

## Lactose Intolerance in Saudi Arabia: A Systematic Review of Prevalence and Patterns

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### ABSTRACT

Lactose Intolerance (LI) is an underdiagnosed yet prevalent medical condition in Saudi Arabia with serious public health implications. This systematic review analyzes current literature on LI prevalence, demographic patterns, clinical associations, and regional disparities, particularly in the context of the Saudi population. Results highlight methodological disparities while reporting prevalence rates ranging from 7.3% physician-confirmed values to 45.3% biochemically confirmed which underscores variations in diagnostic protocols. Demographic trends reveal increased LI awareness, particularly in female and younger populations (11-30 years), however, symptom reporting across the findings was inconsistent. Regional differences existed in genetically influenced LI distribution in regions where the prevalence of lactase persistence was dominated such as urban regions like Riyadh. Nutritional deficiencies like vitamin D and calcium are also correlating to dairy avoidance which not only escalates health risks like bone-related deformities. Given the increased dairy consumption, challenges such as underreporting of symptoms and misdiagnosis were persistent which is further complicated by confusion among LI and milk allergy symptoms within patients and healthcare providers alike. There was a research gap identified in the findings of inadequate urban-rural comparisons and pediatric data along with poor LI education in medical curricula. The study recommends the inclusion of adapting standardized diagnostic tools, improving genetic research, and integrating LI awareness into public health campaigns. It is important to address these challenges while emphasizing preventive healthcare and nutritional fortification for the improvement of LI management and reduced interrelated comorbidities across the Kingdom.

*Keywords: Lactose Intolerance, Saudi Arabia, Public Health, Prevalence, Diagnostic Errors, Lactase.*

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