Biomarkers as Links between Disease Mechanisms and Therapeutic Strategies

Dr. Pranav Tripathi

M K BHAN Young Researcher

Translational Health Science and Technology Institute

Faridabad, Haryana, India

Email: pranav@thsti.res.in

Tulika Sinha

Project Associate-I

Translational Health Science and Technology Institute

Faridabad, Haryana, India

Email: tulika187444@st.jmi.ac.in

1. **Introduction**

The utilization of biomarkers in both fundamental and clinical research, as well as in clinical application, has become so routine that their inclusion as primary focal points in clinical trials is now almost universally acknowledged without significant questioning. For particular biomarkers that have been thoroughly characterized and consistently demonstrated to accurately predict pertinent clinical outcomes across a range of treatments and populations, this application is entirely warranted and fitting. Nevertheless, in numerous instances, the presumption of the "validity" of biomarkers is made where, in reality, it should continue to be assessed and reevaluated. This article will explore the present conceptual standing of biomarkers as tools for clinical and diagnostic purposes, as well as their role as substitute endpoints in clinical research, with the aim of offering a framework for comprehending studies that heavily rely on such biological measures.