

Are quantitative and qualitative research misleading concepts?

Qualitative research is gradually becoming fully recognised in the medical research community, but there is still a debate going on with regard to the differences between qualitative and quantitative research. I believe that the distance between the two is smaller than we may infer from the discussion and that the concept pair of «qualitative» and «quantitative» can be discarded with advantage.

During the past ten years, qualitative medical research has successfully entered mainstream medical science. Until today, traditional medical science has been heavily dominated by natural-science perspectives, and the arrival of a more humanities-based approach has not proceeded without conflict. The debate is not as intense as it was 10–20 years ago, but it ignites time and again (1–5). As a professional in laboratory medicine I have mainly watched the debate from the outside, since it has mostly occurred in clinical research communities. This provides me with a somewhat dispassionate perspective, although my background is firmly within natural-science medicine.

Quantitative research

The term «quantitative research» is often used by qualitative researchers as a designation of the opposite pole to their own approach. The term is semantically close at hand once the term «qualitative» has been introduced, but I believe this terminology creates problems. First, the specific connotations of quantitative research often remain unclear. In a medical context, this term is often used synonymously with «biomedical», «traditional» or «natural-science» (1–3). I therefore tend to interpret «quantitative medical research» as referring to all non-qualitative medical research, meaning all medical research based on the natural sciences.

Quite a number of medical researchers with an orientation towards the natural sciences scarcely feel at home with such a designation. Mathematical or statistical methods are obviously indispensable for a number of natural-science perspectives, but I believe that this use of the term grants excessive importance to mathematics. For example, in a frequently cited article in *The Lancet* in 2001, Kirsti Malterud wrote: «Numbers alone can never provide the whole range of evidence needed for clinical work...» (1). Today, very few practitioners of natural-science medicine would disagree with this. Most of them recognise that non-quantifiable socio-cultural and psychological aspects play a major role. Quantification is only one of several methods that can be used for exposition of data and standard-

isation, in the natural sciences as well as in humanities research. A large proportion of basic biomedical research is also undertaken on small samples of material with minimal use of mathematics or statistics, such as studies of microscopic structures,

«We need to shed paradigmatic thinking»

descriptive studies of recently discovered organisms and molecular cell studies with markers that can be analysed visually. Charles Darwin's research, which led him to the theory of evolution, was also practically devoid of mathematics and statistics, and I am tempted to use the term «qualitative» to describe this work as well.

It often appears as though the randomised controlled study is the objective of the concept «quantitative medical research». Though it ought to be unnecessary, I often feel a need to specify that natural science-based medical research includes far more than just these types of studies. I completely agree that the attention paid to evidence-based medicine has produced an excessive focus on randomised, controlled studies, and even more so on meta-analyses. Much information is lost when the focus is exclusively on large study populations and hard outcomes. This applies to basic biological as well as humanities research. Even in this respect, qualitative researchers have more in common with many natural science-oriented researchers than is the impression from watching the debate.

Not different paradigms

It has often been claimed that qualitative and traditional medical science belong to different paradigms, i.e. mindsets that are mutually exclusive. This notion of paradigms helps create a strong sense of distance. There are many points of similarity between qualitative and natural-science

medical research, and in my opinion these two branches of science are not mutually exclusive. Today, this view is shared by many – at least in practice. The constantly increasing volume of so-called «mixed-methods research» is an illustration of this (2, 6). We need to shed this paradigmatic thinking, and I therefore propose to do away with the concepts «qualitative» and «quantitative» in this context. They cause misunderstandings and crude categorisations of sciences that are primarily characterised by their great diversity. For my part, I feel far more at home with the designation «researcher in molecular biology» or «researcher in microbiology» than with «quantitative researcher».

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