



Critique on A Quantitative Research Article: “Bempedoic Acid and Cardiovascular Outcomes in Statin-Intolerant Patients”.

(Nissen S.E, Lincoff A. M, Brennan D Et al.)

*S Manikandan*¹

¹Assistant Professor, BGSB University Rajouri, JK, India.

ABSTRACT:

Abstract of this study is brief and precise giving a fair detail about the background, methods used, results and conclusion. An abstract should clearly outline the problem, the hypothesis or research question, aims and objectives of the study (Polit and Hungler 1997).

Critical Appraisal

Introduction: Bempedoic acid is an ATP citrate lyase inhibitor which reduces low-density lipoprotein (LDL) cholesterol levels and is associated with a low incidence of muscle-related adverse events.

Purpose: The purpose of this paper is to critically analyze a quantitative research study, “Bempedoic Acid and Cardiovascular Outcomes in Statin-Intolerant Patients”. The critical appraisal determines the strengths, weaknesses, and usefulness of the findings for practice and future research. (Moralejo et al., 2017; Zuzelo, 2019). Advanced Nurse Practitioners frequently read evidence (research, guidelines, reviews) to answer questions related to diagnosis, therapeutic interventions, and prognosis of individual patients (Dale et al., 2019). A comprehensive step by step measure will be used to determine the strengths and weakness of the study. Given the complexity of clinical decision making and accountability of the nurse practitioner, there is the need to use a process which provides a concise way to analyze the results of research findings (Hamer and Collinson 1999).

Title: Title of this study is clear and unambiguous in terms of the research variable and the study population. The title should be concise and not complicated and should reflect as much as possible what the research is about and does not validate or invalidate the research (Parahoo and Reid 1988). The names of the author and contributing author(s) are stated clearly with their background/credentials.

Background/ Need and Significance: The researcher has depicted the significance of the problem under study in a sound manner with latest facts and statistics. The drug trial is a quantitative design with much significance to its field of study. Identifying the problem which initiated the research should be clearly described early in the report (Ryan-Wenger 1992).

Hypothesis or Research Questions: Although the purpose is mentioned, there are no explicit hypotheses proposed in the article.

Literature review:

Literature review is the corner stone of a research study. Reviews in the study appear to be scare but are a handful and relevant, which indicates the significance of Bempedoic acid in reducing LDL cholesterol levels. (Ray KK et al. Goldberg AC et al. Ballantyne CM et al. Nicholls SJ et al.) The purpose of the literature review is to discuss what is known, identify gaps in knowledge, establish the significance of the study and situate the study within the current body of knowledge (Polit and Hungler 1997). Polit & Beck (2020) recommends that a literature review should incorporate research within a 2–3-year period

Objectives: Although the purpose of this study are expressed in the abstract and highly relevant to the field of study, being a quantitative design, the objectives need to be stated clear and precise nonetheless.

Conceptual Frame work: The conceptual framework is an important facet of quantitative study designs, which is not mentioned in the study.

Methodology/Rigour:

A double-blind randomized placebo-controlled trial (comparable to a quasi-experimental time series design, quantitative approach) method is used in which the samples who were unable or unwilling to take statins owing to unacceptable adverse effects (“statin-intolerant” patients) and had, or were at

high risk for, cardiovascular disease. The patients were assigned to receive oral Bempedoic acid, 180 mg daily, or placebo. The primary end point was a four-component composite of major adverse cardiovascular events, defined as death from cardiovascular causes, nonfatal myocardial infarction, nonfatal stroke, or coronary revascularization.

Ethical Considerations: The trial protocol was approved by the respective ethical committees at the participating sites, depicting that the study being a human trial, followed ethical principles.

Sample & Sampling: The present study used a double-blind randomized sampling. A total of 13,970 patients underwent randomization; 6992 were assigned to the Bempedoic acid group and 6978 to the placebo group. A random sampling used in the quantitative study is a remarkable way to draw insight in to the study and gain a deep understanding of the phenomenon under study.

Instruments/Tools for Data Collection:

Although the data collection plan is explained, tools are not clearly mentioned in the article.

Study Procedure/Data collection: the study started between December 2016 and August 2019 and data was collected for a median duration of follow-up of 40.6 months.

Data Analysis: both descriptive and inferential statistics (Cox proportional hazard model and log rank test) are used in the study. Clearly represented in form of tables and figures. (With CI 95%).

Findings/Results

The findings are clearly mentioned in the article and are in accordance with the purpose of the study. The data is presented in frequency and percentages in tabular forms and graphically represented as bar diagrams and line graphs. Graphical methods are the most appropriate way of presentation of data as a large amount of data can be adjusted in an attractive table very vigorously. (Burns and Grove 2001).

Discussion:

Discussion part also indicated the limitations in the study. It is substantiated with similar findings of other studies and also effect of few extraneous factors are well mentioned.

Limitations:

Inclusion of patients who were unable or unwilling to take statins, a factor that resulted in a high mean LDL cholesterol level at baseline. Generalizability of findings remains possible since a random method was used. Effects of extraneous variables remains unexplored.

Conclusion/Implications:

The study concluded that Among statin-intolerant patients, treatment with Bempedoic acid was associated with a lower risk of major adverse cardiovascular events (death from cardiovascular causes, nonfatal myocardial infarction, nonfatal stroke, or coronary revascularization). Although practice oriented, the study calls the need to conduct further research before implementation to clinical settings.

References

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