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Subjective culture and HIV preventive behaviour among young Latin Americans: a systematic review

Mauro P. Olivera[a], Natalia Salinas-Oñate[b], Gustavo Medina[c] and Solange De la Hoz[c]

[a]Doctorado en Psicología, Universidad de La Frontera, Temuco, Chile; [b]Departamento de Psicología, Universidad de La Frontera, Temuco, Chile; [c]Departamento de Procesos Diagnósticos y Evaluación, Facultad de Ciencias de la Salud, Universidad Católica de Temuco, Temuco, Chile

ABSTRACT

Given high levels of new HIV infection globally, calls have been made for greater attention to the cultural variables that hinder prevention and testing. However, no reviews exist to systematise the findings. This study aimed to identify the cultural variables associated with three HIV preventive behaviours (condom use, HIV testing behaviour, and injection drug use with non-shared or sterilised syringes) among young Latin Americans. A systematic review was conducted guided by PRISMA-P criteria, on five databases (Web of Science, Scopus, PubMed, Medline and Scielo), which identified 2474 articles. Scientific articles and empirical studies that addressed cultural variables and HIV preventive behaviours among young people aged 15-24 years of age using Latin American samples were selected, with 37 articles being included in the final review. Six key cultural variables: the importance of female virginity; the role of trust in the couple's relationship; the disorienting effects of romantic love; the role of subjective norms; the importance of decision-making norms; and impulse control beliefs. Gender norms provide a framework for understanding sexual decision-making among young Latin Americans. Although young people have begun to adopt more egalitarian views of gender norms, deep-rooted beliefs about gender, sexuality and relationships continue to impact on HIV prevention behaviour.

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Introduction

Given high levels of new HIV infections globally, in 2017 the Joint United Nations Programme on HIV/AIDS (UNAIDS 2017) established an ambitious but attainable goal to narrow gaps in the testing and treatment of people who live with HIV, called 90-90-90. The goal of this strategy was that 90% of people living with HIV should know their status, 90% of those diagnosed should receive antiretroviral treatment, and 90% of those in treatment should achieve viral suppression (UNAIDS 2017, 2020).

CONTACT Natalia Salinas-Oñate natalia.salinas@ufrontera.cl

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According to UNAIDS estimates for 2020, 1.7 million new cases of HIV were recorded worldwide, with an estimated 38 million people living with HIV. Despite a 23% decrease in new infections over the 2019 report, this number remains higher than the established targets (UNAIDS 2020).

In Latin America, no country has fully achieved these goals. Instead, new HIV infections increased by 21% between 2010 and 2020. Furthermore, in 2019 an estimated 33.0% of people living with HIV did not know their serological status, 40.0% are not receiving antiretroviral treatment, only 47.0% were virally suppressed, and a large proportion of the adult population shows discriminatory attitudes towards people with HIV (UNAIDS 2020). Additionally, in 2019, 19,000 new HIV infections in Latin America occurred among young people between 15 and 24 years of age, resulting in a total of 93,000 young people living with HIV in the region (AIDSinfo 2020). Along with the low reported use of condoms and poor knowledge of prevention among young people, this creates a risk context for transmission. A similar risk scenario seems to hold in the migratory context. By 2019, 21.5% of new HIV diagnoses in the USA were among Latinos, making them the second most vulnerable population group after African Americans (Centers for Disease Control and Prevention [CDC] 2021).

This situation demands study of the predictors of preventive behaviours for HIV infection in Latin American youth. The main predictors that have been widely studied are sociodemographic characteristics, such as age, sex, ethnicity and educational level (Albarracin and Plambeck 2010; Sanders et al. 2010), as well as psychological processes such as self-efficacy and risk perception (De Torres 2020; Whiting et al. 2019). In addition, other studies have focused on the interaction between preventive behaviours for HIV infection and risk behaviours such as domestic violence or drug abuse (Li et al. 2014; Rehm et al. 2012).

Despite the valuable contribution of existing research, UNAIDS has made repeated calls to consider cultural variables in efforts to understand HIV-related health behaviours (UNAIDS 2017, 2020). Subjective culture, understood as a shared set of beliefs, norms and values (Betancourt and López 1993), has been shown to affect various health behaviours, including screening and continuity of care for cancer (Flynn et al. 2015, 2020) and diabetes (Betancourt and Flynn 2019; Ortiz et al. 2016), the use of primary health services (Baeza-Rivera et al. 2019), the use of mental health services (Salinas-Oñate et al. 2018), and others.

Although other reviews have identified cultural predictors of HIV-related behaviours such as condom use, HIV testing and general sexual health (Morales-Alemán and Scarinci 2016; Pérez, Santamaria, and Operario 2018), many of these studies have focused on key populations, such as men who have sex with men, sex workers and injecting drug users. Although it is important to focus on vulnerable subpopulations, it is also necessary to pay attention to other groups, including young people, among whom preventive behaviours (such as condom use) are relevant for the prevention of HIV and other sexually transmitted diseases, and pregnancy. Although some common predictors have been proposed for the young Latino population in different countries in the region, it is important to remember that this is not a homogeneous group. Ethnicity and other variables such as socioeconomic status, religion and generational status function as sources of cultural variation (Betancourt and López 1993). Therefore,

cultural variables may be expected to vary, both in their manifestation and content (Cohen 2009).

Against this background, the present study aimed to identify the key cultural variables studied in samples of Latin American youth and classify the main findings according to the types of variables and the preventive behaviours they impact upon.

Method

A systematic review was conducted using PRISMA-P guidelines (Moher et al. 2015), and recommendations for the development and reporting of systematic reviews in psychology and health (Perestelo-Pérez 2013), and narrative synthesis methodology (Popay et al. 2006; Rodgers et al. 2009; Snilstveit, Oliver, and Vojtkova 2012).

The following inclusion criteria were adopted: (a) scientific articles detailing empirical studies that addressed cultural variables and their links with preventive behaviours for HIV infection (condom use, injecting drug use with non-shared or sterilised syringes, and HIV testing); (b) study samples comprised young people aged 15 to 24 years; (c) study samples whose country of origin was Latin American (studies from non-Latin American countries were included so long as they used Latin American samples); and (c) articles published in Spanish, Portuguese and English.

Search strategy and selection of articles

A search was conducted on five databases: Web of Science, Scopus, Medline, PubMed and SCIELO. No restriction was set on year of publication. The search terms used were organised into five search fields for title, abstract and keywords: cultural variables, preventive behaviours, HIV, youth, and Latin American countries (Figure 1). The search itself was conducted in May 2020, and Endnote software was used to keep track of the articles found.

A protocol verified alignment with the inclusion criteria. First, two reviewers examined the title, abstract and keywords of each article identified in the first phase of the search according to the inclusion and exclusion criteria. Next, agreements and discrepancies were reviewed and resolved by consensus, identifying the articles to be reviewed in depth. In the second phase of work, two reviewers (both authors of this paper) simultaneously reviewed articles according to quality criteria and reached a consensus about any discrepancies identified in the same manner as in the previous phase. Finally, the references of articles that had passed through both phases were subjected to review to identify studies that had not appeared in the original search. The quality criteria that guided this second phase required studies to: (a) indicate the average age of participants aged between 15 and 24 years; (b) analyse data on a differentiated basis according to ethnicity (in cases where diverse samples are used); (c) specify the methods used for data collection and analysis.

To counteract potential biases: (a) studies in English, Spanish and Portuguese were included; (b) different databases were searched; (c) the reference lists of selected articles were checked to include studies that had not been identified in the original search.

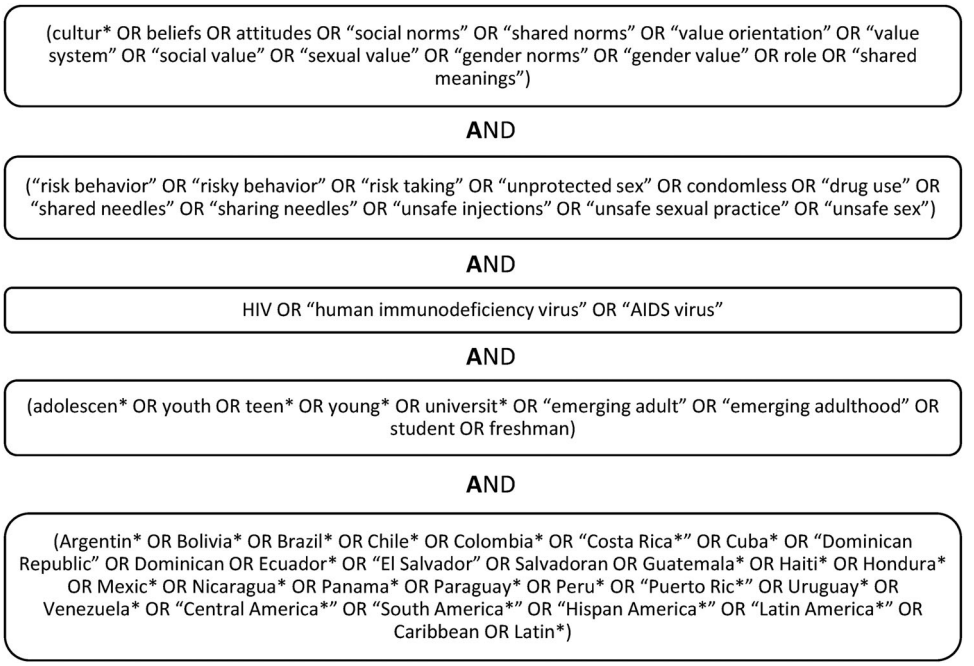

Figure 1. Search strategy (example).
Note: Search implemented using Scopus.

Results

A total of 2474 articles were identified in the five databases. Once duplicates had been eliminated both automatically and manually ($n = 1338$), 1136 articles were subjected to review of the title, keywords and abstract. Of these, 887 articles were eliminated for non-fulfilment of the inclusion criteria. The remaining 249 articles were then reviewed for methodological quality, after which 218 were eliminated. Additionally, the reference list checks on the 31 articles that remained led to the inclusion of six new articles leading to the 37 articles that were included in this review (Figure 2).

Bibliometric characteristics of the studies

Most of the studies had been conducted in the USA (54.05%; $N = 20$). Concerning methods and methodology, 70.27% ($N = 26$) were quantitative studies, 24.32% ($N = 9$) were qualitative investigations and 5.41% ($N = 2$) used mixed methods. The main preventive behaviour studied was condom use (97.29%; $N = 36$), with no studies addressing non-shared or sterilised syringe use. Finally, 10.81% ($N = 4$) of studies were of men who have sex with men, and 67.56% ($N = 25$) did not specify the sexuality of the sample (Table 1).

The variables were recoded and organised into five cultural categories to facilitate the interpretation of the results: values (principles concerning desired goals in society); norms (rules that guide appropriate behaviours in specific situations within a cultural group); beliefs (proposition considered to be true and shared by the members of a group); attitudes (evaluations of things, present or stored in memory); and other

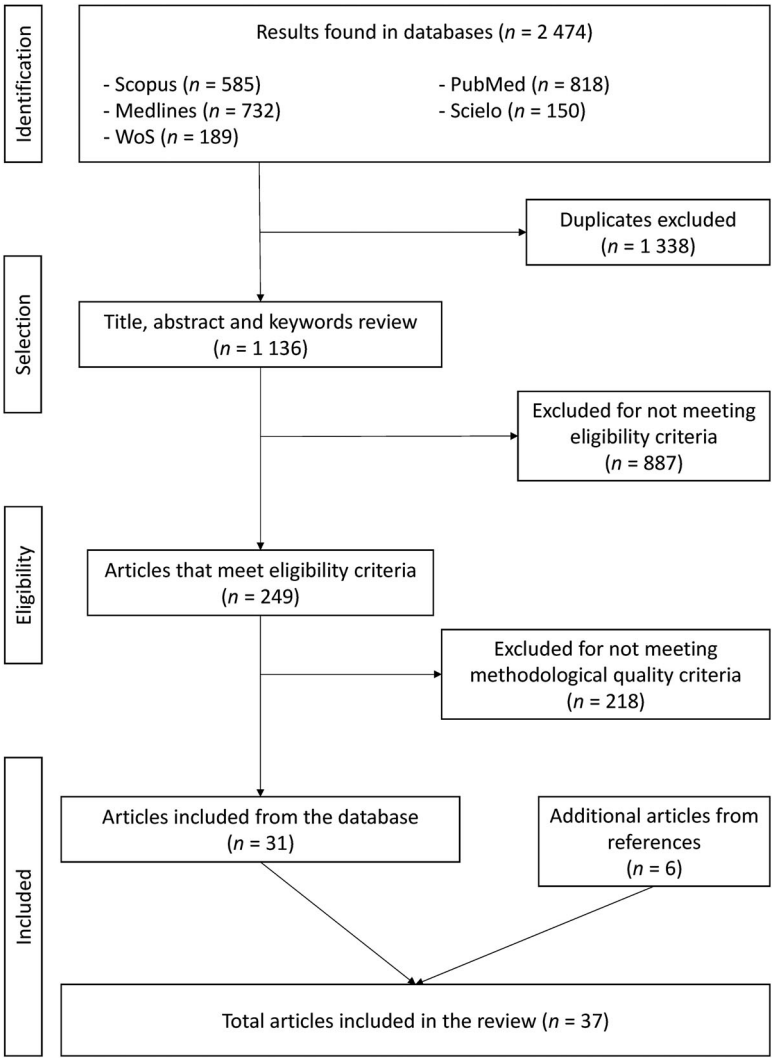

Figure 2. Article selection.
Note: Implemented 17 May, 2020.

culture-related variables (Matsumoto and Juang 2013). These categories were then organised in relation to two behaviours: HIV testing behaviour and condom use. Vote counting, and level of evidence were used to determine whether there was conclusive evidence about the effects of a particular variable (Popay et al. 2006). A variable where there was one significant result showed low evidence of association; a variable with two results using a qualitative or quantitative approach with low statistical power was taken as showing moderate evidence of association; and a variable where there were three or more significant results, offered high evidence of association. In instances where conflicting evidence was found, the effects of that variable were considered inconclusive.

Table 1. Characteristics of articles included in the review.

Authors (year)	*N*	Sample sexual orientation	Country	Approach	Measures (author/ reliability)
Ford and Norris (1993)	711	N/S	USA	Quantitative	Short Scale of Acculturation (Marin et al. 1987; $\alpha = 0.90$-0.92)
Flores-Ortiz (1994)	145	N/S	USA	Mixed	Short Acculturation Scale for Hispanics
Caballero-Hoyos and Villaseñor-Sierra (1996)	40	N/S	Mexico	Qualitative	Pile sort
Cáceres and Rosasco (1999)	17	100% MSM	Peru	Qualitative	Focus groups, semi-structured interviews
Fierros-Gonzalez and Brown (2002)	316	N/S	USA	Quantitative	Ad hoc
Jemmott, Jemmott, and Villarruel (2002)	199	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.73$-0.96)
O'Donnell et al. (2002)	465	100% MSM	USA	Quantitative	Ad hoc ($\alpha = 0.85$-0.87)
Voisin (2002)	358	N/S	USA	Quantitative	The Social Support Survey (Richman et al. 1993; $\alpha = 0.87$)
Flores-Palacios and Leyva-Flores (2003)	46	N/S	Mexico	Qualitative	Associative cards, semi-structured interviews, focus groups
Villarruel et al. (2004)	141	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.56$-0.79)
Collazo (2005)	431	N/S	Puerto Rico	Quantitative	Ad hoc ($\alpha = 0.70$-0.91)
Givaudan, Van de Vijver, and Poortinga(2005)	2011	N/S	Mexico	Quantitative	Ad hoc ($\alpha = 0.64$-0.74)
Locke, Newcomb, and Goodyear (2005)	349	91.6% heterosexual	USA	Quantitative	Male Role Norms Scale (Thompson & Pleck, 1995; $\alpha = 0.63$-0.68) and Multiple Ethnic Identity Measure (Phinney 1992; $\alpha = 0.82$)
Salazar et al. (2005)	50	N/S	Peru	Qualitative	Semi-structured interviews, focus groups, and participant observation
Harvey and Henderson (2006)	191	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.71$-0.96)
Rhodes et al. (2006)	74	N/S	USA	Qualitative	Focus groups
Camargo and Botelho (2007)	1386	N/S	Brazil	Quantitative	Ad hoc ($\alpha = 0.75$)

(*continued*)

Table 1. Continued.

Authors (year)	*N*	Sample sexual orientation	Country	Approach	Measures (author/ reliability)
Villarruel et al. (2007)	233	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.65$-0.88), Attitudes Toward Women Scale for Adolescents (Galambos et al. 1985; $\alpha = 0.73$), *Familismo* (Sabogal et al. 1987; $\alpha = 0.82$) and religious affiliation (Jemmott, Jemmott, and Villarruel 2002; $\alpha = 0.74$)
Asinelli-Luz and Fernandes (2008)	10	N/S	Brazil	Qualitative	Semi-structured interviews
Warren et al. (2008)	189	100% MSM	USA	Quantitative	Multi-Ethnic Identity Measure (Phinney 1992; $\alpha = 0.80$)
Bermúdez, Herencia-Leva, and Uribe (2009)	599	N/S	Colombia	Quantitative	Attitudes toward HIV/ AIDS (Paniagua et al. 1994; $\alpha = 0.66$-0.79)
Bermúdez et al. (2010)	689	96.5% heterosexual	Spain	Quantitative	Sexual Relationship Power Scale (Pulerwitz et al. 2000; $\alpha = 0.88$-0.90), Double Standard Scale (Sierra et al. 2007; $\alpha = 0.76$-0.86) and Ad hoc
Deardorff et al. (2010)	839	100% heterosexual	USA	Quantitative	Ad hoc ($\alpha = 0.62$-0.89)
Lee and Hahm (2010)	1073	N/S	USA	Quantitative	Ad hoc
Giménez-García et al. (2013)	840	N/S	Mexico - Spain	Quantitative	AIDS Prevention Questionnaire ($\alpha = 0.62$)
Becker et al. (2014)	995	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.77$-0.87)
Haderxhanaj et al. (2014)	6091	N/S	USA	Quantitative	Ad hoc
de Oliveira et al. (2015)	234	N/S	Brazil	Mixed	Word-association test
Newcomb et al. (2015)	375	100% MSM	USA	Quantitative	Ad hoc ($\alpha = 0.69$-0.73)
Boyce et al. (2016)	30	100% heterosexual	Nicaragua	Qualitative	Semi-structured interviews, focus groups
Craddock et al. (2016)	754	69.4-76.5% heterosexual	USA	Quantitative	Ad hoc

(*continued*)

Table 1. Continued.

Authors (year)	*N*	Sample sexual orientation	Country	Approach	Measures (author/ reliability)
Ma and Malcolm (2016)	51	N/S	USA	Quantitative	Ad hoc ($\alpha = 0.62$-0.91) and Bicultural Involvement Questionnaire (Szapocznik et al. 1980; $\alpha = 0.87$-0.90)
Singleton et al. (2016)	40	N/S	Guatemala	Qualitative	Fictional life story
Ertl et al. (2018)	530	N/S	USA	Quantitative	Marianismo Beliefs Scale (Castillo et al. 2010), Multigroup Acculturation Scale (Stephenson 2000), and Brief RCOPE (Pargament et al. 1998; $\alpha = 0.96$)
Fleming et al. (2018)	293	100% heterosexual	Dominican Rep.	Quantitative	Ad hoc ($\alpha = 0.75$)
Giménez-García et al. (2018)	350	99.3% heterosexual	Argentina - Spain	Quantitative	AIDS Prevention Questionnaire
Orrego, Phillips, and Chudnovskaya (2019)	50	100% heterosexual	Guatemala	Qualitative	Semi-structured interviews, key informant

Notes: N = Sample; N/S = Not specified.

HIV testing behaviour

According to the criteria adopted, no variables showed a high evidence of association with HIV testing behaviour. Cultural pride, understood as a sense of belonging to one's ethnic group, showed moderate evidence of a nonsignificant relationship with HIV testing (Locke, Newcomb, and Goodyear 2005; Ma and Malcolm 2016), whereas acculturation presented low evidence as a facilitator of HIV testing (Ma and Malcolm 2016).

On the other hand, the cultural values of familism (Ma and Malcolm 2016), negative beliefs about HIV and the HIV test (Cáceres and Rosasco 1999; Orrego, Phillips, and Chudnovskaya 2019), and negative norms about sexual communication with parents (Craddock et al. 2016) showed low evidence as hinderers of testing. Finally, the cultural values of *simpatía* and *respeto* (Ma and Malcolm 2016), traditional gender roles (Locke, Newcomb, and Goodyear 2005), and peer norms about condom use (Craddock et al. 2016) showed low evidence of a nonsignificant association with HIV testing.

Condom use

Values

Three cultural values showed high evidence of an association with condom use (Table 2). First, evidence from heterosexual couples showed that the value accorded to female virginity (Caballero-Hoyos and Villaseñor-Sierra 1996; Deardorff et al. 2010; Flores-Ortiz 1994; Singleton et al. 2016), trust (Asinelli-Luz and Fernandes 2008; Flores-

Table 2. Summary of strength of evidence of the relationship between cultural variables and condom use, based in vote counting.

Variable	Strength of evidence
Values	
Female virginity	++
Trust in the couple's relationship	++
Love in the couple's relationship	++
Male sexual freedom	+
Satisfying sexual needs	+
Respeto	+
Marianismo	+
Fidelity	0
Fatalism	0
Norms	
Subjective norms about sexuality	++
Decision-making norms in the couple's relationship	++
Negatives norms about sexual communication with parents	0
Relationship norms about condom use	0
Gender norms	0
Norms on communication about sexuality with the partner	0
Peer norms on condom use	//
Parental norms on condom use	//
Beliefs	
Impulse control beliefs	++
Ethnic-based sexual stereotypes	+
Hedonistic beliefs	0
Religious beliefs	0
Beliefs about a negative reaction from the partner	0
Beliefs about condom use negotiation	0
Beliefs about prevention	0
Other culture-related variables	
Attitudes regarding HIV	+
Attitudes toward condoms	0
Gender roles	0
Acculturation	0
Cultural pride	0
Religious affiliation	0

Notes:
++ Variable accumulated three or more significant results in the same directions
+ Variable accumulated less than three significant results
0 Variable presented inconclusive or conflicting evidence
// Variable accumulated evidence about nonsignificant association

Ortiz 1994; Singleton et al. 2016), and romantic love within a couple's relationship (Boyce et al. 2016; Rhodes et al. 2006; Singleton et al. 2016) hindered condom use. In such a context, negotiating condom use becomes difficult as it may be seen as a sign of mistrust and a reason to question the sexual behaviour of the partner (Flores-Ortiz 1994), whereas unprotected sex is seen as a way for the couple to show love and trust in one another (Boyce et al. 2016; Rhodes et al. 2006; Singleton et al. 2016). Although the values of trust and romantic love have certain conceptual similarities, trust has been described as a pre-condition for the couple's relationship to transition from being informal to more formal. In contrast, the value of romantic love implies continuity throughout the couple's relationship (Harris, Skogrand, and Hatch 2008; for more details of the definition see the online supplemental material associated with this article).

Four cultural values showed low evidence of an association with condom use: male sexual freedom, satisfying sexual needs, *respeto* and *marianismo*. Finally, cultural values

of fidelity and fatalism showed inconclusive evidence of an association with condom use.

Norms

Two cultural norms showed high evidence of a relationship with condom use. First, low adherence to general subjective norms promoting safe sex was related to lower levels of condom use among young people (Collazo 2005; Givaudan, Vijver, and Poortinga 2005; Villarruel et al. 2004; Voisin 2002). In addition, these norms facilitated involvement in more risky sexual encounters (Voisin 2002) and a greater intention to have sexual intercourse (Collazo 2005; Villarruel et al. 2004).

On the other hand, inequitable decision-making norms concerning condom use by the couple hindered condom use (Bermúdez et al. 2010; Harvey and Henderson 2006; Orrego, Phillips, and Chudnovskaya 2019; Salazar et al. 2005; Singleton et al. 2016). Among young Latin Americans, men tended to have greater control over decision-making (Bermúdez et al. 2010), creating inequality within the couple (Orrego, Phillips, and Chudnovskaya 2019). This inequality interacted with limited negotiation skills to increase women's vulnerability to HIV infection (Orrego, Phillips, and Chudnovskaya 2019; Salazar et al. 2005; Singleton et al. 2016). On the other hand, more equitable decision-making norms contributed to greater intention and use of condoms (Bermúdez et al. 2010; Harvey and Henderson 2006).

Additionally, four cultural norms showed inconclusive evidence of an association with condom use: norms on sexual communication with parents, relationship norms concerning condom use, gender norms, and norms on communication about sexuality with the partner. Finally, peer norms about condom use and parental norms about condom use showed moderate and high evidence of a nonsignificant association with condom use (e.g. Villarruel et al. 2004).

Beliefs

Only beliefs about impulse control showed high evidence as facilitators of intention to use (Jemmott, Jemmott, and Villarruel 2002; Villarruel et al. 2004) and actual use of condoms (Flores-Ortiz 1994; Flores-Palacios and Leyva-Flores 2003; Giménez-García et al. 2013; Jemmott, Jemmott, and Villarruel 2002; Rhodes et al. 2006; Villarruel et al. 2004, 2007). Several aspects of HIV transmission were perceived as being beyond people's control (Flores-Palacios and Leyva-Flores 2003), especially in the context of alcohol consumption (Flores-Ortiz 1994). These beliefs are especially relevant to men (Giménez-García et al. 2013; Villarruel et al. 2007) and tie to two fundamental aspects of masculinity. First, condom use reduces the spontaneity of the sexual encounter; second, low impulse control which demonstrates greater masculinity in men results in less frequent condom use (Rhodes et al. 2006).

Additionally, five beliefs showed inconclusive evidence of an association with condom use: hedonistic beliefs (Asinelli-Luz and Fernandes 2008; de Oliveira et al. 2015; Rhodes et al. 2006; Jemmott, Jemmott, and Villarruel 2002; Villarruel et al. 2004, 2007), religious beliefs forbidding the use of condoms and other contraceptives (Fierros-Gonzalez and Brown 2002; Orrego, Phillips, and Chudnovskaya 2019; Rhodes et al. 2006; Singleton et al. 2016), beliefs associated with the couple's likely negative

reaction to the suggestion of condom use (Boyce et al. 2016; Collazo 2005; Giménez-García et al. 2013; Harvey and Henderson 2006; Villarruel et al. 2004, 2007), beliefs about condom use negotiation skills (Flores-Ortiz 1994; Giménez-García et al. 2013; Jemmott, Jemmott, and Villarruel 2002; Villarruel et al. 2004, 2007), and beliefs about HIV prevention (Jemmott, Jemmott, and Villarruel 2002; Villarruel et al. 2004, 2007). Finally, adherence to ethnic-based sexual stereotypes showed low evidence of an inverse association with condom use (Newcomb et al. 2015).

Attitudes and other culture-related variables

No attitudinal and other culture-related variables showed high evidence of an association with condom use. Attitudes regarding HIV showed low evidence of assocation (Bermúdez, Herencia-Leva, and Uribe 2009), whereas attitudes to condoms, gender roles, acculturation, cultural pride, and religious affiliation offered inconclusive evidence of an association.

Discussion

Of the three preventive behaviours for HIV infection (condom use, HIV testing behaviour and non-shared or sterilised syringe use) studied here, variables with high evidence of an association were only observed in studies of condom use. As cultural values concerning the importance given to female virginity, trust and romantic love within a couple's relationship increased, lower levels of condom use were reported. In addition, when subjective norms on sexuality were less favourable, and decision-making norms were less equitable, lower condom use was also reported. Finally, when beliefs on impulse control were higher, more frequent condom use was reported.

Gender norms and their implications for reproductive health behaviour provide a useful framework for interpreting these results. These highly heteronomous norms dictate the expected behaviours of men and women and play an important role in the lives of Latin Americans (Díaz-Loving et al. 2015). In general terms, there are pressures on Latin American men tend to adhere to semi-traditional masculinities, focusing on the display of *caballerismo* (a benevolent masculinity centred on family and courtesy), sexual activity and deference to women. In contrast, Latin American women adhere less to these mandates (Mardones and Vizcarra 2017), focusing instead on fidelity, emotionality and reproduction (Saldívar et al. 2015). In addition, a double standard in sexual behaviour exists, whereby the norms established for men are more permissive than those for women (Trejo and Díaz-Loving 2016).

Although many of these cultural norms remain deeply rooted in specific population groups (Díaz-Loving et al. 2015), more egalitarian views are gradually appearing (Karver et al. 2016). In this situation, opposing viewpoints related to gender and relationships tend to coexist (Díaz-Loving et al. 2015; Matamala and Rodríguez 2010). For example, permissiveness in men's sexual expression is opposed to cultural norms that seek to regulate sexual relationships as monogamous and exclusive (Trejo and Díaz-Loving 2016; Wood et al. 2018). Similarly, Latin American women show a growing tendency to accept non-traditional norms such as sexual openness and emancipation (Díaz-Loving et al. 2015). Given this, less traditional gender-related beliefs are

associated with starting sexual activity earlier and the greater use of contraceptives (Gayet and Juárez 2020), which it may be relevant to consider in interventions to increase behaviour related to HIV transmission.

Our study has identified significant biases in the literature. First, more than half of the included studies were conducted in the USA. Although some studies considered acculturation as a study variable or theme (e.g. Haderxhanaj et al. 2014), most did not, particularly those adopting a qualitative approach. This is relevant, considering the power of acculturation processes over the immigrant population when it comes to health behaviour (Alamilla et al. 2020).

Second, although much of the HIV-related literature has focused on gay and other men who have sex with men (due to their greater vulnerability to HIV infection), studies of cultural variables especially relevant to this group are still scarce. Among Latino men who have sex with men resident in the USA, condom use may be weakened by increased Latino ethnic identification (O'Donnell et al. 2002; Warren et al. 2008), whereby stereotypes of Latino men who have sex with men (e.g. as spontaneous and passionate) are inconsistent with planned behaviours such as adopting barrier methods for HIV prevention (Newcomb et al. 2015). On the other hand, for men who have sex with men resident in their countries of origin, one of the main cultural obstacles to condom use are the couple's norms about this preventive behaviour, whereby condom use is restricted to casual partners (Cáceres and Rosasco 1999). As the published literature does not delve deeply into the assumptions underlying these cultural norms, it is hypothesised that trust and romantic love (as they inform heteronormative relationships) may affect same-sex couples similarly. However, more research on this issue is needed.

In summary, although significant advance has been made in understanding the contribution of cultural variables to HIV-related health behaviours, more evidence is needed concerning the situation with respect to young Latin Americans in particular, especially groups showing high rates of HIV infection and poor adherence to prevention. Furthermore, despite remarkable advance in qualitative research on these issues within the region (e.g. Torres et al. 2010), there is a need for quantitative research to facilitate multivariate analysis using culturally relevant instruments (Betancourt et al. 2010).

Strengths and limitations

This review has limitations and strengths. Concerning limitations, strong quality assessment criteria were not utilised including different levels of analysis, reliability indices for the instruments used, and sample size and composition for qualitative studies or similar. Future reviews on the subject should consider utilising these criteria if the aim is to assess the statistical power of identified associations.

Regarding strengths, including studies using qualitative and mixed methods approaches enabled a better understanding of the phenomenon. In this respect, qualitative data enabled us to access socially shared meanings, while data from mixed methods studies provided a sophisticated understanding of the interaction between variables with a given cultural environment (Betancourt et al. 2010).

Given the importance of culture to interventions to prevent HIV infection (UNAIDS 2017, 2020) in Latin America, it is important to enquire further into those variables that show a low level of association with preventive behaviours within a target population (e.g. familism and its relationship to HIV testing). Beyond this, it is necessary to think further about the variables which showed positive associations (e.g. the value of female virginity and its relationship to condom use) to explore their association with other predictors of HIV prevention behaviour, and thus assess the role they might play within a multivariate design.

In undertaking this future work, the use of integrative theoretical models concerning health behaviour will be valuable (e.g. Betancourt et al. 2010), since the absence of an association between cultural variables and behaviour is usually due to the presence of mediation processes by psychological variables such as emotions or attributions (Flynn, Betancourt, and Ormseth 2011) that impact more directly on the health behaviour studied.

Conclusion

In conclusion, given continuing high rates of HIV infection among Latin American youth, it is necessary to develop a better understanding of psychological, social and cultural determinants in order to contribute to the development of evidence-based interventions to reduce risk behaviour and promote preventive action for HIV infection.

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ORCID

Mauro P. Olivera http://orcid.org/0000-0001-5592-0566
Natalia Salinas-Oñate http://orcid.org/0000-0001-6451-4965

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