health including through mainstream education could help address these gaps.

Keywords: Internet, Website, Health Information, Health Education, Students, Utilisation

INTRODUCTION

The internet is an effective and efficient tool for accessing information. It was first developed by USA in the 1960's for effective communication for warfare and has evolved in the last decades facilitated by advances in telecommunication. The internet is a cost-effective 'information super-highway' for global sharing of information and is even perceived as a universal right .This has fundamentally transformed information management globally.

The internet has enormous impact on health information .Internet access for health information has been popular since after the late 1990s. [1] Currently, the traditional health resources are immensely influenced by emerging information and communication technology on health, a phenomenon called e-health. [2] Arguably, the most common and influential function

of interactive health communication today is health-information seeking including through the internet. Internet development has brought profound changes in the health information across the globe ranging from health and medical education, training, diagnosis, patient management and health research. Health information includes information for healthy living, preventing and managing diseases, making decisions about health products and health services and making other decisions related to health and health care. It may be in the form of data, text, audio, video, etc. [3] identified three uses of internet for health information: searching directly for health information; participating in support groups/social internet platforms and consulting with health professionals. The internet is an important learning tool in health and medical education by providing access to latest evidence anytime and anywhere. It is especially useful for students in developing countries where access to health and medical resources are limited. In this way, internet bridges the gap in accessing resources for health information. Health information through the internet has the advantage of being tailored to individual health needs and sometimes to community health needs which may be difficult to access. It removes geographical and physical barriers in accessing health information. It also builds confidence for health information due to the anonymity of the internet. This reduces stigmatisation of patients and allows for the access of sensitive and embarrassing health information. [4,3] The internet allows for convenience in studying health and exploring health information. [5] This removes the inconveniences of fixed class lectures at defined places for students on distance learning and continuing education on health-related courses. Internet is indispensible in professional online intervention systems with integrated health and medical information on decisional support, questions and answers, and on-line interaction a forum for interaction with health professional experts or other system users. Through social media, the Internet provides various platforms for patients with identical backgrounds and health concerns to share concerns among themselves and among online support groups for emotional support. [6,7]

There are concerns about the quality of health information accessed through the internet. With enormous quantity of web pages, online services and applications related to health, [8] it can be hard to find high quality and trusted health information. [9] found that over 70% of health-related websites have poor quality of health information. Sometimes the appealing design of websites may confer wrong perspective on the quality of the website. [10] These unregulated information and advice on health from internet raise serious concerns on the reliability of health information. [11] This is a particular danger for students who lack the skills for verifying the quality of on-line information. [12] Online health information seekers therefore need to know if a web page is up to date, the providers of the information, the accuracy of the information, the usability of the resources and security of the resources etc. Questions of who, where, why, when and what information are passed should be addressed to assess the quality of the health information. Therefore, various tools and checklists have been developed and validated by various organisations to evaluate health information presented online. Examples of these organisations and criteria for evaluating online health information include: JAMA (Journal of the American Medical Association) scoring system; HON (Health on the Net Foundation) certification and HON seal; DISERN assessment for quality of health information; The LIDA tool for evaluating the accessibility, usability and reliability of health information on the net and The Flesch Reading Ease Score and the Flesch-Kincaid Grade Level for assessment of web

readability, etc. [13] However, there is no consensus quality marker for assessing health information from the internet. [14] Furthermore, these criteria have not been systematically applied to a broad set of Web pages and conditions. The reliability and validity of many of these evaluations is unknown because many of these systems rely on voluntary self-assessments by Web page developers. [15]

Assessing health information through the internet provides information on the utilisation of the benefits [16] among students, who may have varying levels of internet utilisation. [17] The increasing number of health related problems among young adults in Nigeria has necessitated the need for health information from various sources [18] with the internet being a good option. Health access is limited by user-fees, poor access to health facility and delays in accessing health care at the health facilities, etc. Therefore the internet, if appropriately utilised may be an effective to access health information on personal health needs of Nigeria students. [19] Some of the studies conducted among Nigeria students showed that the internet was used to access health information on health education, health promotion, reproductive and sexual health, information on disease management and health research, [20-24] concluded that the use of computer and internet in medical education has not been fully utilised among medical students in Ibadan, Nigeria.

However, the studies are few and have not extensively researched the utilisation of internet among students in Nigeria. Furthermore, no such research has been conducted in A.T.B.U., Bauchi. This underscores the need to conduct the present study to complement other studies and to possibly identify the gaps in internet access for qualitative health information among students. The study is on the use of internet for health information using ATBU as a case study. The specific objectives of the study are: frequency of use of internet and internet for health information; the nature

of the health information accessed; the search engines, websites and data bases used for health information; the perceived usefulness of internet for health information and the perceived barriers in the use internet for health information.

Data collected will provide an insight into the information seeking behaviour of the students on the internet and possibly identify gaps and barriers that need to be addressed so that the students can effectively use the internet for qualitative health information for their personal and research needs, etc.

METHODOLOGY
2.1 The setting
The Abubakar Tafawa Balewa University, ATBU, is located in the North Eastern part of Nigeria at these geographical coordinate10.3010° N, 9.8237° E. ATBU was established in 1980 as the Federal University of Technology (FUT), Bauchi,. In 1984, under the rationalization programme of the Federal Government of Nigeria, the University was merged with the Ahmadu Bello University, Zaria and was renamed the Abubakar Tafawa Balewa College, Ahmadu Bello University, (ATBC-ABU). In 1988, it was de-merged from the Ahmadu Bello University and regained its autonomy as a full fledge university. Currently, the university has to main campuses-Yelawa campus in Bauchi maintown and Gubi campus, located outside in the suburb of Bauchi. ATBU currently has 30 Academic Departments, 6 Faculties,1 college, 8 Directorates and 7 Canters, with an undergraduate students' population of about 12,600.The faculties are: Agriculture and agricultural technology; Engineering and engineering technology; Environmental technology; Management Technology; Education Technology ;Sciences and a newly established Medical College. [25]
2.2 Study design
The study was a cross-sectional survey that utilised self- designed hand-delivered 25-item questionnaires. Items 1

to 6 obtained demographic data while items 7 to 25 obtained data on the various objectives of the study.

2.3 Population for the Study

The study population consisted of approximately 12,600 undergraduate students of ATBU that were enrolled in the 2016/2017 academic session.

2.3 Sample and Sampling Technique

A sample of randomly selected 430 students was utilised for the study. Sample size was guided by Taro Yamane formula for sample size calculation. The sampling techniques utilized were multi-stage sampling and simple random sampling.

2.4 Research tool

Data were collected using questionnaires. The researchers designed the questionnaire based on themes identified from the review of literature and the objectives of the study. The questionnaires were a combination of Likert-scaled, structured questions and open-ended questions to obtain a wide range of information.

2.5 Validity of research tool

Two university academics, one from Public health department and one from the department of Information and Communication Technology, CT, reviewed the questionnaires for content validity. Modifications were made based on the feedback from the reviewers. The questionnaires were then pretested on 10 university students who were not part of the main study. After due corrections, the final questionnaires were adopted for the study.

RESULTS

Out of the 430 copies of questionnaires that were distributed to students, 419 were returned. However, 400 copies which were correctly filled were analysed. The high return rate of 97% was achieved probably because of commitment of the research assistants and respondents.

3.1 Demographic profile of respondents

The characteristics of the respondents are shown in table 1

Table 1. Demographic profile of respondents.

SEX	Frequency	Percent	Cumulative Percent
Male	192	48.0	48.0
Female	208	52.0	100.0
Total	400	100.0	
AGE	Frequency	Percent	Cumulative Percent
18- 19 years	106	26.5	26.5
20 - 29 years	276	69.0	95.5
30 - 39 years	18	4.5	100.0
Total	400	100.0	
MARITAL STATUS	Frequency	Percent	Cumulative Percent
Single	358	89.5	89.5
Married	38	9.5	99.0
Divorced	2	.5	99.5
Separated	2	.5	100.0
Total	400	100.0	
YEAR OF STUDY	Frequency	Percent	Cumulative Percent
100 level	118	29.5	29.5
200 level	214	53.5	83.0
300 level	28	7.0	90.0
400 level	8	2.0	92.0
500 level	32	8.0	100.0
Total	400	100	100.0
FACULTY	Frequency	Percent	Cumulative Percent
Sciences	80	20.0	20.0
Engineering technology	50	12.5	32.5
Medical college	40	10.0	42.5
Environmental technology	52	13.0	55.5
Agriculture	42	10.5	66.0
Education	92	23.0	89.0
Management technology	44	11.0	100.0
Total	400	100.0	

Researchers' computation using SPSS vs. 23

From table 1, there were more female (52%) respondents than male (48%) respondents. The ages of the respondents ranged from 18 years to 39years.Most (69%) respondents were in the age bracket of 20-29 years. Respondents from 18years to 20years of age and within the ages of 30 and 39 years were 26.5% and 4.5% respectively.

Majorities (89.5%) of respondents were not married; 19% were married while 1% each were divorced or separated. Most (53%) of the respondents were in the second year of study. The respondents in first year of study were 29.5%.The least respondents (2%) were fourth year students. Most (23%) respondents were from the faculty of education. The second highest (20%) number of respondents was from the sciences faculty. The least (10%) number of respondents was from the medical college.

3.2 Frequency of use of internet and health information
The Frequency of use of internet is shown in table 7. The frequency of use of internet for health information is shown in table 8 below.
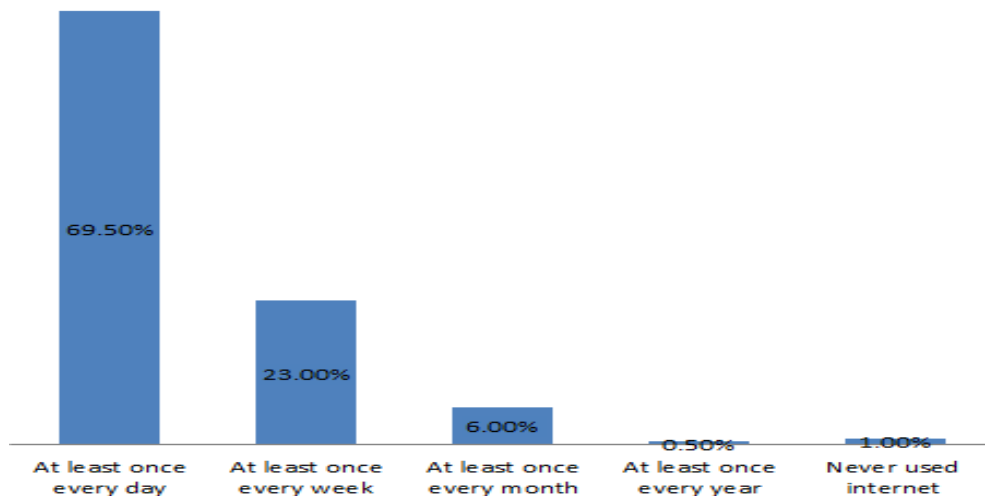
Figure 1: Frequency of use of internet
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013

From figure 1, most (69.5%) of the respondents accessed the internet at least once a day.23% accessed internet at least once every week.2% never used the internet while the least(1%) number of respondents accessed internet at least once a year.
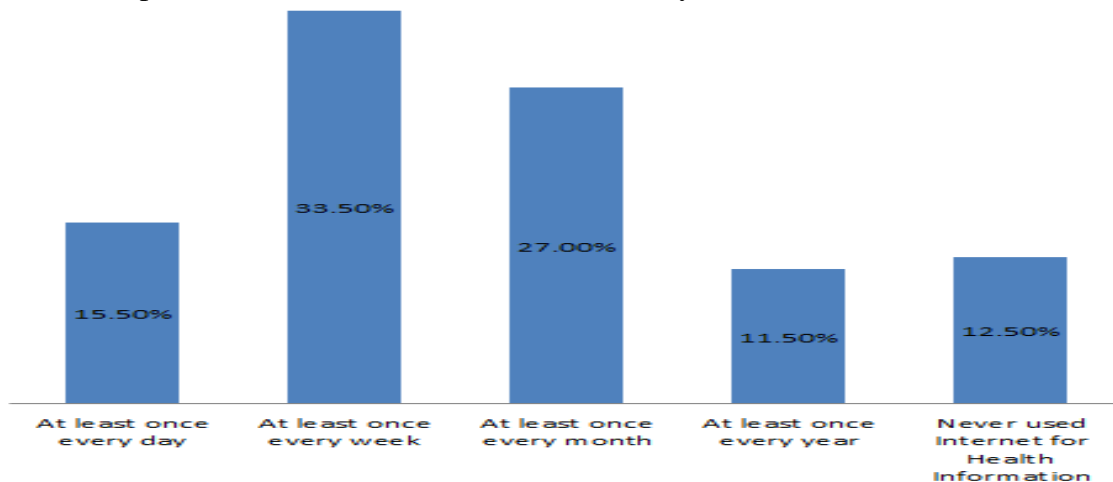

Figure 2: Frequency of use of internet for health and medical information
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013.

From figure 2, 33.5% of respondents accessed the internet for health information. This is closely followed by 27% -respondents who accessed the net at least once a month for health information. The least number of respondents,(11%),accessed the net at least once a year for health information.

3.3 The nature of the health information accessed
The nature of health information accessed through the internet is shown in figure 1 below.
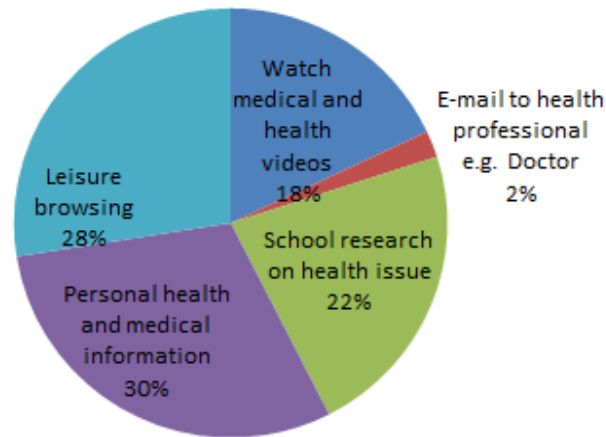

Figure 3:Pie shart shoing the the nature of the health information accessed.
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013

From the pie chart above,most(30%) of the health information sought was for personal health and medical information. 28% of the health information was sought for leisure.22% of health information was for school resarch on health issue.The least(2%) health information accessed was for e-mail to health professional.

3.4 The search engines, websites and data bases used for health information
Figures 4, 5, and 6 show the most frequently accessed search engines, the most frequently accessed websites and the most frequently accessed electronic databases and library respectively.
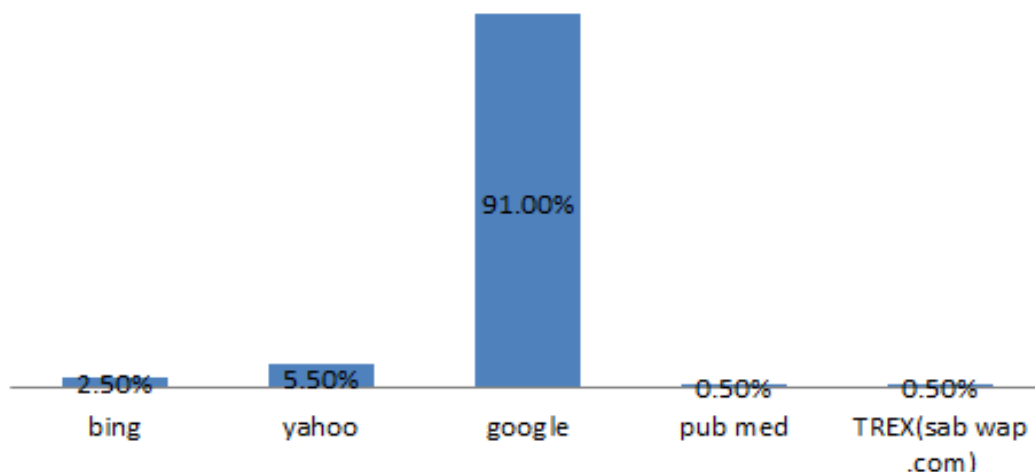

Figure 4: The most frequently accessed search engines
Researchers' computation using SPSS vs 23 & Microsoft Excel 2013.

From figure 4, the highest 'most frequently accessed search engines' was google(91.0%), followed with a wide margin by yahoo(5.5%); then followed by bing (2.5%).Response to Pubmed and T-REX search engines was 0.5% each.
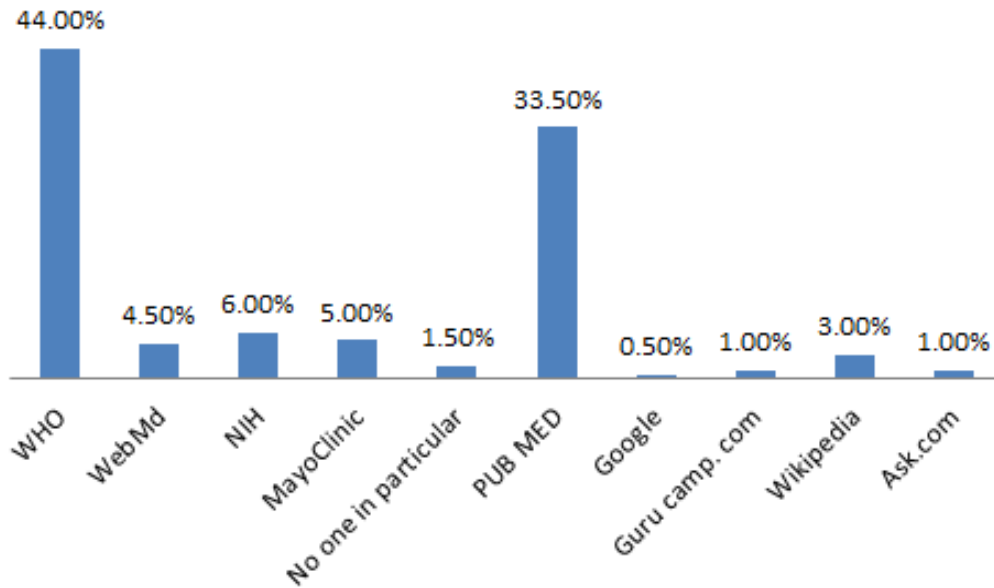
Figure: 5 The most frequently accessed websites for health information
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013

From figure 5above,The highest 'most frequently accessed website for health information' was WHO -44.0%.This as followed by PubMed- 33.5%.Responses to other were in single digits including,National Institites of Health (NIH)-6.0%;Mayo Clinic-5.0%;WebMd-4.5% and Wikipedia-1.0% .'Google'had the least reesponse at 0.5% . 1.5% of respondents had no specific 'frequently accessed website' for health information.

Figure 6: The most frequently accessed electronic database and library
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013.

From figure 6,the highest and least responses to 'most frequently accessed electronic database and library' were

Medline(27.0%) and Cochrane(2.0%) respectively. Response to concomittant accessing of Pubmed,Cochrane and Medline was 5.5%.However,41% respononondents reported that they did not access any of the aforementioned three databases for health information.

3.5 Perceived usefulness of internet for obtaining wide scope of health information
The response to the usefulness of internet for accessing health information is presented by figure 7.
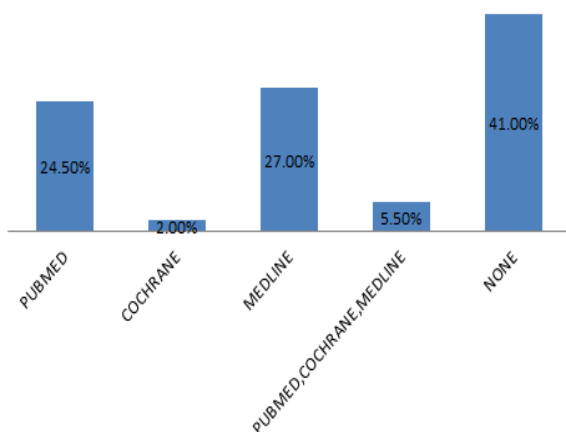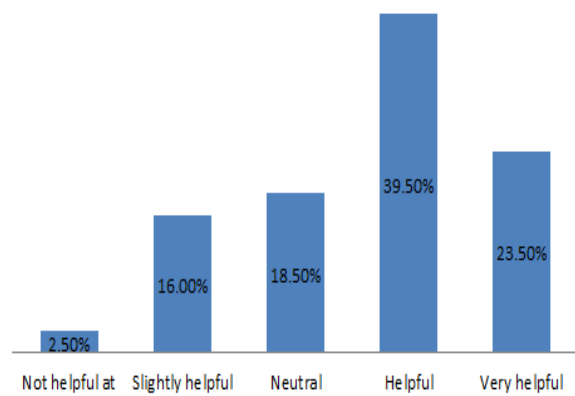

Figure7: Perceived usefulness of internet for obtaining ide scope of health information.
Researchers' computation using SPSS vs. 23 & Microsoft Excel 2013

From figure 7 above ,majority(39.5%)of respondents perceived

the internet as a helpful tool for obtaining wide scope of health information.The least response-2.5% -was for perception of internet as not being helpful at all for obtaining health information. 23.5% respondents perceived the internet as a very helpful tool for obtaining wide scope of health information.18.5% respondents perceived the internet as neither helpful nor unhelpful for obtaining wide scope of health information.

Table 2:Statistics of response (Likert Scale) to Perceived usefulness of internet for obtaining IDE scope of health information.

N	Valid	200
	Missing	0
Mean		3.66
Median		4.00
Mode		4
Range		4
Minimum		1
Maximum		5

Researchers' computation using SPSS vs. 23

From table 2 above, the mean response of 3.66,a value close to 4.0, is indicative of overall perception of the internet 'helpful' or 'useful' for obtaining wide scope of health information.

3.7 Perceived barriers to internet access for health information
The perceived barriers to internet access for health information are presented in figures 8, 9 and 10.
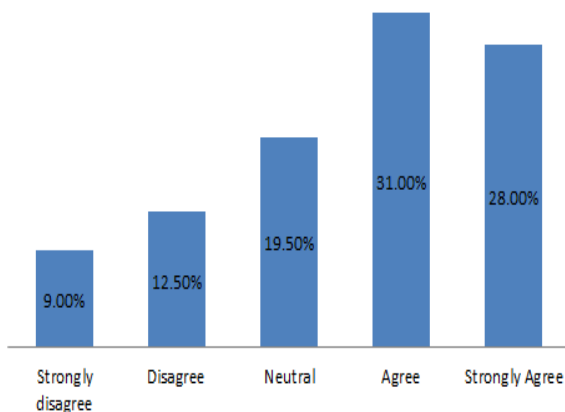
Figure 8: Perception of lack of access to internet as a barrier to internet access for health information.
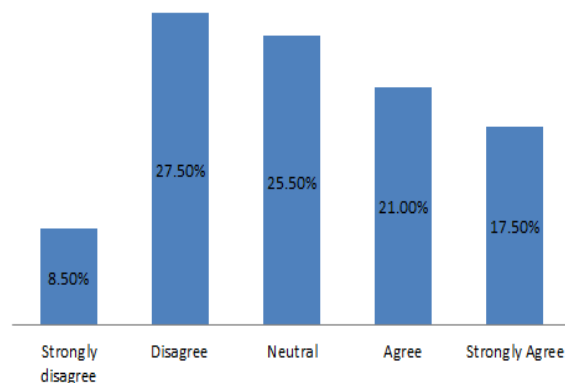Researchers' computation using SPSS vs 23 & Microsoft Excel 2013

From figure 8 above, the highest and lowest responses were for those who 'agreed'(31.0%) and 'strongly disagreed'(9.0%).28.0% respondents .12.5% and 19.5% responses were for 'disagree' and 'Neutral' respectively.

Table 3 Statistics of response (Likert Scale) to Perception of lack of access to internet as a barrier to health information

N	Valid	200
	Missing	0
Mean		3.57
Median		4.00
Mode		4
Range		4
Minimum		1
Maximum		5

Researchers' computation using SPSS vs. 23

From table 2 above, the mean response of 3.57,a value close to 4.0,is indicative of overall perception of the lack of access to internet as a barrier to obtaining wide scope of health information.

Figure 9: Perception of poor knowledge and skills for internet search as a barrier in accessing quality health information
Researchers' computation using SPSS vs 23 & Microsoft Excel 2013

From figure 9 above,the least response,8.5% was for 'strongl agree'.There as a gragual decline in response from 7.5% ho 'disagreed' to 17.5% who 'strongly agreed'

Table 4: Statistics of response(Likert Scale) to perception of poor knowledge and skills for internet search as a barrier in accessing quality health information.

N	Valid	200
	Missing	0
Mean		3.12
Median		3.00
Mode		2
Range		4
Minimum		1
Maximum		5

Researchers' computation using SPSS vs. 23

From table 4 above, the mean response of 3.12,a value close within 2.8 and 3.2,is indicative of overall neutral perception of lack of access to internet as a barrier to obtaining wide scope of health information.
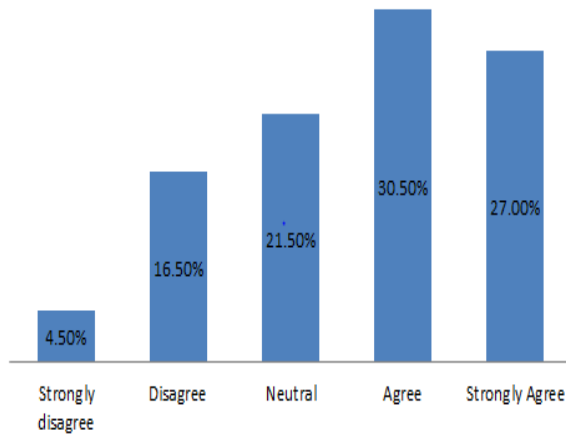

Figure 10: Perception of poor knowledge and skills for internet search as a barrier in accessing quality health information
Researchers' computation using SPSS vs 23 & Microsoft Excel 2013.

From figure above, there was a rise in the response from the least response, 'strongly agreed' -4.5%- to Agreed'-30.5%.27.0% respondents strongly agreed to the perception of poor knowledge and skills for internet search as a barrier in accessing quality health information

Table 5 Statistics of response(Likert Scale) to the perception of poor knowledge and skills for internet search as a barrier in accessing quality health information		
N	Valid	200
	Missing	0
Mean		3.59
Median		4.00
Mode		4
Range		4
Minimum		1
Maximum		5

Researchers' computation using SPSS vs 23

From table 5 above, the mean response of 3.59,a above 3.2,is indicative of overall good perception of lack of access to internet as a barrier to obtaining wide scope of health information.

DISCUSSION

The present study examined the use of internet for health information using ATBU students as a case study. The finding was a high rate (69.5%) of daily internet access which is comparable to the 72% obtained in the study by [23] in Nnamdi Azikiwe University, Nnewi, Nigeria. The rate is however less than the 83.97% obtained by, [3] 97% obtained by [22] in Ife, Oshun State, Nigeria and 90% by [26] in Ife, Oshun State Nigeria. [21] found that as many as 61% respondents preferred internet browsing to reading than printed books. From figure 1, the rate of daily access to internet was 69.5%.This finding is higher than the 63.7% that was obtained by the research of. [27]

The daily rate use of internet access for health information was 15.5% and 87.5% for internet access for health information within a year (Refer to figure 2). This is similar to the 82.0% obtained by [23] while assessing the internet use for medical information.

These findings are not surprising, looking at the increasing internet access in developing countries and among university students. This is particularly beneficial in communities with limited health professionals and facilities. The relative affordability and availability of smart phones and wireless networks at the university campuses have probably enhanced the high rate of internet access. More so, some of the students are accustomed to internet use from their secondary schools where Information and Communication Technology, ICT, are being integrated in the mainstream education curriculum. [28]

Personal health and medical information was accessed by 30% of respondents in the study. The finding is comparable to the 23% obtained in. [29] It is however much lower than 82% that was obtained in the study conducted by. [23]

The rate of use of internet for school research on health related issues was 22.5%. Again, the figure is lower than that obtained from similar studies e.g. 45% in [27] and 62% in [23] and 68% in. [30] The relatedly lower rates may have been influenced by a possible deficiency in the students'

knowledge of the benefits of internet for health information. This underscores the need for educating the students on the enormous benefits of the internet for personal health information and research. In fact ,internet utilisation for health information may indirectly reduce the use of alternative medicine and provide information on sexual and reproductive health needs, drug reactions etc. [31] However, It is important to warn that the physicians are central in providing health care and health information to patients , preventive care, drug prescription ,treatment options, decisions and referrals. In the light of increasing use of internet for health information, the health professionals are readapting to be more informative with current health information to patients and involve them more in clinical decision making. [27] Patients should still go to their health care providers as primary source of health information. This is because decision taken by patients that is based on information from the internet may lead to wrong actions that may be potential suicidal. [15]

Google was the most frequently accessed web search engine with a response of 91.0% followed by a wide margin by yahoo-5.5%.The finding is similar to the study done by [22] However, it is not similar to the study conducted by [23] who found that Wikipedia as the most frequently accessed search engine, ahead of Medscape and PubMed.

The finding is not far from expectation because Google is the most popular and most famous search engine globally. But the wide margin between the use of Google and other search engines probably indicates the gap in knowledge of other useful search engines that are tailored to health. These include WHO, PubMed and Cochrane.

The most frequently accessed website was WHO (44.0%) followed by PubMed (33.5%). This is a good finding since these two websites are credited with quality health information. The figure is higher than 20.8% obtained in the study of. [22] However, the 41% who did not use any of the health website possibly reflects the gap in extensive knowledge of quality health websites by the students. Most health professional websites, whose primary aim is education, rather than for advertisement or other interests, are often associated with quality health information. Sometimes, some of these health sites may be associated with health codes which may be used to identify quality health website .The popular qualitative health websites include WebMD, WHO, NIH and Mayo Clinic, etc. However, there is no consensus quality marker for assessing health information from the internet. [14,15]

The perception of internet as a useful tool for accessing wide range of health information is shared by majority of the respondents. The finding is in tandem with the popularity of the internet as a good source of health information. The uses of internet to the students include for personal health including sexual health and academic research. [31]

The perceived barriers to health information through internet were mainly lack of access to internet and poor knowledge and skills for accessing quality health information. These findings are related, in part, to the study by [23] where 81.3% of respondents reported that lack of internet was a barrier to health information. This necessitates the strengthening e-health through provision of extensive free internet services through broadband and wireless internet networks at the school facilities.

There are limitations to the work. The study may have been affected by response bias through false opinions or responses as well as human error .The study did not cover for postgraduate students, necessitating further study in this regard.

CONCLUSION

This study suggests that ATBU students are active in the use of internet for health information. The students have a moderate knowledge of search engines and

heath websites for qualitative health information. The health information sought online is mainly personal health and medical information and for academic research. The most frequently accessed search engine, website and database are Google, WHO and Medline respectively. The majority of students perceive lack of access to internet and poor knowledge and skills for accessing quality health information as barriers in accessing health information through the internet.

The findings from the study identify gaps in the depth of knowledge of quality websites, search engines and data bases for health information. There are also gaps in the extensive knowledge of the enormous benefits of internet for a wide range of health information.

In order to address these gaps, it is important to strengthen the students' knowledge of use of internet for qualitative health information. This could be by mainstreaming the techniques for accessing health information in compulsory first year courses. Seminars and workshops may be utilised to further address this. On a wider perspective, e-health should be strengthened in the universities and beyond to promote quality health information through the internet.

REFERENCES

1. Risk A, Petersen C. Health Information on the Internet. JAMA. 2002;287 (20): 2713–2715.
   Doi:10.1001/jama.287.20.2713
2. Jung M-L, Loria K. Acceptance of Swedish e-Health services. J Multidiscip Healthc. 2010; 3;55–63).
3. Jadoon NA., Zahid MF, Mansoorulhaq H., Ullah S, Jadoon BA., Raza A., Hussain M., Yaqoob R., Shahzad MA. Evaluation of Internet access and utilization by medical students in Lahore, Pakistan. BMC Med. Inform. Decis. Making BMC Medical Informatics and Decision Making BMC series –2011. DOI: 10.1186/1472-6947-11-37.
4. Davison KP, Pennebaker JW, Dickerson SS. Who talks? The social psychology of illness support groups. Am Psychol. 2000;55;205-217.
5. Oliver MI, Pearson N, Coe N, Gunnell D. Help-seeking behaviour in men and women with common mental health problems: Cross-sectional study. Br J Psychiatry. 2005;186; 297-301.
6. Wutoh R, Boren SA, Balas EA. E-Learning: A review of Internet-based continuing medical education. Jnl. Contin. Educ. Health. Prof. 2004; 24; 20-30.)
7. Love B, Crook B, Thompson CM, Zaitchik S, Knapp J. Exploring psychosocial support online: A content analysis of messages in an adolescent and young adult cancer community. Cyberpsychol Behav. Soc. Netw. 2012; 15; 555-559.
8. Fox S, Jones S.The social Life of Health information. JAMA.2010;287(6);41-44.
9. Eysenbach G, Wyatt J. Using the Internet for Surveys and Health Research. J Med Internet Res 2002; 4(2);13.DOI: 10.2196/jmir.4.2.e13
10. Westerwick A. Effects of Sponsorship, Web Site Design, and Google Ranking on the Credibility of Online Information. Journal of Computer-Mediated Communication. 2013Jan; 18(2);80-90.
11. Arunachalam, S.(1998). Assuring quality and relevance of Internet information in the real world. BMJ.1998;317(8);1501-1502.
12. Ward JP, Gordon J, Field MJ, Lehmann. Communication and information technology in medical education. Lancet. 2001 Mar 10;357(9258);792-6.
13. Chumber S, Huber J, Ghezzi P. Diabetes Educ. A methodology to analyze the quality of health information on the internet: The example of diabetic neuropathy. Epub. 2015 Feb;41(1);95-105. Doi: 10.1177/0145721714560772.
14. Jadad AR, Gagliardi A. Rating Health Information on the Internet. JAMA. 1998;279 (8); 611–614. Doi:10.1001/jama.279.8.611
15. Berland GK, Elliott MN, Morales LS, Algazy JI, Kravitz RL, Broder MS, Kanouse DE, Muñoz JA, Puyol JA, Lara M, Watkins KE, Yang H, McGlynn EA. Health information on

the Internet: accessibility, quality, and readability in English and Spanish. JAMA. 2001 May 23-30;285(20);2612-21 .Doi:10.1001/jama.285.20.2612.

16. Purcell, GP.; Wilson, P, Delamothe, T. The quality of health information on the internet". BMJ (Clinical research ed.). 2000; 324 (7337);557–558. Doi:10.1136/bmj.324.7337.557

17. Percheski C, Hargittai E. Health Information-Seeking in the Digital Age. Journal of American College Health,2011;59(5);379-386.DOI: 10.1080/07448481.2010.513406.

18. Adeyoyin, SO, Oyewusi FO. A Survey of the Needs and Utilization of Health Information among Young Adults in Abeokuta, Ogun State, Nigeria. Library Philosophy and Practice(e-journal)[internet].2015.Available from: https://digitalcommons.unl.edu/cgi/view content.cgi?referer=http://www.google. com/url?sa=t&rct=j&q=&esrc=s&sourc e=web&cd=1&ved=0ahUKEwiE8vun_J 3ZAhVRyKQKHegIBGoQFggnMAA& url=http%3A%2F%2Fdigitalcommons.u nl.edu%2Fcgi%2Fviewcontent.cgi%3Fa rticle%3D3471%26context%3Dlibphilp rac&usg=AOvVaw1B0tdRMpdhOpJ0h BjaawH1&httpsredir=1&article=3471& context=libphilprac

19. Mustanski B, Lyons T, Garcia SC. Internet use and sexual health of young men who have sex with men: A mixed-methods study. Archives of Sexual Behavior.2011; 40(2); 289-300.

20. Okon A. Internet access and use: A study of undergraduate students of three Nigerian Universities. The Electronic Library.2010;28 (4) ;555-567.

21. Edem M, Offre E. Reading and Internet Use Activities of Undergraduate Students of the University of Calabar, Calabar, Nigeria. African Journal of Library, Archives and Information Science.2010;20(1).Available from: https://www.ajol.info/index.php/ajlais/ar ticle/view/54428.

22. Bankole O.M., Oludayo B. Internet use among undergraduate students of Olabisi Onabanjo University, Ago Iwoye, Nigeria. Library Philosophy And Practice(e-journal).[internet] 2012.Available from: diditalcommons.uni/liphilprac/812

23. Anyaoku EN., Nwafor-Orizu OE, Oguaka CN. Internet information seeking and use by Medical Students of Nnamdi Azikiwe University, Nigeria. International Journal of Library And Information Science.2015;7(8);148-154. DOI: 10.5897/IJLIS2015.0604

24. Ajuwon GA. Internet Accessibility and Use of Online Health Information Resources by Doctors in Training Healthcare Institutions in Nigeria. Library Philosophy and Practice (e-journal).Available from: https://digitalcommons.unl.edu/cgi/view content.cgi?referer=http://www.google. com/url?sa=t&rct=j&q=&esrc=s&sourc e=web&cd=1&ved=0ahUKEwjQwIX2y tLYAhWDZlAKHXOMCBcQFggvMA A&url=http%3A%2F%2Fdigitalcommo ns.unl.edu%2Fcgi%2Fviewcontent.cgi %3Farticle%3D3377%26context%3Dli bphilprac&usg=AOvVaw1rzW_yVFbH erTYxPLgiCNz&httpsredir=1&article= 3377&context=libphilprac

25. ATBU official website [internet]2017. Available from: https://www.atbu.edu.ng/#/aboutus/atbu history

26. Awoleye MO, Slyanbola WO, Oladipupo OF. Adoption assessment of internet usage among undergraduates in Nigeria: a case study approach. Jnl of Technology Management And Innovation. 2008;7 (3);11-13.

27. Hesse BW, Nelson ED, Kreps GL., Croyle, R.T Arora, N.K, Rimer, B.K, Viswanath, K.Trust and Sources of Health Information The Impact of the Internet and Its Implications for Health Care Providers: Findings From the First Health Information. National Trends Survey. 2005; 165(22); 2618-2624. Doi:10.1001/archinte.165.22.2618.

28. Cooke FJ, Holmes A. E-mail consultations in international health. Lancet. 2000; 8;356(9224);138.

29. Bello IS., Arogundade FA., Sanusi AA., Ezeoma IT, Abioye-Kuteyi EA., Akinsola, A. Knowledge and utilization of Information Technology among health care professionals and students in Ile-Ife, Nigeria: a case study of a university teaching hospital. Journal of medical Internet research,2004; 6(4); 45. DOI: 10.2196/jmir.6.4

30. Adomi EE.Overnight internet browsing among cybercafé users in Abraka, Nigeria. The Journal of Community Informatics.2007;3(2).Available from:http://ci-journal.net/index.php/ciej/article/v

31. Sarker AS, Ginn R., Nikfarjam A, O'Connor K, Smith K, Jayaraman S, Upadhaya T, Gonzalez, G. Utilizing social media data for pharmacovigilance: A review. Journal of Biomedical Informatics. 2015; 54; 202–212. Doi:10.1016/j.jbi.2015.02.004

How to cite this article: Onyi T, Itopa AI. The utilisation of internet for health information in a Nigerian University. Int J Health Sci Res. 2018; 8(3):213-225.

****