From conception to coherence: The determination of correct research ‘posture’

De la conception à la cohérence: la détermination d’une posture de recherche correcte

Navindhra Naidoo *

Department of Emergency Medical Sciences, Cape Peninsula University of Technology, Bellville 7535, Cape Town, South Africa

Received 30 June 2011; revised 30 August 2011; accepted 5 October 2011
Available online 20 October 2011

Abstract (First 300 words) Introduction (from conception to philosophy): The first article in this series provided a brief conceptual understanding of research. It postulated that the many ways of acquiring knowledge included tradition, authority, logical reasoning, experience, intuition, borrowing and the scientific method. Of these, the scientific method is the most sophisticated and reliable. It is this sophistication, in the form of research philosophy and methodological paradigms that is the object of this article. How data are collected and interpreted depends on how one conceives of the “world” and its knowledge constructs, as scientific inquiry is defined not at the level of the methodology but at the level of the paradigm. This paradigmatic framing of research activity and philosophical posturing of the researcher provides the external coherence prerequisite of scientific research.

Alternative research paradigms that determine ‘posture’: In seeking an epistemological position (how we come to know), one needs to also consider the ontological lens (world view) and methodological paradigm most befitting the aims and objectives of the study. To determine the appropriate “posture”, some factors against which the alternative inquiry paradigms may be compared include: the nature of the knowledge sought, ways in which knowledge is accumulated (and accommodated), quality criteria and ethics. To demonstrate reflexivity and appropriateness of choice for a study, the paradigms positivism, interpretivism and critical theory are appraised against some of the factors...
Introduction: From conception to philosophy

The first article in this series provided a brief conceptual understanding of research. It postulated that the many ways of acquiring knowledge included tradition, authority, logical reasoning, experience, intuition, borrowing and the scientific method. Of these, the scientific method is the most sophisticated and reliable. It is this sophistication, in the form of research philosophy and methodological paradigms that is the object of this article. How data are collected and interpreted depends on how one conceives of the ‘world’ and its knowledge constructs, as scientific inquiry is defined not at the level of the methodology but at the level of the paradigm. This paradigmatic framing of research activity and philosophical posturing of the researcher provides the external coherence prerequisite of scientific research.

Alternative research paradigms that determine ‘posture’

In seeking an epistemological position (how we come to know), one needs to also consider the ontological lens (world view) and methodological paradigm most befitting the aims and objectives of the study. To determine the appropriate ‘posture’,1 some factors against which the alternative inquiry paradigms may be compared include: the nature of the knowledge sought, ways in which knowledge is accumulated (and accommodated), quality criteria and ethics.2 To demonstrate reflexivity and appropriateness of choice for a study, the paradigms positivism, interpretivism and critical theory are appraised against some of the factors mentioned above. Only fundamental dilemmas are discussed below. To contextualize the above paradigms and facilitate understanding, the topic of inter-personal violence prevention will be used as this is a global phenomenon burdening health care.3–5 To answer the research question: “What are the reciprocal meanings for inter-personal violence and emergency medicine?”, the further question is: “What is the paradigm that will best inform the researcher’s posture toward this question?”

© 2011 African Federation for Emergency Medicine. Production and hosting by Elsevier B.V. All rights reserved.
global phenomenon burdening health care.\textsuperscript{3–5} To answer the research question: “What are the reciprocal meanings for inter-personal violence and emergency medicine?”, the further question is: “What is the paradigm that will best inform the researcher’s posture toward this question?” Guba and Lincoln\textsuperscript{1} state that the basic beliefs that define a particular research paradigm may be summarized by the responses given to three fundamental questions:

(a) The ontological question (i.e. what is the form and nature of reality?).

(b) The epistemological question (i.e. what is the basic belief about knowledge? what can be known?).

(c) The methodological question (i.e. how can the researcher go about finding out whatever s/he believes can be known?).

These questions form the structural basis for classifying the three research paradigms that follow.

**Positivism**

Emergency medicine, as a discipline, is rooted in the processes and outcomes of clinical medicine, diagnostic and forensic science. As such, it is dominated by positivist ideology, and in particular, the biomedical perspective. This assertion is evidenced in publications encouraging evidence-based practice in emergency medicine.\textsuperscript{6–9} Observation and measurement have been the modus operandi of positivists who, in emergency care, go (clinically and through research) in pursuit of the elusive cause and consequent effect.\textsuperscript{10–13} The study question, however, may preclude a positivist approach if it seeks an answer beyond the deductive logic of cause and effect. Examples include explanations of what interventions by health care workers are needed and possible in cases of injury through violence and what is likely to work. Such questions seek to explore the relationship between the practitioners’ understandings of roles and practitioners’ subjective experiences of inter-personal violence. Emergency medicine educational theory and clinical practice must surely be influenced by the epidemiological explanations of violence and vice versa. For the positivist, observations through the senses must also be verified through the senses. Their theory of knowledge deliberately excludes evidence such as personal insight, opinion and emotion.\textsuperscript{10} However, insight, opinion and emotion may be central to make meaning of research needs in a field that may certainly have a public health outcome, but whose causes are best explained through social psychology theory. Positivism can exclude consideration of how health care users, in the context of interpersonal violence and health care providers, make meaning of their patient interactions or how organizational or group culture influences health seeking behavior, medical research, clinical practice, health policy and legislative interpretation.\textsuperscript{10,14} Denzin, Lincoln and Guba postulated, that “there can be no question that the legitimacy of postmodern paradigms is well established and at least equal to the legitimacy of received and conventional paradigms”.\textsuperscript{1,2} This endorsement of non-positivist paradigms and the previous discourse are compelling arguments that render positivism as a paradigmatic misfit for a study aimed at seeking the implications/meaning of inter-personal violence for emergency medicine.

**Interpretivism**

Interpretive research understands phenomena through the meanings that people assign to these phenomena.\textsuperscript{15} Fundamental assumptions of interpretivism include that individuals have inner capabilities that promote agency; that causes and effects are mutually interdependent; that attaining complete objectivity is difficult; that an understanding of individual cases is preferred over predictive generalizations; that the world is constituted of multi-faceted realities that are best studied holistically and in a context; and, that inquiry is always influenced by the researchers values.\textsuperscript{16}

What then are the implications of these assumptions on the study of violence prevention? Agency is a factor worth considering as it is pertinent to both health care providers and disempowered victims of inter-personal violence. Cause and effect interdependency may hold true for some emergency care epidemiology\textsuperscript{13} (such as mechanism of injury) but may conflict with theoretical explanations for inter-personal violence, where victims and perpetrators of violence may be blamed entirely or partially for complicity in her/his own experience of violence.

As to objectivity, one must inquire, whose is it? Objectivity, in the context of a study, is relative to its objectives, the insider/outsider/participant perspective of the researcher, the clinical rigor of the health care provider, and the lived everyday experience of the inter-personal violence victim, perpetrator and health care provider in an emergency care context. Therefore, inquiry into violence prevention may be better served by predictive generalizations that may encourage systemic changes to the emergency medicine response to violence.

**Critical theory**

The following paradigm-Critical Theory, in terms of voice, reflexivity and textual representations\textsuperscript{1} is characterized by voices between the researcher and participants being mixed. Much to the researcher’s relief, ‘encumbrance’,\textsuperscript{18} and a narrow critical distance, need not be burdening, provided the researcher is a co-instrument of the study that, in effect, also yields data.

The author shares the importance of context and presence of interpreter values but argues that explanations for the context are as important as the context itself and that researcher values must be contextualized and made transparent. Should these values give rise to preconceived ideas, they are likely to be based on societal assumptions that may have a gender, race and economic class dimension. Van den Berg,\textsuperscript{17} in “Critical Reasoning and the Art of Argumentation”, argues that preconceived ideas pose obstacles to clear thinking because they have not been subject to critical reflection. Notwithstanding this, they have a decisive influence on our thinking. Flinders and Mills\textsuperscript{18} cogently articulate that: “Few of us now claim that we enter the field tabula rasa, unencumbered by notions of the phenomena we seek to understand.” Even ‘neophyte researchers’\textsuperscript{19} can appreciate that a deciding descriptor of research is less about finding the truth and more about accountability for its processes. As a researcher of inter-personal violence, one is not ‘unencumbered’ by previous experiences of emergency care or the impact of such violence as these are social phenomena. Quantitative research into the emergency care response to victims of gender-based violence in the Western Cape\textsuperscript{20}
provided ‘thin’, but hitherto unknown findings about the phenomena and population in question. It motivates the need for a ‘thick’ description of the phenomena that will allow the researcher to be immersed in the study to the extent that the researcher is considered an instrument of the research.

There are other merits of relative fit for Critical Theory as a methodological paradigm underpinning a study on interpersonal violence prevention. The ontological lens of Critical Theory is ‘Historical Realism’. This is a virtual reality, shaped by social, political, cultural, economic, ethnic, and gender values; crystallized over time. This is in stark contrast with the ‘real reality’ world view of Naïve and Critical realism of Positivism and Post-positivism respectfully. Critical Theory is transactional or subjectivist in design; where value-mediated findings are attainable through dialogic or dialectical methods. These basic beliefs resonate well with any study that is concerned with emergency care, the clinician’s subjective experiences and their empowerment in a profession that appears value-driven in the form of ethics. The particular gender, race and class dimension of Historical Realism speaks directly to the burden of interpersonal violence. This pivotal link enhances content validity and choice of theory.

The aim of interpersonal violence prevention is consistent with that of Critical Theory: critique and transformation, restitution and social emancipation. The health response to violence cannot continue to be a narrow biomedical response, focused on hemorrhage control. A bio-psycho-social model of care provides holistic care. Even though it is mostly men in a society who perpetrate violence, it is about the realization of fundamental human rights as much as it is about gender emancipation, emasculation and redress... and yes... hemorrhage control. This, in the context of a post-apartheid South Africa and a historically complicit health system, is about gender, race and economic equity and social justice and therefore peace-not as political rhetoric but as tangible prerequisites for physical health and mental wellbeing. The emergency care provider, like any health care provider, has the potential to be an agent of change, and the power to uphold or violate human rights in respect of violence and the health response. Critical Theory provides an ideological perspective (with explanatory power) that may facilitate the understanding of such concepts and their potential to promote a cadre of emergency health workers that are forensically accountable, clinically sound and responsive to public health and forensic needs.

Structural and historical insights constitute the Critical Theory nature of knowledge which may be generalized by similarity. The quality criteria include: historical situatedness and an erosion of ignorance and misapprehension as well as stimulus to action/change. In comparison, the positivist quality benchmark is rigor through validity, reliability and objectivity. In terms of ethics, Critical Theory has an intrinsic moral tilt towards revelation rather than deception, with value inclusivity. The researcher’s voice is that of a “transformative intellectual”: as advocate and activist – a comfortable identity exemplifying the researcher’s interest in not just solving a problem technically nor tentatively but contributing to a sustainable and strategic change in emergency care (and violence prevention) as insider, participant and relative outsider. Unappealing by comparison, are the voices of the “disinterested scientist” (positivist) and the “passionate participant” (constructivist/interpretivist). By both design and default, Critical Theory provides the ontological lens and epistemological “posture” necessary to frame a study on violence prevention by the emergency medicine discipline, as well as to provide external coherence.

Conclusion

In summary, positivism is about finding truth and proving it through empirical means. The goal of knowledge is simply to describe, explain, and in some designs to predict the phenomena that we experience. The core of the scientific endeavor is observation and measurement. By contrast, the interpretive researcher maintains that observation is fallible, is plagued by bias and that all theory is revisable. They believe the goal of science is to sustain the goal of “getting it right about reality or multiple realities... The aim of research should not be to prove, but to disprove”. The third epistemological alternative, a critical framework, is a process of deconstruction of the world. Henning et al. contrasts that “Whereas interpretivists construct our world by means of deconstruction, critical theory questions the political nature of that very process, maintaining that some relationships in the world are more powerful than others...” The critically minded researcher’s brief is to foreground the power of discourses to shape people’s lives, and not to limit the research to predicting or understanding of the researched.

As skeletal posture determines how one maneuvers, sees and interacts with the environment, so can paradigmatic or theoretical posture determine and enable the use of appropriate methods of data collection and data analysis. It is embedded in every aspect of the research process and is the single most profound influence on one’s quest for coherence, logic and explanatory power.

Conflict of interest

None.

Acknowledgements

Mr. Lloyd Christopher (CPUT, Dept: Emergency Medical Sciences) is acknowledged for revising the article for final submission. The above discourse is, in part, preparatory efforts toward a PhD: Forensic Pathology (UCT), supervised by Associate Professor Lillian Artz and Professor Lorna Martin. Their invaluable guidance is acknowledged. The author acknowledges this article as emanating from a collaborative research project between the Advice Desk for the Abused (a civil society organization), University of Kwa-Zulu Natal, Walter Sisulu University, Cape Peninsula University of Technology, and INTERVICT International Victimology Institute, Tilburg University-Law School, Netherlands. The project, funded by SANPAD, is titled: ‘Managing and Responding to Gender Based Violence in South Africa Through Education, Training and Research: Synergies between Practitioners and Higher Education Institutions – A Case Study of the Advice Desk for the Abused.’
References