Exploring the Structure of a Medical Research Article Transcript

Welcome to the Exploring the Structure of a Medical Research Article section of the EBM express course. EBM Express is designed to build your understanding of evidence-based practice in short, manageable blocks of content.

In this module, we will be identifying the components of a medical research article.

The main components of a medical research article include the abstract, introduction & hypothesis, methods, results or findings, and discussion & conclusion.

The abstract is a brief summary of the paper. It is written as a mini paper, which allows readers to determine what the authors found and decide if they will read the entire paper.

Since the abstract is written as a mini paper, it contains the same elements as the research paper but in smaller doses. It provides background information and includes the hypothesis or research aims. Methods tell the type of study, the sample/population size and description, the design, and the techniques used for data collection and analysis. The results contain essential data, including statistically significant data, and provide quantitative data when possible. The conclusion summarizes interpretations of the results and explains if the hypothesis was supported or rejected.

The introduction provides the reader with background on the research described in the paper. It discusses the research problem or question. The introduction contains the literature review, which describes how the study fits into what has been done already. The purpose of the study is why it is important and how it relates to previous research, what gap in knowledge the authors are trying to fill, and what problem they are addressing. At the end of the introduction is the statement of hypothesis or statement of research aims, which is what the researchers think or hope will happen in the trial.

The methods section, sometimes called methods and materials, allows the reader to evaluate the work performed and to replicate the study if desired. This is the paper's who, what, where, when, and how long section. The outline of the design of the experiment describes what was done. The description of materials or subjects is who and where. It includes characteristics and describes recruitment, participation, withdrawal, etc. The description of data is when and how long. It consists of the type of study, equipment used, measurements made, and the timeline. And, the statistical analysis is usually the final paragraph of methods.

The results section describes the study sample demographics and provides the collected data. The results describe what actually happened as opposed to the hypothesis or research aims, which state what the researchers think or hope will happen. It includes statistical significance, the statistical test used, and tables and figures when appropriate. It also provides data analysis, leading to… the discussion and conclusion.

This section provides the reader with the interpretation of the data reported and relates the findings to what other investigators have found. It describes how the major findings relate to the hypothesis or research aims. It provides an interpretation of the results, explaining the meaning of the statistical findings and the importance and relevance of the results, and it includes all possible explanations for those results. It discusses possible limitations of the study, as well. Finally, every study in the medical literature concludes that further research needs to be performed.