SUICIDE IN LATIN AMERICA: A GROWING PUBLIC HEALTH ISSUE

SUICIDIO EN LATINO AMÉRICA: UN CRECIENTE PROBLEMA DE SALUD PÚBLICA

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Abstract

Introduction: Suicide has become an international public mental health challenge, resulting in a need for interventions to address it as an individual, family, and community levels. The current scope review assesses trends regarding suicide within Latin America and the Caribbean: risk factors, protective factors, and mediators of suicidal ideation and behavior. Body: Our review is split into three sections, as a way of addressing the complex topic of suicide in an organized, comprehensive manner: (i) epidemiology of suicide in Latin America and Caribbean; (ii) factors associated to suicide ideation and attempts; and (iii) cultural factors as a predictors and mediators of suicide. Further, proper evidence about the association between suicide and cultural dimensions such as Familismo, Machismo/Marianismo, Religion and Acculturation is provided. Conclusion: Upon analyzing trends of and factors associated with suicide, we offer recommendations regarding future studies and intervention programs. We conclude that interventions and research should be based on and in response to cultural values and norms related to suicide within each community, in order to make more culturally-specific programs.

Resumen

Introducción: El suicidio se ha convertido en un desafío para la salud pública internacional, resultando en una necesidad por intervenciones que lo aborden desde diferentes niveles: individual, familiar y comunitario. La presente revisión narrativa evalúa las tendencias respecto al suicidio dentro de Latino América y el Caribe: factores de riesgo, factores protectores y mediadores de la ideación y conducta suicida. Desarrollo: nuestra revisión se divide en tres secciones, con el fin de abordar comprensiva y organizadamente este complejo fenómeno: (i) epidemiología del suicidio en Latina América y el Caribe; (ii) factores asociados a la ideación e intentos suicidas; y (iii) factores culturales como predictores y mediadores del suicidio. Adicionalmente, se provee apropiada evidencia respecto a la asociación entre suicidio y dimensiones culturales como el Familismo, el Machismo/Marianismo, la Religion y la Aculturación. Conclusiones: En base a las tendencias analizadas y los factores asociados al suicido, se ofrecen recomendaciones respecto a futuros estudios y programas de intervención. Concluimos que tanto la intervención como el estudio del suicidio debe basarse y estar en respuesta de los valores y normas culturales que se asocian en cada comunidad, en orden de generar programas que estén culturalmente mejor adaptados.

Keywords: Suicide, Epidemiology, Risk factors, Culture, Latin America
Palabras clave: Epidemiología, Factores de riesgo, Cultura, Latinoamérica

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Introduction

Suicide is an increasingly serious public health problem that causes immeasurable pain, suffering, and loss to individuals, families, and communities. After the Brasilia Conference in 2005, Rodríguez pointed out that suicidality is one of the greatest public mental health challenges for the next decade in Latin America and the Caribbean (LAC). Nevertheless, this issue has remained relatively understudied in this region with only a few interventions or programs to reduce suicide having been implemented [1]. In order to reduce suicidality, interventions need to consider more than just epidemiology data of prevalence and incidence, but also evidence about potential factors related to suicide as well as socio-cultural factors, which mediate suicidality for cementing a holistic and successful response [2].

In order to identify areas for individual and societal level interventions in the Latino-American and Caribbean population, the present article undertakes a critical and focused review of literature to describe the epidemiology of suicide in LAC and its related factors. Furthermore, socio-cultural factors are also analized. Dimensions such as “Machismo”, “Familismo” or “Collectivism” have been identified as potential mediators to shape suicide ideation and attempts [3]. To strengthen our analysis, we also included literature from Latino communities living in US for two main reasons- 1) there is a strong amount of evidence about culture and suicide in those communities, and 2) there are many shared values and local manners among US Latinos and LAC populations.

Epidemiology of suicide in LAC

Overview

The prevalence of suicide attempts in LAC has grown substantially in the last decade. Presently, there is an estimated 45,800 suicide deaths every year. This indicates an annual age-standardized suicide rate of 5.23 per 100,000 population (8.39 for males and 2.12 for females). According to WHO, the age-standardized rate of suicide is somewhat higher in high-income countries (HICs) than in low- and middle-income countries (LMICs) (12.0 versus 11.4 per 100,000 population) [2]. However, in LAC, where only a few of the countries are high-income (Argentina, Barbados, Chile, Uruguay, Saint Kitts and Nevis, Trinidad and Tobago), 75.5% of all suicides occur in LMICs. Moreover, suicide accounts correspond to 8.2% of external causes of death in LAC, placing a heavy burden in terms of economic costs associated with medical care and loss of productivity [2].

With regards to gender, age adjusted male suicide rates in LAC remain higher than female rates, representing a 4:1 ratio. In terms of age, the majority of suicides in LAC occur in the age groups 70 and above (22.3%), 20-24, and 69-70 (18.2% each) [2]. However, age-by-sex patterns in suicide rates between the ages of 15 and 70 vary by country - some countries show a steady increase with age (e.g., Cube) while others show a peak in young adulthood that subsides in middle age (e.g., Chile) [2].

Suicide trends

There was an increase in the age-adjusted suicide rates in LAC during the period from 1990 to 2009 [4]. To illustrate this increase in the rate of suicide, we analyze the situation in three countries: Brazil, Bolivia and Chile. First, in Brazil, an overall increase of 21% in the rate of suicides was found to have occurred during the 20-year period (1980-2000) [5]. It is important to note that Brazilian adolescents (age 15-24) exhibited a ten-fold increase from 0.4 to 4.0 deaths per 100,000. Furthermore, males displayed a significantly greater increase in rates from 0.5 to 6.0 deaths. Similar findings were later replicated in a descriptive study that extended the analysis to 2006 [6]. Perhaps, the improved reporting of suicide may be a partial contributor to these striking increases in suicide rates.

Secondly, in the case of Bolivia, suicidality trends were analyzed from 2007 to 2012 (7). The results indicated that the gender distribution between suicide attempts and suicides was surprisingly different: females attempted suicide more often than males, but more males committed suicide. Within females, suicide attempts were the highest in adolescents (10-19 years) with a declining trend towards the oldest age group (>29 years).

Finally, data gathered among adolescents in Chile indicate the specific ages at which adolescents are a higher risk for committing suicide. After surveying over 1,500 adolescents between the ages of 14 and 19 living in Metropolitan Santiago, Chile, the lifetime prevalence of ideation and attempts was found to be 62% and 19% respectively (7). Results from qualitative surveys showed that for every three high-schoolers who think life is not worth it, two will think about ending their lives, and one will attempt suicide [8].

Suicide methods

In terms of suicide methods, suffocation (59.2%),

poisoning (17.7%), and firearms (13.8%), are the primary methods used in LAC, though they varies across countries and regions [2]. The most widely used method of suicide in the Non-Hispanic Caribbean is poisoning (47.3%), and in South America the use of firearms for suicide is almost as frequent as poisoning (15.6% and 16.1% respectively) [2]. The method chosen for suicide varies by gender [4]. Females in LAC most commonly used suffocation followed by poisoning, whereas males most commonly used suffocation followed by firearms [2]. Overall, it seems that females are less likely to use violent methods than males. While this finding has also been replicated in Latino population in U.S.A., gender differences in suicide methods are more complicated than such a simple dichotomy [9,10].

The method chosen for suicide also varies with age. In general, the preference for suffocation declines with age, while the preference of firearms increases [2]. A study in Bolivia revealed pesticides to be the most frequent method for suicide attempts [7]. The results also suggested that younger individuals used more unplanned methods in comparison to older individuals [7].

Data Validity

Lastly, it is relevant to recognize some important considerations before drawing conclusions based on this data. It is largely known that there are several important caveats concerning suicidality data, and the results should be interpreted bearing the limitations concerning data validity. Of the 41 countries of LAC for which estimates were made by PAHO [2], only 13 have good-quality vital registration data during the last 20 years that can be used directly to estimate suicide rates. As might be expected, good quality, vital registration systems are much more likely to be available in HICs. As a consequence, a degree of caution should be used in interpreting and comparing the national rates in Latin America. This situation also impacts reporting of suicide trends, methods and other related data.

Furthermore, suicides are probably unreported, and it is quite possible that a large number of suicides are failed to be included in the rates of those countries with a high percentage of unreported deaths. Underreported deaths show great variability in Latin America: from 0.5% in Mexico to 24.7% in El Salvador [2]. One way to adjust for the unreported data is to conduct the analysis using undetermined intent/cause of death. In LAC such deaths account for 9.4% of all deaths from external causes. This factor can be examined in Table 1.

Factors associated with suicide

A wide spectrum of risk factors for suicide has been recognized. Risk factors are characteristics that make it more likely that a person will think about suicide or engage in suicidal behaviors [11]. Following the WHO Report on Suicide Prevention, a bio-ecological model has been established to organize risk factors in five categories: a) Health System, b) Society, c) Community, d) Relationships, and e) Individual [4].

Health System

The complexity or limited resources of the health system, and the stigma associated with seeking help for suicide attempts and mental disorders, can impair timely and effective access to health care [7,12,13]. Many countries in LAC have taken positive steps to address long-standing problems in the mental health system, such as structural difficulties, scarce financial and human resources, and social, political, and cultural obstacles in the implementation of mental health policies and legislation (14). However, these policy developments have had uneven results, and with only some exceptions, there is still a lag in the development of the mental health systems in LAC and many communities do not have access to mental health care [7].

Additionally, in LAC, high inequality, poverty, and illiteracy exacerbate the lack of adequate mental health care. There is a dearth of monitoring systems for detecting and addressing suicide attempts, which contributes to the increase of under-reported suicides [15]. Research also shows that among those committing suicide, over half visited a primary care physician within a month of their successful attempt [15]. The relationship between attempters and healthcare services and providers therefore represents a potentially important topic of study.

Society

At the societal level, the access to means of suicide, inappropriate media reporting, and stigma can exacerbate suicidality. Direct access or proximity to means increases the risk of suicide. Depending on geographical contexts and cultures, the means of suicide can include pesticides, firearms, heights, railway tracks, poisons, medications, sources of carbon monoxide, and other hypoxic and poisonous gases [2]. In countries of LAC where pesticide regulation is less developed, the risk of using this method is higher. Suicide methods also vary over time: for example, in Brazil (city of São Paulo), gunshot and poisoning were the leading methods in the late 19th and early 20th Century [16]. During the '60s

Table 1
Suicides per 100,000 population, corrected to include deaths due to undetermined causes, adjusted for age, both sexes, in Latin America and the Caribbean, 2005-2009.
Adapted from the PAHO Suicide Mortality in the Americas: Regional Report, 2014.

Country	Unadjusted rates			Adjusted rates		
	Both sexes	Males	Females	Both sexes	Males	Females
Anguilla	0	0	0	0	0	0
Antigua and Barbuda	0.24	0.5	0	0.24	0.5	0
Argentina	7.71	12.56	3.07	8.72	14.26	3.42
Aruba	6.73	10.43	3.33	6.92	10.83	3.33
Bahamas	1.11	2.07	0.2	1.11	2.28	0.4
Barbados	1.08	2.03	0.19	1.08	2.03	0.19
Belize	3.82	6.36	1.35	4.43	7.47	1.35
Bermuda	1.88	3.1	0.73	1.88	3.1	0.73
Bolivia	0	0	0	0	0	0
Brazil	4.84	7.5	1.91	5.26	8.15	2.09
Cayman Islands	1.59	3.25	0	1.59	3.25	0
Chile	11.68	19.27	4.26	11.68	19.27	4.26
Colombia	4.92	7.92	2.02	5.2	8.36	2.15
Costa Rica	7.06	11.86	2.1	7.33	12.33	2.14
Cuba	12.31	19.05	5.48	12.81	19.87	5.69
Dominica	1.66	3.29	0	2.21	4.39	0
Dominican Republic	0	0	0	0	0	0
Ecuador	6.85	9.82	3.86	7.09	10.14	4.05
El Salvador	7.74	12.28	3.61	7.76	12.31	3.62
French Guiana	8.65	11.67	5.62	9	12.13	5.62
Grenada	1.94	3.11	0.77	2.33	3.49	1.16
Guadeloupe	7.39	11.8	3.44	7.61	11.99	3.52
Guatemala	2.84	3.44	2.09	3.95	4.78	1.8
Guyana	23.44	34.69	12.07	25.79	38.14	13.09
Haiti	0	0	0	0	0	0
Honduras	0	0	0	0	0	0
Jamaica	0.95	1.63	0.29	0.95	1.63	0.29
Martinique	8.6	15.37	2.69	8.73	15.5	2.69
Mexico	4.15	6.9	1.47	4.34	7.23	1.53
Montserrat	0	0	0	0	0	0
Netherlands Antilles	0	0	0	0	0	0
Nicaragua	6.67	10.2	3.2	6.91	10.59	3.29
Panama	5.32	9.16	1.42	5.56	9.56	1.47
Paraguay	3.96	5.58	2.31	4.16	5.84	2.41
Peru	0.98	1.29	0.68	1.12	1.46	0.79
Puerto Rico	7.68	13.98	1.85	7.69	13.99	1.85
Saint Kitts and Nevis	1.23	1.65	0.82	1.64	2.47	0.82
Saint Lucia	1.19	2.44	0	1.19	2.44	0
Saint Vincent and the Grenadines	5.51	9.81	1.11	5.69	10.18	1.11
Suriname	22.79	34.64	10.86	25.3	38.71	11.73
Trinidad and Tobago	11.47	19.42	3.97	12.07	20.47	4.04
Turks and Caicos Islands	0.92	1.78	0	0.92	1.78	0
Uruguay	16.04	26.01	6.74	16.11	26.12	6.76
Venezuela	3.24	5.26	1.2	4.03	6.57	1.41
Virgin Islands (UK)	0	0	0	0	0	0

and '70s, poisoning remained the leading suicide method for women and firearms for men. However, recently hanging was found to be the most used method of suicide [16].

Moreover, exposure to models of suicide has shown to increase risk among vulnerable people [17,18]. Therefore, the media can influence suicidal behavior, specifically by reporting on instances of suicide. The manner in which media outlets depict suicide can potentially increase the risk of suicide [19]. Critics call for curbing sensationalist language that can glamorize suicide and not normalizing suicide as acceptable [19]. For instance, Rátiva et al. analyzed and systematized suicide news reported during the years 2004 and 2011 in a Colombian newspaper [20]. According to this study, 283 suicides were reported. In the 42% of the cases, the word "suicide" appeared in the note and in the 89%, the method was described. Similarly, it was found that, in the 48% of the cases, the picture of the victim was presented. Such practices do not follow the WHO's recommendations about best practices in reporting suicide news [19].

Community

The communities that people live in have an important association with mental health. One of the most important social factors related with suicide is violence and trauma. These conditions can increase emotional stress and may be the psychopathological basis of depression and suicide behavior in people that are already genetically predisposed [21]. For example, in some countries of LAC –like Venezuela or Honduras– the political instability and the high rates of delinquency or violence can contribute to trauma and suicide behavior [22]. Furthermore, the destructive impacts of financial and employment insecurity, and the decrease in levels of social wellbeing, health and housing can also increase the risk of suicide. As was mentioned above, in countries with a high percentage of poverty, the economic factors associated with suicide can be significant [7].

Relationships

The importance of family relationships is a core value of LAC culture that has a positive impact on mental health status and serves as a protective factor against stressors (we further develop this point below). However, family conflict may also serves as a greater risk factor, indicating the complicated and influential role of relationships in regards to mental health [23]. Consequently, intra-family violence, physical and sexual abuse, poor communication between family members, instability of the family nucleus, rigid family environment, authoritarianism or loss of authority between parents, and crowding and living together in small and closed space are thought to be risk factors for suicidal behavior among adolescents in LAC [24].

Research has shown loneliness and negative life events as predictive of hopelessness and suicidal behaviors in Latinos [24]. Other work shows loneliness to often be a primary motive in suicide [25,26]. More specifically, friendship problems are significantly associated with suicidality among adolescent Mexican-American girls [27]. Such findings show the impact of loneliness and relationship issues within the more collectivist Latino culture.

Individual

Individual level risk factors for suicide mainly include mental health disorders such as depression, bipolar disorder, alcohol dependence, and schizophrenia [2]. The most important risk factor, as reported in HICs, is a prior suicide attempt [4]. Feelings of perceived burdensomeness and thwarted belongingness moderate the relationship between predictors, such as depression, and suicidal behavior [28]. According to a recent report from Chile, the lack of adequate care of chronic mental health disorders increases the risk of suicide in patients with schizophrenia by more than 8 times [29]. Research also shows a consistent link between drug abuse and suicide attempts [30]. The end of dating relationships is considered one of the highest sources of stress among adolescent Latinas, and such stress may indirectly influence their risk for suicidal behaviors or ideations [31]. However, such stress may ultimately stem from a familial conflict brought about by questions of autonomy that may emerge within the context of a romantic relationship among adolescents [31].

Cultural aspects relating to suicide in Latino population

Latin American communities are particularly heterogeneous. Notwithstanding, Latinos have in common several cultural features and values, even if they are living in HICs such as US or UK [32]. These characteristics determine a shared worldview concerning society, family, and health risks, and it is largely known that these cultural features affect mental health and wellbeing [33]. Hence, a framework including cultural orientations can be useful to explain the suicide patterns in this region. To our knowledge, there is evidence about the association between suicide and the following cultural aspects in the Latino population: Familismo, Machismo/

Marianismo, Religion and Acculturation.

The Familismo covers three dimensions: i). familial obligations - which entails providing support for the family, in material and emotional terms; ii). support from family - which is the expectation that family members should support and help one another, and iii) family as reference - which connotes the expectation that important decisions are made with the best interest of the entire family unit taken as the primary consideration [34]. The dysfunction created when Familismo conflicts with adolescence may contribute to factors leading to an increased risk for suicide, such as conflict with adolescent Latina girls seeking greater autonomy, divorce and separation, or in strained parent-child relationships where the child does not perceive mutuality with the mother [35,36]. Furthermore, gaps in perceived Familismo between parent and child predict lower levels of mutuality, more externalizing behaviors among adolescents and more internalizing behaviors in adolescent Latinas, which ultimately predicted suicide attempts [37,38]. This complex interaction between Familismo and suicide attempts is further complicated when considering that Familismo has also been reported as a protective factor and can therefore be both a positive and negative factor in suicidal ideation and attempts [39].

On the other hand, Machismo refers to a patriarchal structure of society, whereby the woman is the home caretaker and the man is the bread-winner, the head of the household, and the pillar of the family [40]. Research shows that different behaviors and lifestyles are encouraged within different genders, with men encouraged to have autonomy, and engage in sexual behavior; neither of which are encouraged for women [41]. For instance, masculinity is particularly important in rural areas such as Argentina or Brazil where the 'gaucho' culture is prevalent [42]. Anthropological studies have shown that suicide is a common practice among farmer men representing a challenge, but also an opportunity for probing their virility [43]). Viveros-Vigoya indicates that when a 'gaucho' loses his strength and capacity to control the natural world, he also loses his identity as a 'gaucho' and his manliness. This is perceived as a feminization of his role, leading to 'moral defeat' and social death for him in society [43]. Relatedly, women are also being affected by Machismo. Several studies have pointed out that Latina adolescents may be pressured to display Marianismo, or nurturing, which is a controlled, family oriented behavior according to traditional gender roles [44]. This behavioral pattern is the opposite of Machismo and may be influential in the relatively large gender differential in rates of suicidal behavior (1:4.63 for suicide completions versus 1:2.22 for suicide attempts) in Latin American youth [45]. Moreover, women who behave according to Marianismo are probably more dependent on men and must overcome many structural barriers for reaching personal autonomy and independence. This places them at risk for suicide attempts but perhaps protects them from suicide completions [44].

Religion is another critical factor for understanding the association between culture and suicide. Both Catholic and Pagan religions have been shaping how communities represent mental illness, human suffering and hopelessness. The Catholic Church for example, might have profoundly influenced the belief of suicide as sinful act, which deserves an appropriate punishment [46]. Furthermore, some Christianity approaches might be related to the implementation of patriarchal values in LAC by prescribing gender roles that dictate the dynamics between a man and the other members of the family (wife, mother, children) [47]. They further emphasize traditional gender roles by presenting the Virgin Mary as a role model whereby a 'proper' woman is sexually 'pure', and subordinate to her husband and to God [41]. Therefore, there is a potential link between the establishment of Catholicism and the adoption of Machismo/Marianismo cosmology mentioned above. However, some Pagan traditions might represent suicide in an opposite way. The Mayans for instance had a specific deity for suicide called Ixtab. Ixtab guides individuals who commit suicide to Maya paradise, which is represented as a festive place with a plenty of drinks and food [48]. Therefore, suicide for Maya culture might be not only allowed but also related to pleasure and joy. According to Maya traditions, there is a huge tree ('Ceiba') in the middle of earth that connects our world to Maya paradise. This sacred tree, which now is often found in the Maya area such as Yucatán, represents relief from pain and misery, allowing suicide completers to reach the higher heavens [48]. Two important facts must be noted relating to these Mexican myths- 1) based on data from the National Institute of Geography and Statistics, the Maya area (encompassing Tabasco, Campeche, Quinta Roo and Yucatán), reports higher rates of suicide in Mexico [49]; and 2) hanging is the most common suicide method in Yucatán in comparison to other rural areas in Mexico (i.e. pesticides) and LAC at

large [50]. Suicide by hanging is particularly typical using a Ceiba tree, deeming this method of suicide as a link between current suicide rates and some reminiscences from Pagan traditions [48].

Finally, acculturation and acculturative stress may also increase one's risk for attempting or committing suicide. Hispanic subsamples show associations between acculturation and higher suicide risk levels [51]. This concept of loss of cultural and traditional beliefs and values among indigenous people serves as a risk factor in South America [52,53]. Research shows that suicide and other mental health conditions are highly prevalent among indigenous populations [54]. In accordance with PAHO, several explanations have been proposed for explaining the high rates of suicide and suicidal behavior among indigenous people. Among the proposed underlying causes, there is the enormous social and cultural commotion exerted by colonialism and the difficulties faced in order to adopt Western-Europe traditions and be integrated into modern societies [2]. A central aspect of any culture is to provide meaning and purpose to its members. When the lifestyle of an indigenous community is destroyed - through disease, genocide, usurpation of territories and suppression of their language and culture, the logical consequence is a kind of 'social death'. This context of structural violence must be considered for understanding the suicide among indigenous youth, for whom the act of suicide is a final expression of distress, fear and suffering [55]. In LAC, data about suicide on indigenous youth is particularly fragmented and scarce. However, from the information available, two trends are identified- 1) there is higher suicide mortality among indigenous populations in comparison to non-indigenous, especially in younger ages; and 2) the incidence of deaths from suicide among young indigenous is increasing more than other age groups—especially in countries such as Argentina, Brazil, Colombia, Chile, Nicaragua, Paraguay, and Venezuela [2].

Conclusions

Along this article we review three critical dimensions of suicide among LAC populations. First, we conducted a critical examination of suicide epidemiology including, but not limited to, prevalence and incidence of mortality by suicide (comparison between HICs and LMICs); analysis by gender, age and country; the main suicide methods and suicide trends in the last decade; and also data validity of suicide reports and how we must address unreported rates through a method for adjusting rates (please see Table 1). Although suicide rates among LAC countries (as well as other LMICs) are still smaller than HICs, recent tendencies show a strong pattern of increase especially among youth men. Countries such as Brazil or Chile are displaying concerning statistics in terms of adolescent suicide, which indicates a major health issue for governances and international agencies. It is necessary to develop and implement preventions programs aimed at youth populations principally in schools and community [56].

Secondly, we provided brief descriptions of foremost factors associated with suicide. Social dynamics such as inequities in access to healthcare, social and political instability, media representations of suicide victims and families, high rates of affective disorders like depression and bipolar disorders, and family violence and other kinds of abuses are salient aspects which contribute to a complex phenomenon such as suicide in LAC. Future initiatives should take into account most of these factors as either barriers or facilitators, respectively, for implementing interventions. Though many of the LAC countries have scarce resources to spend on mental health, some innovative strategies should be considered like 'task-shifting' interventions (web based interventions or those which include non professionals), as well as fostering natural facilitators such as social solidarity and support among Latin American communities [57].

Finally, to our knowledge, it is highly recommended that both the study and intervention of suicide integrate cultural orientations and values of each respective community. Accordingly, we examined four general features of Latino culture and explored their influence on beliefs and behaviors associated with suicide. We found that any of those cultural dimensions shape the way in which communities interpret and respond to issues concerning suicide. Traditions from Catholic and Pagan religions may still influential in creating a complex climate of strict expectations that may contribute to feelings of hopelessness, a strong intolerance against suicide that fosters isolation and secrecy in those who may be contemplating suicide, and the cultural precedent that allows for personal acceptance of suicide as a way of dealing with one's problems. It is also important to note that the loss of cultural and traditional beliefs and values due to acculturation presents a strong risk factor for indigenous and migratory LAC populations. These cultural aspects may strongly

influence all issues pertaining to suicide, including LAC populations' understanding of, response to, preferred method of, and recognition of suicide and suicidal behaviors. Therefore, we recommend that future study should continue to explore LAC populations' cultural nuances related to suicide and subsequent prevention and intervention programs should be predicated upon that evidence.

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