

Integrating Quantitative and Qualitative Research Methods in Health Communication Research

Prabhakararao Sampathirao^{1*}

ABSTRACT

Health Educators working to promote health behaviors have realized that mere quantitative research surveys alone not necessarily provide all of the data inputs that are needed to develop effective communication strategies. Therefore, qualitative methods such as focus groups and in-depth interviews, besides less precise, but useful semi-quantitative approaches, such as intercept surveys, have emerged as part of their research gamut. In an ideal Health Education/IEC program, researchers use both quantitative and qualitative data to provide a more complete picture of the issue being addressed, the target audience and the effectiveness of the program itself. The purpose of this paper is to look at how these two different research approaches can be integrated to inform the development of an effective social marketing program.

Keywords: *Integrating Quantitative, Qualitative Research Methods, Health, Communication.*

An analysis of the quantitative and qualitative research methods will help to identify their strengths and weaknesses and how their different but opposite approaches can complement each other. In most cases, researchers fall into one of the two camps--either relying exclusively upon "objective" survey questionnaires and statistical analyses and not so warm and well-defined qualitative methods, or using only qualitative methodologies, rejecting the quantitative approach as decontextualizing human behavior. However, health communication researchers recognize that each approach has its own positive attributes, and that combining different methods can result in gaining the best of both research worlds.

Quantitative research uses methods adopted from the physical sciences that are designed to ensure objectivity, generalizability and reliability. These techniques cover the ways research participants are selected randomly from the study population in an unbiased manner, the standardized questionnaire or intervention they receive and the statistical methods used to test predetermined hypotheses regarding the relationships between specific variables. The researcher

¹ Health Education Officer, Central Health Education Bureau, Kotla Road, New Delhi, India

*Responding Author

Integrating Quantitative and Qualitative Research Methods in Health Communication Research

is considered external to the actual research, and results are expected to be replicable no matter who conducts the research (1).

The strengths of the quantitative methods are that its methods produce quantifiable, reliable data that are usually generalizable to some larger population. Quantitative measures are often most appropriate for conducting needs assessments (diagnostic studies) or for evaluations comparing outcomes with baseline data. This model breaks down when the phenomenon under study is difficult to measure or quantify. The greatest weakness of the quantitative approach is that it decontextualizes human behavior in a way that removes the event from its real world setting and ignores the effects of variables that have not been included in the model. Quantitative methods are useful when the subject matter under consideration is very clearly defined, measurement of problems is a minor issue or it is well defined, to present numerical description of a representative sample, to stress repetition of measurement and to generalize the results and draw comparisons across populations (2).

Qualitative research methodologies are designed to provide the researcher with the perspective of target audience members through immersion in a culture or situation and direct interaction with the people under study. Qualitative methods used in Health Communication research include observations, in-depth interviews and focus groups. These methods are designed to help researchers understand the meanings people assign to social phenomena and to explain the mental processes underlying behaviors. Hypotheses are generated during data collection and analysis, and measurement tends to be subjective. In the qualitative paradigm, the researcher becomes the instrument of data collection, and results may vary greatly depending upon who conducts the research. Data collected in qualitative research are usually in narrative rather than numerical form, such as the transcript of an unstructured, in-depth interview. Analysis of qualitative data organizes, summarizes and interprets these non-numerical observations. The goal of qualitative research is the development of concepts that help clarify phenomena in natural, rather than experimental, settings, giving due emphasis to the meanings, experiences and views of all the participants being studied. For example, to understand why some members of ethnic minorities have refused tuberculosis treatment, qualitative, culturally sensitive interviews may be much more informative than standardized quantitative interviews.(3)

Focus groups is one of the important survey construct (tool) increasingly being used in the recent days. It facilitates small group discussion, usually 8-9 at a time, with similar backgrounds, experiences and perspectives, and is capable of exploring specific area of interest in detail. Active participation, interaction among the members is key component it is cheaper, more efficient and easily accessible than other methods. it relies more up on reports of behavior than actual observation of behavior. Focus groups are not meant for generalizing results. The main advantage of focus groups over other methods is that they have multiple perspectives, interactions can be observed, and participants help each other to clarify ideas. The main disadvantages of focus group method are it is difficult to manage, some group members may be

Integrating Quantitative and Qualitative Research Methods in Health Communication Research

reluctant to reveal in group settings and social norms influence responses. Differences in conceptual frameworks may arise in part from the contrasted social backgrounds of the administrators, community organizers and indigenous communities (tribal villagers). They also may stem from an unwillingness to either examine historical disparities or to agree that cultures could differ without being thought inferior (4).

The advantage of using qualitative methods is that they generate rich, detailed data that leave the participants' perspectives intact and provide a context for health behavior. They focus upon processes and "reasons why" differs from that of quantitative research, which addresses correlations between variables. A disadvantage is that data collection and analysis may be labor intensive and time-consuming. In addition, these methods are not yet totally accepted by the mainstream public health community and qualitative researchers may find their results challenged as invalid by those outside the field of social marketing.

The qualitative methods are useful when the subject matter is unfamiliar, to explore the concepts hitherto unknown or their definitions unclear, meanings rather than frequencies are more relevant, flexibility of approach is called for in-depth investigation for studying selected issues, cases or events in detail for discovery of unexpected. In the study of high rates of smoking among construction laborers the research question under qualitative method will be how construction workers view health risks associated with occupational exposure, poor nutrition and tobacco use. What kind of health education strategies will be effective in decreasing tobacco use and increase in consumption of fruits and vegetables?

HEALTH COMMUNICATION RESEARCH

The traditional health education professional conducts research at the beginning of a project to develop an intervention, and again at the end to evaluate the effectiveness of the intervention. In contrast, health educators utilize research throughout the planning, development, implementation and evaluation phases of the program; social marketing research as applicable to health education is a process of continuous development and testing. Many of the tools used to develop health communication programs--focus groups, consumer marketing databases, intercept surveys--have their origins in the field of commercial market research, and are based on "what works" for gathering various types of needed data. Health communication research relies upon consumer-focused research to learn as much about the target audience as possible by looking at their lives from many different angles--both quantitatively as part of a larger group and qualitatively to investigate individual attitudes, reactions, behaviors and preferences.

Health education programs use research throughout the life of a project. Research in health education is conducted precisely to help make better decisions at key points in the process (5). These decisions may include which target audience, messages and media to choose; whether to make changes in program strategy during implementation; and whether to continue the program. Pinpointing the facts needed to make these decisions will help to identify the best methods for

Integrating Quantitative and Qualitative Research Methods in Health Communication Research

subsequently collecting this data. Some types of information may require quantitative data collection methods, such as detecting any measurable differences in knowledge or behaviors once the program has been implemented. But, knowing the audience reactions to a selection of program messages may be best done through qualitative methods. An effective and responsive program requires a combination of research approaches in order to have the data needed for decision making.

Professionals who come to health education research from traditional social marketing background may have a difficult time in reconciling their notion of "what research is" with some of the methods that social marketers have appropriated from the commercial marketing tool kit. Even those who are committed to using a mix of research methods may encounter institutional resistance to deviating from the quantitative paradigm, particularly when the proposed research will occur in a governmental or academic setting. However, as the field of health promotion evolves from a focus on individual lifestyles and risk factors to a broader concept of social and environmental factors influencing morbidity and mortality, researchers must employ a variety of methods to reflect this new perspective.

TOWARDS AN INTEGRATIVE SOCIAL MARKETING RESEARCH MODEL

As a useful starting point, Steckler et al. (1992) have delineated four possible models of integrating qualitative and quantitative methods in health education research. In the first approach, qualitative methods contribute to the development of quantitative instruments, such as the use of focus groups in questionnaire construction. The second model consists of a primarily quantitative study that uses qualitative results to help interpret or explain the quantitative findings. In the third approach, quantitative results help interpret predominantly qualitative findings, as when focus group participants are asked to fill out survey questionnaires at the session. In the fourth model, the two methodologies are used equally and in parallel to cross-validate and build upon each other's results. Health Educators may operate under one or more of these models; the approaches are not mutually exclusive (6).

A social marketing model for integrating methods in Health education research must include quantitative and qualitative methods at each stage of the process for formative research, process evaluation and outcome evaluation. While each program is unique, the model proposed here can be adapted based on available resources. In study of high rates of smoking among construction laborers, a formative research was undertaken to assess smoking patterns and factors associated with smoking among laborers, develop and test a smoking cessation intervention using an RCT design. In these study qualitative methods significantly improved survey constructs (focus groups) and their administration, development of intervention strategies and messages, assessment of intervention components and to interpret quantitative study results (7).

INTEGRATING FORMATIVE RESEARCH

During the formative research stage, in which the goal is to learn as much as possible about how the target audience thinks and behaves in relation to the issue being addressed, a host of research methods provides many different data "viewpoints" for seeing the big picture. Exploratory research conducted at the beginning of the project reviews previous research involving both quantitative and qualitative data and can include interviews with those who have previously attempted to address the issue. This research will help in the initial development of the project strategy to delineate the parameters of the project, steer the selection of the target audience, and specify the potential behaviors to be promoted and identify lessons learned and potential pitfalls. Focus groups conducted for exploration also yield valuable qualitative data regarding the target audience, providing insights into their language, issues and obstacles they identify, and meanings attributed to beliefs and behaviors(8).

Information learned from the initial focus groups can then be used to inform questionnaire construction for a population survey to collect hard numbers for baseline data. The survey will also help to segment the target audience based upon its distribution across the stages of behavior change, as described by the Trans-theoretical Model of Behavior Change (9), or other characteristics. In addition, commercial marketing databases, while quantitative in nature, provide highly detailed profiles of target audience segments for message development and channel selection.

The messages and materials developed based upon the exploratory research should be pretested using both qualitative and quantitative methods so that the results provide depth of understanding as well as generalizability. Focus groups provide a valuable means to pretest messages and materials, for audience members can provide spontaneous reactions and explain their responses. This method, however, can only indicate trends and cannot yield hard quantitative data needed for definitive decision making. If enough focus groups are conducted and participants are considered representative of the target audience, a survey questionnaire may be administered either before or after the focus group to collect numerical data as well.

A central-site intercept survey, in which potential audience members are approached in a public area and asked to respond to a quick questionnaire, provides another method of pretesting materials. The fast turnaround nature of this method and high volume of responses makes it ideal for testing draft executions of materials such as print or television ads prior to production and implementation. This method is considered semi-quantitative because respondents are not selected from a random sample, but questions are usually closed-ended and tabulated statistically. Final decisions, such as choosing from among several possible ads, can be made based on the numbers this method yields.

Integrating Process Evaluation

Upon implementation of the program, process evaluation helps to keep the project on track and signals when changes are needed in the program strategy. The most common data collection activity in this phase involves counting--materials distributed number of people attending activities, broadcasts of the television or radio ads, media coverage of events, phone calls to the organization--to ensure that the project proceeds as intended. Other quantitative tracking mechanisms, such as consumer surveys, identify whether the program's message is reaching the target audience and is getting its attention and motivating action. In an ongoing multi-year project, this may be a repetition of the population survey conducted at the beginning; for a shorter-term project, a survey may target a very specific audience segment.

Qualitative process evaluation methods can include periodic interviews or focus groups with target audience members to assess their progress toward behavior change. Through these activities, participants may inform program administrators of unforeseen barriers or opportunities to adopting the behavior that need to be addressed to increase chances of success. Observations of audience members may also provide clues to needed changes in program strategy or messages in case they are using the product in an unsafe manner or performing the target behavior incorrectly. The quantitative and qualitative process research can be conducted simultaneously to collect and react to data. Distinguishing between Data and Methods in Program Evaluation is perhaps an important point of departure from traditional thinking about programme evaluation is systematic mixed-method approach (10).

Integrating Outcome Evaluation

Both types of research are instructive in identifying the program outcomes. A repeat of the quantitative population survey will provide an indication of whether the program realized its objectives in raising awareness, changing attitudes and initiating behavior change. Related decreases in morbidity and mortality or other major indices will be more difficult to claim without also conducting a matched community intervention study, with the only difference between the communities being the presence of the health education program.

In the end, the quantitative data emerging from the survey are generally used as the final arbiters of success. However, qualitative research can point out successes that may have occurred on a more human scale through anecdotes about how the health education program made a difference in someone's life. Focus groups, interviews and other methods of collecting individual people's stories and responses to the campaign are valuable in learning which components of the program were successful and how the next project can be improved. Both types of research are necessary to assess the full extent of the program's impact upon the target audience. Considering the specific economic situation of underdeveloped regions and reserves about the availability of information necessary for research, many authors use a combination of the qualitative and quantitative data analysis, some authors argue that the validity of the research data would be greater or better if both methodologies were used in combination(11).

CONCLUSION

Integrating quantitative and qualitative research methods lends depth and clarity to Health Education programs. This combination of approaches is necessary because of the wide range of data needed to develop effective communications. However, the potential for problems exists when attempting to combine such divergent research paradigms; one may end up not doing either type of research well. This integrative approach therefore requires a research team with expertise in both types of methods. Using multiple approaches can also be time-consuming, labor-intensive and expensive. Another obstacle, which will likely change as health education gains in usage, is that combining multiple methods is still not widely accepted as a viable research strategy--at least in mainstream public health circles. As health educators demonstrate that such research is necessary to fully understand and address many health-related issues, the research norms and scientific dogma regarding appropriate methods may shift to a new, more integrative paradigm. Triangulation can cut across the qualitative and quantitative divide. (12)

REFERENCES

1. Wiennriech Communications, a series of articles on social marketing.
2. Applying qualitative methods in in intervention Research Glorian Sorensen, PhD, MPH Harvard School of Public Health, Dana-Farber Cancer Institute, Boston, Massachusetts, USA.
3. Broadening horizons: Integrating quantitative and qualitative research, Marja J Verhoef, Ann L Casebeer.
4. Integrate quantitative data analysis, qualitative data analysis, and participatory tools on the Chottanagpur Plateau, India. A. Rew; S. Khan; M. Rew.
5. Andreasen AR (1995). Marketing Social Change. San Francisco: Jossey-Bass Publishers.
6. Steckler A, McLeroy KR, Goodman RM, Bird ST, McCormick L (1992). "Toward Integrating Qualitative and Quantitative Methods: An Introduction." Health Education `Quarterly, 19:1-8.
7. A study of high rates of smoking among construction laborers
8. Integrating quantitative and qualitative research: how is it done?, Bryman.
9. Prochaska JO, DiClemente CC (1983). "Stages and Processes of Self-Change in Smoking: an Integrative Model of Change." Journal of Consulting Clinical Psychology, 5:390-5.
10. Integrating Qualitative and Quantitative Approaches in Program Evaluation, Vijayendra Rao and Michael Woolcock.
11. A Methodological Framework For Combining Quantitative And Qualitative Survey Methods, MarslandN1 , Wilson I2 , Abeyasekera S2 , Kleih U
12. Triangulation in social research: qualitative and quantitative research methods can really be mixed , by Wendy Olsen