Barriers and Strategies to Prevent HIV/AIDS among Pacific Countries: A Systematic Review Study

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Abstract

Introduction: While the prevalence of HIV/AIDS is shown to be decreasing in the last few decades, it still remains a serious public health issue in Pacific countries. This study is aimed to review the common barriers and also preventive strategies for HIV/AIDS among Pacific Islanders. **Methodology:** This systematic review study on HIV/AIDS was developed based on the Cochrane Library Guideline. Seven online databases which were more frequently used in finding relevant studies were used to search literatures. Using relevant key words, all studies found in the search were reviewed by two independent reviewers and their quality and relevance were assessed. All previous qualitative and quantitative published articles included in the study were published from 2000 to 2016 and in the English language. A data extraction sheet was developed and a descriptive statistic was used to analyze the data. **Results:** Twenty-two studies met the study inclusion and exclusion criteria. Many of the studies were conducted in American Pacific countries (50%). Community-based studies were the most common type of studies (72.7%). In quantitative studies, the most common barriers were lack of accessibility to health services and lack of knowledge, while in the qualitative studies they were cultural barriers and access to health services. Educational trainings on sexual health topics were identified as the main preventive strategy. **Conclusion:** This study highlights the main barriers of HIV/AIDS among Pacific Islanders. It also provides a guide for decision makers to develop and implement new strategies which are sensitive and based on Pacific cultures and beliefs.

Keywords

HIV/AIDS, Barriers, Preventive Strategies, Pacific Islanders

1. Introduction

The human immunodeficiency virus (HIV) has become one of the leading causes of death around the globe today [1]. HIV causes acquired immune deficiency syndrome (AIDS) and attacks the body's immune system. This deadly disease claims many lives each year and is said to be more common in low and middle income countries [2]. Globally, the figure of people currently living with HIV/AIDS in 2015 was estimated to be more than 35 million [3]. According to the United Nations program for HIV/AIDS (UNAIDS) in 2016, out of that estimated more than 35 million, 19 million of them were from eastern and southern Africa, 6.5 million from western and central Africa, 5.1 million from Asia and the Pacific, 2.4 million from Western and central Europe and North America, while Latin America and the Caribbean accounted for 2 million cases, eastern Europe and central Asia had 1.5 million and 230,000 cases were from the Middle East and northern Africa [4]. The World Health Organisation also reported that HIV/AIDS accounted for the death of 1.1 million people in 2015 [5]. Even though there is no cure for HIV/AIDS, it can still be prevented [3].

Moreover, HIV barriers can be seen as a factor which has contributed to the rise of HIV/AIDS globally [6]. In Africa, some of the barriers are economic barriers, social and cultural barriers and legal barriers [7]. While in China, stigma and punitive barriers are barriers which prevent HIV identification [8]. In comparison to Europe, perceptions of patients and attitude of health care providers are barriers [9]. In the Pacific, cultural barriers, access to health services, stigma and cost of medication were recognized as common barriers for HIV patients in Papua New Guinea (PNG), Vanuatu and Pacific Islanders in America [10] [11] [12].

Even though HIV/AIDS cannot be cured it can still be treated so the only way to lessen the number of HIV/AIDS patients is to have some preventive strategies [13]. There are different methods of HIV/AIDS prevention. The most common strategies include: attempting to postpone the onset of first intercourse, reducing the number of sexual partners, increasing the number of sexual protective activities, offering counselling and testing for HIV, encouraging adherence to biomedical approaches avoiding HIV transmission, reducing sharing of needles, and syringes and decreasing substance use [14]. In Africa, their preventive strategies are condoms, prevention of mother to child transmission, voluntary medical male circumcision, harm reduction and antiretroviral treatment [15]. In the United States, some of their strategies are: programs to combat stigma and discrimination, increased open communication about sexual activities, multi-sectorial approaches and STI surveillance and control [16]. In the United Kingdom, prevention programs for MSM, harm reduction, HIV awareness and prevention programs for Africans who settle in UK are some of their preventive strategies [17]. Whereas in China there is prevention of infected blood donation and transfusion practices in place [18]. In the Pacific, there is increased awareness, health education, vaginal micro biocide and distribution of condoms in PNG, Vanuatu, Federated States of Micronesia (FSM), Fiji, Tonga, Samoa, Hawaii and American Pacific Islanders [19]-[24].

From the literature reviews carried out by now, no systematic reviews have been done on HIV/AIDS in the Pacific. This systematic review aims to identify the barriers and strategies of HIV/AIDS prevention in the Pacific region. This will help fill the gap

and help health workers in the Pacific create the best health promotion strategies which can help combat and lessen the number of HIV/AIDS patients among Pacific Islanders.

2. Methods

This systematic review study was developed according the Cochrane Library Guideline. To achieve a broad spectrum of the HIV/AIDS related barriers among Pacific Islanders, both qualitative and quantitative studies were considered. To prevent potential barriers in selecting the articles and extracting the relevant results, and also analyzing and interpreting the results, two independent reviewers were used. They discussed any issues encountered in any stage of review and they discussed the issues with the other authors to get an agreement.

Considering previous studies conducted in the field of HIV/AIDS, seven online databases, which were more frequently used in finding relevant studies, were used including: MEDLINE/PubMed, CINAHL, ISI Web of Science, EBSCO, ProQuest, Springer and PyschInfo. Different keywords were used to find relevant articles. They were “barriers” AND “strategy” and “policy” AND “intervention”.

Any articles published in any online peer-reviewed journals between 1st January 2010 and 1st August 2016 were included in the study. This time period was chosen as we were able to review the recently published studies and also look at new insights on appropriate preventive strategies towards HIV/AIDS which are applicable for Pacific islanders. Moreover, articles were considered if they were conducted among both males and females, all age groups, were in the English language, and focused on Pacific countries. In this study, barriers of HIV/AIDS can be considered as: all individual, social, cultural, and organizational obstacles which restrict people’s knowledge of HIV prevention, access to healthcare systems, doing HIV testing, and also to treatment of HIV. Studies focused on HIV/AIDS determinants or prevalence were excluded.

A narrative search was implemented in three stages. First, the abstracts of all researched articles were scanned and those that were not relevant or were duplicated were excluded from the first stage. The abstract of the remaining articles were reviewed and some articles were omitted at this stage if they didn’t meet the study inclusion and exclusion criteria. At the last stage, the full text of all remaining articles was printed and reviewed to assess their quality. Another search was conducted on the bibliographies of the remaining articles to locate other unpublished article titles. The additional search was performed using various Internet resources.

A data extraction sheet was made to include all relevant information needing to be analyzed. They included the article’s characteristics (the year published, country of the study, type of study), participants characteristics (age, gender, number), methodology (data collection tools, sampling method, place of the study), and the results. Overall, 17 studies met the study inclusion and exclusion criteria. The search process is shown in

Figure 1.

In addition, we found another 5 articles in the bibliography of the remaining articles. Finally, 22 studies were reviewed in this study.

A descriptive analysis was applied to analyze the data. The results were reported as percentages and frequencies using tables and graphs.

Figure 1. Article selection process.

3. Results

The general characteristics of the studies are shown in **Table 1**. Many studies were conducted after 2010 (54.5%). Half of the studies were conducted in American Pacific countries. Four studies (18.2%) were conducted among only males, however, many studies did not report the gender of target groups (45.5%).

The results of the studies showed that the United States had the highest number of studies about HIV/AIDS (11 studies), followed by Papua New Guinea (5 studies), Vietnam (4 studies), and Vanuatu and Thailand (3 studies each). The study results revealed that many were studies conducted among Adolescents/Adults (31.8%), however, 40.9% didn't report the age of participants. The results also showed that the pooled number of participants in the studies was 26,641 people. The study also showed that most of the studies focused on Gay/Men who have Sex with Men (5 studies) and health care workers (5 studies) as target groups, followed by HIV patients (3 studies), female sex workers (3 studies), and young adults & parents (3 studies).

As **Table 2** shows, a majority of the studies applied quantitative methodology (45.5%). Ten studies used questionnaires to collect the data. Purposive sampling (50%) was the most common sampling method.

As **Figure 2** shows, the majority of studies were community based studies (72.7%) followed by school based studies (18.2%) and health care center-based studies (9.1%).

Table 1. General characteristics of the studies (N = 22).

Variables	Frequency	Percentage
Year		
2000-2004	2	9.1
2005-2009	8	36.4
2010<	12	54.5
Region		
South Pacific	6	27.3
American Pacific	11	50
Asia-Pacific	5	22.7
Targeted gender		
Male	4	18.2
Female	3	13.6
Male/Female	3	13.6
Female/Male/Transgender	1	4.5
Male/Heterosexual	1	4.5
Unknown	10	45.5

Table 2. Methodological characteristics of studies (N = 22).

Variables	Frequency	Percentage
Type of studies		
Quantitative studies	10	45.5
Qualitative studies	11	50
Mixed method study	1	4.5
Data collection tools		
Questionnaire	10	45.5
In depth interview	4	18.1
Focus group discussion	6	27.3
Questionnaires and screening	1	4.5
Test	1	4.5
Unknown		
Sampling methods		
Convenience	4	18.1
Snowball	5	22.7
Purposive	11	50
Random	1	4.5
Stratified	1	4.5

Figure 2. Frequency of studies based on the conducted place.

Barriers of HIV/AIDS among patients

Out of 22 studies, 8 quantitative studies highlighted the barriers of HIV/AIDS among Pacific Islanders. The most common barriers have been recognised as lack of accessibility to health services (3 studies, 37.5%), followed by lack of knowledge (2 studies, 25%). The cultural taboos and ethnicity have been recognised as the least barriers among Pacific Islanders (1 study each).

Out of 22 reviewed articles, 10 qualitative studies focused on barriers. The most common barriers were cultural barriers (5 studies, 50%), followed by access to health services (3 studies, 30%) among Pacific Islanders. The least barriers were racism and lack of sex education (1 study each).

Strategies to prevent HIV/AIDS

Out of 11 quantitative studies, 3 mentioned strategies to prevent HIV/AIDS. Two out of the 3 studies found educational training on sexual health topics to be the main strategy, followed by diagnostic prevention, including the symptoms of HIV/AIDS (1 study).

Only one qualitative study suggested using preventive methods such as intravaginal practices (vaginal microbicides) as a strategy to prevent HIV.

4. Discussion

From the results, this study recognized culture as one of the common barriers, which may have contributed to HIV/AIDS in the Pacific [21] [25]. In the Pacific, culture can be seen as one of the essentials to maintaining national, ethnic or group identity [26]. Culture becomes a barrier in a sense that it will be considered culturally inappropriate for parents to openly discuss sexual health with their children [27] [28]. Sexual health is a very sensitive topic and it cannot be openly discussed within the family and community as this will not be acceptable in the Pacific culture [28]. In 2011 a study done in Africa [29], and another done in China, [30], it was highlighted that sex related topics are still seen as a taboo subject in the respective cultures and is hardly discussed openly by most African or Chinese families.

Another barrier among Pacific Islanders identified in this study was access to health services [11]. One reason is geographical locations as the islands are scattered so the remote places cannot easily gain access to health services because they live far from the health centres [10]. Another reason would be that services provided in the urban hospitals vary from health services available in rural health centres due to hospitals being

more advanced than rural health centres [31]. As further discussed by Silal *et al.*, (2012) [32], in Africa, lack of transportation, long hours of travel and remote areas do not have good access to health services compared to urban centres. Cost of medications could be another possible factor, only allowing people with high economic status to have access to good health services [11]. This is because Pacific islands are still developing countries and the hospitals have limited resources available, compared to private clinics which have more advanced technologies to detect diseases quickly [33]. This is common in low income countries in the Pacific where people with high economic status have better access to good health care [34], compared to a study done among American Pacific Islanders in America which showed people with low economic status do not have access to good health care and those with high economic status have access to good health care [35].

The study also identified stigma as another barrier being faced by those people living with HIV/AIDS [36]. According to Jenkins, stigma becomes a barrier to HIV testing as it hinders people to go for HIV testing because they fear their families, friends and everyone will reject them if they have HIV/AIDS, as supported by Kang *et al.* (2006) [37]. Meiberg, *et al.* (2008) also added that stigma is also a barrier to voluntary HIV testing and counselling in South Africa [38].

Prevention is better than cure, so the best strategy to fight HIV is to prevent it [39]. From this study, many of the studies pointed out the common strategy which has been practiced is educational trainings or awareness. As further explained by Ramos *et al.* (2009) [40], health education is the best strategy which can be successfully implemented and easily carried out by any health worker. Another recommended prevention method is vaginal microbicide. Vaginal microbicide is a safe and effective prevention method for HIV and STIs because it can help kill and neutralize viruses and bacteria, and is said to decrease the chances of HIV by 27% [19] [41].

Most of the studies reviewed were conducted after 2010, showing that many researchers have gotten interested in studying HIV/AIDS recently. Most of the studies reviewed were descriptive, followed by retrospective and cross-sectional, but lack interventional studies, which were said to provide the most reliable evidence [42].

Furthermore, as shown from the results, 68.2% of the studies were conducted in the community and only 18.2% of the studies were conducted in schools. More studies should have been conducted in schools to provide information on HIV/AIDS to adolescents as they tend to engage in sexual behaviours and other risk behaviours, so as to help prevent the increase of HIV in the future [43]. In addition, purposive sampling method was mainly used but randomized control sampling is preferable because it gives quality results and reduces bias [44].

Therefore, as shown in our results, culture is the most common barrier, followed by access to health services and stigma. To address the previously stated barriers, interventions need to be done. Thus, the best strategy to address cultural barriers is to conduct health education regarding HIV based on different genders. Health services and health workers should reach out to people who cannot access health services. The result of this study provides a guide for policy makers to develop and implement new strategies which are sensitive and based on Pacific cultures and beliefs.

A limitation in this study was that only English language publications were searched for. This may affect accessibility to other valuable studies that were published in languages other than English.

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Data Extraction Sheet

No.	Study/Article	Participants	Methods	Results
1.	DiStefano <i>et al.</i> [12] Year: 2013 Country: USA Types of study: Retrospectives	Participants: Young Adults/Parents Number: 95 Male: Not Stated Female: Not Stated Age: Not Stated	Data Collection Tools: unknown Sampling methods: unknown Place: Community based	Barriers 1. Trust 2. Religion cultural taboo 3. Fear
2.	Kang <i>et al.</i> [37] Year: 2006 Country: USA Type of Study: Cross sectional	Participants: HIV + API Number: 44 Male: 36 Age: 31 - 60 yrs Mean Age: 44, SD: 7.94 Female: 5 Age: 36 - 67 yrs Mean age: 45, SD: 12.82 Transgender: 1 Age: 47	Data Collection Tools: Interview Sampling Method: Non-random convenience sample Place: Community based	Barrier 1. Stigma
3.	Kennedy <i>et al.</i> [10] Year: 2013 Country: Vanuatu Type of Study: Qualitative	Participants: Adolescents, Policy makers & service providers Number: 341 Male: 169 Female: 172 Age: 15 - 19 yrs.	Data collection Tools: Focus group, Interview Sampling Method: Purposive sample Place: Community based	Barriers 1. Culture 2. Taboos 3. Lack of confidentiality 4. Lack of Knowledge
4.	Lee and Rotheram-Borus, [45] Year: 2009 Country: USA Type of study: Cohort	Participants: students Number: 13233 Female: Not Stated Male: Not Stated Age: below 14 to 18+	Data Collection Tools: Questionnaire Sampling Methods: Random sample Place: School Based	Barriers 1. Parental communication
5.	Han, [46] Year: 2009 Country: USA Type of study: Descriptive	Participants: Gay, Bisexual & Queer Asian Pacific Islander Men Number: 15 Male: 15 Female: Not stated Age: 18 - 50+	Data Collection Tools: Focus group, Interview Sampling Method: Convenience Sampling Place: Community based	Barrier 1. Racism 2. Homophobia 3. Low self esteem 4. Negative role model
6.	DiStefano <i>et al.</i> [47] Year: 2012 Country: USA Type of study: Descriptive	Participants: Young adults, Parents, Health workers Number: 95 Female: Not Stated Male: Not Stated	Data Collection Tools: Focus group, Interview Sampling Method: Purposive Place: Community based	Barrier 1. Misinformation 2. Communication 3. Perceptions 4. Family shame 5. Privacy 6. Gender 7. Parents role 8. Religion
7.	Linh <i>et al.</i> [48] Year: 2015 Country: Vietnam Type of Study: Case design study	Participants: Government officials, Health workers, business members, civil society leaders Number: 20 Female: Not Stated Male: Not Stated Age: Not Stated	Data Collection Tools: Interview Sampling Method: Snowball Place: Population base	Barrier 1. Cost 2. Overprotected owner rights

Continued

8.	Smith <i>et al.</i> [49] Year: 2003 Countries: Brunei, Cambodia, China, Indonesia, PNG, etc. Type of Study: Descriptive study	Participants: Adults Number: 150 Female: Not stated Male: Not Stated Age: Not Stated	Data Collection Tools: Questionnaires Sampling Method: Snowball Place: school based	Barriers 1. Perceptions 2. Lack of knowledge
9.	Reidpath and Chan, [50] Year: 2005 Country: China, India, Indonesia, Philippines, Thailand, Vietnam Type of Study: Descriptive	Participants: 6 countries Number: Not Stated Female: Not Stated Male: Not Stated Age: Not Stated	Data Collection Tools: Interview, Focus group Sampling Method: Convenience sampling Place: Community Based	Barriers 1. Culture
10.	Fujita <i>et al.</i> [51] Year: 2015 Country: Cambodia, Myanmar, Nepal, PNG, Thailand, Vietnam Type of Study: Descriptive	Participants: Sex workers, Drugs users Age: 15 - 19 yrs. Female: Not Stated Male: Not Stated	Data Collection Tools: Observation Sampling Method: Purposive Place: Community Based	Barriers 1. Unavailability of services
11.	Hahm <i>et al.</i> [52] Year: 2009 Country: USA Type of study: Cohort	Participants: Young adults Number: 7576 Female: 7576 Age: 18 - 27 yrs.	Data Collection: Questionnaire Sampling Method: Cluster Sampling Place: School based	Barriers 1. Ethnicity 2. Unavailable services
12.	Wong <i>et al.</i> [53] Year: 2004 Country: USA Type of study: Descriptive study	Participants: HIV Patients Numbers: 114 Age: 18+ yrs. Mean age: 38.7 yrs, SD: 9.3	Data Collection Tools: Questionnaires Sampling Method: Purposive Place: Health care based	Barriers 1. Lack of awareness 2. Unavailability of services
13.	Wong <i>et al.</i> [54] Year: 2012 Country: USA Type of study: Cross sectional Study	Participants: API men sex men Male: 445 Age: ≥18 yrs, Mean age: 30.7 SD: 10.3	Data Collection Tools: Screening Test, Questionnaires Sampling Method: Purposive Place: Community Based	Barriers 1. Language 2. Perceptions 3. Fear of disclosure
14.	Rupali <i>et al.</i> [11] Year: 2007 Country: 22 Pacific Island Countries (PNG, Palau, Fiji, Niue etc) Type of Study: Descriptive	Participants: Health Care Providers Number: Not Stated Female: Not Stated Male: Not Stated Age: Not Stated	Data Collection Tool: Questionnaires Sampling Method: Purposive Place: Community based	Barriers 1. Limited resources 2. Cost of Medications
15.	MacLaren <i>et al.</i> [55] Year: 2013 Country: PNG Type of Study: Descriptive	Participants: Staff & Students Number: 284 Male: 137 Female: 46 Age: 18+ yrs	Data Collection Tools: Focus groups Questionnaires, Observation Sampling Method: Purposive Sampling Place: School based	Barriers 1. Time 2. Cultural
16.	Huang <i>et al.</i> [56] Year: 2008 Country: USA Type of Study: Descriptive study	Participants: Non MSM adults Number: 604 Age: 18 - 45 yrs.	Data Collection Tool: Questionnaire Sampling Method: Snowball Place: Community based	Barriers 1. Lack of knowledge 2. Unavailability of health personnel
17.	Meldrum <i>et al.</i> , [57] Year: 2016 Country: Australia Type of Study: descriptive	Participants: Young Muslim Women Number: 11 Female: 11 Age: 18 - 25 yrs.	Data Collection Tools: Interview Sampling Method: Purposive sampling Place: Community based	Barriers 1. Culture 2. Religion

Continued

18.	Zenner and Russell, [25] Year: 2005 Country: Vanuatu Type of Study: Descriptive	Participants: Government Officials, NGO workers Number: 14 Female: Not Stated Male: Not Stated Age: Not Stated	Data Collection Tools: Interview Sampling Method: Purposive sampling Place: Health care based	Barriers 1. Lack of awareness 2. inaccessible services
19.	Wong <i>et al.</i> [58] Year: 2013 Country: USA Type of study: Retrospective	Participants: Young adults & Parents Number: 95 Female: Not Mention Male: Not Mention Age: Not Mention	Data Collection Tools: Questionnaires, Focus groups, Sampling method: Unknown Place: Community based	Strategies 1. Community engagement 2. Gender mixed events 3. Online Training
20.	Vallely <i>et al.</i> [19] Year: 2015 Country: Hong Kong Type of study: Retrospective	Participants: Heterosexual & MSM male Number: 2281 Male: MSM 1331 Heterosexual: 950	Data Collection Tools: Screening Test Sampling Method: Purposive Sample Place: Community based	Strategies 1. Population level viral load measures
21.	Operario <i>et al.</i> [59] Year: 2012 Country: PNG Type of Study: Mixed method	Participants: Young women & Men, Sex workers, invulnerable individuals Number: 28 Male: 12 [17 - 52 yrs, mean age 30] Female: 6 [16 - 42 yrs, mean age 25]	Data Collection Tool: Interview Sampling Method: Purposive Place: Community based	Strategies 1. Intravaginal Practices
22.	Choi <i>et al.</i> [60] Year: 2005 Country: USA Type of Study: Descriptive	Participants: API men sex men Number: 1196 Male: Not reported Age: 18 - 83 yrs.	Data Collection Tool: Questionnaire Sampling Method: Snowball Place: Community based	Strategies 1. Education

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