RESEARCH METHODS FOR HEALTH AND SOCIAL CARE

COURSE WORK

Paper Title: Barriers and challenges to Primary Health Care Information System (PHCIS) adoption from health management perspective: A qualitative study by Sandra Hakiem Afrizala,∗ , Putu Wuri Handayanib , Achmad Nizar Hidayantob , Tris Eryandoa , Meiwita Budiharsanaa , Evi Martha.

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PAPER REVIEW

Introduction

This review critically evaluates "Afrizal, S. H., Handayani, P. W., Hidayanto, A. N., Eryando, T., Budiharsana, M. and Martha, E. (2019); Barriers and Challenges to Primary Health Care Information System (PHCIS); Adoption from Health Management Perspective: A qualitative study" by analyzing the key indicators used in assessing the quality of a research methodology according to Stenfors, Kajamaa and Benett (2020).

Title

The title is clear and unambiguous while the abstract offered a straight-to-the-point overview of the study. According to Ryan, Coughlan and Cronin (2007), the title is one of the elements of believability which can serve as a guideline for critiquing a qualitative research study.

Authors

The experience and knowledge of the authors with respect to the subject is of great benefit especially in data collection, where, according to various studies, expertise is needed to drive the interview process towards the goals of the research ensuring a robust study (DeJonckheere and Vaughn, 2019; Ryan, Coughlan and Cronin, 2007). Also, the study reporting shows an organized and well-written paper void of grammatical errors suggesting the authors qualifications, experience and knowledge of the research are adequate and with a good style of writing that ensured the contents were engaging. The quad-elements of writing style, report title, author and abstract influence the believability of a study as highlighted by Ryan, Coughlan and Cronin (2007). There is nonetheless, no evidence that the authors' expertise would have served bias, which has been identified to have an impact on the reflexivity of a study and a critical aspect of rigor (Stenfors, Kajamaa and Benett, 2020).

Study Background

Several adopted literatures in the background of the study under review falls within a decade from when the study was documented, suggesting the research foundation the study to be based on contemporary findings with respect to the topic area. Greenbaum (2021) for the American Psychological Association views the ten-year cut-off point as an 'outdated source myth' reiterating that APA style has no preferred cut-off point for citation as researchers are recommended to cite reliable sources that influence their work (American Psychological Association, 2020). This recommendation is reflected in the study, as about three papers from fifteen years prior to the study year, were referenced. This provides an early indication that the researchers began their studies in a rigorous and systematic manner. The literature presented in the study background provided up-to-date knowledge and exposed the gap in the existing literature which formed the basis of the problem the study aimed to address. The authors clearly expressed the need for the study which suggests a robust study (Ryan, Coughlan and Cronin, 2007). The manner with which the literature is presented justifies the research questions as it interprets the relevance, timeliness and originality of the study as postulated by Lingard (2015).

The Study Question and Aims

The research question and objectives are succinct and shows originality. The study provides a good link between the theory, research question and aims, availing readers a clear understanding of the processes leading up to the study findings after robust analysis. Various studies have described such procedure to give credibility to the study as well as directly impact on the trustworthiness of a qualitative research (Guba, Lincoln and Denzin, 1994; Stenfors, Kajamaa and Benett, 2020). The research questions suggest textural data is required as opposed numerical data which is a core requisite for quantitative studies (Bhawna and Gobind, 2015).

The Study Methodology

The methodology adopted by the authors as clearly defined in the title shows a qualitative approach to scientific research which defines as an approach used to explore and understand the meaning individuals or groups ascribe to a social or human problem (Creswell and Creswell, 2017). Adopting qualitative approach in answering the research questions in the study as well as achieving

study objectives, is justified by the postulation of Bhawna and Gobind (2015), as the study design requires textural data. Bhawna and Gobind (2015) opined that exploring a phenomenon by employing mathematical models, theories and hypothesis is the core objective of a quantitative approach to research while the mixed method involves a combination of the qualitative and quantitative methods in the study of a problem. The quantitative approach of evaluating a cause and its effect in relation to the influence of variables and the need to sometimes introduce controls, deviates from the natural setting and involvement in the actual experiences of participants which qualitative studies avails according to Creswell and Creswell (2017), and may have influenced the adoption of a qualitative study design by the authors.

The Study Methods for Data Collection

The authors sought to understand the "HOWs" of the research question by conducting in-depth interviews with the goal to exploring the opinions and views from the point of view of the subject and uncover their reality prior to the explanations of science (Kvale, 1996). The semi-structured questions developed for the interviews in the study seem the right fit considering it most common style used for data sourcing in qualitative research especially in healthcare context (Khallio et al., 2016; DeJonckheere and Vaughn, 2019). Although group interviews may be more economical, stimulate discussion of topics and comparison of experiences across participants, it may be disadvantageous in comparison to individualistic interviews, especially when run by inexperienced interviewers as it is easy for one strong and assertive participant to dominate discussion, influence or sway the thoughts and tone of other group members (Kitzinger, 1995; Smithson, 2000; Patrick et al., 2011). Nonetheless, face to face interviews despite being more expensive and time consuming (Brod, Tesler and Christensen, 2009), are more in-depth in detailing participants' experiences, as participants may be more willing to share sensitive information less likely to be shared in a group setting (DeJonckheere and Vaughn, 2019; Patrick et al., 2011;). DeJonckheere and Vaughn (2019) believes with essential interviewing skills, this method of interviewing allows for robust dialogue between researcher and participant, as the researchers are guided by a flexible interview protocol and supplemented by follow-up questions, probes and comments.

The framework for the study was developed using the Human, Organization and Technology fit (HOTfit) model as pioneered by Yusof et al. (2006), suggesting that the study was technologically

supported and equipped. There is evidence of consistency with allocation of 45 minutes on the average showing respondents to have been allowed adequate time in conveyance of their experiences. DiCicco-Bloom and Crabtree (2006) observed that most in-depth semi-structured interviews take between 30 minutes to several hours to complete, allowing for the culmination of the stages of rapport: apprehension, exploration, co-operation and participation (Spradley, 1979; Crabtree and Miller, 2022). The data collection style and conduct allowed equal opportunity for the capture and identification of all perspectives as all interviews with participants were audio recorded and transcribed verbatim. While this may be time consuming, the study addressed this issue by adopting the Rapid Assessment Process (RAP) in qualitatively exploring respondents' views, opinions and experiences as RAP according to Renfro et al. (2022) is a timely and evidence-based approach in assessing qualitative data without having to compromise integrity. Audio recorded interview seems to be a recommended technique which avails the interviewer ability to concentrate on the interview and build rapport rather than being distracted with extensive note taking (Edward and Holland, 2013). DiCicco-Bloom and Crabtree (2006) opined that maintaining high quality tape recordings which can prevent difficulties in terms of transcribing, as it is replete with challenges bothering on transcribers facing difficulties capturing spoken words due to sentence structure and the possibility of mistaking words or phrases for others. (Gubrium and Holstein, 2002; Meadows and Dodendorf, 1999). Perhaps, the conduct of the interview process for this study on review in their national/local language may minimize or obliterate these issues. Also, the key characteristics of a semi-structured interview were all factored in the semi-structured questions the authors developed as stipulated by Johnson et al. (2020). Thus, the study seems to have covered all perspectives identified to increase the possibility of being selective and impacting directly on the dependability of the study, a marker of trustworthiness (Guba, Lincoln & Denzin, 1994).

The Study Sample

The study used purposive sampling, citing that it accommodates the adequacy and appropriateness principles of Sargeant (2012). This sampling method unlike the convenience sampling where volunteers make up participants or current participants recommend other willing persons as obtainable in snowball sampling, seems appropriate because it best reflects the researchers'

intentional selection of participants who have the particular experience and expertise they were on the lookout for (Gill, 2020; Johnson, Adkins and Chauvin, 2020).

The Sample Size

The researchers selected six participants which is a seemingly small sample size considering the sample size guideline according to Creswell (1998) stated a range of twenty to thirty as adequate. The small number of participants appear to be of little consequence in qualitative studies unlike quantitative studies where generalizability is important thus the need for large sample size (Gill, 2020). In-fact, it is common standard in qualitative studies, for peak sample size to be reached when data saturation occurs which refers to the point at which no new thematic information is gathered from participants (Malterud, Siersma and Guassora, 2016). This agrees with the suggestion of previous studies that the size of a sample should be dependent on study aims, purpose, the type of question it is looking to answer (Hatch, 2002), homogeneity of the sample, theory, interview quality and analytic strategy (Malterud, Siersma and Guassora, 2016).

Ethical Issues

The study obtained an approval in the form of a formal clearance from the ethical board of Universitas Indonesia, which suggests that the study complied with the ethical provisions of relevant authorities. This agrees to the recommendation by Johnson, Adkins and Chauvin (2020) that researchers address all ethical considerations. Although no statement provides any insight on informed consent of every participant prior to the research, the study suggest it complied with the World Medical Association Declaration of Helsinki on Ethical Conduct in Human Research.

Data Analysis Process

The authors carried out a systematic and comprehensive data analysis, detailing how the audio recorded interview were transcribed, codes developed to capture similarities in participants' narrative and coding text built into a thematic schema using a fishbone diagram which they described as a graphical tool used to organize and categorize the factors contributing to the problem. This a commonly used approach and has been described to rely on codes from a codebook for tagging segments of text and then a subsequent sorting of text segments with similar content

into separate categories for a final distillation into major themes (Miles and Huberman, 1994). Kawulich (2004) highlighted data analysis approaches such as grounded theory, hermeneutics, content, cross-cultural, ethnographic, narrative, constant comparative and phenomenological analysis explaining the idea behind the adoption of these different analytic processes by researchers. The use of coding and category guidelines were consistent in studies where data is transcribed from interviews or fieldnotes as seen in grounded theory and the constant comparative method according to Kawulich (2004). Furthermore, this analytic method ensures that the codes assigned are accurate representation of categories of data which should exhaustively reflect the objectives of the study, be guided by the number of times participants mention a common theme (Guba and Lincoln 1998; Kawulich, 2004) and reflect the elements of a good code- label/name, definition, description and listing of relevant examples, as described by Boyatzis (1998). The detailed analysis exposition in the study aligns with the opinion of Ryan, Coughlan & Cronin (2007) that the process by which a study's data analysis is undertaken is essentially fundamental to its credibility.

The Study Findings

The findings of the study are arranged under the major themes that were clustered to demonstrate how they meet study aims. This shows the data analysis process were focused on the study objectives. The themes each include an interpretation and explanation of what was meant by the theme title and a corresponding quotation from a participant in support of the theme in discuss. This as described by Ryan et al, 2007 shows a robust study while Stenfors, Kajamaa and Beneth (2020) expressed it enhances confirmability another criterion of trustworthiness. This aspect of trustworthiness is further augmented by many of the themes, and by including views that are dissent suggests that the study is unbiased as no particular view is given priority over another.

The Study Discussion

The study made tremendous effort in the use of quotes and citations in describing the relationship between data and study findings. The discussion section demonstrated how the research findings relate or link to the wider body of literature/ existing knowledge through new theoretical or practical interpretations and how the results link to previous relevant research, answer the research

question the authors set out to answer. The discussion section is a pointer to the quality of the study and one can easily conclude this qualitative research is of high quality due to how the authors addressed their research question, placing their findings in the context of previous/ existing literature. The study therefore achieved the recommendations of Stenfors on how to produce high-quality qualitative research, as it did not go beyond the data that were presented in drawing conclusions about the study findings, neither did they go off on tangents (Stenfors, Kajamaa and Benett, 2020). The study provided a thorough explanation of how specific results came to be and relate with another, how the results contribute to answering the research question and achieving the aim of the research, hence defeating author's challenge (Johnson, Adkins and Chauvin, 2020). It is also evident that the study interpretations were backed up by robust research and review of literature showing clarity of purpose and adequate preparedness of the researchers (Glassick, Huber and Maeroff, 1997). This can be achieved through the development of a "well-integrated" conceptual framework (Johnson, Adkins and Chauvin, 2020). A conceptual framework such as that done in the appraised study provide researchers with a logical and convincing argument for the research, exposes them to the key concepts, principles, assumptions, theories, best practices and providing a justification and definition of research question, methods chosen to answer and perspectives for results interpretation and fact-based conclusions (Kuper, Lingard and Levinson, 2008; Bordage, 2009). This fosters "standing on the shoulders of giants" which is symbolic to scientific progress as described by Chen (2003).

The Recommendation and Conclusion

Having highlighted the study aims, importance and unique contributions in its conclusion, the study under review adhered to the study recommendations of Johnson et al. (2020)'s postulation; that the conclusion of a study should paint an overall picture in the form of a brief summary of the study. In addition, the study equally addressed perspectives that are practical and theoretical which when put toe to toe with the study discussion section, one can see it provides direction for further research, and provided responses to the questions conceptualized by Johnson et al (2020); "So what? Why do these result matter? and What next?". These provides the reader with some assurance in the quality of the work taking into cognizance that it was conducted in a rigorous and systematic manner, as best practices and standards were upheld in the design and conduct of the

study in terms of collection of data, analysis of data (O'brien et al., 2014; Wu, Wyant and Fraser, 2016), thus enabling the research to remain on track.

Summary

In conclusion, the study appears to have been rigorously and systematically conducted, with the methods generally consistent with qualitative methodology and commensurate with addressing the study question and aims. There are no identified threats to the believability and trustworthiness of the study as it checks off some key elements and criteria of dependability, transferability, reflexivity, credibility and confirmability used in assessing this quality as described in this appraisal suggesting robust research. In accessing these elements of trustworthiness some of the essential 'markers' that indicate high-quality qualitative research (research process, including the research context, research aims, questions and design, methods of data collection and data analysis, results, discussion) and their careful alignment were introduced, all of which usually increases the quality of a qualitative study. It is important to note that these markers differ between qualitative research and quantitatively oriented natural sciences.

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