

Triangulation (part 1)

KEY WORDS

- ▶▶ Methods
- ▶▶ Methodology
- ▶▶ Map reference,
- ▶▶ Multiple dimensions
- ▶▶ Triangulate

One of the key aims of any health and social care research is that it is used to inform practice. To make sure that research is useful we often compare it to what we know, what we have experienced and what seems likely. That is we test it to see that it fits our mental map of practice.

Within research there are several ways that we can improve the quality and applicability of research. One of the key ways, within the research process, is to triangulate the ways in which the study information is collected. This can be done by triangulating either the methodologies or methods within a study.

In this the first of two papers on triangulation in research, we will consider the terminology used in triangulation and identify what triangulation is. We will consider how we use triangulation in everyday interactions and come to an understanding of why triangulation of research might be important.

In the next paper in this series we will consider methodological triangulation and triangulation of methods and what these mean for the design and undertaking of research.

DEFINING TERMS

It is worth recapping what we mean by methods and methodologies before considering how these might be triangulated within the research process. If we don't understand these, we will not understand the benefits that triangulation potentially brings to some research. In a previous paper in this series (Ellis, 2014) we identified how research methodologies are the research designs that a researcher applies to the process of research. They are the broad template, or route, which is followed to address a defined research question.

For example in this series we have previously discussed various quantitative research methodologies including randomised controlled trials, cross sectional and cohort studies. We have also identified and explored qualitative research methodologies like phenomenology, grounded theory and ethnography. We have seen how each has a set of rules which guide how they are

undertaken and the broad sort of questions that they are able to help researchers answer.

What we saw when we explored these methodologies is how the quantitative one's answer questions to which a numerical answer might be applied (Polit and Beck, 2014), e.g., 'how many people in a given population have a leg ulcer?' or 'how many wounds heal quicker using this dressing as opposed to that dressing?'. While qualitative studies answer questions about how people experience the world and their opinions and beliefs about it (Creswell and Creswell, 2018), e.g., 'what is it like to live with a leg ulcer?' or 'what is the experience of people using dressing A for their leg ulcers?'

Methods are different to methodologies as they are the tools which are applied within a study to collect the data (Ellis, 2019). We have seen in previous papers how for quantitative methodologies the methods used might include collecting data about the speed or nature of wound healing using a scale or tool designed for this purpose. Qualitative methods use verbal and observation data collection tools such as interviews, focus groups and participant observation.

THE CONCEPT OF TRIANGULATION

We use triangulation in a day-to-day setting fairly frequently although we may often miss the fact that we are doing so. If you arranged to meet your friend to go shopping on Oxford Street, you would not say 'I'll meet you at midday on Oxford Street' not because this is wrong, but because Oxford Street is almost one and a half miles long and is often throngs with people. You are more likely to say 'I'll meet you at midday on Oxford Street at the junction with Old Cavendish Street' 'I'll meet you at midday on Oxford Street outside John Lewis'. These latter directions allow the person you are meeting to know exactly where you will be, with the additional information of when.

This is triangulation in action in much the same way that it works when reading a map and identifying a location one provides a reading for latitude and longitude to identify precisely where one is or where one is meant to be (Ellis, 2019).

We also triangulate our preferences and our everyday conversation with explanations about why we have made a comment about something. For example saying, 'I like ice cream' tells you nothing about why I like ice cream, while a naive justification of my love of ice cream, e.g., 'I like ice cream because it's nice,' also fails to help you understand why I like ice cream. If I were to say, 'I like ice cream because it is sweet,' you start to understand the reasons for my preference, you can triangulate and understand what I mean by reference to your own understanding of what ice cream is — of course you might not like sweet things and so not agree with me or find the reference less than helpful.

If I say something more, e.g., 'I like ice cream, because it is sweet, cold and I enjoy the sensation on my tongue,' you gain a more in-depth understanding of the reasons for my love of ice cream. You have more reference points; your understanding is increased because you have more information with which to triangulate and locate the reasons for my preference.

WHY IS TRIANGULATION IN RESEARCH POTENTIALLY IMPORTANT?

When we are considering the usefulness of a piece of research to our practice, we should be asking several questions about the research. Such questions relate not only to the quality of the research, it's methodological and methods, but of the applicability of the research to health and social care practice; we triangulate it with what we, think, we already know. We do this subconsciously in many cases looking at a piece of research and thinking, 'yes that makes sense given what I know about wound management' or 'I cannot see how that will possibly work because people will not accept that level of discomfort'.

It is in considering this statement that we can start to see where the use of triangulation might lie. If we are going to introduce a new wound dressing or regime for preventing pressure ulcers, then not only do we as health professionals need to know the approach works, but we also need to have some understanding that people will find

the approach acceptable in practice. There is after all little point in having a dressing which requires someone to be immobilised for weeks at a time, or which causes so much pain they need to be sedated, when the wound we are managing is minor and was not interfering with their day-to-day life anyway.

On the other hand if we have a new wound dressing that not only heals a wound faster and more efficiently, but needs a reduced dressing regime and is less painful, then we have triangulated its usefulness as a dressing to the health professionals with its acceptability to patients.

Triangulation with research methods and methods and methodologies works in a similar way, it provides for us as the reader some more reassurance that the research is of a good quality in more than one dimension, or that the data collected has been done in more than one way so that the findings of the study are proven from more than one standpoint.

CONCLUSION

This paper has reminded us of the nature of methodologies and methods within research. It has identified how we often use triangulation in our daily lives to add clarity and precision to our interactions with others. We have seen how triangulation might enable us to have more faith in the application of research to health and social care practice as it adds at least one further dimension to our understanding of evidence.

In the next paper in this series we will consider the ways in which triangulation is used in the design of research to enhance the methodology or methods and how this contributes to its quality and applicability



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