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Short Communication

Smartphone in the Palm of A Nurse: The Perspective of the Patient

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Abstract

Objective: To provide important insight into the perception of patients on the use of smartphones by nurses during working hours.

Method: An explorative descriptive qualitative approach was used. Semi-structured interviews were conducted for 15 participants. Thematic content analysis was used to analyze transcribed interviews.

Results: Lack of attention leading to harmful occurrences such as errors and neglect, unprofessionalism and breach of privacy were key effects of mobile phone use by nurses during working hours. The study highlights the need to restrict the use of personal mobile phones during working hours.

Conclusion: Smartphones have witnessed high health-facility penetration over the past years. The study highlights the need for balancing the benefits of smartphones with patient safety, privacy and efficiency at work. The use of smartphones contributes to lack of attention leading to harmful occurrences such as errors and neglect, unprofessionalism, breach of privacy and confidentiality. The study highlights the need to restrict the use of personal mobile phones during working hours.

Keywords: smartphones, patients, nurses, perception, working hours, remote care

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1 INTRODUCTION

Mobile phones have proven to be useful devices in daily nursing interventions. It is used to facilitate communication among health professionals, remind patients on their review dates and promotes medication adherence[1,2].

The smartphone device has shown to improve communication, adherence, dietary intake and positive client's outcomes[3]. It has witnessed high health facility penetration over the past years; one can literally see each nurse possessing at least a smartphone[1].

In addition, smartphones increase access to quality health, self-management and remote delivery of quality care. Furthermore, the use of these devices could improve nursing documentation, clinical efficiency and application of evidence-based practice[4]. For instance, the national Lightwave health information management system

(LHIMS) has transformed the health sector into clinical efficiency and documentation. This system has positively contributed to the provision of care to clients within its catchment areas[5]. The LHIMS application provides a platform that allows real time communication and early warning disease surveillance. The application can run on smart mobile phones thus it is common to see nurses fidgeting their smartphones during interaction with patients.

Similarly, smartphones appear indispensable item in nursing intervention. Mobile phone applications have witnessed increased utilization within clinical settings to augment patient education, adherence, monitoring, and chronic disease management[4]. This has resulted in increased feasibility and use of smartphones in the clinical environment.

Nonetheless, the use of mobile phones for personal reasons seem to increase among nurses during working hours[6]. The inappropriate use of these devices can negatively affected patient's outcome and satisfaction[7]. Nurses have been observed to engage in social media such as WhatsApp, Facebook, Twitter, TikTok among others in clinical settings. These engagements may result in complications and medical errors due to destruction. It has negatively affected the impression patients create thus affecting their satisfaction[6,8]. Patients remain the main reason for the existence of health professionals; thus, their impression and satisfaction are a primary objective. The impression of patients is important in determining the successful use of mobile devices for clinical purposes. Nurses constitute a significant number of healthcare professionals thus a positive perception of patients on smartphone use could greatly impact its usage.

Earlier studies conducted in developed countries have investigated the perception of nurses on the use of smartphones to facilitate communication and nurse interventions[4,9]. Related studies were equally conducted among medical students, pharmacists and medical officers to improve patients care[2]. Similarly, investigations have been conducted on patient attitudes toward health technology and their impact on the patient-provider interaction, however, the perception of patients on the use of smartphones by nurses during clinical hours seems not to have been investigated in this environment.

Previous research highlights a growing concern with smartphone negative effects. It is reported that smartphones use are becoming inreasingly feasible in the hands of health professionals. Findings from earlier works suggests smartphones could pose significant source of distraction for decion-based activities such as driving, classroom learning and work related tasks[10-12]. Similarly, distractions and errors could emanate from the use of smartphones in the health setting resulting in life threatening repercussions[7,12]. Yet it appears the current clinical protocols are silent on the use of smartphones by nurses during clinical hours.

Also, in a study conducted in some selected hospitals had it that almost 43% of nurses were distracted by their colleagues' smartphones, while 70% believed that the use of smartphones during clinical hours could pose serious consequences for patient care[13]. Furthermore, related studies argued that the use of smartphones could compromise nurses' ability to identify patients in critical conditions and an increased tendency to committing medical errors thus affecting patients safety[12,14]. Also, reported are the issues of breaching patients' confidentiality and microbial contamination[13,15].

However, these studies were mainly cross sectional in design with study samples as nurses, physicians, and other healthcare providers working in the main medical departments. There seems to be paucity of qualitative evidence from patients on the use of smartphones. It is important to recognized the patient as one of the key stakeholders in healthcare delivery. Safeguarding the patient is the primary responsibility of health professionals. Patient perception is an important ingredient in determining safety and satisfaction. Yet the perception of patients on the use of smartphones by nurses during clinical hours has rarely been explored. This study therefore sought to address this gap by exploring the perspective of patients on the use of smartphones by nurses during working hours. Also, many times, the individuals themselves do not recognize the impact of using personal mobile phones whiles working, but others can notice it considerably. For this reason, this study sought to understanding the extent and impact of smartphones usage by nurses from the perspective of patients.

2 METHODS

2.1 Design and Participants

Exploratory descriptive design was used to explore the views and understanding of patients on the use of smartphones by nurses during clinical hours. This design enable the researchers to obtain in-depth and detailed description of patients' views and perception on a phenomenon of interest[16]. Patients were recruited through intentional convenience between January to March 2025 to obtain in-depth responses to address research objectives. The criteria for recruitment were: (A) have a registered identity card of a hospital; (B) have being hospitalized or visited a hospital at least three times within the past 1 year. Critically ill patients were exempted from the criteria. The recruitment was truncated after the 15th participant when repetitive codes and categories were observed[16].

2.2 Data Collection Instrument

The interviews were conducted face-to-face with the guide of a pre-established set of questions developed from

related literature. The developed semi-structured interview guide primarily covered three parts namely: demographics, experience with nurses using smartphones at work and opinion on the use of smartphone during clinical hours. The same interview guide was employed for all the respondents until there was repetition of codes and categories after the fifteenth participant, a point where no new data emerged, referred to as saturation. The researcher also employed field notes to capture non-verbal observations of the respondents to enrich the analysis. The interview guide is shown in Table 1.

2.3 Data Collection Procedure

Participants were contacted personally through the assistance of community health volunteers and invited to participate in the study. Their contact numbers were taken; the date and time convenient to them agreed. Out of 30 patients approached, 20 patients agreed to participate in the study. Patients' consent was sought and interviewed at their chosen time and place. While few chose their homes, the majority preferred their workplaces. During the interview, verbal expressions were recorded using an audio recorder. Each recording spanned between 45 and 60 minutes.

2.4 Ethical Considerations

The study had approval from Ghana Health Service Ethics Review Committee with ERC number 021/11/24. Participants were made to understand the purpose and voluntary nature of the study. Agreed participants signed the consent forms. They were made to understand that they could withdraw from the study at any point in time despite their consent. Pseudonyms were employed to protect their identity. Equally, biographic data of the research participants were separated from the interview data to avoid any linkages between them. All electronic files containing identifiable information were password protected to prevent access by unauthorized users.

2.5 Data Analysis

Data was analyzed using Anderson's method of Thematic content analysis[17]. The authors familiarized themselves with the transcribed data; each transcribed data was thoroughly scrutinized to generate codes. The codes that appear similar were grouped into themes and sub-themes. The themes were reviewed to form subheadings. The extracts were driven from the data to support the findings. The collection of data and its analysis were concurrently done to identify and report commonalities of views expressed.

2.6 Rigour

To ensure rigor of the data, the researcher the use of appropriate questioning and prolong engagement. The study setting was described in detail to ensure findings could be applied to similar settings. The researcher also used the same semi-structured interview guide for all the respondents. The views and expressions of each respondent were audio-recorded and transcribed verbatim. To immune the findings from the preconception and expectations of the researcher, the audio recording was played to the respondents to confirm the views expressed.

3 RESULTS

The analysis of the data obtained resulted in five main themes namely 'lack of attention', 'unprofessionalism', 'breach of confidentiality', 'means of communication' and 'restriction'. One of the main themes 'lack of attention' had two subthemes, namely errors and neglect.

3.1 Lack of Attention

Most of the respondents opined that the use of personal phones by nurses could affect their attention whiles attending to patients. They claim it could lead to harmful occurrences such as errors and neglect.

3.1.1 Errors

In the context of the subtheme of error, 37 and 40-year-old patients diagnosed with hypertension and diabetes respectively opined that nurses using their personal phone can lead to avoidable errors whist working on patients. It takes one's attention and makes the nurse not mentally at work. They had these to say:

"*It is very dangerous to see a nurse on phone while attending to a patient. She can easily lose attention on the conversation on phone and give you the wrong injection or drug"* (P5 Female, Age 37).

"There was an instant I called a nurse to reconnect my infusion set after returning from the washroom, whiles she was on phone I noticed she was about to use the giving set of the patient next to me because the drip stands where between our beds, I had to quickly prompt her" (P2 Female, Age 40).

3.1.2 Neglect

Another concern raised with the use of phones during working hours is possible neglect of patients care. For example, a 38-year-old woman, the sister of the patient with Road Traffic Accident said this in this regard.

"*I went to the emergency ward to visit my brother who had road traffic accident. When I entered, I noticed the IV infusion bad had finished and there was blood rising along the giving set. I went to the nurses' station to call the nurse and noticed she was watching videos on TikTok*" (P8 Female, Age 38).

Additionally, some of the respondents cited instances to give credence to this claim. They had these to say:

"Hmmm, I felt bad when I asked help from one nurse and instead of attending to me immediately, she was on phone. She had to finish what she was doing on phone before addressing my needs" (P12 Female, Age 25).

"When you go, they would be attending to their phones instead of us, the patients, it's not good…. How can one

Table 1. Semi-structured Interview Guide

Interview Questions
Please tell me about yourself.
(a) Age
(b) Gender
(c) Educational Background
(d) Marital status
(e) Possession of a personal smartphone
What is your experience using the smartphone?
What is your experience with nurses using smartphones at work?
Could you tell me in which situations you observed a nurse using smartphone while working?
What is your opinion on the use of the smartphone during clinical hours?
How do you think the use of a smartphone could interfere in delivering care to you?
Tell me about your experience in receiving nursing care and using smartphones.
How do you think that the use of the smartphone could interfere in the relationship between you and the nurse?
Should nurses be allowed to use smartphones while on duty? Why?
Is there anything else you would like to say about this theme?

concentrate on caring for a patient while on a mobile phone" (P14 Female, Age 65).

3.2 Unprofessionalism

Respondents expressed the inappropriate use of mobile phones whilst attending to patients fall short of professional conduct of nursing. They intimated that it does not augur well for the nursing profession. For example, a 30-year-old woman diagnosed with severe urinary tract infection expressed as follows.

"I don't think as nurses they should be using phones while working. It does not speak well of the work they do" (P10 Female, Age 30).

Few of them also had these in this regard:

"Talking on phone or being on social media is a bad behavior that nurses should not be seen doing. They are supposed to be professionals" (P1 Female, Age 35).

"It does not look good for nurses to be making video calls and going on Facebook live whilst on duty or in the wards" (P3 Male, Age 32).

3.3 Restrictions

Almost all the respondents opined the need for authorities to limit or prohibit the use of mobile phones by nurses during working hours. They explained this could minimize distractions and promote a patient focused environment. For instance, a 40-year-old woman, the relative of a patient with sickle cell disease said this in this regard.

"From my experience, some nurses care much about their phones than the patients; I think it has come to time for restriction or ban of these personal phones while working" (P9 Female, Age 40).

Also, below is how others put it:

"*The phones should be banned; it will bring about sanity and discipline"* (P11 Female, Age 37).

"They should take all their phones in working time and give it to them after work" (P4 Female, Age 22).

However, some think designated areas or break times could be allocated for nurses to use their personal phones. For example, a 28-year-old patient with Pneumonia had this to say:

"I think technology has come to help; phones can be used by not in working hours. It can be used during break times" (P15 Female, Age 28).

Other respondents suggested the provision of specialized phones by the hospital management that can only be used for interring communication purposes within the hospital. They added the phones should not have access to the social media platforms. Below is what they had to say in this regard.

"It is time for hospitals to provide staff with phones that can be used for only calls but not social media" (P5 Female, Age 37).

"If you travelled outside, you see nurses with specialized phones that they used, why can't we have that?" (P9 Male, Age 40).

3.4 Breach of Confidentiality

In the context of the theme of breaching confidentiality, a 37-year-old with cellulitis opined that inappropriate use of mobile phones can be a potential means of compromising patients' privacy and confidentiality. She said this in this regard.

"Taking pictures or making videos in the ward can capture patients without their knowledge" (P5 Female, Age 37).

Some expressed this view as follows:

"It is common to see nurses on WhatsApp and TikTok with patients in it or pictures of their body parts" (P8 Female, Age 38).

"I have seen nurses taking video of a procedure with their personal phones. Imagine anyone get access to this information on the phone and leaks it" (P10 Male, Age 30).

3.5 Means of Communication

Few of them recognize the need for nurses to have access to their mobile phones for communication purposes. They argued that some of the nurses use their personal phones to call on doctors and other health team members to inform

their interventions. However, they stressed the need for institutionalized phones designed for communication within the hospital. For example, a 35-year-old man, the brother of a patient who had a road traffic accident had this to say.

"Some of them use the phones to call doctors when there is an emergency. They are given instructions on the phone to help patients in emergencies" (P1 Male, Age 35).

However, a 30-year-old man diagnosed with diabetes mellitus emphasized the need for hospital acquired smartphones to provide secure communication between healthcare professionals. He said this in this regard.

"The hospitals must have special phones for only inter communication purpose within the hospital. This would prevent nurses from using their personal phones" (P10 Male, Age 30).

4 DISCUSSION

The findings showed that the use of mobile phones by nurses could distract their attention from rendering safe and quality care to patients. As highlighted in this study and previous studies, they stressed it could lead to harmful occurrence such as errors and neglect[6,8]. Using a mobile phone for personal reasons has the tendency of making you mentally not at work. This lack of attention for a couple of minutes could make a patient and others upset with the feeling that he/she is not being cared for adequately. This could give the impression of neglect and poor nursing care.

Also, the study revealed that distractions due to mobile phones use could contribute to avoidable errors whist working on patients[7]. These errors include administration of wrong medication, performing procedures on the wrong sites and delay in carrying out nursing interventions.

Concerning unprofessionalism, the study revealed that it was unprofessional for nurses to use mobile phones whilst attending to patients. They admit mobile phones have become part of our daily lives, but professional nurses should know when to put the phone away. This finding supports earlier studies that argued that health professionals need to use their phones appropriately[10,11]. They should not attend to the phones during working hours.

The study further unearthed the need for authorities to restrict or prohibit the use of mobile phones by nurses during working hours. In line with earlier studies, healthcare workers using personal mobile phone while giving care could lead to serious distractions[8]. These destructions could lead to serious medical errors and injuries. Along with these challenges, the distraction creates actual or perceived lack of connectedness with patients and relatives. This seems to negatively affect the positive impression that the public have of nurses and the nursing profession. From the above, it is imperative for healthcare authorities to institute control measures to ensure nurses refrain from using their mobile phones at work while giving patient care[18,19]. The study further suggests measures such as break times, provision of protocols on phone use and hospital provided phones that allow inter communication only within the hospital.

Regarding the breach of confidentiality, the study found that inappropriate use of mobile phones can be a potential means of compromising patients' privacy and confidentiality. This finding has been corroborated by other studies that explained that social media platforms have shown some nurses taking pictures and videos at the bedside of patients[20,21]. There are also instances where a nurse uses his/her personal phone to take a picture of a body part for the purpose of forwarding to a specialist for review. Unauthorized access to these phones has the tendency of breaching confidentiality.

Though, the study respondents recognize the need for nurses to have access to mobile phones for communication purposes, it was observed that nurses do use their personal phones to call on doctors to discuss patients' condition or follow up interventions. The findings stressed the need for institutionalized phones designed for communication only within the hospital. Nurses should not use their personal phones to call on doctors or send patient information. This finding is in tandem with related studies that[2,15,22] also argue that the use of personal mobile phones during working hours increases the chances of a breach in patients privacy and confidentiality.

5 STRENGTH AND LIMITATIONS

The findings can be used as basis for developing policy or protocol to control the use of personal mobile phones during working hours. The findings also provide valuable measures to limit the use of smartphones while nursing patients. However, limitations to this study include the relatively small sample size that weakens its generalizability. Also, the sample selection may be biased and not representative of the experiences of all patients. Additionally, the study exclusively conducted patients' interviews without including the perspective of nurses thus hindering a comprehensive understanding of the issue.

6 CONCLUSION

The study highlights the need for balancing the benefits of smartphones with patient safety, privacy and efficiency at work. The use of smartphones for personal reasons has increased among nurses during working hours. Despite its positive attributes, the study suggests serious challenges that these smartphones create when used during working hours. These include lack of attention leading to harmful occurrences such as errors and neglect, unprofessionalism and breach of privacy and confidentiality. The study highlights the need to restrict or limit the use of personal mobile phones during working hours. Health facilities should establish clear guidelines on when and where smartphones can be used. The study further suggests restrictive measures such as break times, provision of protocols on phone use and hospital-

provided phones that allow secure communication between health professionals. These restrictions could discourage nurses from using their personal phone for reasons other than work-related issues that could lead to distractions and dissatisfaction among patients.

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Ethical Statement
The study had approval from GHS Ethics Review Committee. Participants were made to understand the purpose and voluntary nature of the study. Agreed participants signed the consent forms.

Conflicts of Interest
The authors declared no conflict of interest.

Data Availability
The data is available from the corresponding author on request.

Author Contribution
Abdulai E worked on the conception and design of the study, acquisition of data, analysis and interpretation of data, and drafting the article. Bodong P had a role in data management and reviewing the work. All authors had approved the final submission of the manuscript.

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