



## Establishing Validity And Reliability of Semi-Structured Interview Questionnaire in Developing Risk Communication Module: A Pilot Study

Khin Thandar Aung<sup>1</sup>; Rafiza Abdul Razak<sup>2</sup>; Nor Nazrina Mohamad Nazry<sup>3</sup>

<sup>1</sup>Faculty of Education (PhD Candidate), University Malaya, Malaysia

<sup>2,3</sup>Department of Curriculum and Instructional Technology, University Malaya, Malaysia

<sup>1</sup>Corresponding Email: [khinthandaraung678@gmail.com](mailto:khinthandaraung678@gmail.com), Phone Number : +601 xxxx xxxx

### Article History:

Received: Jun 07, 2021

Revised: Jun 22, 2021

Accepted: Jun 24, 2021

Online First: Jun 30, 2021

### Keywords:

Reliability,  
Risk communication module,  
Semi-structure interview  
questionnaire,  
Validity.

### How to cite:

Aung, K.T., Razak, R.A., & Nazry, N.N.M. (2021). Establishing Validity And Reliability of Semi-Structured Interview Questionnaire in Developing Risk Communication Module: A Pilot Study. *Edunesia: Jurnal Ilmiah Pendidikan*, 2 (3): 600-606.

This is an open access article under the  
CC-BY-NC-ND license



**Abstract:** Needs analysis is a technique in collecting and accessing information relevant to course design. In the needs analysis, the interview is one of the methods and it involves asking in-depth questions using a structured or semi-structured guide to better understand the individual's points of view. A pilot test for an interview is an important and useful process in conducting qualitative research. Its findings might indicate that some improvements for the major study are needed. This article will explore the advantages of the pilot study, how it was undertaken and the experiences and findings throughout the study. The pilot test was conducted by interviewing two nursing lecturers using Google Meet. This pilot test was conducted with three stages of an interview process such as a pre-interview, peri-interview and post-interview. There were no serious modifications were needed after data analysis of the pilot study was done. It indicates that the research instruments, semi-structured questions can be considered as valid and reliable and can be used for the real study. At the same time, the researcher recognized that the MOOC course and communication at risk module need details explanation because they are new for the participants and to make clear distinction between risk communication and therapeutic communication. This study gives the researchers valuable experiences in applying the three stages of the interview session. The most important, the findings of this study can be applied in the real study.

## A. Introduction

When estimating the worth of a research, its findings should be utilized in practice and merged into the current situation. Although the tests and measures for the validity and reliability of quantitative research have been established, these cannot be used in qualitative research. There are ongoing debates about whether terms such as validity, reliability and generalisability are appropriate for qualitative research. Lincoln and Guba (cited in Noble & Smith, 2015) suggested that alternative criteria for demonstrating rigour within qualitative research are namely truth value, consistency and neutrality, and applicability. Mouton and Marais (1996) argued that validation is not a necessity in qualitative research as concepts already reflect the world of the object of study (Dikko, 2016). Anyhow, the issue of quality of research is mostly related to the validity and reliability of its data.

Patton (1990) stated that the validity and reliability of the qualitative data depend on the researcher's expectations in the interview session (Dikko, 2016). In conducting the interview session, the researcher plays an important role to ensure that interviewees understand the questions asked and at the same time the researcher manages to get the data for the research questions (cited in Dikko, 2016). A qualitative interview is most likely to assist the researcher to collect in-depth analysis that may provide a clearer and more complete picture of the research findings. However, the qualitative interview might be difficult for inexperienced researcher to perform the interview. Therefore, piloting for an interview is an integral part and beneficial in the process of conducting qualitative research as it highlights the improvisation to the major study. A pilot test is conducted in any research to ensure that validity of the instruments is achieved (Majid et al, 2017). Many authors have highlighted the importance of conducting the pilot test is to detect any possible errors at the early stage of research which may require adjustments in the instrument (Dikko, 2016) as well as in terms of added value and credibility into the research (Van Wijk and Harrison, 2013).

Consequently, the researcher determines to conduct a semi-structured interview pilot test. While a structured interview is considered more formalized and also limited to the prepared set of questions, a semi-structured interview is more flexible in terms of changing the order of questions and for a more extensive follow-up participants' response. It is neither too rigid nor too open and allows new questions if needed to be brought up during the interview session based on the answers given by the participant. This paper attempts to explore how the pilot test did and findings then conclude with a decision for the real study.

## Background of the pilot study

Risk communication is an important part of any emergency response. It is the actual exchange of information, advice and opinions between experts, community leaders, or officials and the people who are at risk (World Health Organization, 2017). During epidemics and pandemics health emergencies, humanitarian crises and natural disasters, effective risk communication allows people to understand and adopt protective behaviours. During public health emergencies, people need to know what types of health risks will be faced, and what actions they should take to protect their health and lives. If accurate information is provided early, often, trust and usable and languages and channels are understandable, people enable to make choices and take actions to protect themselves, their

families and communities from threatening health hazards (World Health Organization, 2017).

Crisis and Emergency Risk Communication (CERC) personnel often work under incredible time constraints and must communicate the uncertainty of risk to a wide range of stakeholders, which can be very challenging for them. Therefore, to become an effective CERC personnel, they need to be well trained (Miller et al, 2015). Training helps the individual to learn about CERC strategies that will help prepare for and respond to public emergencies effectively, like as how to review and disseminate risk information as well as emerging or current crisis and emergency risk information, and how to plan systematically, then develop, implement, and evaluate crisis and emergency risk communication activities. However, making the best decisions depends largely on training as well as experiences (Miller et al, 2015).

Quality care is increasingly challenged by the pressure of communication in high-stress work setting particularly in health emergencies. Therefore, effective communication becomes a more important skill among health care professionals and accreditation bodies. In an emergency, there have some specific communication challenges in dealing with the acute undifferentiated presentation of the event. If neglecting communication skills training, there could be an effect on future patient's safety and health care outcomes. Therefore, communication skills teaching is currently widely accepted as a core element of medical and nursing undergraduate curricula. While communication skills training is a part of undergraduate medical curricula, the quality and extent of the content, resources and teaching methodologies can vary greatly. In Malaysia, most of the nursing programme, more emphasis on effective communication skills in clinical settings and community settings. However, there is still very little attention on communication skills in health emergencies together with global health emergencies like pandemic viral infection, an outbreak of bacterial infection, natural disasters and so on. Therefore, the main aim of this research is to develop a module regarding communication at risk during global health emergencies for nursing continuing education and investigate the effectiveness of this module among participants.

Before designing a module, need analysis is important and it is the starting point for a course design. Needs analysis raises to the techniques for collecting and assessing relevant information to design the course. Needs can be collected and analysed in a variety of ways (Thepseenu, 2020). An Interview is one of the methods in need analysis. It involves asking in-depth questions to better understand the individual's points of view. The set of questions to be asked can follow a structured or semi-structured grid and the persons to be interviewed might be chosen key informants who can be expertise or critical position or represent a community (Sava, 2020).

Harding (2013) stated that the pilot test for qualitative interviews is not relatively obvious because as the interviews progressed, the quality of the interview guide is improved. However, he mentioned that it is distinctly helpful to test the interview questions and adjust the interview guide accordingly before starting the real study (cited in William-McBean, 2019). A pilot study is a trial run conducted in preparation of a full-scale study and may be conducted specifically to pre-test a research instrument (Teijlingen & Hundley, 2001, cited in Dikko, 2016). Various authors have highlighted the importance of the conduct of a pilot study is as a fundamental to any types of research to detect any possible flaws in the measurement instruments (Dikko, 2016). Van Wijk and Harrison (2013) supposed that pilot studies can add value and credibility to the entire research project. Basically, a pilot study

helps to ascertain how well a research instrument will work in the actual study by identifying potential problems and areas that may require adjustments. Hence, the researcher decided to pilot the interviews based on these recommendations.

## **B. Method**

A pilot study is a mini version of a research or a trial run to conduct a full-scale study and may be conducted specifically to pre-test a research instrument (Dikko, 2016). In this study, the researcher wants to explore the requirements to create the module for continuous nursing education in line with professional development. Therefore, semi-structured interviews will be used to gather focused, qualitative textual data for exploring the needs of developing a Massive open online course MOOC of communication during global health emergencies from the perspectives of lecturers and registered nurses. The rich descriptive data of nurses' and lecturers' opinions will be uncovered during the semi-structured interview session and can be used in creating design and development of MOOC course of communication during global health emergencies for nurses. This semi-structured interview is more flexible and it allows new questions if required during the interview session based on the answer given by the participants.

## **Setting and Participants**

In the interviews, there is no set a sample size to judge and it depends on the scope of the research question (Emmel, 2013). Moreover, Patton (1990) mentioned that there are no rules for sample size in qualitative inquiry and sample size depends on the purpose of the inquiry, what will be suitable, what will have trustworthiness, and what can be done with available time and resources (Patton 1990). In pilot interviews, Turner (2010) suggests that the participants should have similar criteria as possible to the participants for the major study. In this pilot test study, the researcher's intention is to access the semi-structured questions that will be used in the real study are reliable or valid. Therefore, two nursing lecturers based on the inclusion criteria such as they had an academic qualification with at least a Master's degree in nursing science and also has experienced at least three years in teaching, especially in emergency nursing are selected as participants in this pilot test. Then, the researcher contacted by personal Whatsapp and get a voluntary agreement to involve in a pilot interview session. After got an agreement from respondents, the researcher arranged the date and time according to respondent availability then invite them via google calendar. The virtual interview via google meet using semi-structured guided questions conducted one on one interview because of the pandemic COVID-19 situation and movement control order (MCO) by the government of Malaysia.

## **Research Instruments**

The researcher has been attached the participant's information sheet and informed consent forms at the time of the invitation was delivered. The interview session started with a greeting and some warming-up questions by asking the participants' demographic data questions to help them felt comfortable. Then, the researcher followed the interview guideline in interviewing them. According to the qualitative experts' suggestions and literature review, the order of the research questions was adjusted by paraphrasing unclear questions and eliciting redundant information. A semi-structure interview guideline had 14 numbers of questions involving four main sessions for discovering the needs for developing

a communication at risk module during global health emergencies for continuing nursing education.

Through the purpose of conducting this pilot test, the researcher had been putting a lot of efforts in conducting the whole process of the interview session to ensure the important things such as participants, setting, research instruments and flow of interview online. This pilot test involved three stages of an interview process which are pre-interview, during the interview and post-interview stage.

In the pre-interview stage, the researcher selected two nursing lecturers based on the inclusion criteria. Then, the researcher contacted them personally through Whatsapp or phone calling. Next, a voluntary agreement to involve in this pilot interview session was taken. After that, the researcher arranged interview session details such as the date, the time and the mode of an interview session with the participants. Finally, the researcher invited them via google calendar.

The interview was done online, the virtual interview via google meet using semi-structured guided questions was conducted by considering the COVID-19 pandemic situation and MCO. The researcher started with greetings, self-introduction from both interviewer and interviewee and then the researcher explained the objectives of the interview session, the process of interviewing the respondents and recording the interview data until the closing of the interview session. After that, the researcher reminded to sign informed consent form and resend back. Next, the researcher started the interview questions that are mentioned in semi-structure interview guide. Sometimes, the researcher used probing techniques if needed to elicit more information, recording and note-taking of the ideas revealed by the interviewees. The entire interview session took almost 40 minutes. After that, the researcher summarized the interview session and offer questions, suggestions or thoughts from the interviewees. Finally, the researcher expressed her appreciation and pleasure to the interviewees for their supports and gave a token of appreciation to the interviewees. The interview was conducted by English Language.

In the post-interview stage, the data from the interviewees were transcribed verbatim, coded and themed according to the research objectives.

### **C. Result and Discussion**

This pilot test provided the opportunity to assist the researcher to clarify some questions to improve in the interview guide. In this study, there were no serious modifications was made as a result of the pilot test, however, at the briefing time, the researcher needed to explain in details about MOOC course and communication at risk module because they are new for the participants. They had no experience and never heard about MOOC course. They were quite confused between therapeutic communication for the clients and the risk of communication during a crisis or emergency situation. Other than that, the questions in the interview guide are well answered. In addition, due to the pilot test, the researcher noticed that the recording should be made by using two devices like google meet recording as well as extra recording via smartphone or voice recorders to have the back up if the internet connection is unstable. The time frame for each session of the interview captured in 40 minutes. It is quite satisfied and in line with the researcher's plan.



## D. Conclusion

In conclusion, this pilot test enhanced the semi-structured interviewing to achieve the best validity while exploring the needs to design and develop the module for nursing education. However, there is a limitation because the only a small number of participants can be interviewed that indicates interview data were not saturated. On the other hand, although it is a small-scale pilot study, the stages of the interview process had been followed that is the requirement of validity and reliability in the qualitative research method. Therefore, the findings from this pilot study can be applied in conducting semi-structured interview for the need analysis phase of the real study. Finally, this pilot study gave some favour for the researcher to practice the interviewing technique and experiences for future real study. Last but not least, this pilot test paper might provide some information for qualitative research in the associated context.

## Acknowledgment

We would like to thank the participants and those who have contributed to the pilot test study.

## References

- Dikko, M. (2016). Establishing construct validity and reliability: Pilot testing of a qualitative interview research in Takaful (Islamic insurance). *The Qualitative Report*, 21(3), 521-528. Retrieved from: <http://nsuworks.nova.edu/tqr/vol21/iss3/6>
- Emmel, N. (2013). Sample size. In *Sampling and choosing cases in qualitative research: A realist approach* (pp. 137-156). SAGE Publications Ltd, <https://www.doi.org/10.4135/9781473913882>.
- Majid, M.A.A., Othman, Mohhidin., Mohamad, S.F., Halim, S.A. Lim., & Yusof, A. (2017). Piloting for Interviews in Qualitative Research: Operationalization and Lessons Learnt. *International Journal of Academic Research in Business and Social Sciences*, 7(4). doi: 10.6007/IJARBS/v7-i4/2916. Retrieved from: <http://dx.doi.org/10.6007/IJARBS/v7-i4/2916>.
- Miller, S., France, D., & Welsh, K. (2015). Development of Crisis and Emergency Risk Communication (CERC) activities and an Evaluation of their Impact on Learning: Geoscience students' perceptions, *Belgeo*, Retrieved from: <http://journals.openedition.org/belgeo/16386> ; doi : 10.4000/belgeo.16386.
- Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-Based Nursing*, 18(2), 34-5. <https://doi.org/10.1136/eb-2015-102054>. [Accessed 18th December. 2020].
- Patton, M. (1990). *Qualitative evaluation and research methods* (pp. 169-186). Beverly Hills, CA: Sage.

- Sava, S. (2020). Needs Analysis and Programme Planning in Adult Education. Opladen; Berlin; Toronto: Verlag Barbara Budrich. doi:10.2307/j.ctvbkjvs2.
- Thepseenu, B. (2020). Needs Analysis for ESP Course Development: Thai Civil Engineering Students' Perspectives. *Asian Journal of Education and Training*, 6(3): 433-442. doi: 10.20448/journal.522.2020.63.433.442.
- Turner, D.W. (2010) Qualitative Interview Design: A Practical Guide for Novice Investigators. *The Qualitative Report*, 15, 754-760. <http://www.nova.edu/ssss/QR/QR15-3/qid.pdf>.
- Van Wijk E., & Harrison T (2013). Managing Ethical Problems in Qualitative Research involving vulnerable populations, Using a Pilot Study. *The International Journal of Qualitative Methods*, 12(1):570-586. doi: 10.1177/160940691301200130.
- Williams-McBean, C.T. (2019). The Value of a Qualitative Pilot Study in a Multi-Phase Mixed Methods Research. *The Qualitative Report*, 24(5), 1055-1064. <https://doi.org/10.46743/2160-3715/2019.3833>.
- World Health Organization. (2017). *Communicating risk in public health emergencies: A WHO guideline for emergency risk communication (ERC) policy and practice*. New York: World Health Organization. ISBN 978-92-4-155020-8.