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Review

A profile of diabetes in Pacific Island Countries and Territories



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ABSTRACT

Aim: To examine the available evidence about the epidemiology, health, social, and economic impact of diabetes in Pacific Island Countries and Territories (PICTs).

Methods: We conducted a systematic review of the peer-reviewed literature published in English from January 1990 to January 2014, and relevant technical reports.

Results: A total of 1548 articles were identified of which 35 studies of type 2 diabetes met the inclusion criteria. Eighteen technical reports were also included. We found no articles reporting on type 1 diabetes or gestational diabetes that met the inclusion criteria. The prevalence, risk factors and complications of diabetes were substantial. Diabetes prevalence rate of around 40% was common. Physical inactivity, overweight and obesity were leading risk factors. High rates of diabetes complications were reported e.g. up to 69% retinopathy. Poor clinical outcomes were also reported with over 70% not meeting glycaemic control targets and approximately 50% not meeting blood pressure and cholesterol targets.

Conclusion: This review highlights the burden of diabetes in PICTs and the need for more intensive interventions to improve the quality and outcomes of diabetes care. Overall, further research is needed to monitor secular diabetes trends in PICTs using standardised criteria for diagnosing diabetes and its complications.

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1. Introduction

It is well recognised that the increasing health crisis in diabetes continues to impact on human and economic development globally. Some 382 million people worldwide have diabetes and the Western Pacific Region constitutes 36% of the total number of people with diabetes [1,2]. Of particular concern is the increasing prevalence of diabetes in Pacific Island Countries and Territories (PICTs) where seven out of top ten countries with the highest diabetes rates in the world are found [1,2]. PICTs also suffer a high prevalence of debilitating diabetes complications [3].

These small developing island states are poorly equipped to face the human and economic development challenges arising from the consequences of diabetes [4,5]. To address these challenges more effectively and strategically, a comprehensive understanding of the epidemiology, health, social, and economic impacts of diabetes is required. While diabetes in some regions has been reviewed [6–11], there has been no recent review specifically focusing on PICTs.

To augment the peer-reviewed literature, we reviewed related technical reports from authoritative sources. These were accessed by searching websites of the World Health Organisation (WHO) and PICT's Ministries of Health.

Studies and technical reports were included if they reported on diabetes prevalence and/or incidence, risk factors for diabetes, diabetes-related microvascular and/or macrovascular complications, diabetes-related mortality, diabetes care, quality of life and the financial cost of diabetes. Journal articles and technical reports were excluded if they did not meet the inclusion criteria, reported on any uncommon forms of diabetes or focused on experimental intervention trials.

Two authors independently screened the titles and abstracts of each article to identify potentially eligible articles in the review. Any uncertainty or ambiguity was resolved through discussion with a third author. Full-texts of eligible articles were retrieved for detailed assessment. The research team reviewed and summarised the included articles and technical reports. The summaries were then collated and the findings are presented within each category of interest.

2. Methods

We conducted a systematic review of the peer-reviewed literature on type 1 diabetes, type 2 diabetes and gestational diabetes in PICTs that was published in English from January 1990 to January 2014.

Medline, Pre-Medline and Embase databases were searched using the key terms “diabetes mellitus”, “type 1 diabetes”, “type 2 diabetes”, “gestational diabetes”, and “Pacific Islands”. We also searched with specific terms (incidence, prevalence, risk factors, complications, mortality, quality of care, quality of life and health care costs), individual country (22 PICTs including American Samoa, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, New Caledonia, Niue, Commonwealth of the Northern Mariana Islands (CNMI), Palau, Papua New Guinea (PNG), Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Marshall Islands, Federated States of Micronesia (FSM), Nauru, Tuvalu, Vanuatu, and Wallis and Futuna), and subregions in the Pacific (Micronesia, Polynesia and Melanesia).

3. Results

A total of 1548 articles were identified through the database searches (Fig. 1). After duplicates were removed, 1273 articles remained of which 69 full-text articles were selected and assessed for eligibility. A total of 35 articles (28 cross sectional, two longitudinal and five cohort studies) from 13 PICTs (CNMI, FSM, Fiji, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, PNG, Samoa, Solomon Islands, Tonga and Vanuatu) were eligible for inclusion. All included articles reported on type 2 diabetes. We found no articles reporting on type 1 diabetes or gestational diabetes that met the inclusion criteria.

Additionally, we included 18 technical reports identified through relevant websites. They were WHO global status report on non-communicable diseases 2011 [12], report on non-communicable diseases in the Western Pacific Region 2012 [13], report on risk factors for chronic non-communicable diseases in Wallis and Futuna [14], and 15 WHO STEPwise chronic disease risk factors surveillance country reports [15]. In total, 35 peer reviewed articles identified through database

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