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Open Access Research Article

Internet and Social Media use among Pharmacists in a state in Nigeria

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ABSTRACT

Objectives: This study determined the use of internet and social media by pharmacists in Delta State as well as their experiences with the internet and patients.

Method: This was achieved through the use of a 32 item, structured questionnaire, pretested and administered to 100 pharmacists attending the quarterly meeting of Pharmaceutical Society of Nigeria in Abraka, Delta State. Use of internet and social media were evaluated by Chi square analysis, using SPSS 20. At 95% confidence interval, a 2-tailed, P- value less than 0.05 was considered significant.

Results: Of 100 questionnaires administered, 81 were returned, giving a response rate of 81%. Majorities (29.6%) were aged 30-39 years, there were more males (54.3%) than females, one third (39.5%) had been in practice for 1-10 years. Nearly half (48.1%) were in community practice, more than half (56.8%) were practicing in Asaba. Majority (61.7%) used electronic communication for professional services; a quarter (27.2%) used email to communicate with their patients. Whatsapp was 3.5%, text messaging and Face book were 1.2% each. Significant differences were found in their online activities. Reasons for not communicating online included respondents not being computer literate (9.9%), irregular power supply in location (9.9%), lack of time (2.5%).

Conclusion: Internet use among respondents in the study area was poor, with those practicing in urban capital using the internet most. There is need to encourage greater internet use among pharmacists because of the obvious benefits to patient care.

Keywords: Internet use, pharmacists, social media

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INTRODUCTION

The use of electronic channels in healthcare communication has continued to gain popularity in the last couple of years. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30] Several studies carried out by pharmacists in the United States on electronic communications and social media use for professional purposes examined either the general use of social media by pharmacists or the use of social media for professional activities other than communication between pharmacists and patients. [31, 32, 33] A 2009 Survey showed that majority of pharmacists use social media primarily for personal purposes. [31] Another study in 2010 found that respondents use Face book primarily for social purposes. [32] A study in 2012 on pharmacists Twitter accounts revealed that only 10% of accounts are of professional rather than social nature. [33] A study carried out in Spain on the primary use of the internet for professional purposes by pharmacists revealed that 46.7% of pharmacists share information with citizens, 38% share information with friends and relatives, 9.2% spread their own scientific papers to the scientific community, 7.4% promote a debate in their specialty, and 18.8% share information with their patients. [34] The Spanish study revealed that 73.3% of pharmacists use email to communicate with other healthcare professionals, while only 38% of pharmacists do so with patients. [34]

A study carried out to gain insight into the use of the internet for practice related purposes by community pharmacists and general practitioners in Northern Ireland revealed that both professions used the internet regularly as a source of health related information and both had to deal with internet informed patients. Community pharmacists were more likely to feel challenged by these patients, while general practitioners sometimes had to deal with unnecessarily worried patients or patients with unrealistic expectations. [35]

It is estimated that 70 million Americans have used the internet to acquire health related information. [36] Multiple factors provide the driving force behind this demand for online health information. A 2012 national survey of US pharmacists practicing primarily in clinical settings identified increased use of mobile technology and social media as the key change in patient communication that pharmacists foresee in the next five years. [37] In a study of the internet usage of Australian men with prostate cancer, the author investigated how access to information and online support affected men's experiences of disease and in particular, the possible implications of Internet informed patients for the doctor-patient relationship. The data revealed that accessing information and or support online can have a profound effect on men's experiences of prostate cancer, providing a method of taking some control over their disease and limiting inhibitions experienced in face to face encounters. [38]

To date, no studies in Delta State have focused on internet and social media use among pharmacists. The primary objective of this study was to examine pharmacists' use of internet and social media for professional communications.

METHODS

Study design

A prospective study involving the use of structured, self administered questionnaires was carried out among 100 pharmacists who were attending a general meeting of the Pharmaceutical Society of Nigeria, Delta State Branch, to access their use of internet and social media networks.

Setting

The study was carried out in Abraka, home to the main campus of the Delta State University.

Delta State has a population of 4, 112, 445 [39] made up of 2,069,309 males and 2, 043,136 females [39] and was created on 27th August, 1991, with Asaba as the capital. Delta is one of the oil producing areas of the country. Other mineral deposits in the state include lime, kaolin, late rite and clay.

Abraka town is centrally located in Delta State; it is a rural town and is home to the scenic beaches built by the River Ethiope, reputed to be extraordinarily deep and as clean as water from a spring. It is also home of various hotels and secondary schools. Abraka is a favourite destination for domestic and international tourism, attracting numerous domestic and international tourists. Abrakabeach is famous for its natural flowing spring water, and has recreational facilities for outdoor activities like canoeing, fishing, swimming, and barbecue. Abraka has a population of over 200,000 inhabitants. [40, 41] The Faculty of Pharmacy of the Delta State University is sited at Abraka, which incidentally was the venue of the meeting of the Pharmaceutical Society of Nigeria. The PSN Delta State Branch sometimes rotates its general meetings between the big towns in the state, hence the decision to host the meeting in Abraka.

Study population

The study population comprised 100 pharmacists that came from all over Delta State to attend a scheduled meeting of the Pharmaceutical Society of Nigeria, Delta State Branch, in Abraka in July, 2017. There are about three hundred registered pharmacists in Delta State, majority of who live in Warri, an ancient city in the state. The Pharmaceutical Society of Nigeria comprises four technical groups namely: The Association of Community Pharmacists of Nigeria (ACPN), The Association of Hospital and Administrative Pharmacists of Nigeria (AHAPN), Nigerian Association of Pharmacists in Academia (NAPA) and Nigerian Association of Industrial Pharmacists (NAIP). ACPN members practice in community outlets, and are the predominant group of pharmacists in the state with close to two hundred members. This is followed by AHAPN members, which comprise pharmacists that practice in hospitals and regulatory agencies in the state, such as the Federal Medical Centre, (FMC) Asaba, the Delta State University Teaching Hospital (DELSUTH) Oghara, and the Delta State Hospitals Management Board (HMB). These ones constitute nearly one third of all pharmacists that practice in the state. NAPA members practice mainly at the Delta State University, Abraka, while NAIP members are very few in the state and are majorly representatives of pharmaceutical manufacturers that reside in Delta State.

Sampling method

Well structured, self administered questionnaires were randomly distributed to 100 pharmacists that gathered for their general meeting. Permission was obtained from the management of the University before administering the questionnaires. Also, informed consent was sought and obtained from respondents before they received the questionnaires. A pilot study was carried out randomly among 10 pharmacists in Asaba, after which minor errors in typing were corrected, before being administered to the general body.

Data collection and analysis

A total number of 100 questionnaires were self administered to pharmacists. The questionnaire was made anonymous, and structured into four parts. The first eight questions were on the demographics of the participants, the second part tested their knowledge and competence with computers, The third, had questions designed to determine social media networks frequently used, while the fourth part was to determine reasons for not communicating online, and benefits of online communication. The questionnaires contained open and closed questions. The essence of the open questions was for the respondents to volunteer additional information in the desired areas. The questionnaires were collated, and data fed into the computer and analyzed using Statistical Package for Social Sciences (SPSS Version 20). Chi Square statistics was used to test for level of significance of data obtained. A P-value of less than 0.05 was considered to be statistically significant.

RESULTS

Of 100 questionnaires administered, 81 were returned, giving a response rate of 81%. Majority (29.6%) were aged 30-39 years, there were more males (54.3%) than females, more than half (61.7%) were married. About half (54.3%) had Bachelor of Pharmacy as sole degree while one third (39.5%) had been in practice for 1-10 years. Nearly half (48.1%) were in community practice. Other demographics are as contained in Table 1.

Table 1: Demographics of Respondents; N=81

Variables	Values	Frequency	Percentage (%)
Age (years)	< 19	2	2.5
	20-29	21	25.9
	30-39	24	29.6
	40-49	16	19.8
	> 60	4	4.9
	No response	2	2.5
Sex	Male	44	54.3
	Female	32	39.5
	No response	5	6.2
Marital Status	Single	26	32.1
	Married	50	61.7
	Widowed	1	1.2
	No response	4	4.9
Educational Status	B. Pharm	44	54.3
	Pharm. D.	16	19.8
	Masters	7	8.6
	FPCPharm	12	14.8
	PhD	1	1.2
	No response	1	1.2
Length of Practice	< 1	13	16.0
	1-10	32	39.5
	11-20	15	18.5
	21-30	10	12.3
	31-40	6	7.4
	>40	2	2.5
	No response	3	3.7
Area of Practice	Academia	6	7.4
	Community	39	48.1
	Hospital	30	37.0
	Industrial	3	3.7
	Regulatory	2	2.5
	No response	1	1.2

More than half of respondents (56.8%) were practicing in Asaba, the state capital (Table 2).

Table 2: Showing location of practice of Respondents N=81

Location	Frequency	Percent (%)
Asaba	46	56.8
Warri	14	17.3
Sapele	2	2.5
Abraka	6	7.4
Others	10	12.3
No response	3	3.7

About two third of respondents (65.4%) had been trained on the use of the internet to obtain information about medicines, majority (82.7%) were competent in the use of internet generally, nearly half (46.9%) reported that patients often presented information sourced from the internet to them. More than half (63.0%) had not attended any online programme, while few (12.3%) had attended more than two programmes. Majority of respondents (66.7%) had access to the internet; few (14.8%) had personal websites. Nearly all (87.7%) claimed to provide pharmaceutical care services to their clients, most (77.8%) stated that they equally provided medication therapy management to their clients. More than half (61.7%) used electronic communication for communicating with their clients (Table 3).

Table 3: Showing use of Online Communication by respondents N= 81

Use of Electronic communication	Frequency	Percent (%)
Yes	50	61.7
No	24	29.6
No response	7	8.6

A quarter (22.2%) stated that they use the social media daily to communicate with their patients, while most (40.7%) rarely communicated electronically with their clients (Table 4).

Table 4: Showing frequency of use of electronic communication by respondents. N= 81

Number of times	Frequency	Percent (%)
Daily	18	22.2
Once a week	7	8.6
Twice a week or more	8	9.9
Rarely	33	40.7
Never	11	13.6
No response	4	4.9

Nearly one third (27.2%) used email in communicating with their patients, approximately (27.2%) used Google mail while about one fifth (18.5%) made use of Yahoo mail. Most respondents (14.8%) chatted face to face with their clients, few (3.7%) made use of phone and Whatsapp, very few (1.2%) utilized Face book, and text messaging respectively. Most (19.8%) used the combination of Whatsapp, Face book, phone call and text messaging. The least used combination was Face book, Twitter, Whatsapp, text messaging, phone call and face to face (1.2%) (Table 5)

Table 5: Showing methods of communication by Respondents N=81

Method	Frequency	Percent
Face to face	12	14.8
Phone calls	3	3.7
Whatsapp chat	3	3.7
Text messaging	1	1.2
Face book	1	1.2
Text messaging plus Whatsapp chat plus phone call plus face to face combination	16	19.8
Whatsapp plus phone call plus Face to face combination	8	9.9
Other combinations	30	37.0
No response	7	8.2

Majority (43.2%) made use of their phones while browsing; few (12.3%) used a desktop computer and laptop (6.2%) (Table 6)

Table 6: Showing devices used by respondents to access the Internet N= 81

Use	Frequency	Percent
Telephone	35	43.2
Tablet	6	7.4
Desk top computer	10	12.3
Laptop	5	6.2
Telephone plus tablet plus laptop	4	4.9
Telephone plus laptop	5	6.2
Telephone plus desktop computer	6	7.4
Other combinations	6	7.4
No response	4	4.9

Majority (63.0%) paid for their internet access by themselves, while few (22.2%) had their internet subscription paid for by their employers. Browsing sites commonly visited included journal sites (18.5%), social media sites (16.0%), and newspapers (8.6%). Sporting sites were least visited (1.2%), 6.2 % of respondents visited all the aforementioned sites while (34.6%) of them visited other sites. Commonly used browsers were Google Chrome (18.5%), Opera Mini (3.5%) while the least used browsers were Mozilla Firefox and UC Browser (1.2%) respectively. The other respondents did not indicate.

About a third (32.1%) used the internet for social communication, a quarter (23.5%) used it for research, less than one third (21%) used it for both social communication and research. Few (2.5%) used the net for playing games, while 1.2% used it for watching movies and news respectively. Less than one tenth (6.2%) used the net for all the listed purposes (Table 7).

Table 7: Showing uses of the Internet by Respondents N= 81

Use	Frequency	Percent
Social communication	26	32.1
Research	19	23.5
Watching movies	1	1.2
Playing games	2	2.5
Social communication/plus Research	17	21.0
News	1	1.2
Others	5	6.2
All	5	6.2
No response	5	6.2

Regarding the number of times the respondents accessed the internet in a week; most (39.5%) accessed the net more than five times a week, while few (6.2%) accessed once a week (Table 8); other weekly access times are as shown in Table 8.

Table 8: Correlation of Age versus Weekly Access Times of Respondents N=81

	Weekly Access Times					
Age	None	1	2	3-5 times	>5 times	Total (%)
<19	0	0	0	0	1	1 (1.2)
20-29	0	1	2	5	11	19 (23.5)
30-39	0	2	4	5	10	21 (25.9)
40-49	0	1	2	4	6	13 (16.0)
50-59	0	0	3	4	4	11 (13.6)
> 60	2	1	0	0	0	3 (3.7)
Total (%)	2 (2.5)	5 (6.2)	11 (13.6)	18 (22.2)	32 (39.5)	68 (83.9)

$\chi^2 = 53.556$, P = 0.000

Benefits of online communication by the respondents included ease of access to caregiver (3.7%), improved exchange of knowledge (2.5%), helped monitor patients drug therapy closely (1.2%), improved medication adherence (1.2%) and improved decision making process (1.2%) while majority (46.9%) were in agreement with all these benefits. Professional services rendered ranged from gathering additional information on patients disease condition and rendering of drug information services (2.5%) respectively, and searching for information was least (1.2%). Majority (44.4%) were all in agreement with these services rendered.

Reasons for not communicating online included respondents not being computer literate (9.9%), irregular power supply in location (9.9%), lack of time (2.5%), additional workload (2.5%), and no opportunity (1.2%). Others were no subsidy

for data bundle (1.2%), and patient not computer literate (1.2%).

Upon subjecting the results to statistical analysis, some significant relationships were established. Respondents aged 30-39 years had statistically significantly higher internet access times of up to twenty one times in a week, followed by those aged 20-29 years; χ^2 = 53.556, *P = 0.000. Analysis of age and professional services rendered showed a significant relationship at χ^2 = 65.613, *P = 0.007, with respondents aged 30-39 years also using the internet most, followed by those aged 20-29, 40-49 and 50-59 years in that order. Analysis of sex versus provision of medication management using Likelihood ratio was significant at χ^2 = 7.898, *P = 0.048. More males used the mobile phone to communicate with patients than females (χ^2 = 19.149, *P = 0.038). Similarly, more male than female respondents communicated via email (χ^2 = 5.804, *P= 0.016). Analysis of area of practice versus provision of medication therapy management showed that community pharmacists were more involved in the provision of medication therapy management than the others (χ^2 = 37.870, *P= 0.000). Analysis of area of practice versus number communicating on line showed an equal number of community and hospital pharmacists (9.9%) communicated more online than other practice areas (χ^2 =10.607, *P = 0.031).

Analysis of location of practice versus use of internet services was statistically significant with respondents located in the state capital using internet services most, followed by those in other urban towns in the state (χ^2 =38.769, *P = 0.001).Similarly, more patients from the capital city Asaba, followed by those from the other urban towns also presented information sourced from the internet to their pharmacists (χ^2 = 32.784, *P = 0.008). Also, analysis of location versus competence in the use of computers and provision of pharmaceutical care services showed that respondents in the capital city were more proficient in the use of computers and provision of pharmaceutical care than those in smaller towns (χ^2 =36.583, *P = 0.000) and (χ^2 =26.893, *P = 0.001) respectively.

DISCUSSION

The results obtained from this study are very interesting and are comparable to severable studies across the world. For instance, majority of respondents in this study (66.7%) had access to internet in their work place and this is similar to the study in Northern Ireland [35] that recorded high internet access in their work place and also the study in the United States [24] that recorded internet access of 98%. This study is also similar to the Irish Study [35] that recorded high weekly internet access of up to five times a week (60%) just like this study.

This study revealed that less than a third of the pharmacists use email to communicate with their patients, and this is similar to the American Study [15] which recorded an email use of 36%. This study recorded that few respondents (1.2%) used Face book and text messaging respectively to communicate with their clients, and this is different from the American study [15] which recorded use of text messaging of 30% and Face book of 7%. The low use of Face book and text messaging in this study could be due to the reasons adduced for non use of internet, such as pharmacists not being computer literate and irregular power supply in some locations unlike America where there is steady power supply and easy access to the internet.

In this study, few respondents reported having personal websites and this is lower than the American Study [15] which reported that 50% of pharmacists maintained pharmacy websites. The low number of websites recorded in this study could be explained by the high cost of maintaining web sites in Nigeria as well as reluctance of pharmacists in the study area to acquire websites because of issues of irregular power supply which compelled them to use generating sets more frequently, and this had a tendency to cut down on their operating profits.

The frequent use of mobile phones as a device for browsing the internet in this study could be explained by the ease of use and ready availability of mobile phones, which is very potable unlike laptops and desktops, and can be accessed readily from any location with or without regular power supply. Among reasons cited for non access to internet was lack of time and this is in line with the results of the Irish study [35] which concluded lack of time as one of the factors responsible for non access. Browsing sites commonly visited in this study included journal sites, social media sites, and newspapers and this is similar to the Irish study [35] which reported online journal sites as the most commonly visited website.

Benefits of online communication as adduced by the respondents from this study included ease of access to caregivers, improved exchange of knowledge, ease of monitoring patients drug therapy closely, improving medication adherence and decision making process. These opinions are in concordance with the study [1] which revealed benefits of online communication as helping patients make informed health care choices (with potential to decrease health care disparities), shared decision making with a collaborative, teamwork approach, more efficient use of clinical time, augmenting of physician provided information, online support groups, and access to patients own health information.

Young pharmacists (30-39) years used electronic communication more than older pharmacists (P = 0.000). Those who reside in urban areas (Asaba) accessed the internet more than those living in semi urban areas (P = 0.001), provided more pharmaceutical care services (P = 0.001) and were more competent in the use of computers (P = 0.000). This finding is similar to the American Study [15] which reported that "pharmacists who use electronic tools, including social media, for patient communication are slightly younger (52 versus 55 years old, P = 0.013), completed their pharmacy education more recently (26 versus 29 years ago, P = 0.0702), reside in metropolitan or small urban areas as opposed to small communities or rural areas (P = 0.021) and are more likely to provide medication therapy management services in their pharmacies." [15]

Majority of respondents in the study area had access to the internet via the use of mobile phones. However, pharmacists aged between 30 – 39 years and who practiced in urban state capital utilized the internet most. More male pharmacists than females communicated with their patients using mobile phones and emails. Community pharmacists were more involved in provision of medication therapy management than other pharmacists.

CONCLUSION

As a result of the recent shift in the role of patients from being passive recipients to active consumers of health information, it is important that health professionals including pharmacists acknowledge patients search for knowledge; also, they should not shy away from discussing information patients source from the internet. There is need for pharmacists and patients to collaborate in obtaining and analyzing such information. Pharmacists are encouraged to

guide patients to reliable and accurate health websites in their search for health information.

CONFLICT OF INTEREST

The researchers state that there was no conflict of interest in this study.

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