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Qualitative research in medicine – An art to be nurtured

Brig A.K. Jindal, YSM^{a,*}, Maj Gurpreet Singh^b, Maj Kapil Pandya^c^a Commandant, Military Hospital Nasirabad, C/o 56 APO, India^b Resident, Dept of Community Medicine, Armed Forces Medical College, Pune 411040, India^c Dept of Community Medicine, DADH, 17 Mountain Division, C/o 99 APO, India

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ABSTRACT

To acquire complete knowledge on a subject both qualitative and quantitative research methods need to be perused by researchers. However, over the period of time qualitative research teaching among medical professionals has reduced. Wisdom amongst doctors seems getting muddled in 'data'. Operational research as well as health systems research have been the basis of 'key' policy changes in situations and programmes including polio immunization to achieve desired objectives. Both qualitative and quantitative methods complement each other and cannot replace one another. We need to protect the 'endangered art' of qualitative research before it becomes extinct from medical schools.

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Introduction

Qualitative research is a form of social enquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live. Qualitative research has been defined by Denzin et al.¹ as "Situating activity that locates the observer in the world. It consists of a set of interpretive, material practices that makes the world visible. These practices turn the world into a series of representations including field notes, interviews, conversations, photographs, recordings and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of meanings people bring to them." Though teaching of research methodology to residents

and faculty in three day basic course has become a mandatory requirement in many health universities in India, however perusal of the content will show that most of the curriculum is centred on quantitative research. Qualitative research is given only a slot of 45 min and the faculty teaching the same ends up only giving an overview due to acute paucity of time. Having said that it is admitted that increasing the content of qualitative research syllabus in this 3 day course may compromise on the already condensed quantitative research element in this course. There is deficiency of trained core group of qualified researchers in the medical field. Academicians need to work out a feasible strategy to get over this dilemma. The teaching of qualitative research in medical colleges in India has thus taken a backseat. As a result, the faculty or students clamour only for quantitative research methods in planning or executing research, MD or PhD dissertations in medical schools.

* Corresponding author. Tel.: +91 9672394133 (mobile).

E-mail address: akj4902@rediffmail.com (A.K. Jindal).

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In case this trend is not checked, qualitative research will gradually be elbowed out of medical research. This can have serious consequences for the advancement of medical sciences and provision of Public Health in the country. One is not at conflict with 'quantitative research'. It definitely is an important methodology for research. However, it should be understood that both qualitative and quantitative methods are complimentary and that using both approaches will help us obtain a more complete understanding of the issues and outcomes of clinical and health systems research.²

Qualitative research: a doctor's natural forte

"Conversational interviewing" is an approach in which researchers talk with research participants to generate verbal data.³ This approach has been described as "guided conversation", "conversation with a purpose", "directed conversation" and "professional conversation", irrespective of the theoretical orientation.³ Similar approach is used by doctors and health care professionals in form of 'History taking' to generate diagnosis of patients and has been considered as most important step in formation of clinical diagnosis. The art of 'History taking' is imbibed in a doctor during the initial formative years in medical colleges and comes naturally to the doctor while examining patients. Further, qualitative research has the ability to investigate preferences, beliefs and attitudes of patients and the question of how evidence is turned into practice.⁴

However, Banerjee⁵ has observed that wisdom which came naturally to our profession has somehow got muddled in data. Hippocrates in his 'Airs, waters and places', while cajoling the medical profession to undertake research writes that while doing such "investigations" one should 'consider' all aspects. He did not use the word 'count' but 'consider' thereby stressing on qualitative methods.⁶

Focussing purely on quantitative methods is akin to treating a patient purely based on investigations. By taking such an approach, one is actually losing out on one's forte which is detailed clinical history and examination. Thus qualitative research methods should come naturally to a doctor. However, the glamour of quantification in research has not only dimmed our 'sixth sense' (call it 'hunch' or 'common sense') but has also contributed to the ever expanding market of computer software. It is imperative that both qualitative and quantitative research should go hand in hand and not at the expense of one another, to contribute to the scientific advancement in the field of medicine.

Synonyms in qualitative research

Two well-known methods of research are synonymous with qualitative research – operational research and health systems research.

Operational research

Operational research is an important technique for understanding social phenomenon with a view to plan intervention.

Operational research was recognised as a significant activity for the first time during World War II in response to military needs and was called as Operational analysis/evaluation.⁷ While carrying operational research in Armed Forces, all inputs like terrain of operations, enemy and own capability, logistics (including medical support, etc) were taken into consideration by the Senapati/Commander to plan his attack/defence. This kind of planning uses all the methods of qualitative research viz. observation (enemy activity), in depth interviews, key informant interviews (done by intelligence agencies), focus group discussions with brother officers and case studies (military history of battles in similar conditions).

Qualitative research is essentially participatory and subjective. Proponents of "Quantitative research" attempt to score a point over qualitative research by calling the former 'unbiased', 'objective' and therefore 'evidence based'. Overzealous use of this approach can land one in a situation wherein statistical inputs could substitute for common sense. A well conducted focus group discussion can give far more meaningful results about how a healthcare intervention is functioning, than mere 'data' often 'tortured' to get the end results that were probably decided before data collection started. Systematic review of studies on association of funding by pharmaceutical companies and results of clinical trials has clearly brought out this point wherein it has proved that an overwhelming number of drug trials were designed and conducted, analysed and result published to suit the interest of pharmaceutical industry.⁸

Let us take an example. Randomised Controlled Trials in 1985 showed that beta blockers reduce mortality among Acute Myocardial Infarction (MI) patients.⁹ However, despite evidence, till 2000, various studies found that beta blocker use had huge variations and were underused in many hospitals.⁹ This context formed basis of operational research using qualitative study design to find the factors determining usage of beta blockers among Acute MI patients by hospitals. In depth interviews with hospital staff including physicians, nurse and administrative staff found 4 broad factors leading to greater improvements of beta blocker usage by hospitals. These were 'shared goals of improvement', 'substantial administrative support', advocating beta blocker use by 'strong physician leadership' and 'credible data feedback' systems.⁹ Thus identification of factors leading to greater beta blocker use helped plan appropriate strategies and approaches for better care of Acute MI patients and also described a taxonomic classification for classification and evaluation of such efforts.⁹

Health systems research

India has been declared 'polio free' after 3 years of zero reporting of polio cases from the country. It has been considered a remarkable achievement for the country as it was thought that India will be among the last countries to eliminate polio because of its varied terrains and vast geographical variations. This has been possible because of 'Pulse Polio campaigns' and surveillance activities which formed the backbone for achieving 'elimination' of Polio. The surveillance used qualitative research techniques for

identifying the reasons for high endemicity as well as for investigating as to why certain areas refused to allow polio drops to be administered to their children. In Uttar Pradesh, resistance to uptake of polio vaccines during 'Intensified Pulse Polio Immunization' (IPPI) was seen in pockets especially far flung and difficult to reach areas. Focus Group Discussion with communities revealed that they had fallen prey to rumours that "sterility" is caused in those receiving the vaccine. Later, detailed analysis of the situation was done using qualitative research methods and the cause of decreased uptake of the vaccine was identified. Moreover, during IPPI, the teams used to come from far flung places including Delhi and the locals were reluctant to take the vaccine also, as they were unaware as to whom to contact in case complications arose after vaccination.¹⁰ Subsequent strategies based on these findings helped the country achieve its goals. Thus a qualitative research design helped us in identifying the reasons for refusal to take polio drops and the health system accordingly made changes to achieve final objective. The huge mission of "Polio eradication" is being achieved because midterm corrections were undertaken by the health system based on qualitative research inputs.

Reasons for less impetus on qualitative research by medical fraternity

Some of the reasons frequently observed for less inclination of medical professionals towards qualitative research are:

Glamour

Quantitative research has been rated as more glamorous than qualitative research by medical fraternity, as it is considered "objective" in comparison to qualitative research which is considered "subjective".¹¹ Qualitative research is usually considered as an 'Art' movie compared to quantitative research which has the status of being a 'Commercial' movie. Though, quantitative research has been able to establish a "dose response" or a "time response" relationship but the answer as to 'WHY' this particular dose response or time response relationship occurs can only be obtained from qualitative research. The question "WHY" can only and only be answered by this method. Let us take a hypothetical example. In a hospital there are three operation theatres (OT) namely 'A', 'B' and 'C', where similar surgical procedures are being carried out. A quantitative research to find the incidence of hospital acquired infections (HAI) was conducted in the hospital which showed 'significantly' higher incidence of HAI in OT 'A' as compared to OT 'B' and 'C'. Now, if we want to decrease the incidences of HAI in OT 'A', we need to find the reasons as to 'why' the incidence is higher. This answer can be obtained only by conducting qualitative research. Focus group discussions with the OT staff, key informant interviews with OT matron and doctors as well as observation of any leakages in the OT can only help us to identify the reasons for high incidence in OT 'A'. Necessary interventions can thus be planned for reducing the incidence of HAI in the OT concerned. In other words, quantitative research is 'confirmatory' and 'deductive' whereas qualitative research is 'exploratory' and

'inductive' in nature. Unless both these methodologies are undertaken, correct decisions cannot be made by health systems.

Justification by quoting numbers and "p" values-

In quantitative research we collect data in numerical form whereas non-numerical data is gathered in qualitative research.¹¹ Over a period of time, trend of giving justification to research findings by quantitative methods have become a method of choice for not only the medical students but also as an evaluation criteria by the examiners. This has put qualitative research on the back foot across medical schools, with minor exceptions. More emphasis is placed on achieving 'p values' than on clinical justification of the findings and the question of 'why' remains unanswered in numerous studies.

Mindset of faculty in medical colleges

Across all specialities including Public Health (Community Medicine), majority of faculty are neither practicing nor teaching qualitative research methods in medical schools probably out of ignorance. 'Preventive Medicine' was renamed as 'Preventive and Social Medicine' as it envisaged the concept of Social Sciences which are based on qualitative methods. However in today's scenario, the sociological parameters seem to have been pushed under the carpet in research methods being practiced in medical schools. Willis in 'Foundations of Qualitative Research' cited three examples to substantiate this issue.¹² In first case, a professor told graduate students that their work, which was an excellent scholarship in qualitative research was not "real research". In another case, an advisor refused the proposal of student that focussed on rich qualitative data and wanted the student to redesign the study with quantitative study design. In the third case, despite qualitative methods being supported by one of the faculty, head of the department disagreed for such projects at a midlevel research university.

Ease of writing a report, thesis or dissertation

Medical students and their guides prefer quantitative research methods because of a fear of rejection of their thesis or dissertations based on qualitative research methods by universities. Even if the guides are pro qualitative research, the proposal is usually put down fearing the inability or difficulties in conduct of the study by the medical students. This originates mainly from ignorance and lack of faith in generating putative research articles and dissertations or thesis from qualitative methods.

Availability of statisticians

Except a few medical colleges, most medical schools in the country, including the top ranking colleges lack anthropologists or Social Scientists. With only statisticians around, an added advantage for carrying out quantitative research is felt and pushes the research protocols more towards quantitative research methods than qualitative.

A myth: PhD thesis is essentially a dissertation with a much larger sample size

It is assumed that PhD thesis can be done by taking research topics similar to dissertations on a much larger scale. It is often forgotten that the purpose of an MD dissertation is not to investigate a phenomenon in depth, but to see if the student is capable of conducting basic research. However, a PhD thesis is expected to not only produce something novel, but also identify as to “WHY” a particular phenomenon is occurring. This can be achieved only by amalgamating quantitative and qualitative research methodologies.

Conclusion

Research methodology courses in medical schools, should strike the right balance in teaching both qualitative and quantitative research. If required, the duration of such courses should be increased from the current duration of 3 days upto 6 days. Complete and well balanced courses will empower faculty and residents to identify societal causes of disease. It is time that we encourage medical students and faculty to undertake both types of research and consider them complementary and not antagonistic. Cause effect relationships can be established by quantitative methods but answers to why it exists can be provided only by qualitative methods. Various writings have been added in literature in recent past focussing on complementary role of each of these methods in understanding complex issues in medical field. However, we need to nurture the art of qualitative research, before it becomes extinct from medical schools.

Conflicts of interest

All authors have none to declare.

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