

ACADEMIC: REVIEW ARTICLE

A narrative review of noncommunicable diseases in the Pacific region: A case study of the island of Niue

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Abstract

INTRODUCTION

This literature review takes a strengths-based approach to explore and contextualise noncommunicable diseases in the Pacific region. It compares the noncommunicable disease profile of Niue to that of the Pacific region.

METHODS

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was used to search for and screen literature published from 2010 to 2020 pertaining to noncommunicable diseases in the Pacific region. Twenty-five pieces of literature were included in the final data synthesis.

RESULTS

Noncommunicable diseases are a burgeoning issue for the Pacific region. The literature revealed that the risk factors arise from a complex set of socio-political and historical factors, including poverty, colonisation, globalisation, urbanisation, climate change, and poor health system infrastructure. The literature indicated that the noncommunicable disease trends of Niue do not differ greatly from those of the Pacific region. Where Niue does differ is in factors related to its relationship with Aotearoa New Zealand, and issues related to outmigration and the subsequently small population size.

CONCLUSION

This literature review was conducted in a way that endeavoured to avoid victim-blaming, by drawing attention to the broader social, political, and historical contexts in which the Pacific exists. Solutions to the noncommunicable disease crisis must take these contexts into consideration and focus on supporting local capacity and self-determination.

Introduction

The rates of noncommunicable diseases (NCDs) are rising globally. For the Pacific region, NCDs account for around 70% of deaths, with many of these being premature.¹ The risk factors for NCDs must be contextualised within the broader social, political, and historical context of the Pacific. Niue in particular presents a unique case, given the small population size and the nation's close link to Aotearoa New Zealand as a self-governing state in free association. The small population also means that there exists only limited information and research about the specific NCD risk factors affecting Niue.

This scarcity of data in Niue necessitates a consolidation of the current knowledge base in order for gaps in the literature to be identified.

This article aims to do so, with the overarching intention being to identify and contextualise NCD risk factors of the Pacific, and to use Niue as a case study.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework was used to gather literature. To capture literature relating to the geographical location we were interested in, the search terms used were "Niue", "Pacific", "Pacific Islands", "PICTs", and "Polynesia". Search terms for NCDs were "noncommunicable disease", "non-communicable disease", "NCD", "chronic illness", and "chronic disease". The search was limited to literature published between 2010 and 2020. Literature pertaining to Pacific peoples residing outside of the Pacific region was not eligible for inclusion. A search of Scopus, MEDLINE, Google Scholar, and the University of Auckland Library website uncovered 193 pieces of literature. These were screened for eligibility, and 25 were used for this literature review. The lead author reviewed each article and identified a set of themes which were then discussed and further developed with the co-author.

Results

A thematic analysis of the literature revealed a set of themes relating to the risk factors of NCDs. How these themes pertain to the Pacific region as a whole will be presented first. This will be followed by a case study which highlights the factors specific to Niue.

THEME 1: SNAP RISK FACTORS

SNAP refers to five common downstream determinants of NCDs: smoking, (poor) nutrition, alcohol, and physical inactivity. Rates of all of these were generally high in the Pacific, with rates being higher for certain groups within the population. For example, men tended to drink more alcohol, women tend to be less active, and rural populations are likely to fare better in all risk factors.^{2,3} There is also variance across the Pacific Islands; smoking prevalence for men is over 70% in Kiribati, compared to 25% in Niue.³ Ultimately, these risk factors all contribute to the high rates of NCDs in the Pacific, and are also the primary reason why the region is facing a double burden of disease, with communicable diseases still prevalent.^{4,5}

THEME 2: POVERTY

Many articles emphasised the need to put lifestyle-related risk factors into the context of poverty. NCDs and poverty exist in a vicious cycle, whereby one exacerbates the other.² Moore et al stated that for communities who are experiencing socioeconomic deprivation,

affordability always takes precedence over “common-sense” decisions when it comes to making choices that pertain to health.⁶ Poverty severely limits not only the choices communities make, but the options that are available in the first place.⁷ The relationship also works in the opposite direction, with NCDs exacerbating poverty. The financial costs borne by individuals for treating and managing these conditions is significant, mostly because of the price of medical treatment and the loss of employment opportunities.²

THEME 3: COLONISATION, GLOBALISATION, AND URBANISATION

Risk factors also exist within the context of colonisation, urbanisation, and globalisation, which can operate either directly or indirectly on NCD rates. The food and dietary landscape of the Pacific is one example that illustrates the interconnectedness of these three phenomena. Pre-colonial lifestyles in the Pacific were generally healthy, with active lifestyles being supplemented with diets of fish and vegetables.^{8,9} However, colonisation has changed this. For example, colonisation saw the destruction of “uninhabited” land, and with it, the destruction of traditional systems of food production, preservation ceremonies, and food-sharing activities.¹⁰ Subsequent globalisation and trade liberalisation resulted in a huge influx of highly-processed, unhealthy foods. As the Pacific entered trade agreements with other countries, the health of Pacific communities was not prioritised.¹¹ Many articles framed this dietary shift as being devastating to the health of the Pacific.^{2,4,7,8,12} Urbanisation, too, has had an impact, with increasingly Western lifestyles in the Pacific being associated with more sedentary lifestyles as the availability of processed foods made growing your own food and other traditional practices less common.^{2,7,13}

THEME 4: CLIMATE CHANGE

The risk factors for NCDs also exist in the context of climate change. This can manifest through food insecurity.^{8,11,14,15} The erosion of coastlines makes growing healthy vegetables difficult, leading to an even greater dependence on unhealthy, imported foods.¹⁴ Climate change also exacerbates the rate of NCDs as communities move to more urban areas. When coastal areas erode due to rising sea levels, communities are forced to move further inland to larger cities. Consequently, accessing already-overwhelmed health services becomes ever more difficult.^{7,16} One study pointed out that the drivers of climate change originate primarily from the greenhouse gas emissions of industrialised countries, yet the effects are felt most acutely in the Pacific.¹¹ Given this external origin of the problem, such countries should take more responsibility in addressing the resulting NCD crisis in the Pacific region.¹¹

THEME 5: HEALTH SYSTEM INFRASTRUCTURE

Poor health infrastructure in the Pacific region is a risk factor and has contributed to an increase in the rates of NCDs. Many Pacific health systems were built to address communicable diseases, and so the rising rates of NCDs mean that many of these mechanisms are no longer fit for purpose.² Challenges include limited financial and human resources,¹⁷ poor training and coordination of staff,¹⁸ insufficient NCD surveillance mechanisms,¹⁹ and fragmentation (or altogether absence) of services.¹¹ Much of the literature also discussed insufficient NCD and cancer surveillance mechanisms as indicators of poor health infrastructure.^{2,3,5,16} For example, NCDs may be misdiagnosed or not diagnosed at all.² Additionally, deaths in the community may go unreported.^{5,20} An implication of this is that the true rates of NCD incidence and mortality are likely to be higher than what the data currently suggests. The absence of good quality data on areas such as risk factors, diagnoses, and mortality rates also makes it difficult to know which areas to prioritise, especially when working with limited resources.

THE CASE STUDY OF NIUE

The literature indicated that these regional themes relating to NCD risk factors also applied to Niue. Like the rest of the Pacific, the rates of NCDs in Niue have been increasing over time. For example, the prevalence of obesity amongst the female population was 32% in

1980, and rose to 46% in 1987.²¹ The most recent data, from 2011, places prevalence at 63%.²¹ The increasing prevalence amongst the male population in Niue is more dramatic, rising from 8% in 1980 to 59% in 2011. Diabetes amongst men has risen from 5% in 1980, to 12% in 2002, to 42% in 2011. For women it has risen from 9% to 12% to 25%.²¹ Other NCDs have followed similar trajectories.

With regard to SNAP risks factors in Niue, there are some differences when compared to the Pacific. Niue has the highest rate of sugar-sweetened beverage consumption for adolescent males, and the second highest adolescent obesity rate out of 15 Pacific Islands surveyed.²² On the other hand, Niue has lower rates of insufficient physical activity and smoking, with the overall rates for both being around 17%.^{3,21} This is relative, as even with these differences, the situation for all risk factors of NCDs is still must be addressed and more research must be done in this area.

Niue's relationship with Aotearoa New Zealand also sets it apart from the rest of the Pacific region. The relationship of free association entitles Niueans to health care in Aotearoa New Zealand, including treatment of NCDs. However, the costs of airfares and accommodation are not guaranteed as part of this.¹⁹ Aotearoa New Zealand also contributes significantly to health expenditure in Niue, accounting for around 30% each year.²³ Additionally, there has been an increase in outmigration of Niueans in recent years.¹³ Outmigration is complex, with positives and negatives. Declining social cohesion, fewer skilled workers, and the loss of traditional knowledge being passed down as older people migrate are key concerns. However, migration to Aotearoa New Zealand can mean greater access to health services.¹³ Given the rising rates of NCDs and their risk factors, it is important that Niue's health infrastructure is robust. Increasing rates of outmigration makes sustaining health services difficult.^{13,19} Niue's population of less than 2000 means there are very few healthcare services available, even in relation to other Pacific nations. There is no cancer registry, no national health screening programme, and no NCD national plan. Promisingly, there is a Niue Health Strategic Plan, though this must be updated. These health system challenges make responding to the rising rates of NCDs difficult and have a negative impact on the health of the people of Niue.^{5,16}

Discussion and recommendations

It was evident from the literature that NCDs in the Pacific must be addressed. The high rates of NCDs have arisen as a result of a complex set of socio-political challenges. The case study of Niue showed that the Pacific Islands each face unique challenges in relation to these rising NCD rates. For Niue, limited health infrastructure and outmigration continue to be challenges, and highlight Niue's complex relationship with Aotearoa New Zealand. The literature revealed that there is nuance to the relationship between the two countries, and it is one that impacts on the NCD profile of Niue in neither wholly positive nor wholly negative ways.

The literature also revealed that solutions are urgently needed to address the NCD crisis. The following recommendations reflect the strong emphasis placed by the literature on strengths-based approaches to interventions.

It is recommended that solutions involve all industries and all levels of the social ecology. For example, NCDs must be addressed in the financial sector such as in relation to taxes on tobacco and unhealthy foods.^{24,25} Evidently, solutions must also be strengthened in the health sector. The need to address the entirety of the social ecology—from the individual to the political level—should also be clear, given that we now understand the ways in which individuals are influenced by their socio-political contexts. Focusing too heavily on individual behaviour interventions risks ignoring these contexts at best, or recreating colonial power imbalances at worst.^{7,10}

Additionally, solutions should focus on supporting local capacity. This ensures Pacific communities have technical skills, which, when coupled with Indigenous Pacific knowledge and practices, will enable communities to enact self-determination over solutions to the NCD

crisis.^{7,24,26} Local capacity is also essential to ensure communities can sustain interventions once external health practitioners leave.²⁰

For Niue specifically, it is recommended that a national NCD plan be developed. This will help to set out clear objectives in relation to the NCD crisis and allow for ongoing monitoring. Furthermore, the literature revealed that there is a lack of high-quality and up-to-date data, and cancer in particular was identified as being a significant issue for Niue. It is thus also recommended that a cancer registry database be established to ensure accurate data is available on cancer incidents and survival. Finally, it is recommended that the NCD screening processes in Niue be strengthened. Together, these solutions will enable Niue to respond to the rising rates of NCDs in the short-term, though they must also be considered alongside larger-scale changes that address the environmental drivers of NCDs.

Conclusion

NCDs are a significant issue for the Pacific region. This paper, using Niue as a case study, showed how a strengths-based approach may be used to address the NCD crisis. The case study of Niue demonstrates that while the Pacific Islands share core similarities, each also has its own unique landscape, with the resulting determinants of NCDs also being nuanced. It did so in a way that endeavoured to avoid victim-blaming, by drawing attention to the broader social, political, and historical contexts in which the Pacific exists, and in which health is determined.

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