

Editorial

Research Methodology: A Brief Introduction

Research is essentially a science to develop and refine knowledge that can be applied in clinical care. A good research demands watchful planning and implementation. Writing a good research protocol is of priority in research. Planning and writing a protocol involves a sound knowledge of research designs. The research designs can be broadly classified into nonexperimental and experimental designs. Nonexperimental designs also known as observational research include descriptive surveys. Cross-sectional studies are a type of descriptive surveys to assess both exposure and disease at the same time, but the limitation of this design involves assessment of prevalence only. In order to know the incidence of new cases, conducting a longitudinal study is essential. Longitudinal study involves repeated observation in the same population at two different times. Experimental designs involve randomized and nonrandomized trials. These when carried out among the dental patients reporting to a dental care facility are called as clinical trials. When carried out in community, the same is called as field trial or community trial. The main advantage of clinical trial is that the investigator is under control of the exposure or treatment regime.

The possible errors that could influence the study results are many; it may involve differential selection of study subjects, bias by the interviewer and confounding bias to name a few. The way to avoid bias may involve steps, like matching, blinding and calibrating the investigators. Once study has been conducted by carefully avoiding bias; statistical analysis has to be conducted to ascertain the significance of the results. Researcher should not forget to consider the ethical issues while conducting research. There are many instances in history where there were severe breaches in the clinical trials that placed the study participants at risk. Researcher needs to visit the available local, national and international codes and guidelines and obtain an ethical clearance from the institution or from any other concerned body.

There are a few interesting areas that need exploration in dental research. These include stem cell research, research on dental implants and nanodentistry. As the life expectancy has improved because of better standard of living and better medical care; geriatric oral health care is another area that young researcher can focus on. Though there is lot of research published on prevalence of diseases like oral cancer and HIV, much more focus is needed in areas of health promotion and behavioral research. Currently, the priority of policy makers is to provide funds in treating diseases. There is a need to boost oral health by funding research in the areas of health promotion and behavioral research thereby leading to better quality of oral health and thus achieving a healthier living.

Vittal Das Shetty
Professor and Head
Sinhgad Dental College and Hospital
Pune, Maharashtra, India