EDITORIAL

Qualitative research in brachial plexus injury

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QUALITATIVE research refers to any type of research that produces findings not arrived at by statistical procedures or other quantitative means. It can be used to study people's experiences, behaviors, and emotions, as well as organizational functioning and cultural phenomena. The aim of qualitative research is to gather an in-depth understanding of human behavior and the considerations that govern such behavior. It investigates the "why" and "how" of decision making, not just the "what," "where," and "when."³ Qualitative research has been traditionally used in the social sciences, but has since branched out to many other fields, including health research.

Unlike quantitative research, qualitative research utilizes semi-structured methods, such as interviews and focus groups, to allow the respondents more freedom to express their thoughts and feelings. Another hallmark of qualitative research is the alternating manner in which data collection and analysis are performed. This research usually starts with a general exploratory question, and the concepts evolve as the research progresses. This technique is different from quantitative research wherein the conduct of research adheres strictly to the study design.

One of the methods in qualitative research is "grounded theory," a process of generating theories based on evidence the researchers see and hear using a systematic and analytical method.³ In other words, it is theory that is grounded in data, or has a basis in data. The procedure used to analyze the data is called "coding." The end product of the coding process is a "theme," which is a central idea that appears frequently in the data. More than one theme can be culled from a research study. Themes are allowed to emerge from the data instead of being preconceived by the researcher.³ This is in contrast to quantitative research wherein a hypothesis is formulated prior to conducting a study.

Another important concept used in qualitative research is "saturation." This refers to a condition wherein no new

information seems to arise from the data,³ so it signals the end of data collection.

Is there any role for qualitative research in medicine and health care? Certainly, given that medicine is not just a science; it is also an art. Qualitative research aims to address issues not amenable to quantitative research methodology. It is meant to complement quantitative research, not compete with it. Its value lies in areas where insight may not be well-established or where conventional theories seem inadequate. Adding qualitative to quantitative research may result in findings that are broader in scope and richer in meaning. It can address questions that are not answerable through quantitative research, such as questions about individuals' motivations, perceptions, expectations, and meaning. It can be used to gain insight into social, emotional, and experiential phenomena in health care and can produce information that can be used to improve the quality of care of patients.³

The use of qualitative research in total avulsion brachial plexus injuries (BPIs) fills a void not addressed or explored by quantitative research. Clinicians are mostly concerned about treatment options and outcomes, but little has been written about the patient perspective of the disease. Unlike in life-threatening conditions, such as head injury or brain cancer, the medical treatment decision-making process in BPI is not as clear-cut. Furthermore, with the limited functional recovery that we can offer patients with total avulsion BPIs, it is imperative that we understand the condition from the patient's standpoint to help them make informed decisions about their treatment.

In the accompanying article, Franzblau et al.¹ did an excellent job of using qualitative research to explore the medical treatment decision making of 12 patients with total avulsion BPIs. Although the number of respondents is smaller than for other qualitative research studies, the saturation point had already been reached at 12 patients. This may be attributable to the fairly homogeneous population

ACCOMPANYING ARTICLE See pp 1413–1420. DOI: 10.3171/2015.2.JNS132686.

INCLUDE WHEN CITING Published online April 3, 2015; DOI: 10.3171/2014.5.JNS141012.

DISCLOSURE The authors report no conflict of interest.

interviewed: all males, all with the most severe avulsion type of brachial plexus palsy with complete paralysis, and predominantly young. Another limitation of this study is that it may not be fully applicable outside the United States. Other countries, such as Canada and many European countries, have a national health insurance system, so the lack of private health insurance would not be a factor there.

The study findings were not surprising. After thematic analysis, 4 decision-making factors emerged from the interview data: 1) desire to improve or restore function, 2) perceived value of functional gains, 3) weighing the risks and costs of surgery, and 4) the presence of concomitant injuries. In addition, other related issues emerged during the course of the interviews and analysis, specifically with regard to obstacles to care. These included lack of insurance coverage, late diagnosis, and insufficient information about treatment that prevented patients from making informed decisions and accessing care. This is the beauty of qualitative research; the researcher is allowed to explore related issues that arise instead of strictly adhering to the study design.

The authors have proposed solutions to the existing barriers to care identified in the study. These solutions are sound and doable, but we as health care providers should be vigorous and tireless in their implementation. It is our job not only to treat patients, but also to disseminate medical information to both patients and other health professionals. Other physicians should be made aware of the treatment options for total avulsion BPIs and the strict timetable to be followed, so that the proper referrals can be made in a timely fashion. It is also our responsibility to discuss with the patient the various treatment options, risks, and degree of expected recovery. Anything less would be doing a disservice to the patient.

As the authors have noted, patients with BPIs have a tendency to focus on immediate events rather than long-term sequelae because they often have concomitant injuries that require their own treatment and recovery period. It is a good idea to involve the family since they can provide support and a more objective view of the problem. The use of written patient education materials also helps to fill information gaps. It has been found that 40%–80% of medical information provided by medical practitioners is immediately forgotten,² so written material can help to reinforce ideas and consolidate thoughts. As mentioned earlier, decision making in total avulsion BPIs is not straightforward, and sometimes patients need time to process all of the presented information before arriving at a decision.

Total avulsion BPI is a devastating injury with life-long consequences, so all efforts should be made to bring these patients to medical attention and to give them adequate, relevant information that will help them make an

informed decision. The qualitative research reported in the Franzblau et al.¹ paper is an important step toward improving the information that we can provide to caregivers and patients alike.

<http://thejns.org/doi/abs/10.3171/2014.5.JNS141012>

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Response

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We agree with and appreciate the perspective of Drs. Khu and Midha that, since medicine and surgery are not only science but also art, qualitative research is emerging as a complementary modality to quantitative research. When conducted with methodological rigor, qualitative research offers much information about patient conceptions regarding their treatment. For disorders such as brachial plexus avulsion injury, which are not mortal but morbid, quality-of-life issues can be chronic and supersede quantitative bodily function. Therefore, the activity and participation domains of the International Classification of Functioning, Disability and Health¹ rise in importance because these domains contribute to patient perceptions about their outcomes, which are important in the evaluation of health care quality and physician performance. Although a drawback of our study was the number of participants, several issues regarding medical decision making were identified, and we suggest that a patient- and family-centered approach to care to address these issues can improve overall patient outcomes for chronically disabling disorders. We thank Drs. Khu and Midha for their encouragement and positive feedback.

Reference

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