Demographic Data in Research Studies

Researchers routinely collect demographic data to describe the sample of people or organizations in their studies. These data are reported in narrative or table format, with frequencies used for qualitative and quantitative studies. Readers of research should not skip these data to get to the results of the report. The demographic data are an important part of the study and should be examined carefully.

Demographics

Demography is a field of study in which researchers examine the quantifiable statistics of a particular population (Vogt & Johnson, 2011). Statistics are used to identify subsets of the populations and characterize them at a specific point in time. Common demographics are age, sex, ethnicity, level of education, disabilities, employment, and socio-economic status as well as topic-specific characteristics (American Psychological Association, 2009). Demographic trends are historical changes in demographics in a population over time.

Quantitative research samples of populations ideally are collected by selecting participants randomly from the larger populations. A random sample generally would have the characteristics in the same proportions as the population. This random selection is rarely possible in nursing or medical studies. Instead, a sample often is drawn from the people who are available and will agree to participate in the study. This can produce a sampling bias or error in which some members of the population are less likely to be included than others (Vogt & Johnson, 2011). This not only can affect study outcomes, but also can lead to exclusion of some people from research (National Institutes of Health, 2001).

Demographics Data in a Study

Generally, researchers only study a sample of a particular population, such as nurses who are direct-care providers in the Moore, Leahy, Sublett, and Lanig (2013) study and hospital patients in the Swartzell, Fulton, and Friesth (2013) study, both in this issue. Therefore, they collect demographics to inform readers about the sample of respondents to their survey or about representative hospital records. The hope is this sample is representative of the larger population. A researcher should select carefully which demographic data are collected for a study. Data should be collected on variables that can affect the study and describe the sample. Researchers should not collect demographic data that are irrelevant to the study (Morse, 2008; Polit & Beck, 2012).

Readers should compare the demographic data of the sample to what is known about the larger population. In a study by Moore and colleagues (2013), for example, of the 78 respondents who reported on their sex, 69 (88.5%) were female and 9 (11.5%) were male. The general population of males employed in nursing was 7.1% in 2008 (Health Resources and Services Administration [HRSA], 2010) and is probably a little higher now. Although the number of males in the survey is small, it is higher than the national average, and thus generally representative in this study. In the same survey, 77 participants identified their ages with a range of 22 to 62, and an average of 45. The national average age of employed nurses was 45.5 years in 2008; again, the survey is close to that number (HRSA, 2010).

Readers can continue to compare the sample to what is known of the general population of nurses to see how closely the sample matches or is representative of the general population. A reader should question the credibility of a study that does not at least somewhat match the sample population; no sample is going to be a perfect match. For example, if a study of patients with hypertension from a hospital clinic in a large city did not include African-Americans, results may be problematic as African-Americans have a high incidence of hypertension and would be expected to be included in the sample. At the least, the researchers should explain any obvious discrepancies.

In addition, demographics are important when comparing replications of studies. They provide information for synthesizing the research of a number of studies and for secondary analysis (Hammer, 2011). Gaps in existing research literature can be identified.

Demographics in Qualitative Studies

Many of the issues described here also apply to qualitative studies. In addition, readers should determine if the study sample would provide the researcher with a rich description of the phenomenon of interest in a qualitative study. The demographic data should help demonstrate the participants’ appropriateness for the study (Marshall, 1996). For example, Moore and associates (2013) wanted to elicit nurses’ responses regarding their interactions and relationships with other nurses in the clinical area. Although they sent the request to 400 nurses, they indicated they wanted nurses who were direct-care providers. In addition to the description of the par-
Participants, a description of the context and how participants were recruited are important in qualitative research. From an ethical standpoint, as qualitative research involves small samples, demographic data should be reported in the aggregate so as not to identify any person inadvertently (Morse, 2008).

Demographics in Experimental Studies

In studies, demographics can be used to analyze the data, such as seeing if men and women or older and younger people have different responses. In experimental studies, demographics have the additional purpose of allowing the comparison of the control group with the experimental group. For the experimental study to find any differences between control and experimental groups, the groups need to be alike prior to implementation of the intervention. Random assignment to control and experimental groups helps to ensure the groups are equal on the variables of interest and demographics, but it cannot guarantee this; thus demographic data are collected and the two groups compared at baseline to determine if they are similar on key variables (Furler, Magin, Pirotta, & van Driel, 2012).

When the control and experimental groups are substantially different at the start of the study, readers do not know if the results are due to the intervention or the original differences between the two groups. In addition, if certain demographics such as socio-economic status of participants are not collected or reported, a reader may find it difficult to implement an intervention in clinical practice (Furler et al., 2012).

In this column, a brief overview of the importance of demographic data for a research study was provided. Demographics expand our knowledge of a study and should not be overlooked in any analysis of research reports. For more information, readers are referred to the references or to a research textbook.

REFERENCES