

Raju Gautam¹, Lakshmi R², Radha Sharma³, Shilpi Swami¹

Affiliations: ¹ConnectHEOR Ltd., London, UK; ²ConnectHEOR Pvt. Ltd., Delhi, India; ³ConnectHEOR Ltd., Edmonton, Canada

Email: radha.sharma@connectheor.com



BACKGROUND

Gestational diabetes mellitus (GDM) is a common pregnancy complication. It is associated with short- and long-term consequences for both mother and child, including obesity, metabolic syndrome, and the development of type 2 diabetes mellitus (T2DM) later in life.[1] In 2021, the pooled global standardized prevalence of GDM was 14.0%.[2] The condition is more common in low- and middle-income countries with limited access to maternal care.[3] GDM has multiple negative health implications:

- On mothers: Increased risk of developing cardiovascular disease and T2DM later in life, maternal hypertensive disorders, caesarean delivery, etc.[1]
- On infants: Increased risk of preterm birth and macrosomia and the development of T2DM later in life.[1] In 2021, about 21.1 million live births or 16.7%, had some form of hyperglycemia during pregnancy.[1]

GDM has long-lasting adverse effects that can lead to significantly high monetary, humanitarian, and social costs.[1] However, there is scarce recent literature on the global estimates. Hence, there is a need to assess the economic implications due to GDM globally.

Aim: This study aimed to assess the economic burden of GDM in the last five years.

METHODS

A targeted literature review was conducted in PubMed to identify studies published in English reporting the economic burden or costs related to GDM in the last five years (i.e., 2018 - 2023).

The keywords used for the searches are given below:

- **Disease terms:** gestational diabetes, gestational hyperglycemia, gestational glucose, pregnancy hyperglycemia, pregnancy diabetes, pregnancy glucose, maternal hyperglycemia, maternal glucose, maternal diabetes
- **Economic terms:** cost of illness, cost analysis, health care cost, healthcare cost, economic burden, burden of illness, caregiver cost, caregiver burden, societal cost, societal burden, healthcare utilization, resource utilization

Only full text articles were included. Data on cost analysis, healthcare resource utilization (HCRU), components of expenditure, other cost-related parameters, diagnosis criteria for pregnant women with GDM were extracted.

The economic burden of GDM for costs related to pregnancy and childbirth is significant, with studies reporting total expenditure increase ranging from 11% to 95% for women with GDM compared to those without. The increase in expenditure for some components of cost is as high as 400% compared to women without GDM. It is critical that future research explores the long-term consequences of GDM from broader perspectives.

RESULTS

- A total of 1014 records were identified, of which 9 met eligibility criteria and were included in the review. Most citations were excluded during the first pass screening as they did not cover the economic aspects of GDM.
- The reported mean age of the pregnant women across studies (n=3) was approx. 33 years.
- Five studies reported total expenditure for pregnant women with and without GDM ranging from 11% to 95% increase in expenditure for women with GDM. They considered total expenditure in initial days of perinatal journey, median total medical expenditure throughout hospitalization, total cost per case and average cost per case in GDM and non-GDM patients.
- Key insights from the included studies: [Figure 3]
 - An additional US\$ 5,800 for mothers with GDM, considering productivity loss, absenteeism, and presenteeism while accounting for the economic burden from a societal perspective.[12]
 - Inpatient costs contributed to most of the total govt expenditure.[4]
 - Total inpatient costs were about 15% higher for women with GDM.[4, 9]
 - Around 394% increase in average antenatal care package for women with GDM (who do not need insulin and those who need insulin combined) as compared to non-GDM patients.[11]
 - One study analyzed economic burden associated with diagnosed diabetes, undiagnosed diabetes and prediabetes and GDM.[12]

FIGURE 1: DISTRIBUTION OF STUDIES BY STUDY DESIGN

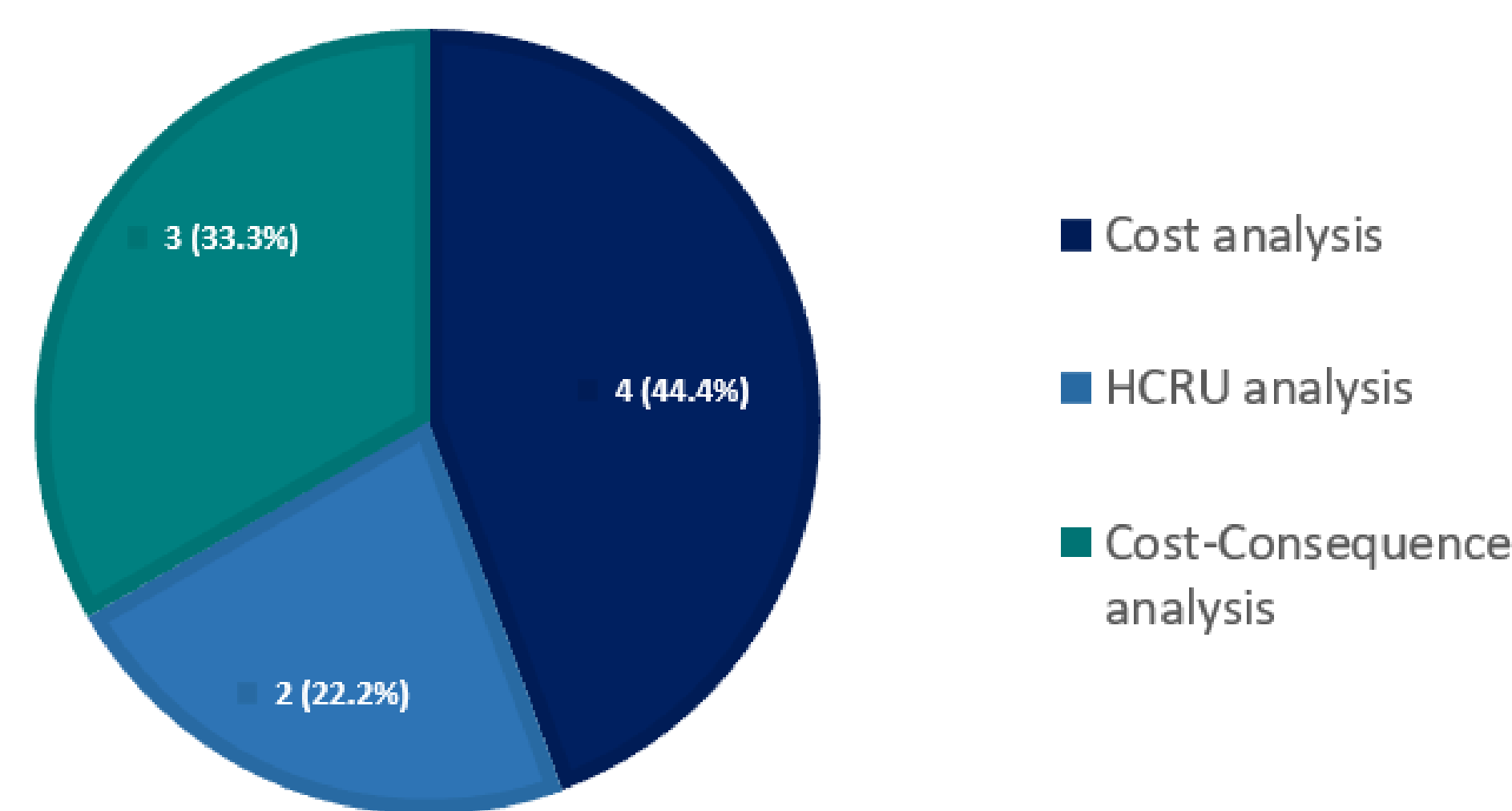


FIGURE 3: STUDIES INCLUDED IN THE ANALYSIS

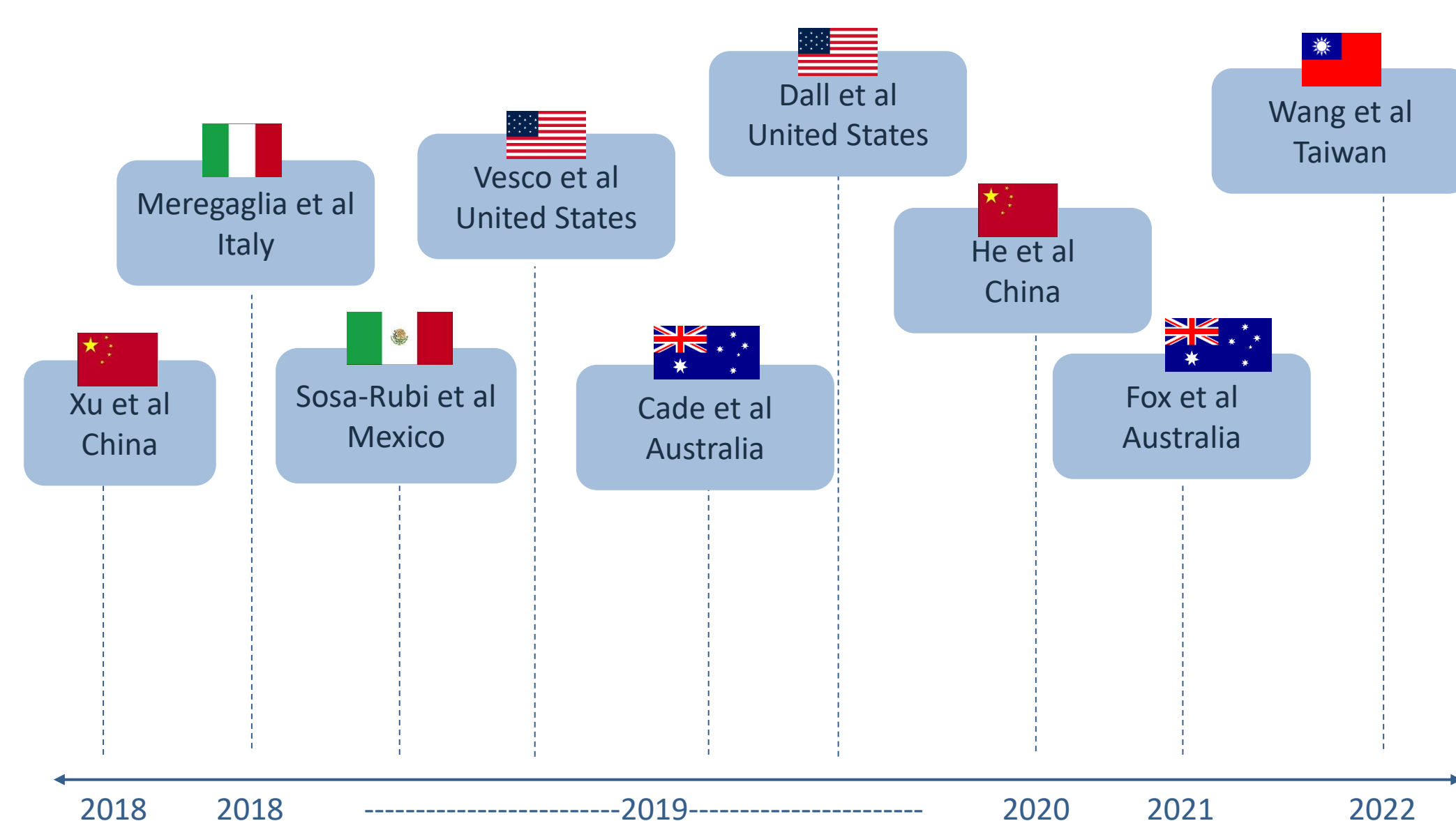


FIGURE 2: COMPONENTS OF INCREASED EXPENDITURE TO GDM PATIENTS



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