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Facebook in Qualitative Research: Answering 'What' and 'How' Questions

Nurul Akma Jamil[#**], Lee Khuan[#], Cheong Ai Theng[*], Siti Mariam Muda[**]

[#] *Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor, Malaysia*
[*] *Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor, Malaysia*
[**] *Department of Special Care Nursing, Kulliyyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia*
E-mail: nurulakmaj[at]iium.edu.my, leekhuan[at]upm.edu.my

A B S T R A C T S

The rapid development and widespread adoption of internet-based technology have significantly transformed the research landscape. This paper explores the potential of Facebook as a tool in qualitative research, focusing on both its applications and the challenges it presents. The main problem addressed is the complexity and ethical considerations involved in using Facebook for qualitative data collection and participant recruitment. This paper aims to analyze how Facebook can be effectively utilized while navigating these challenges. The methodology involves a detailed examination of Facebook's features, the role of gatekeepers, and the ethical issues surrounding its use. The study also includes practical case studies where Facebook was used for qualitative research, highlighting both successes and obstacles encountered. This study suggests that although Facebook provides a valuable source of data and simplifies participant recruitment, it necessitates careful handling of privacy concerns and ethical standards. Despite the challenges, Facebook can be a powerful tool in qualitative research if used with a well-thought-out strategy. Researchers are advised to approach its use cautiously, ensuring thorough evaluation of ethical implications and practical considerations. This study contributes to the growing body of knowledge on digital research methods, providing insights and guidelines for researchers leveraging social media platforms in their work.

CORRESPONDING AUTHOR

Lee Khuan
Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.
Email: leekhuan[at]upm.edu.my

1. INTRODUCTION

Social media platforms are effective tools for allowing information to reach various people. The various social media platforms available today, such as Facebook, Instagram, Twitter, and LinkedIn, offer various functions, including social networking, blogging, photo and video sharing. Social media offers vast data sources, real-time information for specific topics, diverse users, and wide access, thus presenting users with valuable sources of data and insights through the utilization of big data and artificial intelligence [1].

Research utilizing social media has gained greater interest, which corresponds to the increasing popularity and widespread adoption of social media platforms. For example, Twitter has been used to investigate the effectiveness of public health campaigns and to explore public perceptions about telehealth [2,3]. Meanwhile, used Facebook to investigate the health-related behaviors of specific groups, explore mental health experiences, and understand individual's experiences and support needs (4-6). Moreover, LinkedIn has been used to explore

healthcare policy discussion and discover health industry trends and challenges from professional perspectives [7,8].

This article explores the opportunity to use Facebook as a valuable research tool. The recruitment for and administration of the study was conducted via Facebook as this platform offers certain advantages over other social media applications. Choosing Facebook as a platform for conducting research can offer several advantages as it provides original perspectives for answering research questions. However, the questions arising from academics about conducting research using Facebook may include:

1. How can Facebook be used in research?
2. What aspects need to be considered when conducting research using Facebook?
3. What are the challenges and how should they be addressed?

This paper discusses how Facebook can be utilized in qualitative research, as well as the complexities and practicalities of using this platform when conducting qualitative research. This paper focuses on the first author's experience of administering a study milk-sharing phenomenon via Malaysia-based breastfeeding and breast milk donation communities (CbN) on Facebook. The scope of this study is to understand how donor and recipient mothers are facilitated in their milk sharing by CbN on Facebook. A constructivist approach by Robert Stake was used to guide the researchers to conceptualise and execute the study to seek answers to the research questions. This approach enabled the researcher to understand subjective experiences from the perspectives of both donors and recipients as well as the social and cultural context of milk-sharing practices. Thus, allowing a holistic understanding of how donor and recipient mothers interpret their life experiences

2. RESEARCH METHODOLOGY

This study was conducted in two phases. Phase one was social media analysis, which involved obtaining data from the Facebook pages of four breastfeeding and breast milk donation communities. The data collection was undertaken between January 1 and June 30, 2020. Phase two was semi-structured interviews with thirty mothers who had experienced milk sharing. They were recruited from the CbN identified during phase one. Mothers were classified according to whether their breast-milk sharing experience involved donating and/or receiving expressed breast milk.

2.1. Strategies for the research process

Certain strategies must be adopted when considering the use of social media in research. First and foremost, the researcher must define the research question and determine which social media platform may provide sufficiently valuable data to answer it. This is because different platforms attract diverse user demographics and exhibit distinct user behaviour patterns [9]. Therefore, the choice of platform can significantly impact the data collected and the insights gained from social media research. This consideration may influence the choice of methodology and eventually lead to relevant findings because social media platforms differ in terms of data variability. For example, Instagram offers a better option to study photos and videos while Twitter allows researchers to analyse trends in health topics [10,11]. When the researchers embarked on this study in early 2019, very limited evidence could be found on milk sharing in Malaysia. Among the earliest evidence was a local newspaper report that young Muslim women had donated expressed breast milk via Facebook [12]. This information was the starting point for identifying milk-sharing activity on Facebook.

To find appropriate data, the researcher needs to identify relevant social media platforms on which the target audience is active because different social media sites target different age groups. This suggestion is supported by evidence that the idea of recruiting participants based on the popularity with which this platform was used among various age groups [13]. However, this situation may differ in other countries, hence the recommendation to obtain the latest statistics because the user statistics of a social media platform vary according to time and locality. Facebook was chosen because when the researchers embarked on this study in September 2018, national statistics showed that 91% of social media users in Malaysia used Facebook for communication [14]. Of this percentage, 76% of Facebook users were found to be women aged 25 to 34, who therefore fell into the active reproductive age group [15]

2.2. Conduct of the study

The search was primarily conducted with the Facebook search engine using the keywords "breast milk donation" in both Malay and English. These two languages were chosen because Malay is the national language, while English is a widely used second language. These keywords were considered applicable because no milk banks were available in Malaysia. Milk sharing was revealed to have started in two ways. The first was by uploading a post (commonly known as a status) on the wall of a personal Facebook page. However, such posts can usually be accessed only by friends, depending on how the user manages their privacy settings. The second way was by uploading a post on the Facebook Page of a community of shared interest, particularly breastfeeding and breast milk donation CbN on the platform. The researchers decided to target communities of shared interest that corresponded to the research topic [16].

The inclusion criteria for the breastfeeding and breast milk donation CbN were the presence of milk-sharing activity and being based in Malaysia. The built-in filter and page transparency on each Facebook Page were used to obtain more information about the locations where the Pages were primarily managed. The Facebook Page search engine was used to identify milk-sharing activity on the Facebook Pages of the CbN. The keywords "donate milk", "milk donation", and "shared milk" were used. Further searches revealed that the phrases "ibu susuan" (i.e., milk mother) and "anak susuan" (i.e., milk child) were also used by members of these CbN. The process was tedious as the researchers needed to move forwards and backwards concurrently across the data to ensure the findings were robust.

The main challenges included convincing the administrators of the CbN, building trust, and encouraging the participants to take part in the study. JN used her personal Facebook account when requesting to join these CbN. The study was briefly explained to each CbN administrator, and they became the gatekeepers in this case study. Written consent was obtained from the administrators of each CbN. Each CbN had thousands of members, with numbers ranging from 12,000 to 200,000, making it difficult to obtain signed consent from each member. Consequently, the information about the study was posted and pinned to the Featured section of each CbN. The pinned post appeared at the top of each CbN's Page, where it could be seen by the members.

2.3. Phase one: social media analysis

The number of daily posts on each CbN's Page ranged from 40 to 100. The content varied from providing information, asking questions, and sharing stories to seeking moral support. Therefore, collecting data from the Facebook Pages was challenging and time-consuming. To facilitate the search process, the Facebook Page search engine was used to identify relevant postings using the keywords "donate milk", "milk donation", "shared milk", "milk mother", and "milk child" in both English and Malay. At this stage, the search engine was found to capture old postings, and posts did not appear chronologically.

The "See First" feature on the Pages of the selected CbN was used to see their updates. All posts related to milk sharing were eligible for inclusion in this study. The possibility of identified posts being overlooked was another concern. To address this, the researchers used the "Turn on notifications for this post" option on Facebook's drop-down menus. The "Collection" pop-up menu option was used to organise identified postings, while the "Save Post" option on Facebook's drop-down menus was used and linked to JN's saved collection on Facebook. Each "Collection" was identified using the name of the CbN. Once the data collection had ended in June 2020, the search process was repeated using the same method, the exception being that the time frame was set as January to June 2020 to ensure there were no posting dropouts. Members who did not want their posts captured had the option to either not place milk-sharing posts during the stipulated period or delete their posts before data collection ended. The analysis was conducted only after the stipulated period, so any items posted by members who did not want to be included in the study would appear as "content is not available."

The captured postings were classified into three types: offering expressed breast milk or finding a recipient infant; requesting breast milk or finding a milk donor; and milk sharing-related issues. Of the 252 postings retrieved from the four CbN's Pages, 151 referred to donating milk, 70 referred to requesting milk, and the remaining 31 focused on milk-sharing issues. The numbers represent the original posts uploaded on any of the four Facebook Pages. Meanwhile, one milk donation posting generated over 400 Likes and reaction emojis, as well as a hundred comments. This reflected the vast amount of data available on Facebook.

Due to the extent of the data, text mining was employed on the 252 postings retrieved from the selected CbN's Pages. Explaining the data analysis procedure is beyond the scope of this paper. However, various aspects must be considered when using data from Facebook, such as selecting the analysis method and complying with the ethical requirements. For this study, text mining was applied to identify, extract, manage, integrate, and exploit data from unstructured textual data on social media [17]. Text mining enables the analysis of large volumes of textual data from online text files, chat messages, emails, and content generated by social media site users. Unlike traditional content analysis, the text mining technique was applied to facilitate the analysis of large amounts of textual data. To do this, Atlas.ti 9 software was used to facilitate mining and analysis as it supports a wide range of data types, including text, audio, video, and image data. This selection also depends on various factors including the researcher's preference, the nature of the research, and specific features offered by the software.

Phase one was quite challenging because this was JN's first experience of the activities involved. The identified Facebook Pages of the CbN needed to be continually reviewed as their administrators could change the Page settings and information. For example, one administrator turned their CbN Page's function into one related to health and beauty, while one breastfeeding CbN changed to become a Facebook Page. These modifications cause significant differences in terms of visibility and communication [18]. In this case, interaction and close conversation became limited as only the administrator was allowed to upload a posting. These possibilities should be anticipated as researchers will not own the Facebook Pages that they study.

Some posts were written in Chinese and directly translated by the Facebook translation engine. This happened because JN's Facebook account was set to English, and Facebook's translation system automatically detects other languages and translates them into English. At the bottom of the posting, remarks such as "rate this translation"

or "translated from Mandarin" appear. However, the translation quality was questionable as this translation engine software learns only through human input and translates word by word instead of sentence by sentence. Therefore, a translator who understood Malay, English, and Chinese was engaged to ensure the accuracy of the translations. In addition, the use of slang words, misspellings, and grammatical errors might have led to different meanings

2.4. Phase two: in-depth online interview

The mothers in this study were recruited via the selected CbN described in phase one. Recruitment started in March 2020 as it was essential to ensure the interview guide was understandable, while JN had to prepare the actual interviews and develop interviewing skills. A research advertisement was posted through JN's Facebook account. Members who fulfilled the criteria or were interested in knowing about the project were encouraged to provide their contact details via the Google form provided. In addition, the administrators were requested to upload the advertisement on their Pages, to enhance participation.

Potential participants were initially contacted by JN via WhatsApp Messenger. At this stage, potential participants were screened to ensure they fulfilled the selection criteria. They were asked: (1) What is the previous relationship between the donor mother and the recipient mother and (2) How was the milk given to the recipient infant? Was this by direct feeding or using expressed breast milk?

Despite the selection criteria stated in the research advertisement, it was crucial to consider and address any misunderstandings. In Malaysia, breast milk sharing, particularly wet nursing, was commonly practiced, especially among Malays, before the commercialization of infant formulas and the growing number of working women caused this practice to decline [19,20]. However, the two practices are different. Wet nursing involves direct nursing by a wet nurse, often someone with an existing relationship. In contrast, milk sharing, a different practice, involves feeding a baby with expressed breast milk obtained through online platforms, with the donor and recipient not knowing each other before sharing.

JN explained the purpose of the study and the process of collecting data. The participants were briefly asked about which language they preferred to use in the interview. They had the option of being interviewed in either Malay or English. The participants were also given an information package consisting of an information sheet and a consent form. The researchers must be flexible in accommodating participants' needs to enhance the overall level of participation [16]. Those participating in this study were informed about the interview time frame to ensure they could make the necessary arrangements.

Most of the mothers were Malay mothers and they believe in Islam, whilst the average age was 30.5 years old and found to have good educational backgrounds. The present study was unable to recruit similar proportions of other ethnicities in Malaysia. This was because recruiting participants using Facebook relies on engagement, which also reflects the researcher's own Facebook circle and connections. This may have limited the researcher's understanding of the phenomenon under study from a sociocultural perspective. Therefore, it is recommended to use various strategies while recruiting participants via social media, such as targeted advertisements and private messages.

3. RESULTS AND DISCUSSION

The evidence for the efficacy of social media as a recruitment tool also varies [21]. Several studies included in their review suggested that recruiting participants using social media was more effective in terms of the time needed to reach targeted populations and saves costs, compared to conventional methods. It was found to be more beneficial for recruiting hard-to-reach populations within a reasonable time frame, such as adolescents and young adults. However, they also reported that relying on social media for research recruitment only seemed less effective in obtaining a wider demographic characteristic to provide more representative outcomes. Internet literacy, the availability of gadgets, and internet access are the factors that must be considered as certain groups - such as the underprivileged, non-user groups, and the elderly – might be excluded [22].

In this study, the researchers fully utilized Facebook features to identify and collect relevant data in phase one, as well as recruit participants in phase two. In addition, pop-up and drop-down menus were used to facilitate data retrieval in phase one. For the recruitment of mothers in phase two, the researchers relied on posting engagement using the "Like," "React," "Share" and "Comment" features to distribute the research information widely. Currently, the "Highlights" and "@everyone" features may help researchers to increase the visibility and discoverability of a research advertisement. Using these features would ideally capture a wider representation of the population, especially in a multiracial setting, thus providing a broader societal perspective. For research purposes, Facebook should be accessed on a laptop to optimize the use of its features. For example, certain Facebook features do not appear when using the Facebook app on a mobile phone. Researchers may notice some differences in the Facebook layout when accessing it using a laptop compared to viewing it on the app.

This study had several limitations because the administration and recruitment of the participants were conducted mainly via Facebook. Firstly, the truthfulness of the information from the Facebook Page postings could not be verified. In this study, the actual processes occurred entirely in private, and information in postings could be fabricated. The use of slang, misspellings, and grammatical errors may have led to different

interpretations. Second, the majority of the mothers in this study came from the same background as they were Malay and Muslim; thus, the findings did not reflect the perspectives and experiences of the diverse population of Malaysia. Therefore, the findings cannot be generalized to represent people of other religions and cultures.

Despite these limitations, this study has many strengths, including a thorough and systematic strategy to identify an appropriate platform that could provide rich information corresponding to the research question. The strategy used in phase one ensured the search process was robust and enhanced the transparency of the findings. It is suggested that the credibility of a study finding based on utilizing social media content could be improved by incorporating diverse data sources [23]. The source of data for phase one came from four prominent local CbN Facebook Pages. Meanwhile, the interview data provided a better understanding from the perspectives of both donors and recipients, thus strengthening the study's credibility. In addition, the recruitment of participants via snowballing sampling allowed the researchers to find eligible participants who may not have had access to the research information.

In terms of the ethical issues related to the use of social media, this study upholding the principles of beneficence, privacy, confidentiality, informed consent, deception, and avoiding harm [24]. All identifying information found in the postings - such as Facebook accounts and profile pictures - was removed during the development of the text mining database. In addition, the researchers anticipated the risk of cybersecurity-related issues when using online platforms for recruitment and interviews. The Google Form information was password-protected and used only for this study. Only the researchers could access the participants' information in the Google Form. Members of the CbN were also reminded not to disclose their information, especially contact numbers, in the comments

4. CONCLUSIONS

The use of social media like Facebook is useful for obtaining information about a topic, collecting relevant data, and recruiting participants. However, certain strategies must be adopted when considering the use of Facebook in research. Like any other study involving human participants, ethical guidelines and privacy policies should be considered

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