

REVIEW ARTICLE

USEFULNESS OF MIXED METHOD RESEARCH DESIGN TO UNDERSTAND HEALTH SEEKING BEHAVIOR

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Received: 13 Feb, 2022

Accepted: 17 Jun, 2022

Published: 30 Jun, 2022

Key words: Behavioral science; Health-seeking behavior; Mixed-method; Paradigms; Pragmatism; Social science; Triangulation.

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DOI: <https://doi.org/10.54530/jcmc.1119>

Citation

Paudel AK, Chhetri MR, Baniya A, Chhetri M, Thapa R. Usefulness of mixed method research design to understand health seeking behavior. Journal of Chitwan Medical College. 2022;12(40):138-43.



ABSTRACT

Mixed Methods Research Design (MMRD) has been used as a more potent approach in the research field of social and behavioral science. The purpose of this article is to explore and provide information on mixed methods study design. Secondly, the article discusses different categories and perspectives of health-seeking behavior from multiple angles of real social life. Thirdly, it focuses on the relevance and applicability of mixed-method design in understanding subjective and objective aspects of health-seeking behavior acting at the person, family, and community level, such as bio-social profiles and previous experiences with health care. The article has also briefly summarized the philosophy of mixed methods research design and different perspectives on health-seeking behavior. Mixed methods research, is one of the three major research paradigms (quantitative research, qualitative research, and mixed methods research) that is most appropriate to comprehending complicated subjective and objective facts associated to health-seeking behavior. This article will contribute to understanding the strength of mixed-method research design and its use with more holistic thinking on the issues pertaining to health-seeking behavior and human behavior.

INTRODUCTION

The ontological perspective of research is concerned with 'what is', i.e., the nature of existence and the structure of reality.¹ Epistemology is a way of understanding and explaining how we know what we know² or how it is possible to find out about the world.³ The methodology is concerned with the strategy, plan, and design that go into the selection and application of procedures, as well as the connection between the choices and the desired outcomes.² In other words, ontology is concerned with the nature of reality, epistemology informs theoretical perspectives, theoretical perspectives shape research methodology, and methodology directs and selects research methods.¹

Paradigm is a belief system based on ontological, epistemological and methodological assumptions.⁴ It provides precision in designating central concepts of social analysis, implies logical concept derivation from previously clearly defined concepts^{5,6,7} and suggests ways to understand the world's reality. Based on paradigm, different research designs are used to describe, explore and understand social life.⁴ According to social scientists, research design supports in answering research

questions in a logical, objective, accurate, and cost-effective manner, as well as controlling the experimental, extraneous, and error variances of the research topic under study.⁸ So, a research design is a plan to conduct research that includes the connection of philosophy, strategies of inquiry and specific methods.

In this light, social scientists and researchers have also defined, labeled, evaluated and acted the health and illness based on the context of culture. An illness is the innately human experience of symptoms and suffering, whereas the disease is the abnormalities related with biological and psychological condition of individual and determined through biomedical perspectives.⁹ Therefore, health, illness, diseases and human behavior are defined and understood following the socio-cultural context of human life.

DIFFERENT PERSPECTIVES OF RESEARCH PARADIGMS

There are three main research paradigms in use: quantitative, qualitative and pragmatic. The quantitative paradigm, which has its origin based on the scientific method and focused on statistical procedures for data analysis. In contrast, qualitative

rely on the descriptive narrative for data analysis. A pragmatic paradigm is a combination of the two, is gaining acceptance as a way to improve and substantiate research findings.¹⁰ The quantitative paradigm is based on positivism and characterized by empirical study and all phenomena can be reduced to empirical indicators that indicate the truth.¹¹ The ontological perspective of the quantitative paradigm is focused on only one truth and objective reality that exists independent of human perception. From an epistemological perspective, the researchers and research participants are independent entities. Finally, the investigator is able of measuring and analyzing causal relationships between dependent and independent variables within a value-free framework, and the researcher is capable of studying a phenomenon without influencing or being influenced by it, and inquiries are conducted through a one-way lens.⁴

The qualitative paradigm, on the other hand, is built on interpretivism and constructivism.¹² Multiple realities or truths are supported on one's conception of reality on an ontological level. It believes that reality is socially constructed.^{13,14} From an epistemological perspective, there'll be no chances to access any reality independent of our minds and no other external references to check claims of truth.¹⁵ So, an investigator and the object of study are interactively linked¹⁴, findings are mutually created within the context of matters which shapes the inquiry¹¹ and it suggests that reality has no existence before the activity of investigation and reality ceases to exist when no longer focus on it.¹⁵

Research design is a vital aspect of any study since it deals with generating research questions and determining research processes and elements such as research methodologies, research strategy, and sampling. The separation of research designs into quantitative and qualitative is a common distinction; the tendency has been to link quantitative methods with the natural science and qualitative methods with social science. Quantitative design is based on a positivist paradigm to answer questions like how many or how frequently and are measured/ reported on a numerical scale, permitting categorization of pooled data, numerical reporting, and statistical analysis so focused to answer objectives (quantitative) facts of social life.^{5,7,16} While qualitative design stands on the interpretative paradigm and findings are derived through the use of statistical procedure or other means of quantification and emphasize to draw subjective (qualitative) truth of the real world.^{17,18}

In this context, the pragmatism paradigm is a set of ideas articulated by many people. It draws on many ideas, including using "what works," using diverse approaches, and valuing both subjective and objective knowledge that arises out of actions, situations, and consequences rather than predecessor conditions as in post-positivism.¹⁹ Based on a system of philosophy and emphasize to both subjective (qualitative data) and objective (quantitative data) aspects of social life to understand the reality of the world^{5,19}; within the research process, the pragmatic paradigm implies that data collection methods and data analysis procedures are mixed together.⁵

Based on its intended consequences, the pragmatists stare for the "what" and "how" in research. Instead of the method being the most important, it is the problem, and researchers use all approaches to understand the problem. In pragmatist's logic of inquiry, use of induction (or discovery of patterns), deduction (testing of theories and hypotheses), and abduction (uncovering and relying on the best of a set of explanations for understanding one's results) approaches are used to understand the reality. The pragmatic paradigm is also an attempt to use multiple approaches in answering research questions, rather than restricting on researchers' choices (i.e., it rejects dogmatism) and is inclusive, pluralistic, and complementary.^{5,7} So, researchers should take an eclectic approach to method selection and thinking about and conduct of research.¹⁶ Pragmatism, when considered another paradigm, sidesteps the contentious issues of reality and truth, accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the real globe.²⁰ This approach is that the third methodological paradigm alongside qualitative and quantitative research involves mixing or combining quantitative and qualitative research techniques, methods, approaches, concepts, or language into one study.¹⁶

What percentage and how frequently measured/ reported on a numerical scale, permitting categorization of pooled data, numerical reporting, and statistical analysis are the focused areas of the quantitative investigation to answer objectives (quantitative) facts of social life^{5,7,21}; while qualitative inquiries stand for findings not arrived by statistical procedure or other means of quantification and emphasize to draw subjective (qualitative) truth of the real world.^{18,22} So, we also suggest that mixed-method research design is a pragmatic perspective using both quantitative and qualitative approaches, giving primacy to the importance of the research problem and question, and valuing both objective and subjective knowledge^{5,23} and emphasize to mixing of inside (subjective) and outside (objective) observations to know the reality of the social world.^{24,25}

The mixed methods research is a type of research in which an investigator or a group of investigators uses elements of both qualitative and quantitative research approaches (such as the use of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.²⁶ Therefore, the mixed-method research design is the sibling of multi-method research in which either solely multiple qualitative approaches or solely multiple quantitative approaches are combined. Mixed method design applies both quantitative and qualitative methods to understand reality, to minimize weakness and maximize the strength of both qualitative and quantitative inquiries.^{5,7} Mixed-method, multiple methods, multiple or mixed approaches, integrated methods, mixed models, multiple models, qualitative plus quantitative approach, combined qualitative and quantitative methods are all terms used to describe a mixed research paradigm, which is a complement to the traditional qualitative

and quantitative research paradigms.

In this circumstance, the term triangulation is used in research to describe the use of more than one way to researching the questions, as well as to extend the findings by confirming hypotheses with two or more independent measures. The term “triangulation” was initially coined by a group of scholars. The term “across-method” or “between triangulation” refers to this kind of triangulation.²⁷ Another scholar further described triangulation as “the integration of approaches within the study of the same topic”.²⁸ Further, Denzin, 1978 has also summarized the four types of triangulation: (a) data triangulation (i.e., using multiple sources in a study), (b) investigator triangulation (i.e., using multiple researchers), (c) theory triangulation (i.e., using multiple perspectives and theories to interpret the results of a study), and (d) methodological triangulation (i.e., using multiple methods to interpret the results of a study).

Triangulation is a term that describes research that employs two or more methodologies²⁹ and it can be accomplished through corroboration, elaboration, development, and initiation procedures.^{30,31,32} Elaboration refers to the use of data from one source to clarify or aid in the interpretation of data gathered using another method. The corroboration approach of triangulation, also known as methodological triangulation, refers to the use of multiple methods to test the consistency of findings across methods. Whereas, the development approach of triangulation refers to the use of results from one method to design instruments or sampling frames, as well as to select strategies for analyzing data collected using a different method, and the initiation approach refers to the growth of new theory based on divergent findings from data collected using different methods.^{21,33}

A mixed-method research design entails the triangulation of quantitative and qualitative data in a single project.³⁴ In the same way that they represent words and numbers, the two primary languages of human communication, those techniques complement each other. So, we suggest that researchers might exhibit the best of each method while avoiding the constraints of a single methodology by employing a mixed methods study design. This methodological approach can also be used when a data source is insufficient to satisfy the research question, or when the findings must be explained and exploratory discoveries must be generalized.

HEALTH SEEKING BEHAVIOR AND METHODOLOGICAL ISSUES

In this context of the methodological debate, past studies suggest that social science is most often concerned with human behaviors and many public health problems to involve understanding and health-seeking decisions.³⁵ There is the greater complexity of health-seeking behaviors and usually employ multiple sources of care, which includes of a home remedy, self-medication with pharmaceuticals bought over-the-counter on the open market, herbal therapies provided by traditional healers, and therapies obtained from health centers or hospitals.³⁶⁻³⁸ Pieces of literature have also

suggested that the patterns of health-seeking behavior have variations in definitions of terms and can be separated into four different categories; (1) No treatment: Doing nothing and waiting for recovery from illness without any effort, (2) Home remedies/self-treatment/home care/self-medication/self-care: Self-treatment includes anything from a cool bath to a course of drugs, but in actuality may involve seeking advice from someone who is considered an expert.³⁸ Self-treatment includes both self-medication and home treatment. The former entails self-treatment, whilst the later entails another family member’s therapy of a household member.^{38,39} (3) Traditional healers or traditional techniques: A person who is recognized by the community in which he lives as capable of providing health care using vegetables, mineral substances, and other methods that are based on the community’s cultural, religious, and social setting, as well as common beliefs, knowledge, and attitudes.⁴⁰ In this light, traditional medicine is the application of beliefs, knowledge, health practices, and all approaches to treat, diagnose, and prevent illnesses or maintain well-being, including plant, animal, and mineral-based medicines, spiritual therapies, manual techniques, and exercises, used singly or in combination to treat, diagnose, and prevent illnesses or maintain well-being⁴¹ and (4) A modern medicine sector: includes hospitals, nursing homes, clinics, dispensaries, private practitioners, and village health workers.^{38,40,42,43}

The sick person and family members respond to any symptoms and disabilities based on their broader social network and their impression is an illness. So, Illness is defined as “what an individual feels during discomfort” as a result of symptoms and impairment, whereas disease is defined as “the designation given by qualified health professionals/modern healers to those discomforts and anomalies.” A person is afflicted with ‘illnesses,’ which are diagnosed and treated by physicians or doctors. Illness is defined as an individual’s perception of disvalued alterations in his condition of being and social function. Diseases, on the other hand, are abnormalities in the structure and functions of the body and systems that are diagnosed by skilled medical personnel. Sickness is the generalization of a disorder over a population influenced by macro-social (economic, political, and institutional) influences.^{44,45} We suggest that illnesses are psychological concepts, sicknesses are sociological, and diseases are biomedical concepts.

In this viewpoint, any activities conducted by persons who believe they have a health condition or are ill in order to discover an acceptable cure is referred to as health-seeking behavior.⁴⁶ Health-seeking behavior is different from the ‘health behavior’, which includes any activities undertaken by individuals, who see themselves as healthy for preventing disease or detecting it in an asymptomatic stage.⁴⁶⁻⁴⁸ Health-seeking behavior has also been viewed from two perspectives: Firstly, those studies emphasize the ‘endpoint’ (utilization of the formal health care system, or healthcare-seeking behavior). Such endpoint of the decision-making process or utilization of the formal health care system is normally recorded in attendance at the health facility. Next studies which emphasize the ‘process’ (an illness response or health-seeking behavior), and these studies

concentrate on positioning the health-care seeking within the social framework in which decisions are made and actions are taken.^{49,50}

Health-seeking behavior is determined by a large number of factors and complex outcomes of many factors operating at the individual, family, and community level, including their bio-social profile, past experiences with health services, community influences, availability of alternative health care providers, and so on.⁵¹ The use of health care systems, whether public or private, formal or informal, is influenced by socio-demographic characteristics, social structures, educational status, cultural beliefs and practices, gender discrimination, women's status, economic circumstances, and the health care system itself.^{52,53}

When considering types of studies, a distinction needs to be made between healthcare-seeking behavior studies and health-seeking behavior studies. The first kind explores the barriers to care that exist between patients and services, whereas the second type investigates the process of obtaining health care. It should be emphasized that identifying pathways to the formal health care system frequently begins with home care and traditional healers and progresses to the formal system, with pathways varying depending on the individual's presenting problems.⁵⁰ Previous research aimed to better understand health-seeking behavior by examining illnesses behavior and focusing on specific driving elements such as illness perception and health belief. A comprehensive study should look beyond the individual for social patterns or determinants of decision-making (refer to the concept of "social cognition"), as well as the sense of local control over the condition, community group influences, and decision-making patterns that exist within the community. Social scientists have proposed different models to understand factors influencing health-seeking behavior. According to these models, health-seeking behavior is primarily influenced by; (1) Knowledge about cause and recognition/symptoms of illness: An individual's knowledge, beliefs, and perceptions of illness (including the severity, causation, duration and accompanying symptoms, and perceived efficacy and experience in treatment) play a part in the health seeking process^{40,47,54} (2) Cultural views, socioeconomic position of households, parents' education, the sex and age of the household head, and the social network of family have all been proven to influence people's treatment and provider choices during illness^{38,55} and people do not always have ready access to medical treatment during illness because of various social, economic and cultural factors^{56,57} and (3) Factors related to the health care system or health care organization determining health seeking behavior during illness. Kleinman's model, which is widely employed in this context, emphasizes a local cultural system made up of three overlapping parts: the 'popular,' 'professional,' and 'folk' sectors^{46,57} and other socio-behavioral models have identified perceived quality of services, availability of drugs/pieces of equipment/care providers, social distance, communication, users fee or cost of treatment, physical distance, opening hours, and care provider behavior as influencing factors in illness and decisions to seek care.^{42,58-61} Health-seeking behavior is a complex and multifaceted

phenomenon that affects individuals and families and is influenced by both subjective and objective aspects of life. The research design selected to understand different perspectives of health-seeking behavior must capture both qualitative and quantitative facts, and it is only possible through the application of mixed-method design research. In this context, research scholars also have emphasized that mixed-method design provides a comprehensive understanding of evidence together with human experience and complexity of the research problems and provides multiple perspectives of real social life from both qualitative and quantitative data.^{4,5} Likewise, Plano Clark et al., 2015 also emphasized the need of employing a mixed-methods approach to examine complex systems and processes in health and social science.⁶² Complex mixed-method research designs are increasingly being used in social science and the health industry to grasp reality and truths. In this light, we also stress that the mixed-method study design encompasses all aspects of the research process, including philosophical assumptions, research objectives, design, data collection, analysis, integration, and data and result presentation formats.⁶³ It's worth noting that the research methods are chosen based on the nature of the research topics. To explore and answer research questions on causation, the majority of researchers in the healthcare profession use a quantitative methodology⁶⁴; generalization, and magnitudes of the effect. The qualitative research method is generally known as the method of choice for researchers who want to answer research questions about how or why a specific event happens, construct a theory, or describe the subjectivity of an individual experience.⁶² Mixed-method research design has also been suggested by social scientists to understand complex and comprehensive subjective and objective facts because it combines the strengths of both quantitative and qualitative approaches, and as a result, it is a methodological innovation increasingly used to address contemporary issues in health services, such as health-seeking behavior.⁵

CONCLUSION

Concepts and variables related to health-seeking behavior are both subjective and objective in nature; knowing solely subjective or objective facts would not provide a complete picture of the truth regarding health-seeking behavior. Here we've got shown that mixed-method research design offers an improved chance to provide a properly integrated methodology for the social sciences and acknowledging the worth of both quantitative and qualitative research methods. As a mixed-method research design, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in an exceedingly single study or series of studies, give primacy to the importance of research problems and questions, and valuing both subjective and objective knowledge and emphasize to the blending of subjective and objective observations to grasp the truth of the social world.

Health-seeking behavior is a complicated result of numerous elements functioning at the individual, family, and community level, including their socio-cultural profile, past experiences with health services, and so on, based on the study scholar's

ideas and findings. As a result, we came to the conclusion that mixed-method research designs, in which both qualitative and quantitative methods are combined in a single program of inquiry, are becoming more common and can be useful in social science and health services research, where the complementary strengths of both qualitative and quantitative approaches can be used to better understand complex phenomena than either approach alone. Besides, the mixed-

method research design is the most effective approach to effectively address complex problems in health and health care delivery, including heterogeneous and dynamic systems of care and a multi-level approach is needed to capture the perspectives from patients, providers and organizations. We have concluded and suggest a mixed-method design has the potential for application to understand health-seeking behavior and also to improve health systems performance.

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