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Patient-Related Determinants of Glycaemic Control in People with Type 2 Diabetes in the Gulf Cooperation Council Countries: A Systematic Review

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Abstract

Background and Objective:

The aim of this systematic review was to summarise patient-related factors that affect glycaemic control among people with type 2 diabetes in the Arabian Gulf Council Countries.

Methods

A medical librarian (LR), with input from the research team, developed and implemented a comprehensive search using Embase, CINAHL, Cochrane Library, Medline, and PsycINFO from the date of their inception until May 31, 2016. All observational studies that examined the effect of patient-related factors affecting glycaemic control among adults with type 2 diabetes living in the Arabian Gulf Council Countries were considered for inclusion. Two researchers (MJA and AA) independently identified eligible studies, extracted data and assessed risk of bias.

Results

Out of 1211 articles, a total of 13 studies met the inclusion criteria (see **Figure 1**). Five studies were from Saudi Arabia, four from Oman, three from the United Arab Emirates and one from Bahrain. All studies were cross-sectional except one which was a case-control. One study was population based, six recruited participants from multiple centres, while the remaining were single centred. The majority of the studies were of low to moderate quality. Factors that were related to glycaemic control were age, gender, duration of diabetes, family history, compliance to management, attitude to diabetes, location of scheduled follow up visits (hospital or primary healthcare), consumption of carbonated drinks, renal impairment, anxiety, depression, adherence to medication, diastolic blood pressure, cholesterol level, low density lipoprotein level, education level and perception of empowerment. There was inconsistency in the findings of the reviewed studies.

Discussion

This systematic review summarises patient-related factors affecting glycaemic control among adults with type 2 diabetes in the Arabian Gulf Council Countries.

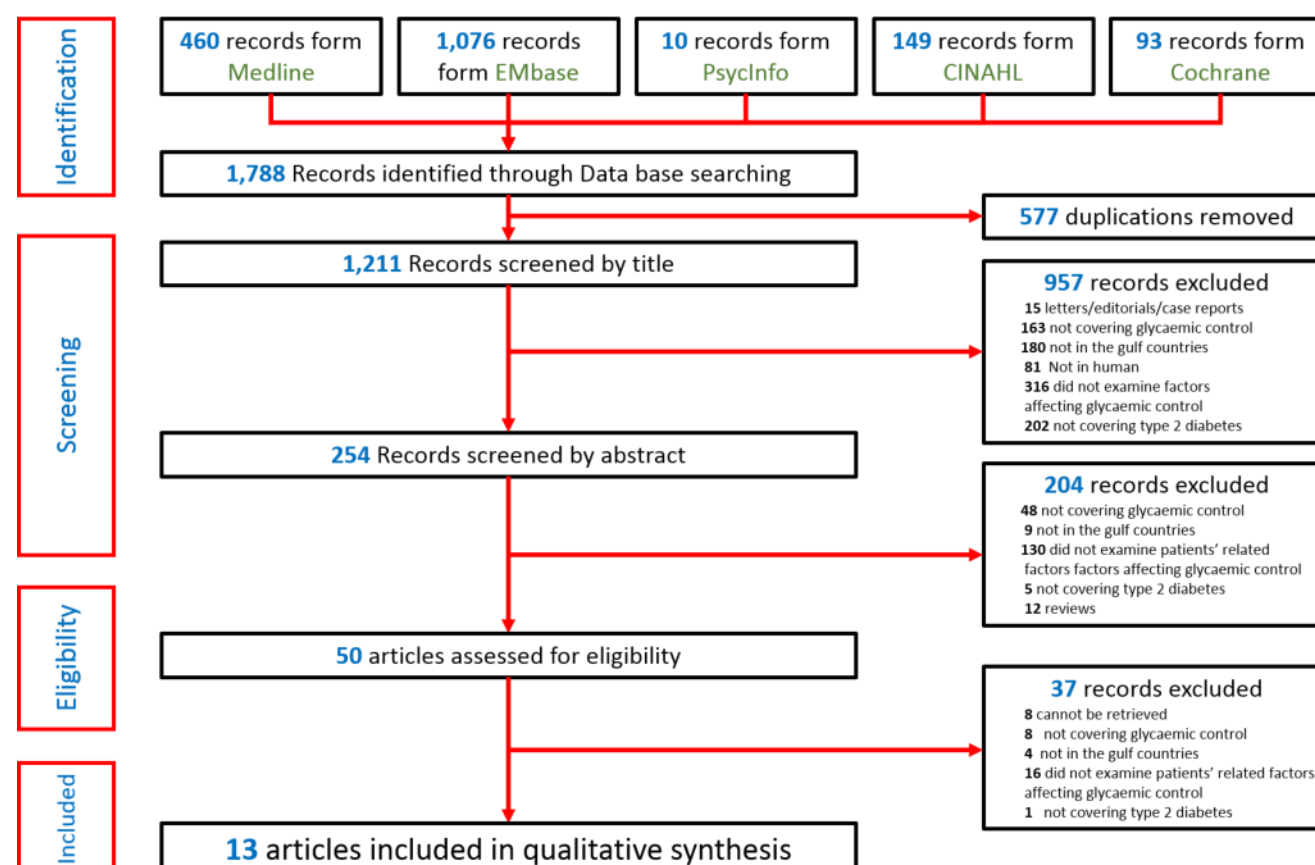


Figure 1: flow chart of the systematic literature search

The quality of the majority of the reviewed studies was low to moderate. A number of modifiable and non-modifiable factors were found related to glycaemic control. There was inconsistency in the findings of the included studies. In addition, the association between glycaemic control and dietary habit and physical activity has not been studied adequately in the Gulf Council Countries, and no studies has evaluated the association between glycaemic control and family support or cognitive function.

The strength of this study lies on the systematic, comprehensive and unbiased approach of searching the literature, extracting the data and assessing the risk of bias. However, because the reviewed studies were cross-sectional and case-control in design, a causal relationship between the risk factors and glycaemic control cannot be inferred. Moreover, the heterogeneity in the methodology as well as the differences in the findings across the studies made it difficult to compare their findings or to conduct a meta-analysis.

In conclusion, a number of patient related factors associated with glycaemic control were identified. However, a wide variation in the findings of the current studies was observed and the relationship of glycaemic control with some potential important risk factors including dietary habit, physical activity, family support, and cognitive function were not addressed adequately. Thus, this area needs further research.

Keywords: Type 2 diabetes, glycaemic control, Gulf Countries, Saudi Arabia, Kuwait, Bahrain, Qatar, United Arab Emirates, Oman