The Use of Internet Search Tool and Development of Community Relation by Nurses

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ABSTRACT

The study examined the use of internet search tools and development of community relations by nurses in Akwa Ibom State. The research design adopted in the study was a survey design. The population consisted of all the nurses in Akwa Ibom State, while stratified random sampling technique was adopted to select 240 respondents. The instrument used for the study was a research questionnaire. The obtained data was coded statistically before the analysis of the data and the instrument passed through face and content validation by experts in test and measurement. The data collected were analyzed using percentage analyses and bar charts to answer the research questions. The findings of the study revealed that internet search tools such as google and yahoo are significantly used by nurses to enhance development of community relations. One of the recommendations was that Nurses should be proficient in computer and ICT to differentiate between credible and non-credible online Health Related Information.

KEYWORDS: Internet Search Tools, Google, Yahoo, Health Related Information

Introduction

The Internet is a global system through which a huge and broad range of resources and information can be approached. There is a dramatic increase of Internet utilization by users all over the globe; from one billion users in 2005, the number increased to three billion users in 2015. Internet is used by various classes of people including nurses for development of community relations and promotion of people's health. There are two areas in which e-health is involved: the transfer of Health-Related Information (HRI) to workers in health care facilities and the clients who seek services in such facilities through Internet and telecommunication sources, and the utilization of information technology (IT) and e-commerce to enhance public health services by increasing the knowledge of health care workers and improving their abilities to use such sources to improve the quality of care in the community. The Internet, through the use of Google, yahoo and many other search tools, has revolutionized the way information is shared and accessed. Information retrieval is easier now than ever before. Since the rise of modern search engines, social networks, and ubiquitous access through devices such as smartphones and tablet or laptop computers, information is available at people's fingertips almost any time of the day. One important domain in which the Internet plays an increasing role is health information access. Most people find it comfortable to go online to search for medical or health-related information, and it has been reported that the Internet, rather than physicians, is

the first source of information for many people (Hesse et al. 2010). Considering how easy it is to Google search "bad cough," it is not surprising that many people make an attempt at self-diagnosis using the Internet before waiting hours in crowded walk-in clinics or emergency departments to consult professionals. Not surprisingly, this paradigm shift has elicited varied and sometimes conflicting views about the value of the Internet as a tool to improve health care.

It is the concern of this study to examine internet search tools used by Nurses to enhance development of community relations through which information can get to the patients on time. The main aim of the study is to examine the use of internet search tools and development of community relations by nurses. The objectives of the study are: to find out the extent to which Google is used as a search tool by nurses to enhance development of community relations and to find out the extent to which Yahoo is used as a search tool by nurses to enhance development of community relations. The findings of this study will be highly important to the Medical practitioners in general and to nurses in particular as they will be informed on where to publish health related information. The study will equally be beneficial to patients as they will be aware of such internet pages where validated medical information could be obtained. Also of great significance will be the findings of this study to the entire public on health matters. Finally, the study will be beneficial to researchers as the findings of the study would open up avenues for further researches in the medical field.

The study adopts the Health belief model. The model is a modification of Becker and Maiman (1974) and Rosenstock (1974) developed to explain preventive health behaviours focused on the relationship of health behavior to utilization of health service. Health behavior is any activity undertaken by persons who believe on themselves to be healthy for the purpose of detecting and preventing disease in any asymptomatic sage. This model is interactive and is based on three primary dimensions; a) the individual's readiness to comply with treatment. b) the motivating and enabling force that determine what the individual will do and; c) the compliance behaviours actually exhibited. Furthermore, the model explains that a range of health behaviors can be predicted based on information from determinants such as perceived susceptibility, perceived severity, perceived benefits/barriers and modifying factors associated with engaging in a behavior. The application of the model in this study has been outlined in subsequent paragraphs below.

Perceived susceptibility refers to an individual's judgment of their risk of contracting a health problem. The likelihood of seeking health interventions increases as the level of perceived susceptibility increases, (Rosenstock 1974). For instance, pregnant women would be more likely to seek medical attention in this case antenatal services if they believe that they are susceptible of developing pregnancy complications. Perceived severity refers to the subjective evaluation of the likelihood that a problem/ illness or disability, if contracted or left untreated, will have severe consequences such as pain, death, handicap, or reduced quality of life in general, (Backer and Maiman 1977). In the context of this study, willingness of pregnant mother to utilize antenatal clinics would depend also on personal evaluation of the seriousness of the consequences associated with pregnancy complications for example, death of the fetus. On perceived benefits/barriers, individuals' choice of behavioural options depends on their perception of benefits and barriers. Therefore, a cost benefit analysis allows an individual to evaluate the outcome expectations and assess whether the expected benefit of a behavior outweigh the perceived expenditure incurred by engaging in the behavior, (Rosenstock 1974). Compliance

with recommended health seeking behaviour is impeded to the extent that perceived barriers outweigh perceived benefits that would result from engaging in the health behavior (Rosenstock 1974). For example, inconveniences such as long waiting time at antenatal clinic, distance to the health facility would act as barriers to utilization of antenatal services. With this, the internet could be used by pregnant woman who would opt not to go to the clinic if she sees no benefit in doing so.

Nurses need to be able to understand the role of information within the organisations they work in, as well as its role in supporting their professional practice. Additionally, with more care taking place at locations other than hospitals, nurses need to be able to communicate electronically within their own organisation and across professional and organisational boundaries. Information for patients is as important as information management and communications. Historically nurses have had a role as information gatekeepers, with most detailed health information only available in journals and health libraries, with access limited to professionals. With the widening availability of the internet much more information is now available, and access to it is easier. One implication of this is the ease of access to internet based information for nurses. If there is an Internet connection, the right skills to use it, and the right search tools, information can be accessed anywhere, and at any time it is needed. Another benefit is that patients can also access this information without going through a professional gatekeeper, this means that all nurses need to be able to help patients evaluate the information they have found, and direct them to reliable internet sources.

A literature search was performed in between 2000 and 2014, using the databases Cumulative Indexes to Nursing and Allied Health Literature (CINAHL), MEDLINE, PubMed, in addition to Google Scholar and Yahoo. Furthermore, Springer and Sage publications were also searched. Snowballing technique was carried on the reference lists of the studies to obtain more specific and related literature. The search terms used were nurses; Internet; electronic health; health-related information; online, and nursing. The study found out that Google was mostly used search tool, followed by Yahoo and Nurses judge information as complete and relevant if it helps them to decide for practice and/or if it adds to their knowledge more than what is considered by experts. Barnoy et. al. (2011). In a study by Weng et al. (2013) the researchers concluded that nurses prefer to use web portals (such as Google and Yahoo) as an information source.

The internet according to Wells (2010) is a computer mediated communication tool, providing the individual with access to a broad spectrum of information and unique communication technologies. It is often referred to as information super highway. Users often utilize the resources available on the internet through the use of search engines. The internet carries a vast range of information resources and services such as the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail. According to Ani (2015), the internet is a network of linked computers which are located at different points all over the world that provides easy communication between persons and organizations no matter where they are located. The internet is used mostly in obtaining information. Researchers can publish and also access several publications across the nation through internet, even from their personal computers once they are connected to the internet. The major functional advantage of the internet stems from its willingness to share information with others so that everyone will benefit. Shitta (2012), posits that the internet is a communication

super highway that links, hooks and focuses the entire world into a global village, where people from all races can easily get in touch, see or speak to one another and exchange information from one point of the globe to another.

A search engine is a software usually accessed on the Internet, that searches a database of information according to the user's query. The engine provides a list of results that best match what the user is trying to find. Today, there are many different search engines available on the Internet, each with their own abilities and features. The first search engine ever developed is considered Archie, and the first text-based search engine is considered Veronica. Currently, the most popular and well-known search engine is Google. Other popular search engines include AOL, Ask.com, Baidu, Bing, and Yahoo. A search engine is accessed through a browser on the computer, smartphone, tablet, or any other device. Today, most new browsers use an omnibox, which is a text box at the top of the browser. The omnibox allows users to type in a URL or a search query. Because large search engines contain millions and sometimes billions of pages, many search engines not only search the pages but also display the results depending on their importance. This importance is commonly determined by using various algorithms. The source of all search engine data is a spider or crawler, which automatically visits pages and indexes their contents. Once a page is crawled, the data contained in the page is processed and indexed. The data collected is used to rank each page. These rankings then determine which pages to show in the search results and in what order. When the data is processed, it is broken up into one or more files, moved to different computers, or loaded into memory where it can be accessed when a search is performed (Giovannetti *et al.,* 2013).

Google is an American multinational technology company that specializes in Internet-related services and products, which include online advertising technologies, search engine, cloud computing, software, and hardware. It is considered one of the Big Four technology companies, alongside Amazon, Apple, and Facebook (Rivas, 2018). Google was founded in September 1998 by Larry Page and Sergey Brin while they were Ph.D. students at Stanford University in California. They incorporated Google as a California privately held company on September 4, 1998, in California. Google was then reincorporated in Delaware on October 22, 2002. An initial public offering (IPO) took place on August 19, 2004, and Google moved to its headquarters in Mountain View, California, nicknamed the Googleplex. Based on a traffic survey, conducted in 2016, Google.com is the most visited website in the world. Several other Google services also figure in the top 100 most visited websites, including YouTube and Blogger. Google was the most valuable brand in the world as of 2017, but has received significant criticism involving issues such as privacy concerns, tax avoidance, antitrust, censorship, and search neutrality. Google's mission statement is "to organize the world's information and make it universally accessible and useful". Google indexes billions of web pages to allow users to search for the information they desire through the use of keywords and operators.

Yahoo which is an abbreviation of 'Yet Another Hierarchical Officious Oracle', is the second largest search engine worldwide across all platforms. Yahoo Search was launched in 1994 by Jerry Yang and David Filo, then students at Stanford University. In 1995, they introduced a search engine function, called Yahoo! Search that allowed users to search Yahoo! Directory. According to Oppitz and Tomsu (2017), it was the first popular search engine on the Web. Originally, "Yahoo Search" referred to a Yahoo-provided interface that sent queries to a

searchable index of pages supplemented with its directory of websites. The results were presented to the user under the Yahoo! brand. Originally, none of the actual web crawling and data housing was done by Yahoo! itself. Starting on April 7, 2003, Yahoo! Search became its own web crawler-based search engine. They combined the capabilities of search engine companies they had acquired and their prior research into a reinvented crawler called *Yahoo!*. (Yahoo Inc. 2008).

In order to relate well with the community of both workers and patient, it is necessary that Nurses who constitute the largest body of medical practitioners use the most widely used internet source to relay handy medical information. An online article reports that during President Clinton's visit to India in March 2000, he watched a woman enter a village health centre, call up a web page on the computer, and get information on how to care for her baby. It is possible that that baby would have better health because of the availability of information on the internet. The technology, specifically the world wide web, enables information to be made available to multiple users the instant it is produced. Anyone can use it, whether an ordinary woman living in a village or a high ranking policymaker. More importantly, users are not passive recipients. They can choose the type of information they wish to access.

Literature reports from organisations like The Pew Research Center and The Commonwealth Fund, shows that the vast majority of health seekers use online search engines as a starting point to gain information on a disease or illness or to seek information on the treatment options for a particular disease or illness. A recent study reveal that, Google is by far the most popular search engine in the US and accounts for over 85% of health-related searches and also almost four out of five health seekers (77%), start an online health information search by accessing sites like Google, Bing and Yahoo with just 13% saying that they will begin at a site that specialises in health information (like WebMD) and less than 2% of health seekers will start at a social media platform like Wikipedia or Facebook (Younger, 2010). This is very intuitive and completely unsurprising but perhaps what is surprising is that these results hold true across a variety of diseases from laser vision correction to oncology to back pain and that there appears to be no difference according to age or gender. The timing of health information seeking does, however, appear to exhibit some differences in revealing health-seeking priorities: health seekers looking for information for themselves tend to do so before seeing a clinician whereas those looking on behalf of someone tend to seek information after a visit with a doctor. Patients are no longer influenced only by their physicians' health advice and recommendations. According to Barnoy et. al., (2011), online health information offered by yahoo gives alternative options, insights, and a broader knowledge base for patients. Health care workers are entering a new world of medicine wherein they must be responsible for information deliberation and dialogue with their patients. Furthermore, there is also an onus on physicians, other health care workers, and researchers to ensure that legitimate and trustworthy online health care resources exist for patient use.

Methods

The research design adopted in the study was a survey design. The design was preferred because it provides a framework for collecting and analyzing statistical data about the population under study without manipulating. The research questions formulated to guide the study are as follows: to what extent is Google search engine used by nurses to enhance development of community relations; and to what extent is Yahoo search engine used by nurses to enhance development of

community relations. Two hypotheses are tested in the course of the study: $H0_1$: (Google is significantly not used by nurses as a search engine to enhance development of community relations), and $H0_2$: Yahoo is significantly not used by nurses as a search engine to enhance development of community relations. The population consisted of all the nurses in Uyo Metropolis. Uyo Metropolis is chosen for the study because it is the administrative base of Akwa Ibom State and houses most health centres within the Capital city to find out the use of internet search engines by Nurses to enhance community relations. Simple random sampling technique was adopted to select the 240 respondents. The instrument used for the study was a structured research questionnaire and was made to pass through face and content validation by experts in test and measurement. The data collected were analyzed using percentage analyses and bar charts.

Results and Discussion

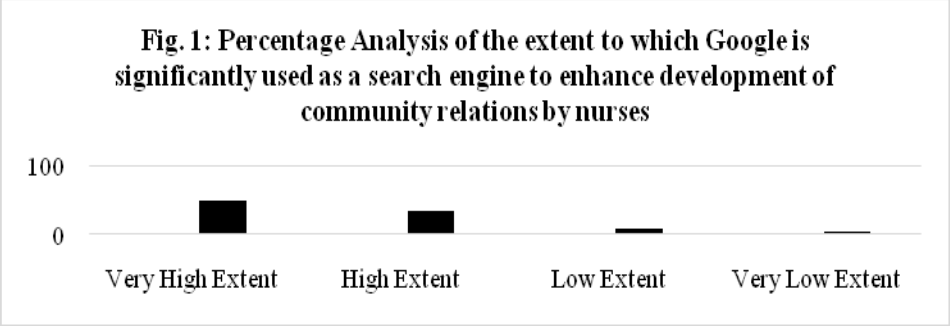
Research Question One

The research question sought to find out the extent to which Google is significantly used as a search engine to enhance development of community relations by nurses. To answer the research question, percentage analysis was performed as can be seen in table 1 and figure 1.

Table 1: Percentage Analysis of the extent to which Google is used by nurses as a search engine to enhance development of community relations

Extent of Usage	Freq	Percentage (%)
Very High Extent	119	49.58
High Extent	86	35.83
Low Extent	22	9.17
Very Low Extent	13	5.42
TOTAL	**240**	**100**

SOURCE: Field survey



SOURCE: Field survey

The above table 1 and figure 1 present the percentage analysis of the extent to which Google is used by nurses as a search engine to enhance development of community relations. From the result, it was observed that the highest percentage of the respondent 119(49.58%) affirmed that Google is used at very high extent as a search engine to enhance development of community relations by nurses. This was seconded by 86 (35.83%) respondents who affirmed it is used for high extent. This was followed by 22(9.17%) of the respondents who were of the opinion that it is of low extent, while the least respondents 13(5.42%) said it is of very low extent.

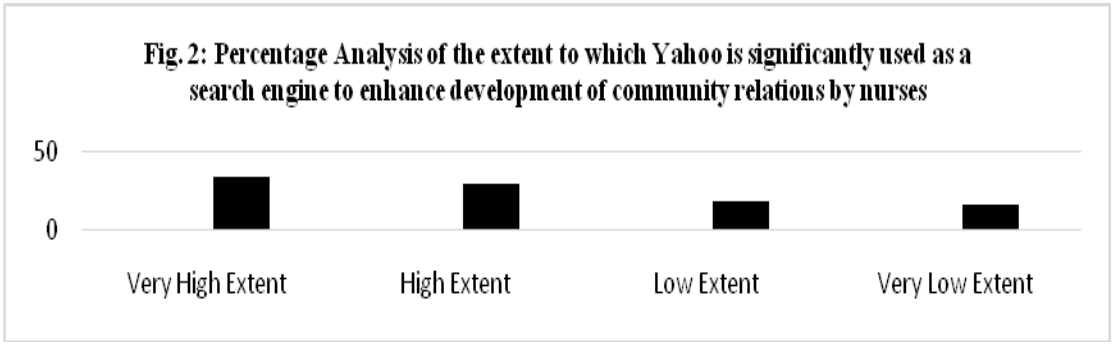
Research Question Two

The research question sought to find out the extent to which Yahoo is significantly used by nurses as a search engine to enhance development of community relations. To answer the research question, percentage analysis was performed as can be seen in table 2 and figure 2.

Table 2: Percentage Analysis of the extent to which Yahoo is used by nurses as a search engine to enhance development of community relations

Extent of Usage	Freq	Percentage (%)
Very High Extent	82	34.17
High Extent	72	30.00
Low Extent	45	18.75
Very Low Extent	41	17.08
TOTAL	**240**	**100**

SOURCE: Field survey



SOURCE: Field survey

The above table 2 and figure 2 present the percentage analysis of the extent to which Yahoo is used as a search tool to enhance development of community relations by nurses. From the result, it was observed that the highest percentage of the respondent 82(34.17%) were of the opinion that Yahoo is used as a search tool to a very high extent to enhance development of community relations by nurses. This was seconded by 72 (30.00%) of the respondents who said it is of high

extent. This was followed by 45(18.75%) of the respondent who mentioned affirmed low extent. while the least respondents 41 (17.08%) said very low extent.

Hypothesis One

The null hypothesis states that Google is not significantly used by nurses as a search tool to enhance development of community relations. To test the hypothesis, chi-square analysis was performed on the data (see table 3).

Table 3: Chi-square analysis of the extent of utilization of Google by nurses as a search tool to enhance development of community relations

Extent	Observed Frequency	Expected Frequency	X^2
Very High Extent	119	60	
High Extent	86	60	
			130.17*
Low Extent	22	60	
Very Low Extent	13	60	
TOTAL	**240**	**240**	

***Significant at 0.05 level; df = 3; Critical = 7.82**

Table 3 shows the calculated X^2-value as (130.17). This value was tested for significance by comparing it with the critical X^2-value (7.82) at 0.05 levels with 3 degree of freedom. The calculated X^2-value (130.17) was greater than the critical X^2-value (7.82). Hence, the result was significant. The result therefore means that there is significant use of Google as a search tool by nurses to enhance development of community relations. The result therefore was in agreement with the findings of Younger, (2010) who stated that Google is by far the most popular search engine in the US and accounts for over 85% of health-related searches and that also almost four out of five health seekers (77%), start an online health information search by accessing sites like Google. The significance of the result caused the null hypotheses to be rejected while the alternative one was accepted.

Hypothesis Two

The null hypothesis states that Yahoo is not significantly used by nurses as a search tool to enhance development of community relations. To test the hypothesis, chi-square analysis was performed on the data (see table 4).

Table 4: Chi-square analysis of the extent of utilization of Yahoo by nurses as a search tool to enhance development of community relations

Extent	Observed Frequency	Expected Frequency	X^2
Very High Extent	82	60	
High Extent	72	60	
			20.23*
Low Extent	45	60	
Very Low Extent	41	60	
TOTAL	**240**	**240**	

***Significant at 0.05 level; df = 3; Critical = 7.82**

Table 4 shows the calculated X^2-value as (20.23). This value was tested for significance by comparing it with the critical X^2-value (7.82) at 0.05 levels with 3 degree of freedom. The calculated X^2-value (20.23) was greater than the critical X^2-value (7.82). Hence, the result was significant. The result therefore means that there is significant use of Yahoo as a search engine by nurses to enhance development of community relations. The result therefore was in agreement with the research findings of Barnoy et. al., (2011), that stated that online health information offered by yahoo gives alternative options, insights, and a broader knowledge base for patients. Health care workers are entering a new world of medicine wherein they must be responsible for information deliberation and dialogue with their patients. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted.

Conclusion

The study concludes that Google, to a higher extent is significantly used as a search engine to enhance development of community relations by nurses, while Yahoo has a low extent of usage as a search tool in enhancing community relations by nurses. The findings of the study revealed that internet search tools are significantly used by nurses to enhance development of community relations

Recommendations

1. Nurses need to be proficient in computer and ICT to differentiate between credible and non-credible online Health Related Information. This would improve their practice, and help their patients to utilize information in a proper way.

2. It is essential to train nurses to be efficient users of various professional and popular medical information sites, and to be able to utilize evidence-based practice and different clinical guidelines.

3. The researcher recommends that health related information should be published on widely visited sites such as Google and Yahoo.

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