Nursing Research Definitions

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Overview of Nursing Research

For ANCC and AANP Non-clinical Study

Primary Sources

- Also known as original research, written by the researcher who conducted the study

- Where first-hand data comes from

- Preferred data source

- Use for literature reviews

Secondary Sources

- Second-hand data, not original work

- Descriptions of original research written by someone other than the researchers

- Offers quick overview of the literature and bibliography

- Not a substitute for primary resources

Non-research References

- Case study: involves an in-depth analysis of one individual, group, or social unit

- Opinion articles: reflects the author's view of a subject, often written by experts

- Clinical anecdotes: a shared experience, mostly drawn from clinical practice, in which lessons are shared

Institutional Review Board: The IRB is unique to the U.S. It's a group within an institution who reviews proposed and ongoing studies in light of ethical considerations. They have the authority to approve, reject, or require modifications from research proposals.

Vulnerable Populations: MIPPSE: mental retardation, infants/children, pregnant women, prisoners, suicidal, economically disadvantaged

Minor: Age less than 18 years

Emancipated minor: When someone who is under 18-years-old is free from the control of a parent/guardian. They must have a legal court document stating they are emancipated, be involved in active military duty, or be legally married/divorced

MEDIAN - think middle! The value that divides the data set in the middle, separating the higher half from the lower half of the data set, is the median.

To find the median, arrange the data set from greatest to least.

The middle value is the median.

If there is an even number in the order set, find the median by taking an average (mean) of the two middlemost values.

MODE - the value that appears most often in a data set

To find the mode, look for the value that appears most often in the set

HYPOTHESIS: a proposed explanation for something.

The opposite of a null hypothesis.

NULL HYPOTHESIS: Null means NO . . . there is no significant difference (no relationship and no association) between the variables or the populations in the study.

A rejected null hypothesis = the results of the study are NOT due to chance.

The null hypothesis is the statement the researcher is testing.

SIGNIFICANCE LEVEL: Statistical significance measures whether a result is likely due to chance or to some other factor.

p-value: used in statistical testing. Indicates the probability that the results are due to chance

Control Group: Defined as the group in an experiment or study that does not receive treatment by the researchers and is used as a benchmark to measure how the other tested subjects do.

N: The symbol 'N' (capital N) represents the total number of individuals or cases in the population or sample.

n: The symbol 'n' (lower case n) represents the number of subjects in the group or sample.

Variable: May also be called a data item. Examples of variables are age, sex, business income and expenses, country of birth, capital expenditure, class grades, eye color, or vehicle type. Anything that can be numbered, counted, or measured.

Independent Variable: Sometimes known as the predictor variable or experimental variable—it is the variable that is being manipulated in an experiment in order to observe the effect it has on the dependent variable.

Dependent Variable: Also called the response variable because it is the result or response of the independent variable.

QUALITATIVE: Seeks to find causal or correlational relationships.

Examples:

- Causal: cumulative tobacco use and lung cancer

- Correlational: tobacco smoke exposure and childhood asthma morbidity

Qualitative research:

- Asks broad questions and identified phenomena and concepts

- Gathers information in 'words' vs numerical data

- Is inductive (a process of reasoning where generalizations are made based on specific information/studies)

QUANTITATIVE: Is exploratory in nature.

Quantitative research:

- Uses observation and interviewing to gather data in a systematic way

- Is measurable and numerical. Statistics are used to evaluate and discuss the data

- Is deductive (a process of reasoning where general or broad information is used to solve a specific problem)

INDUCTIVE REASONING: A type of logical thinking that involves forming generalizations based on specific incidents you've experienced, observations you've made, or facts you know to be true or false.

DEDUCTIVE REASONING: A type of logical thinking that relies on a general statement or hypothesis—sometimes called a premise or standard—held to be true. The premise is used to reach a specific, logical conclusion.

A common example is the if/then statement. If A = B and B = C, then deductive reasoning tells that A = C.

PROSPECTIVE: Has a specific time frame from RIGHT NOW (in the present) to the future. It is used to explore data going forward (vs. looking back in time). Prospective designs can collect and evaluate data either qualitatively or quantitatively.

RETROSPECTIVE (Ex post facto): Has a specific time frame of THE PAST (not the present). These studies look back in time at events that have already happened. They analyze existing data either qualitatively or quantitatively. Examples are chart reviews or event recall.

LONGITUDINAL STUDIES: Has a time from that is LONG-TERM. These studies follow the same subjects through years or decades to observe and measure the same variables over time. A popular example of a longitudinal study is the Framingham Heart Study.

EXPERIMENTAL DESIGN: This is the "Gold Standard" in research design.

Random sampling is used for selecting research subjects who are then divided into a treatment group and a control group. Data collected are numerical and statistical testing is used to evaluate and report data.

QUASI-EXPERIMENTAL DESIGN: Similar to experimental design except there is no random sampling.

Research subjects are chosen by conveniences and are called a convenience sample.

CASE STUDY: An in-depth study of <u>one person</u> or case.

COHORT STUDY: A study of a <u>group of subjects</u> who share one or more characteristics.

DESCRIPTIVE STUDIES

- Also known as surveys

- Measures and describes attributes of a group or phenomenon

- No correlations described between variables

- Uses numbers and statistics to analyze/evaluate data

CORRELATIONAL STUDIES

- Measures and describes relationships between variables

- Uses numbers and statistics to measure and evaluate data

CROSS-SECTIONAL STUDIES

- Evaluates relationships between groups