Telemedicine Approaches on Blood Glucose Control in Women with Gestational Diabetes Mellitus: A Systematic Review from Randomized Controlled Trials

Jessica Ho[1]*, Muhammad Azka Al atsari[1], Nindya Nur Amalyah[1], Christian Sipija[1]

1. Medical Student, Hasanuddin University, Makassar

Introduction

Telemedicine interventions amongst studies showed great potential in improving gestational diabetes mellitus (GDM) management. It has facilitated and allowed the patients to get closer treatment, such as blood glucose monitoring and glycemic control. Considering the current situation, further studies are required to assess the intervention effects concerning another outcomes parameters being examined.

Objective

We aimed to evaluate the role of telemedicine in controlling the blood glucose level of patients with GDM.

Method

A systematic review of randomized controlled trials was undertaken by searching on 5 databases. The risk of bias was assessed in selection, performance, detection, attrition, and outcome reporting using Review Manager 5.4.1. We analyzed the blood glucose level as primary outcome and secondary outcomes, such as maternal and neonatal assessment and its significance.

Result

We included 6 randomized controlled trials in the review. There are 830 participants with GDM recruited (443 patients as intervention groups and 387 patients as control groups). Results analysis indicates that the effectiveness of telemedicine approaches to control blood glucose level in patients with GDM showed significantly in three studies ($p<0.05$), also shows positive improvements in the observed secondary outcomes.

Conclusion

We recommend further studies in larger populations where the prevalence of GDM is still high and remains unresolved. Therefore, if it is implemented properly in the future, the risk of complications can be prevented. The implementation of blood glucose telemonitoring could be an acceptable and effective tool for sustainable blood glucose control and maintenance for GDM patients, especially those who are facing difficulty accessing conventional health care regularly.

Key Words
gestational diabetes mellitus, telemedicine, blood glucose

Address for Correspondence: Jessica Ho
jessicaho.352@gmail.com
Hasanuddin University, Makassar