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## Identifying Frequent Prescription Patterns in Siddha Formulations: A Retrospective Analysis Using Data Mining Techniques

Prakash Muthuperumal<sup>1</sup>, Bagavandas Mappillairaju<sup>2</sup> and Iyyankannu R<sup>3</sup>

<sup>1</sup>*School of Public Health, SRM Institute of Science and Technology, Kattankulathur, Tamilnadu, India*

<sup>2</sup>*Center for Statistics, SRM Institute of Science and Technology, Kattankulathur, Tamilnadu, India*

<sup>3</sup>*Department of Varmam and Sirappu Maruthuvam, Dr. Maria Siddha Medical College, Thiruvattaru, Kanyakumari, Tamilnadu, India*

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**ABSTRACT** Non-communicable diseases (NCDs) are a major global public health risk, with diabetes being a significant challenge. Traditional medicines such as Siddha offer alternative therapeutic approaches to diabetes management, emphasising balance and harmony within the body. An approach, known as reverse pharmacology, involves starting with traditional medicine practices and working towards identifying active compounds responsible for therapeutic effects. Understanding prescription patterns in Siddha medicine can provide a basis for designing effective combination therapies in modern pharmacology, where the recent focus shifts towards synergistic drug combinations rather than individual molecules for enhanced therapeutic outcomes. A grounded theory approach was used to develop a theoretical understanding of prescriptions from Siddha classical texts, specifically from two Siddhars, to understand any common pattern in herbal combinations. R software was used to run the Apriori algorithm, to identify frequent item sets and basic prescription patterns. Confidence and lift for the algorithm were set at 0.75 and 3, respectively. More than half of the diabetes prescriptions in this study were purely herbal remedies, and there is a clear pattern in the prescriptions and that varies between Siddhars. This study paves the way for a paradigm shift in medicine, offering a glimpse into how analysing combinations of natural molecules could unlock new avenues for curing disease with the current problem of resistance to multiple drugs.