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Original Article

The internet and various social media platforms as source of information to patients with wounds in Kenya

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ABSTRACT

Background: The internet has led to the realization that the world is a global village. Due to technological advancements, anyone can access the internet and various video sharing platforms and in turn, get access to or share information across the world. One of the most sought-after critical pieces of information on the internet, as well as social media platforms, is information regarding wounds.
Objective: To determine the views of patients with chronic wounds regarding the internet and other social media platforms as a source of information regarding wounds.
Methodology: A descriptive prospective study covering the period between November 1, 2022, and January 30, 2023. All patients with chronic wounds presenting in the plastic outpatient clinic, together with patients presenting themselves in the wound clinic at Kenyatta National Hospital (KNH) during this period, were informed about the study and asked to participate. After consenting, they were then required to sign an informed consent form after agreeing to participate. Data collection was done through interviews and filled out in structured questionnaires. Data points included demographics, information on internet use, and interaction with the various social media platforms.

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Results: 83.4% of the participants were of the opinion that the contents shared were done so by professionals, compared to 12.5% who indicated that the owners or uploaders of the contents were laymen. 2.6% and 1.5%, on the other hand, opined that the owners or uploaders of the contents were unknown and difficult to tell, respectively.

Discussion: The participants in the current study felt that some aspects regarding content on wounds that is shared on the internet as well as other social media platforms would need further improvement. Such areas included information regarding wound dressing concepts, the etiology and pathophysiology of wounds, complications of wounds, and wound pain management.

Introduction

The internet, also known as “the Net,” is a term that is used to refer to a global system of computer linkages or networks through which any computer user can interact with another computer user by either getting or sharing information.[1] This exchange of information occurs via standardized communication protocols, which are usually possible once permission has been granted by the host computer in the network. Due to technological advancements, computer users on the internet can sometimes talk directly to each other. It is important to note that the internet was first developed by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was initially recognized as the ARPA Network [ARPANET].[2] The main objective of crafting the internet was to create a network that would permit exchange of information among research computer users in various universities.

Today, the internet is a public, cooperative, and self-sustaining facility accessible to millions and millions of people globally. It is currently being used by many as the key source of information. Besides, it has facilitated the creation and expansion of its own social ecosystem through internet browsers, search engines, social media, and content sharing platforms. Examples of these internet browsers include Mozilla Firefox®, Internet Explorer®, and Google Chrome®, among others. On the other hand, social media and content sharing platforms include Instagram®, Twitter®, Facebook®, YouTube®, Tiktok®, WhatsApp®, etc., while the various search engines include Google®, Bing®, Yahoo®, etc. Additionally, health care information has become one of the leading uses of the internet.[2]

Globally, the internet has become a major source of health care information. It is projected that 84% of individuals above 18 years of age frequently interacted with the internet in 2015. This translates into 6.165 billion people.[3] It is also paramount to note that social media and video sharing platforms such as Instagram®, Twitter®, YouTube®, and Facebook®, as well as other search engines such as Google®, Bing®, Yahoo®, etc., have become popular sources of health care information. For instance, over 2 billion individuals visit video sharing platforms such as YouTube® on a monthly basis. This is because, among other reasons, it harbors a rich collection of health-education videos.[3]

Despite the use of the internet and other video sharing platforms such as YouTube®, Facebook®, Instagram®, etc. to gain an understanding of medical matters, only a very small number of patients and, in very rare instances their healthcare providers, debate this accessible information. After educating themselves on the internet prior to visiting the doctor, the patients may present with a fixed diagnosis in mind as well as a preferred treatment of choice that is centered on this information. This can, in turn, have a bearing on or affect the decision regarding their management.[4,5]

Bearing in mind that there are no quality-control measures or peer review processes that ensure the correctness of the health information and videos shared on the internet, patients may end up

being exposed to imprecise or deceptive information. The truthfulness of patient education on online search engines as well as video sharing platforms has been investigated in the context of other diseases and conditions. These include chest infections, convulsions, gastrointestinal disorders, liposuction, skin grafting and skin substitutes, rhinoplasty, blepharoplasty, among others.

Results suggest that these online search engines as well as video sharing platforms generally have meager educational content.[6] However, the quality of online educational content for other common plastic conditions is largely unknown.

One such condition is wounds. Wounds, especially chronic wounds, are estimated to have a prevalence of about 2.21 per 1000 people worldwide. These wounds usually lead to a substantial and frequently underappreciated affliction for the individual, the healthcare system, and society at large. It is also important to note that wounds, especially chronic wounds, lead to disability, and this incapacitation deteriorate wound outcomes, resulting in a vicious cycle.[7]

Since internet and social media use is additionally common in younger individuals and in persons in quest of treatment by plastic surgeons, appreciating the quality of internet search engines as well as video sharing platforms content regarding wounds is predominantly imperative because they form the average age of patients with wound injuries, especially those brought about due to trauma.[7]

The current study sought to determine the views of patients with chronic wounds on the internet and various social media platforms as sources of information in Kenya.

Methodology

The current study was a descriptive, non-interventional prospective study covering a period of 3 months from November 1, 2022, to January 30, 2023. This involved an in-person interview guided by a questionnaire. The questionnaire had ten sections in total. This included a section covering a brief introduction to the study, whereby the purpose of the study, requirements, importance, and confidentiality were emphasized. The second section contained informed consent, which each participant had to willingly consent to before the beginning of the interview. The questionnaire was administered to both male and female patients of sound mind, the youngest being 6 years old and the oldest 59 years old. The other sections of the questionnaire included a section on personal demographics, educational level, duration and frequency of accessing the internet, social media and other video sharing platforms, understandability of information displayed on the internet, and the recommendation section. The current study was conducted at Kenyatta National Hospital (KNH), which is a national referral hospital that also attends to numerous wound patients. It also provides a better representation of the disease burden within the country as well as in neighboring countries. This is because KNH attends to wound patients referred from neighboring countries as well; hence, the most probable outcomes can be conclusively reached due to the diversity of patients seeking treatment at the facility. The study area was the wound clinic, which runs from Monday to Friday, as well as the plastics outpatient clinic, which operates biweekly.

The present study was a census study. All patients with chronic wounds who presented to KNH between November 1, 2022, and January 30, 2023, were included in the study. The study population comprised both male and female patients who had chronic wounds. A sample size of 183 patients was targeted.

Inclusion criteria

All patients with chronic wounds presenting to the plastics outpatient clinic as well as patients presenting to KNH for a change of wound dressing between November 1, 2022, and January 30, 2023, were included in the study.

Exclusion criteria

Patients unable to give consent.

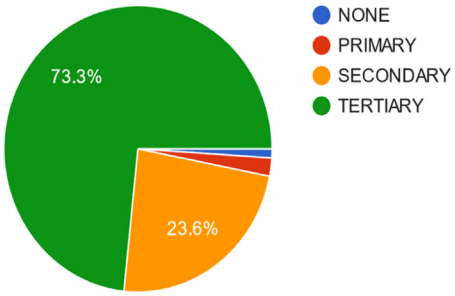

Figure 1. The educational level of the respondents.

Data collection procedure

All patients with chronic wounds presenting in the plastic outpatient clinic, together with patients presenting in the wound clinic at KNH, were informed about the study and asked to participate. Trained research assistants proceeded with data collection. This was done via structured questionnaires that facilitated entry into data sheets for analysis.

Ethical considerations

Permission to carry out the study was sought from the KNH/University of Nairobi (UoN) Ethics Research Committee. Informed consent was given by the patient before commencing the data collection. Data from the study was accessible only to the principal researcher, research assistant, and data analysis manager. All data was stored on a password-protected drive. No patient name was recorded. This was to assure confidentiality, anonymity, and respect for the privacy of the patients. The current study did no harm to the participants.

Study results

Most of the study participants (64.1%) were male. The median age was 31 years, which also accounted for 7% of the study population. The youngest interviewee was 6 years old, while the oldest was 59 years old. The average age was 32.24. 73.3% of the respondents had tertiary-level education certificates or degrees, with 2.1% and 1% having primary-level and no education at all, respectively.

Figure 1: Below shows the educational level of the respondents.

97.9% of the respondents affirmed that they seek information regarding wounds from the internet or social media platforms. The most highly sought-after information included etiology, management, and complications.

YouTube® was the most sought-after video sharing platform (85.1%), while Google search engines were the most visited internet source (78.5%), as indicated in Figure 2 below.

Figure 2: Below shows the various accessed social media platforms.

Rating of the named internet, social media and or video sharing platforms in terms of:

(a) **Content**

As regards the content shared, 51% of the participants specified that it was broad, while only 12.9% agreed that the content displayed was valuable. On the other hand, 6.2% of the respondents decried that the content was inappropriate. This information is shown in Figure 3 below.

(b) **Producer/owner of the information**

83.4% of the participants were of the opinion that the contents shared were done so by professionals, compared to 12.5% who indicated that the owners or uploaders of the contents were laymen. 2.6% and 1.5%, on the other hand, opined that the owners or uploaders of the contents were unknown and difficult to tell, respectively.

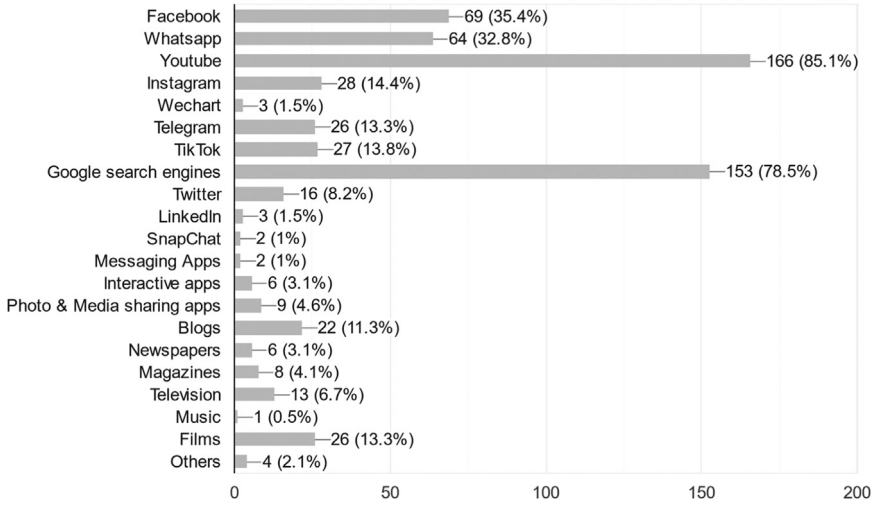

Figure 2. The various accessed social media platforms

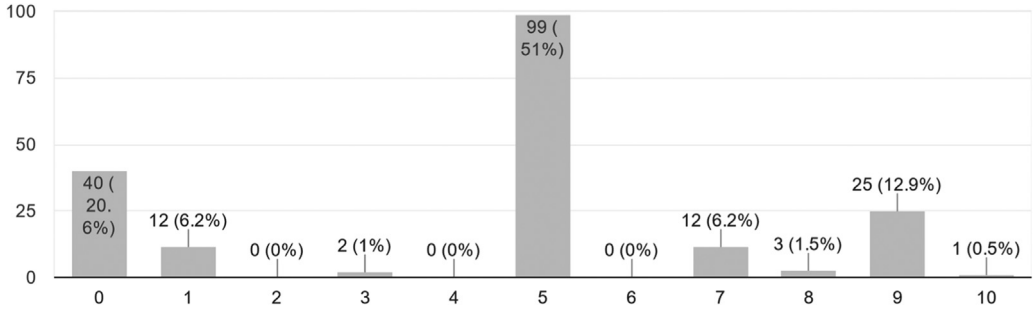

Figure 3. Bar graph showing ratings of the various social media platforms
Key: 0 = Adequate; 1 = Inappropriate; 2 = Misleading; 3 = Detailed; 4 = Abbreviated; 5 = Broad; 6 = Limited; 7 = Up to date; 8 = Obsolete; 9 = Useful; 10 = Neither here nor there.

(c) **Duration of the content regarding wounds**
A main stream of the interviewees (82.6%) designated that the contents displayed were long enough, while 11.8% and 3.6% specified that the duration was too long and too short, respectively. A small proportion, however (2.1%), found it difficult to assess the duration of the shared contents regarding wounds.

(d) **Interaction between the content and the producer/uploader**
87.7% of the study population confirmed that they were able to interact with the producers or uploaders of the content and hence get feedback or clarifications from them. However, 12.3% were unable to interact with the author.

(e) **Frequency of interaction with the author/producer of the content**
A trivial proportion (2.9%) of the study participants hinted that they only interacted with the authors and uploaders sparingly, i.e., at any other time not specified.
Figure 4: Shows frequency of interaction with the author/producer of content(s).

(f) **Ease of understanding of the information shared on the internet and other social media platforms**
Figure 5: Shows ease of understanding ratings of the internet and various social media platforms by the study participants.

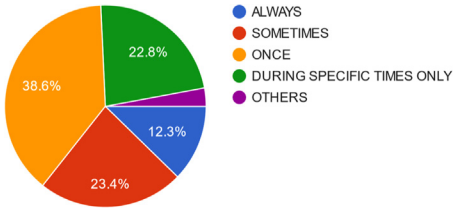

Figure 4. Frequency of interaction with the author/producer of content(s)
Others: 2.9%

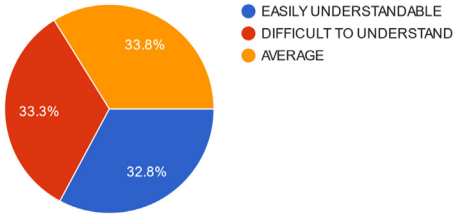

Figure 5. Ease of understanding ratings of the internet and various social media platforms by the study participants

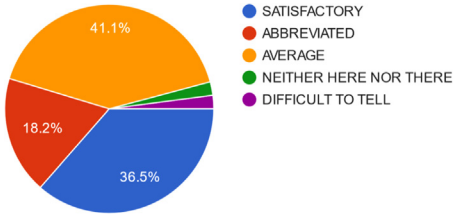

Figure 6. Rating of information regarding wound complications as shared in the internet and other social media platforms
Neither here nor there: 2.1%; Difficult to tell: 2.1%

(g) **Information regarding the management of wounds shared on the internet and other social media platforms**
Most of the respondents (45.1%) found the information regarding the management of wounds shared on the internet and other social media platforms to be of ordinary impact. However, 32.6% found it satisfactory, compared to 16.1% who felt that the information shared regarding the management of wounds was abbreviated. Conversely, 3.6%, 1.6%, and 1% labeled this information as neither here nor there, wanting, and difficult to tell, respectively.

(h) **Information regarding the prevention of wounds shared on the internet and other social media platforms**
As regards the prevention of wounds, a majority of the study participants (43.3%) confided that the content shared on the prevention of wounds was of average impact. On the same note, 37.1% found the same information satisfactory, while 15.5 felt that this information was abbreviated. Over and above, 2.1%, 1.5%, and 0.5% of the respondents opined that this information is wanting, neither here nor there, and difficult to tell, respectively.

(i) **Information regarding wound complications shared on the internet and other social media platforms (Figure 6).**

(j) **Information regarding diagnosis of wounds shared on the internet and other social media platforms (Figure 7).**

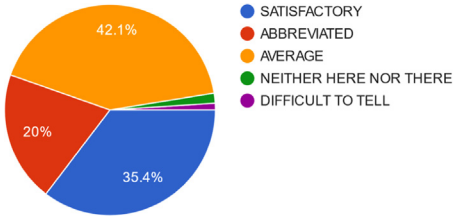

Figure 7. Rating of information regarding wound diagnosis as shared in the internet and other social media platforms Neither here nor there is 1.5%, while difficult to tell is 1%.

Discussion

This being a maiden study, there was a paucity of documented local data to compare our findings to. Most of the studies undertaken, however, are from developed countries.

All the respondents affirmed having interacted with the internet at some point in their lives. This further rubber stamps the technological advancement and appreciation of the indispensability of the internet in various spheres of our day-to-day lives, including the provision of critical information regarding wounds. However, more than 50% reported conflicting information with what the primary plastic surgeon recommended. These findings were similar to another study by Gavin et al.[8] .

The exhibited varying differences in experience by way of interaction with the internet and/or other social media platforms, as specified by the respondents, could also be attributed to the ease with which the subjects thought of the internet as well as social media platforms.

Since most of the participants had tertiary-level education, and by virtue of the fact that 97.9% of the interviewees confirmed accessing the internet with the aim of getting information regarding wounds, this indicates the critical role that the internet as well as social media platforms play in dispensing critical information as well as knowledge to anyone in need. This information is usually available in real time and can guide one in understanding the challenges they're facing, especially with regards to wounds.

12.3% of the current study subjects were of the opinion that there was no interaction between the owner of the content presented and the patient in need. Suffice it to say, most of those who reported interaction between them and the author did so only once. This could be due to either a lack of information on how to interact with the author, not getting feedback from the author, a lack of feedback mechanisms, or the unavailability of the author.

Moreover, more than 70% of the study population claimed that the information presented on the internet and other social media platforms originated from professionals Brent et al.[9]. However, about 30% of the participants opined that the contents were shared by nonprofessionals and hence could be misleading. These findings were comparable to another study by Wenwen et al.[10].

Besides, the interviewees expressed some reservations about some aspects of the information regarding wounds that is shared on online platforms. This included content on wound dressing and management, wound management systems, level of doctor-patient interaction, risk assessment of wounds, use of obsolete wound management methods, relaying of information regarding wounds, as well as limited communication and language barriers (Julian et al., 2022).

In addition, the interviewees indicated that they felt constrained in sharing some of the information gained from the internet with their primary surgeons. This is because they felt that the information gathered online was not in tandem with their ongoing management plans. This information included wound dressing and management criteria, the level and type of wound care given, the use of robotics technology in wound dressing, and the development of a conceptual framework for health systems, especially those geared toward wound dressing Wenwen et al.[10].

Conclusion

As much as the internet is a crucial pillar in the dispensation of information regarding wounds, we observed the various limitations that the internet and other social media platforms present to patients seeking information regarding wounds. These challenges include presenting sources of unverified information to patients in need, hence putting them at risk; time wasting; information overload; addictions; biasness of information; distractions; the risk of being trolled online; various spam and advertisements; violent images; viruses; hacking; and other forms of cybercrime; in addition to a lack of accuracy as well as quality assurance.

On the other hand, some aspects regarding content on wounds that is shared on the internet as well as other social media platforms may need further improvement. Such areas include data regarding wound dressing concepts, the etiology and pathophysiology of wounds, complications of wounds, wound pain management, and the need for more human interaction with the owner or uploader, over and above improving communication skills, especially when articulating signs, symptoms, and effects.

In a nutshell, we recommend that the Kenya Society of Plastics and Reconstructive Surgeons come up with a website with verified information that can be safely used by patients. The website could also contain contacts for plastic surgeons and wound care specialists who could be contacted in case a patient needs clarification.

Moreover, the findings in the current study could also help inform policy-making in the government concerning the uploading of health-related information, especially regarding wounds. The current study being the maiden study locally, it will also form a yardstick and future reference point for future related research work.

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Conflicts of interest: None declared

Ethical approval: Approved by the KNH/UoN Ethics and research committee. Approval number: P737/09/2022

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