

Comparison of Telephone and In-Person Interviews

Rafid Rahman

Department of Biological Sciences, College of Liberal Arts & Sciences and the Honors College
University of Illinois at Chicago

In qualitative research, interviews are utilized in data collection, especially in the medical field. This literature review analyzes the advantages and disadvantages for in-person and telephone methods. The PubMed and PubMedCentral® databases were searched and yielded five relevant articles in the locale of medicine for review. Telephone interviews are found to be shorter, cost less, are reported to display less interviewer bias, and are seen to report less information while in-person interviews require more training, are conducive to physical tests, and are harder to schedule. In-person and telephone interviews are both accurate within acceptable error for qualitative research studies. In cases where a majority of the sample may not have access to telephones, the extra cost of the in-person interview is justified to develop rapport and increased accuracy to add validity to the study. Telephone interviews may be the preferred method unless the in-person interview provides benefits to the research that outweigh the additional costs. This study was a sub-study for a larger project with an overall goal of understanding the dynamics of health communication in grand families and how these dynamics may differ by race.

INTRODUCTION

In scientific investigation, data is required to test a hypothesis. In qualitative human research, one method of gathering non-numerical information is performed via interview. The choice of method (telephone versus in-person) is an important study design element. The data collection method can have ramifications of response rates and data fidelity along with resource (personnel, supplies, and monetary) utilization. However, the rationale for the choice of data collection method is not always described in qualitative research articles. In-person interviews usually are considered the gold standard in qualitative research in regard to validity and quality of response in the field of health care. This literature review adds to general knowledge in the field by analyzing the validity of telephone interviews in qualitative research to determine the effectiveness of this alternate method. We also examined the current literature to compare telephone and in-person interviews for qualitative data collection from human research subjects. Although this literature review determined that the in-person and telephone interview are equally effective in gathering valid data, further research on the methods in diverse populations is needed to clarify the generalizability of the finding.

METHODS

The PubMed and PubMedCentral® databases were searched using the terms “telephone interview,” “interview validity,” “in-person interview,” “qualitative data collection,” and “interview methods” with restrictions by articles being in English and published between the years 1950 and 2014. Abstracts were reviewed for use in this analysis and the results were summarized. Inclusion criteria comprised of articles with analysis of both in-person and telephone methods. Exclusion criteria comprised of articles that were not relevant to the key question, did not incorporate a valid comparison group, or if the article only discussed one of the possible interview methods. Inclusion and exclusion criteria were applied to search results, and the re-

maining articles were used in the analysis. PRISMA flow diagram is used to show how articles were selected to be included in the literature review (see Figure 1).

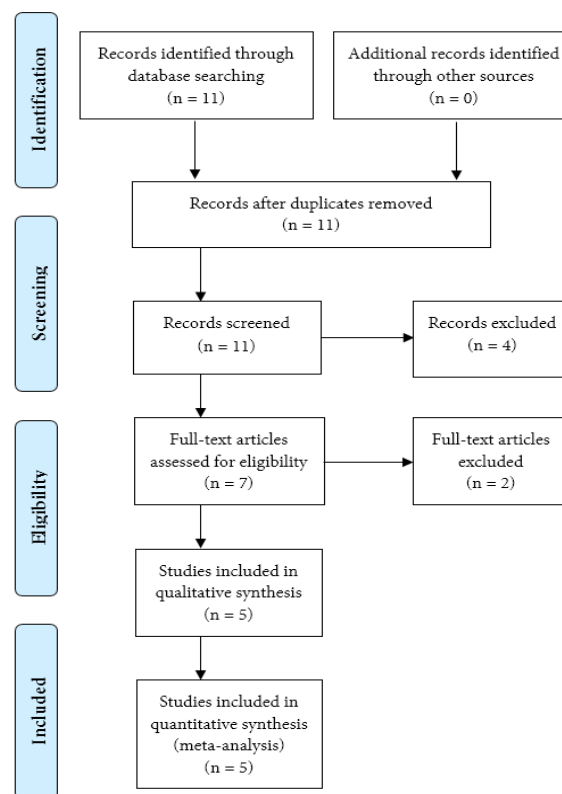


Figure 1: PRISMA 2009 Flow Diagram - Adapted for Literature Review of In-person versus Telephone Interviews

RESULTS

Out of eleven article titles identified, seven abstracts were reviewed and five articles were selected for this review (See Figure 1). Six of the eleven articles identified were not included because of a combination of the exclusion criteria discussed in

Article	Purpose	Sample	Design	Outcomes
Telephone versus In-Person Surveys of Community Health Status Year Published: 1982	To find statistically significant differences between two interview methods for overall assessment of health status.	Los Angeles County Adults (N=546).	Three Stage Cluster Sample using the Kish Method and randomly assigned a method of interview to each participant.	Telephone interview had a significant cost advantage and both methods were comparable in response results.
Personal versus Telephone Interviews: Effect on Responses Year Published: 1969	To see if cheaper alternatives such as telephone or mail could substitute for the in-person method.	Physicians across five states of the US (N=1600).	Interviewed between the years 1964-1967 with 1007 interviewed twice for comparative purposes.	More socially desirable answers and longer interview period from in-person but quality of answers are comparable.
The telephone interview is an effective method of data collection in clinical nursing research: A discussion paper Year Published: 2007	Identify advantages and challenges of using the telephone as a mechanism of data collection.	Women's Recovery from Sternotomy Study (N=480).	Interviews conducted post surgery for 12 weeks up to a year at regular intervals.	Telephone interviews tend to minimize bias, but also have challenges maintaining participant involvement. The responses between the two methods are similar.
A Comparison of Mail, Telephone, and Home Interview Strategies for Household Health Surveys Year Published: 1979	To compare cost and data quality between mail, telephone, and in-person methods and the combinations of the three types.	Montreal, Canada. (N=1600 in 1974) (N=1056 in 1971-2)	1056 participants did home interviews in 1971-1972. In 1974, 1600 did a combination of mail, telephone, or home interviews.	Data validity was similar in-between telephone and home interviews but combinations of the methods were the most effective.
Personal versus Telephone Surveys for Collecting Household Health Data at the Local Level Year Published: 1983	To compare the responses between in-person and telephone interviews.	Tampa Bay, Florida and four counties in its area (N=439).	Conducted during a 13-week period from February 2nd to May 3rd in 1981. Included four components of telephone and in-person methods.	No conclusive evidence of response differences but telephone interviews seemed to be more accurate on reporting visits.

Table 1: Analysis of five research articles comparing telephone and in-person interviews.

the Methods. A summary of the findings of the articles meeting inclusion criteria for this study are shown in Table 1.

Response Rates:

Out of the five articles analyzed, two studies have higher response rates for in-person interviews, one study has a higher response rate for telephone, and two studies do not compare response rate percentages. In one article, in-person interviews offer a 90% response rate while telephone interviews offer a 75% response rate (Weeks et al., 1983). The second article also supports in-person interviews with a response rate of 84.1% compared to the telephone rate of 73.5% (Siemietycki, 1979). However, in a third article, the in-person interviews offer an 80.4% response rate while telephone interviews offer 81.4% (Aneshensel et al., 1982). Furthermore, the telephone interview has a specific advantage that a second call can be easily arranged if the interview has to be rescheduled, or the interview can be more conveniently timed for participants in different time zones, which led to a greater than 89% telephone interview response rate in the WREST Study (Musselwhite et al., 2007). Nevertheless, the telephone interview has a major disadvantage because it excludes potential participants who do not own telephones or do not have their numbers listed publicly. Not being able to include persons without telephone access leads to undercoverage bias and prevents vital input from a group who otherwise could participate in the research study (Weeks et al., 1983). Although telephone interviews can reach a wider range of people than in-person interviews, the

telephone interview respondents usually are younger, better educated, and White in the cohorts studied for the published articles included in this review. Therefore, the sample may not be representative of the entire population (Weeks et al. 1983).

Data Fidelity:

Telephone interviews may reduce response bias that can occur with in-person interviews. Talking over the phone, the interviewer is not physically in the room to influence the answers or make the person feel uncomfortable if the questions are very sensitive. The anonymity of the telephone interview reduces the interviewer bias by making the interviewing setting more calming and forthcoming, which leads to more accurate and truthful data collection (Musselwhite et al., 2007). Although the in-person interview may evoke more socially acceptable answers and skew the results, telephone interviews are not conducive towards asking longer questions and tend to ask brief ones to prevent contamination of answers and loss of interviewer control (Colombotos 1969). Also, scientists observe that the in-person interview allows the interviewee to become more comfortable with the interviewer because of the personal interaction. This trust can lead to higher recruitment levels and the interviewee may be more likely to over-report for longer questions because of direct interaction with the interviewer, which may lead to non-pertinent data collection and digression (Weeks et al., 1983).

During the telephone interview, people are more likely to report the reason or fact of hospitalizations accurately.

In-person interviews also have lower accuracy when reporting ambulatory care visits and can approximately be twice as inaccurate when reporting hospital stays, 14.3% inaccuracy with telephone versus 26.4% inaccuracy with in-person (Weeks et al., 1983). Also, the telephone interviewer can improve the quality of data by giving his or her subjects time to respond and understand the question, which studies have shown to correlate with better response rates and accurate data when sharing private information (Musselwhite et al 2007). Even though the in-person interview allows the interviewer to gain the respect and trust of the interviewee relatively quickly, this leads to increased data values that support socially acceptable behaviors that may not reflect the actual thoughts or health habits of the respondent (Colombotos 1969). Cross analyzing the two interview styles, researchers have found that telephone interviews tend to under report health issues which can lead to a gap in the data, and in-person interviews over report on similar topics, which can lead to extraneous information in the report (Aneshensel et al., 1982).

Resource Utilization:

Cost is a significant factor when deciding between telephone and in-person interviews for data collection. Costing less than half as much as in-person interviews, telephone interviews display a significant advantage over in-person interviews (Siemiatycki 1979). Specifically, the Research Triangle Institute case study of the Tampa Bay area (shown graphically in Figure 2) found that over the course of the research the telephone interview cost a \$14,131 total and \$34.63 per interview, and the in-person interview cost \$37,053 total and \$75.31 per interview (Weeks et al., 1983). As a common theme throughout all five of the sources, the telephone interviews are less expensive and most efficient by reducing the time required to interview each person. Furthermore, they are easier to schedule and re-schedule than in-person interviews if the interviewer or interviewee were to miss the appointment for any reason, which saves money and time (Musselwhite et al., 2007). Also, telephone interviews take five to ten minutes less, on average, to complete when compared to in-person interviews. This allows more interviews to be completed over the course of the study, which may lead to a larger sample size that may be able to produce more precise and accurate results (Colombotos 1969). As a consensus in the literature, the in-person interview costs the most, requires extensive scheduling by both parties involved, takes time for travel, and usually creates similar response rates and results as telephone interviews. Thus, the in-person interview is only recommended if the excess costs are balanced by attributing increased validity to data collection from the sample to reduce some of the biases of the telephone interview (Siemiatycki 1979).

CONCLUSION

Gathering data is a vital part of the research process. Researchers prefer to utilize advantageous methods that increase accuracy and decrease error of the study. Although both telephone interviews and in-person interviews are valid methods for gathering research data, researchers need to know

the data reporting consistencies of each data collection method to make an informed decision because direct comparisons for telephone and in-person interviews are limited. As a common consensus from the articles reviewed, telephone interviews are more accurate when reporting health information; however, the telephone interviewees are less likely to mention all of their health problems when compared to in-person interviews.

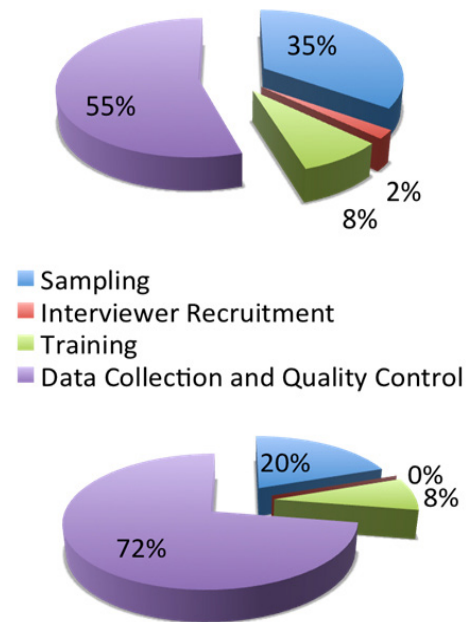


Figure 2: Data representation of in person cost % for the Research Triangle Institute Case Study (1981).

All of the articles on the validity of the in-person interview versus the telephone interview in this literature review qualify both methods of gathering data as equally effective for human qualitative research studies. However, when analyzing costs, advantages and disadvantages, and data reporting consistencies, the methodologies start to show specific benefits. Telephone interviewing is the most cost effective. When scrutinizing the advantages of the methods, no clear winner can be selected, although the telephone interview has a few more benefits. The most common theme is that telephone interviews are less tedious, shorter, and often underreport while in-person interviews require more time, training, and often over report on the same topics when discussing health care studies. In cases where a majority of the sample may not have access to telephones, in-person interviews may justify the extra cost to develop rapport and increase the validity of the study.

Our literature review adds to the scientific field by analyzing in-person versus telephone interviews in response rates, data fidelity, and resource utilization. The limitations of our study include lack of research since the advent of cell phones, the decrease in the use of landlines, and specific demographic data that may follow different trends. The strengths of our study include: identifying reproducible patterns between both interview methods and spanning multiple decades for each data collection technique.

In conclusion, given that in-person interviews and telephone interviews are both accurate within acceptable error,

both methods would be valid for research studies. Telephone interviews have an advantage with cost and ease of use; however, the in-person interview can provide additional benefits to the research that outweigh the additional costs. Even though both the telephone interview and in-person interview have their numerous advantages and disadvantages, researchers should select the method that limits bias and provides accurate data.

ACKNOWLEDGMENTS

The author gratefully acknowledges the contributions of Dr. Raj C. Shah from Rush University Medical Center.

REFERENCES

Aneshensel, C.S., Frerichs, R.R., Clark, V.A., & Yokopenic, P.A. (1982). Telephone versus In-Person Surveys of Community Health Status. *American Journal of Public Health*, 72, 1017-1021.

Colombotos, J. (1969). Personal Versus Telephone Interviews: Effect on Responses. *Public Health Reports*, 84, 773-782.

Musselwhite, K., Cuff, L., McGregor, L., & King, K. M. (2007). The telephone interview is an effective method of data collection in clinical nursing research: A discussion paper. *International Journal of Nursing Studies*, 44, 1064-1070.

Siemiatycki, J. (1979). A Comparison of Mail, Telephone, and Home Interview Strategies for Household Health Surveys. *American Journal of Public Health*, 69, 238-245.

Weeks, M.F, Kulka, R.A., Lessler, J.T., & Whitmore, R.W. (1983). Personal versus Telephone Surveys For Collecting Household Health Data at the Local Level. *American Journal of Public Health*, 73, 1389-1394.

Rafid Rahman is a sophomore at the University of Illinois at Chicago pursuing a Bachelor of Science in Biological Sciences and a Bachelor of Arts in Anthropology. Since he was born in Bangladesh, Rafid hopes to return to expand healthcare accessibility and affordability in the rural portions of the country. Rafid has a research interest in health disparities because he believes that it has an influence on disease, and if the disparities were eliminated or reduced then diseases could be prevented or less fatal with earlier treatments or diagnosis.

