Research method of Health Sciences - SLP

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Research is the basic component which plays a fundamental role in improving the health sector and developing secure, reliable and beneficial medical treatments. For development and improvement of remedies and therapy techniques, research has played a vital role which led to advancements in surgical techniques, medicine, medical devices and health informatics. (McCusker & Gunaydin, 2015). Research provides knowledge of risk, health threats, diseases, treatment results, care trends, and cost of healthcare etc.

**Data collection procedures**

Collection of data for research and hospital administrative purposes has many resources for example, nursing handover records, discharge/transfer records, direct observation by skilled, and 24-hour memory of key person (Sarkies, et al., 2015). Qualitative research includes field notes, notes and recordings of interviews, in order account, and the note of researcher (Pope & Mays, 2006). To obtain relevant and precise data when supporting an argument or proving a fact, it’s better to use quantitative data. Quantitative research sampling is biased towards statistics rather than theory and allows researchers to examine changing factors. It has been interesting to see that we can procure a large amount of data over a large time period. For research, the management data is not accurately stated, with previous literature stating that use of this information in combative proceedings, and also for billing dedication might result in data which is not accurate.

**Variables and measurement**

Variable is a basic term in research and it means referring to something that can be measured or calculated in a case study or research, and is known as a variable. Variable are properties like height, weight temperature etc. It takes on different values and produces different outcomes under different conditions. Variables can be classified as dependent or independent variable. An independent variable does not have effect on another variable and is used in experimental techniques while dependent variable has effect on other variable used for prediction and possibilities. Intervening, adjusting and interceding variable can affect the relation between dependent and independent variables. They also aid to demonstrate unconventional relation between these two. It is a common practice that some of the researchers use the term ‘Independent variable’ when they are referring to experiment based research while some do not utilize this term. This is observed particularly in health research sector and the terms like treatment or cure are more like to be used when referring to independent variables. Similarly, a lot of researchers use ‘outcome’ alternative to dependent variable (Flannelly, Flannelly, & Jankowski, 2014).

**Data analysis procedures**

The extensive and practically accurate approaches of data mining and analysis have taken over. The analysis of data collected by humans is still widely used as compared to the world wide practice of Electronic Medical Record in clinical care. But this trend has been changing with time. The Big data analysis in healthcare sector includes compilation and analysis of considerable amount of contrasted data, digital health records and biomedical data. Healthcare improvement initiatives introduced health information exchanges (HIEs), electronic medical records (EMRs), and electronic health records (EHRs) and many patient record and continuity of care documents (CCDs) which help clinicians and care providers handle data in a manner that is less time consuming and much more efficient. Large data is used recently, along with the quick revolution in technologies and digital applications. So for that reason, data analytics have been proven a key tool in health sector which handle a good amount of data. This is leading to advancement in medical research to obtain a better and accurate results. It is important to understand and realize the key factors involved data analysis and their significance before performing data analysis.

**Study validation and ethics**

For the purpose of explanation, validations can be broken into two types. One is external and other is internal validation. Internal validation refers to precision of trial and to limit to design and organization of trial, excludes biasness. External validation refers to the limit, a trial can provide grounds to generalize for other cases. Research outcomes must be validated internally before external validation.

**Study** **Limitation**

The limitation is unavailability of advanced health care systems in small organizations and health clinics. It is due to high cost with decreased efficiency. It requires long standing training and position specialist. Another study limitation can be Inadequate amount of validated data and general reasons to incorporate reliable research methods. It is difficult to conclude clinical trials with less probabilities when credible and sufficient data is not available.

**Conclusion**

The ultimate goal of research is to provide well-adapted and beneficial health care system to cater maximum number of patients. The results will be presented in tabular and graphical form to show relation between different variables. It will not only present data values but also demonstrate how factors are affecting the case study. The research would be presented in conference and published in a journal to benefit researchers. Health Education Research, Health Services Research, and Journal of Public Health will be considered for publishing research. The study will act as a guideline for researchers to learn more thorough analysis and results. The achieved results can be used in comparative analysis which will enable researchers to gain insights on this topic.

# References

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