You decide to "triangulate" in your next research study. What does this mean? How is it accomplished? What are the benefits and limitations?

Triangulation is an approach where two or more data sources are combined (such as methods, observers, or theories) in a single study. The presumption is that using a single data source does not provide enough information about a phenomenon. The interconnected components of the totality of human beings, mind-body-spirit, recognized by holistic nurses, is triangulation at its best! These important "data sources" are collected in practice daily and used for assessment, action, intervention, and/or evaluation.

The utility of data triangulation is to add explanatory power, richness, and complexity to results. By its nature, triangulation can give more power to data; offer confidence in findings (reliability); provide cross-verification and corroboration; and it can facilitate validation which is essential in qualitative studies (Silverman, 2006).

Consider:
"The combination of multiple methodological practices...adds rigour, breadth, complexity, richness and depth to an inquiry." Flick (2002)

A major concern or limitation in using triangulation is the possibility that findings from multiple sources will be divergent or contradictory. Mathison (1988) contends that there are three outcomes when using triangulation: convergence, inconsistency, and contradiction. Some also believe that triangulation is a way to compensate for a weakness in a primary method so a second or even third methodological approach is used. While these limitations are real, in research, remember, uncovering findings that are unintended or surprising allows the researcher to open up new thinking, garner deeper insights, and/or probe further to determine if data are flawed.

Triangulation is often considered the rationale for multi or mixed method research (use of a combination of quantitative and qualitative measures) and it is also thought of as a methodological approach.

A researcher can use within-method triangulation such as incorporating differing scales to measure a concept in a single questionnaire or the more robust between or across-method triangulation. In between or across-method triangulation a follow up interview might be conducted with some or all of the respondents after the employment of a questionnaire to that same group (Denzin, 1970; 1978).

As an early advocate for the use of triangulation, Denzin (1970) suggested four types of triangulation.

**Investigator triangulation:** Using multiple researchers or observers in a study. The goal is to avoid selective perception or blind spots by seeking different ways of "seeing" data.

**Methods triangulation:** Using a variety of different methods to complement data collection. These methods may include interviews, observations, questionnaires, and documents.

**Source or Data triangulation:** Using different aspects of the same method such as several samplings at different points in time.
Theory/Perspective triangulation: Using more than one theory to examine and interpret the data. Triangulation, as a tool, has a long history (it was used to navigate ships before instrumentation). During the 1950s, it emerged as an approach to consider when conducting research. Today, triangulation is an important methodological contributor to qualitative studies (interpretive research).

Triangulation has much to offer holistic nursing research as multiple data sources are very useful in garnering the insights needed to answer the many qualitative questions posed. Some examples of triangulation in holistic nursing research include a pilot study on Reiki for self-care of nurses and healthcare providers where methods were triangulated using a self-report caring scale and interviews (Brathovde, 2006). In another study, three nursing concepts were triangulated (art of nursing, presence, and caring) to determine qualitative convergence (Finfgeld-Connett, 2008).

Collecting and merging differing viewpoints is a key outcome for using triangulation in research. These viewpoints, when interpreted, provide that deeper understanding sought for topics or questions under study.

To find a useful listing of sources in triangulation consult: Sage Research Methods Retrieve