

# Observational Studies

## Specific Considerations for the Physical and Rehabilitation Medicine physician

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## Abstract

The development of high quality research is desired in all healthcare fields. Experimental and non-experimental designs are used to investigate the effect or association of an intervention and clinical or surrogate outcome. The aim of these methods is to improve knowledge and develop new strategies to manage a disease or condition. Randomized clinical trials are considered one of the standard methods to test the efficacy of a new drug or intervention, however they are costly, have reduced generalizability and cannot be feasible in all scenarios. Well designed observational studies can provide valuable information regarding exposure factor and the event under investigation. In Physical and Rehabilitation Medicine (PRM), where complex procedures and multiple risk factors can be involved in the same disease, the use of observational study must be planned in detail and a priori to avoid overestimations. In this article we will give an overview of the methods used for observational design studies in PRM using clinical examples to illustrate each method. We will describe when it is appropriate and how to use the observational studies in different scenarios explaining how to deal with potential bias and confounders using the adequate design and statistical plan for the situation.

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