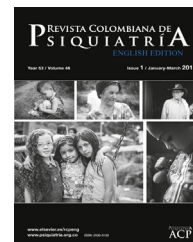




# REVISTA COLOMBIANA DE PSIQUIATRÍA

[www.elsevier.es/rcp](http://www.elsevier.es/rcp)



## Original article

# Risk factors for suicidal ideation in a sample of Colombian adolescents and young adults who self-identify as homosexuals<sup>☆</sup>



Carlos Alejandro Pineda-Roa

Doctorado en Psicología, Universidad del Norte, Barranquilla, Colombia

## ARTICLE INFO

### Article history:

Received 7 January 2017

Accepted 5 June 2017

Available online 14 January 2019

### Keywords:

Suicidal ideation

Teenagers

Young gays

## ABSTRACT

**Background:** Research shows higher rates of ideation and attempted suicide in the homosexual population compared to their heterosexual counterparts. To date, there are no known studies in Colombia that investigate risk factors related to suicidal behaviour in a male homosexual population.

**Objective:** The objective of the present study is to investigate the risk factors for suicidal ideation in young men living in Bogotá (Colombia) who self-identify as homosexuals.

**Methods:** 175 males between 14 and 27 ( $19.02 \pm 2.0$ ) years completed two tests, one for suicidal thoughts and one for internalised homophobia (IH). The snowball non-probability sampling technique was used.

**Results:** 18.4% reported low suicidal ideation, 24.6% a moderate level and 24% declared a high level of suicidal thoughts. IH scores ranged between the expected minimum and maximum (9–45) ( $21.54 \pm 7$ ). Being sexually abused was the main factor associated with suicidal ideation ( $OR = 4.02$ ; 95%CI, 1.51–10.67;  $p = 0.005$ ). Adolescents were 3 times more at risk of suicidal thoughts than young adults ( $OR = 3.63$ ; 95%CI, 1.35–9.76;  $p = 0.010$ ). High IH scores were twice as likely to experience suicidal thoughts as those with low IH ( $OR = 2.11$ ; 95%CI, 1.22–3.67;  $p = 0.008$ ).

**Conclusions:** These findings are consistent with previous research and suggest the need for early preventive interventions in pursuit of non-coercive sexual health, seeking the re-examination of IH through affirmative sexual diversity therapies.

© 2017 Asociación Colombiana de Psiquiatría. Published by Elsevier España, S.L.U. All rights reserved.

DOI of original article: <https://doi.org/10.1016/j.rcp.2017.06.001>.

<sup>☆</sup> Please cite this article as: Pineda-Roa CA. Factores de riesgo de ideación suicida en una muestra de adolescentes y jóvenes colombianos autoidentificados como homosexuales. Rev Colomb Psiquiat. 2019;48:2-9.

E-mail address: [pinedaac@uninorte.edu.co](mailto:pinedaac@uninorte.edu.co)

<https://doi.org/10.1016/j.rcpeng.2018.12.007>

2530-3120/© 2017 Asociación Colombiana de Psiquiatría. Published by Elsevier España, S.L.U. All rights reserved.

## Factores de riesgo de ideación suicida en una muestra de adolescentes y jóvenes colombianos autoidentificados como homosexuales

### R E S U M E N

**Palabras clave:**  
Ideación suicida  
Adolescentes  
Jóvenes gays

**Introducción:** Algunos estudios comunican tasas de ideación e intento de suicidio en población homosexual más altas que entre heterosexuales. A la fecha no se conocen estudios en Colombia que indaguen los factores de riesgo relacionados con la conducta suicida en población homosexual masculina.

**Objetivo:** El objetivo del presente estudio es indagar los factores de riesgo de ideación suicida en varones jóvenes residentes en Bogotá (Colombia) que se autodefinen como homosexuales.

**Métodos:** Participaron 175 varones entre 14 y 27 (media,  $19,02 \pm 2,0$ ) años, que completaron 2 pruebas, una de ideas suicidas y otra de homofobia internalizada (HI). El muestreo fue no probabilístico tipo bola de nieve.

**Resultados:** El 18,4% reportó poca ideación suicida; el 24,6%, un nivel moderado y el 24%, un nivel alto. Las puntuaciones de HI oscilaron entre el mínimo y el máximo esperados (9-45) (media,  $21,54 \pm 7$ ). Haber sufrido abuso sexual es el principal factor asociado con ideación suicida (odds ratio [OR] = 4,02; intervalo de confianza del 95% [IC95%], 1,51-10,67;  $p = 0,005$ ). Los adolescentes tuvieron 3 veces más riesgo de ideas suicidas que los adultos jóvenes (OR = 3,63; IC95%, 1,35-9,76;  $p = 0,010$ ). Quienes obtuvieron altas puntuaciones de HI tuvieron el doble de riesgo de ideas suicidas que quienes las tuvieron bajas (OR = 2,11; IC95%, 1,22-3,67;  $p = 0,008$ ).  
**Conclusiones:** Los hallazgos concuerdan con investigaciones previas e indican la necesidad de intervenciones preventivas tempranas en procura de una salud sexual libre de coerciones, procurando eliminar la HI mediante terapias afirmativas de la orientación sexual diversa.

© 2017 Asociación Colombiana de Psiquiatría. Publicado por Elsevier España, S.L.U.  
Todos los derechos reservados.

## Introduction

Suicide is a public health problem both worldwide and in Colombia, given its high rates of morbidity and mortality. Numerous studies in industrialised countries continue to report higher suicide<sup>1</sup> and suicide risk<sup>2-5</sup> rates among adolescents and young adults of diverse sexual orientations than in heterosexual adolescents and young adults. For example, King et al.,<sup>5</sup> in a meta-analysis on various aspects of mental health among homosexual males, reported a 12-month prevalence that was 1.64 times (95% confidence interval [95% CI], 1.37-1.97) greater in this population than in their heterosexual counterparts.

Previous research from around the world has reached the conclusion that the age with the greatest risk of suicide (including ideation and attempted suicide) in the lesbian, gay and bisexual (LGB) population could be close to when they question, acknowledge and reveal their sexuality, rather than their chronological age.<sup>6</sup> The same findings were apparent in the study by Birkett et al.<sup>7</sup> This study hypothesises that the more individuals identify with their sexual orientation, the lower the degree of suicidal ideation. Sexual orientation is defined as the way in which people specifically organise their desire and the erotic bond<sup>8</sup> they establish, whether that be towards people of their own sex (homosexuality), the opposite sex (heterosexuality) or both (bisexuality).

The minority stress theory guided this research.<sup>9,10</sup> Minority stress is the product of the disadvantaged and stigmatised

social position of a sexual minority group in society.<sup>11</sup> Sexually diverse individuals maintain tiers of negative attitudes stemming from their context which involve them within their self-concept, leading to mental health problems such as suicidal ideation, anxiety and depression, among others. This means that they fail to “come out of the closet”.<sup>9</sup>

The theory insists that the minority stress model is fit to explain the greatest mental health problems faced by the LGB population associated with suicidal ideation. Suicidal ideation is conceptualised as recurrent thoughts and ideas about wanting to end one's life.<sup>12</sup> There are various types (mild, moderate and severe). It is important to assess since it can precede attempted suicide, and the content thereof can indicate its seriousness and fatality.<sup>13</sup> Nevertheless, Meyer<sup>9</sup> considers suicidal thoughts to be an indicator of malaise and distress that, within the minority stress model, are due specifically to homosexuality.

According to Herek,<sup>14</sup> the term internalised homophobia, first coined by Weinberg,<sup>15</sup> involves “negative feelings about one's own homosexuality” and “necessarily implicates an intrapsychic conflict between what people think they should be (i.e., heterosexual) and how they experience their own sexuality”. In the literature, it has also been referred to as internalised homonegativity and internalised sexual stigma.<sup>16</sup> In any case, regardless of the theorist and according to Meyer, internalised homophobia is “a form of stress that is internal and insidious” and constitutes a stumbling block on the road towards full self-identification with a non-heterosexual sexual orientation.

Granados et al.,<sup>17</sup> from a qualitative perspective, in the context of grounded theory, interviewed 10 homosexual young adults aged 20–26 years living in Mexico City in order to explore the possible perceived risk of damage to mental health which may be associated with suicidal conduct. One very characteristic statement that clearly evinces suicidal ideation reads as follows: "...[realising I was different led to feelings] of guilt and hatred towards myself, of disappointment... When I started to realise that difference, it was like a holocaust. I felt terrible! I was depressed for years [...] From when I was 14–17 years old, the depression was unbelievable! I think it was a continuous form of depression that had different levels [...] Any problem becomes enormous [...] Then add to that the discovery of your sexuality. There were times when I thought: it would be easier if I ended it all!" The author concluded that there is a link, which the interviewees attribute to sexuality-induced social rejection, as well as depressive symptoms such as sadness and constant anxiety, which triggered ideation and in some cases clear suicide attempts.<sup>17</sup>

At the end of the 20th and the beginning of the 21st century, and using a quantitative methodology, various publications reported the existence of an association between suicidal ideation and internalised homophobia. A detailed review of the previous studies concludes that these two constructs are related.<sup>18</sup> Said association was confirmed in a study by Baiocco et al.,<sup>19</sup> who studied the role of internalised homophobia or internalised sexual stigma on repulsion by life in a sample of 316 male and 228 female homosexuals. They confirmed that internalised homophobia is a significant mediator of repulsion by life which, according to the authors, is an aspect specific to suicidal ideation.

However, the study by Irwin et al.<sup>20</sup> found no association between internalised homophobia and suicidal ideation. Said authors took a non-probability sample of 770 LGB individuals aged 19–70 years (mean,  $36 \pm 13$ ) living in Nebraska (USA). Those surveyed answered various self-applied psychometric scales, among them the Wright self-acceptance scale (1999) and an internalised homophobia (IHP) scale. To assess suicidal ideation, the question was "Have you ever seriously considered suicide?", with response options of "yes, no, don't know/not sure and prefer not to answer". The authors found that almost half of the sample had had suicidal thoughts at some point in their life (49.6%). Using Spearman's rho, a correlation was found between suicidal ideation and internalised homophobia of  $-0.04$ . As a result, said study found no association between the two variables.

As regards sexual abuse as a predictor of suicide risk, Evans et al.,<sup>21</sup> in a systematic review on adolescents, concluded that sexual abuse is an independent factor for suicide risk. The seven studies reviewed found a strong and significant association, and in three of them a relationship was also established with attempted suicide, with an independent and high contribution to the variance explained by sexual abuse and suicide risk. However, Meyer et al. sustain that more studies are needed, since the mechanisms leading to the association between sexual abuse and suicidal ideation, as well as what other adverse events might be involved, are unknown.

Nevertheless, to date there are no studies on the Colombian population published in indexed journals which account for

the factors associated with suicidal thoughts in the homosexual population. Moreover, it has also been reported that males are more affected by homophobia than females<sup>22</sup> and that adolescents have a greater suicide risk than adults.<sup>23</sup> Thus, the main objective of this article is to identify factors related to suicidal ideation in adolescent and young adult males who self-identify as homosexual living in Bogotá (Colombia).

---

## Methods

### Participants

A cross-sectional correlation study was designed, for which the voluntary participation of adolescent and young adult males was requested. The final sample comprised 175 participants aged 14–27 (mean,  $19.02 \pm 2.0$ ). Data were collected using non-probability snowball sampling in social spaces for non-heterosexuals in Bogotá, such as the LGBT Community Centre. Most of the participants (71.7%) self-identified, according to the Kinsey scale,<sup>24</sup> as exclusively (6) or primarily (5) homosexual. The vast majority of the sample had a link to the education system.

### Instruments

Two scales were applied, one suicidal ideation test and another on negative attitudes towards the participants' own homosexuality or IHP. The Positive and Negative Suicide Ideation (PANSI)<sup>25</sup> inventory, validated in Colombia by Villalobos,<sup>26</sup> is theoretically subdivided into two parts: a six-point scale that measures positive suicidal ideation ( $\alpha = 0.73$ ) or protective factors against suicidal ideation and another eight-point scale that measures negative suicidal ideation ( $\alpha = 0.87$ ). It is answered using a five-point Likert-type scale, from never, rarely, sometimes, almost always and always. This study only took the negative suicidal ideation items into account, since we were interested in finding factors associated with suicidal ideation risk, rather than factors associated with protection against suicidal thoughts. The scores ranged from 0 to 26 (mean,  $5.32 \pm 6.0$ ; median, 3.50). The variable was not normally distributed.

The IHP scale<sup>27</sup> comprises nine self-applied items; it is answered using a five-point Likert-type scale, from agree strongly to disagree strongly. Reliability in the Colombian population was  $\alpha = 0.71$  and the two scales found from exploratory factor analysis explained the 54% variance.<sup>28</sup> The IHP scale ranged between 9 and 45 (mean,  $21.5 \pm 7.0$ ), with normal distribution ( $K_S = 0.98$ ;  $p = 0.28$ ). The Kinsey scale was used to measure sexual orientation.

### Ethical considerations

According to Resolution 8430 of 1993,<sup>29</sup> this is a research study involving minimal risk, since "sensitive behavioural aspects were addressed, it did not represent a significant risk to the participants' integrity and no physical or psychological interventions were performed". The study was approved by the El Bosque University Ethics Committee in Bogotá.

The signed written informed consent was collected from each participant, where it stated the confidential nature of the research, the research objectives and that the participants could cease filling out the questionnaire at any time. The informed consent clarified that the participants agreed to take part in the study and authorised the publication of their data with due regard to confidentiality. Moreover, they were informed that participating in the study would not entail any direct benefit. However, the participants could ask for feedback regarding their test results by emailing the investigator.

### Statistical analysis

Sociodemographic data were analysed in a descriptive manner; the frequencies and percentages of the categorical variables and mean  $\pm$  standard deviation of the quantitative variables were estimated, with their statistical significance. The correlation between the variables was calculated using Spearman's rank correlation coefficient ( $r_s$ ) since the data for the suicidal ideation variable were not normally distributed.<sup>30</sup> To infer a strong association, significant correlations with values  $>0.20$  and  $p < 0.05$  and  $<0.001$  were deemed acceptable.<sup>31</sup> All of the statistics tests were performed using the SPSS 22.0<sup>32</sup> program. With a view to identifying the factors associated with suicidal ideation, the odds ratios (ORs) and their 95% CIs were calculated and adjusted for other variables using the logistic regression model. Suicidal ideation was taken as the dependent variable. Said variable was not normally distributed ( $K_S = 0.18$ ;  $p < 0.01$ ), which is an essential requirement in order to use multiple linear regression rather than binary logistic regression. As such, the variable was dichotomised into 0 (absence of suicidal thoughts) and 1 (some level of suicidal ideation). Similarly, independent variables such as having a partner, current psychoactive substance use, alcohol use, catholic religious affiliation versus another religion, and having been a victim of sexual abuse at any time in life, were dichotomised into yes and no (Table 1). To find the variables associated with suicidal ideation seeking a model that best fits the data, Greenland's recommendations<sup>33</sup> were followed. The final model's goodness of fit was estimated using the Hosmer-Lemeshow test.<sup>34</sup>

## Results

Table 1 presents the frequencies and percentages of the variables taken into account when assessing their possible association with suicidal ideation. Table 2 presents the frequencies of chronological age according to the participants' identification with their sexual orientation and the median scores for suicidal ideation. As observed, the chronological age at which the participants identified with their homosexual orientation (5 and 6 on the Kinsey scale) was not always 18 years, but varies widely in the study sample age group.

Only two people did not state their identification with their sexual orientation. In fact, the correlation between chronological age and scores relating to identification with sexual orientation was practically null ( $r_s = 0.02$ ). However, the data presented in Table 2 indicate a greater proportion of self-identification between 18 and 20 years of age, when the

**Table 1 – Descriptive statistics.**

Variable	n (%)
<i>Chronological age</i>	
Adolescents (14–17 years)	35 (20)
Young adults (18–27 years)	140 (80)
<i>Suicidal ideation</i>	
Yes	53 (30.3)
No	122 (69.7)
<i>Internalised homophobia</i>	
High	80 (45.7)
Low	90 (51.4)
<i>Alcohol use</i>	
Yes	58 (33.1)
No	117 (66.9)
<i>Psychoactive substance use</i>	
Yes	112 (36)
No	63 (64)
<i>Has a partner</i>	
Yes	65 (37.1)
No	110 (62.9)
<i>Education level</i>	
Finished primary	4 (2.3)
Did not finish secondary	6 (2.4)
Did not finish secondary	18 (10.3)
Further education	61 (34.9)
University	82 (46.9)
Professional	4 (2.3)
<i>Identification with sexual orientation according to the Kinsey scale</i>	
2	9 (5.1)
3	15 (8.6)
4	25 (14.3)
5	29 (16.6)
6	95 (54.3)
<i>Religious affiliation</i>	
Catholic	99 (56.6)
Non-Catholic Christian	21 (12)
Other	12 (6.9)
None	42 (24)

Source: Prepared by the authors.

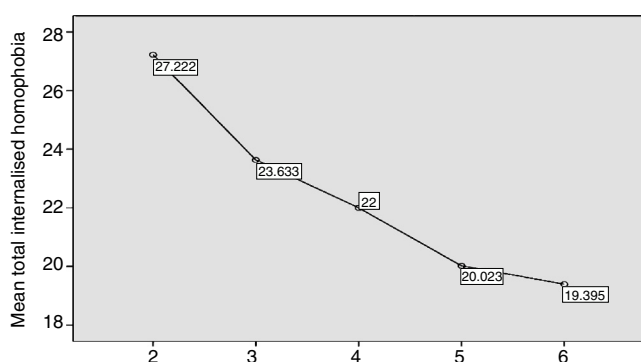
highest number of six-point scores were present on the Kinsey scale. Moreover, it is observed that the median suicidal ideation value is greater at ages close to when participants identified with their sexual orientation (between 15 and 17 years) and lower in individuals who scored six points for identification with their sexual orientation (from 18 to 20 years of age). The case of a 26-year-old with a median suicidal ideation of 11 corresponds to a subject who reported living with the human immunodeficiency virus (HIV).

### Relationships between suicidal ideation and other variables

The correlation between suicidal ideation and chronological age was inverse and significant ( $r_s = -0.21$ ;  $p = 0.004$ ), which indicates that, among the study participants, suicidal thoughts are more prevalent at younger ages. The correlation

**Table 2 – Frequencies of age and median suicidal ideation according to identification with sexual orientation.**

Chronological age (years)	Predominantly heterosexual with incidental homosexual experience	Equal heterosexual and homosexual experiences	Homosexual with substantial heterosexual experience	Homosexual with incidental heterosexual experience	Exclusively homosexual	Median suicidal ideation	Total, n
14	0	0	0	0	1	22	1
15	1	0	0	0	4	6	5
16	2	1	1	1	6	9	11
17	2	3	2	2	8	8	17
18	2	3	3	4	26	2.5	38
19	0	3	6	5	16	3	30
20	2	3	4	9	15	2	33
21	0	0	7	4	9	2	20
22	0	1	2	3	5	3	11
23	0	1	0	0	1	3	2
24	0	0	0	0	3	0	3
26	0	0	0	0	1	11	1
27	0	0	0	1	0	0	1
Total, n	9	15	25	29	95	3	173

**Fig. 1 – Mean internalised homophobia scores according to the participants' degree of identification with their sexual orientation.**

between suicidal ideation and IHP was low and significant ( $r_s = 0.22$ ;  $p = 0.003$ ).

The correlation between the participants' identification with their sexual orientation, on the other hand, tends to have an inverse and significant relationship with the total IHP score ( $r_s = -0.22$ ;  $p = 0.004$ ). Fig. 1 shows a trend where the greater the IHP, the lower the participants' degree of identification with their sexual orientation.

In particular, current results indicate significant differences in the average IHP among bisexuals (23.63) and homosexuals (19.39) ( $t = 2.08$ ;  $p = 0.041$ ;  $d = 0.60$ ).

Table 3 shows the suicidal ideation correlations in the sample of homosexual males studied, in whom it was observed that religious affiliation was the only factor not significantly associated with suicidal ideation. Table 4 shows the factors adjusted for the other variables. The results indicate the considerable effect size of sexual abuse on the risk of suicidal ideation among adolescent and young adult males who self-identify as homosexual (OR = 4.02). This effect size was moderate to high with respect to the age at which the greatest level of suicidal ideation presented, i.e., adolescence (OR = 3.63) and low in relation to a high IHP score (OR = 2.11).<sup>35</sup>

## Discussion

The objective of this article is to identify the risk factors associated with suicidal ideation in a sample of young males who self-identify as homosexual living in Bogotá (Colombia).

The data indicate that chronological age is negatively and significantly associated with suicidal ideation, and it turns out that the lower the age the greater the presence of suicidal ideation. These findings contradict Irwin et al., who found that suicidal ideation in LGB individuals increases with age,<sup>20</sup> while the current data corroborate the conclusions drawn in the review by Daniel et al.<sup>36</sup> and the findings of Rueda-Jaimes, Martínez-Villalba, Castro-Rueda and Camacho.<sup>37</sup> In fact, in their 2009 review, they indicated that more research is needed which enables participants to opt in or out of an interven-

**Table 3 – Risk factors associated with suicidal ideation in males who self-identify as homosexual in Bogotá (Colombia) (n = 169).**

Variable	p	OR (95% CI)
Sexual abuse	0.004	4.418 (1.610–12.119)
Internalised homophobia	0.014	2.289 (1.182–4.433)
Chronological age	0.022	3.392 (1.194–9.642)
Religious affiliation	0.169	0.645 (0.346–1.204)

95% CI: 95% confidence interval; OR: odds ratio.

**Table 4 – Binary logistic regression of the factors associated with suicidal ideation in homosexual males living in Bogotá (Colombia) (n = 172).**

Variable	OR (95% CI)
Sexual abuse	4.025 (1.518–10.674)
Internalised homophobia	2.118 (1.221–3.674)
Chronological age	3.638 (1.356–9.764)

95% CI: 95% confidence interval; OR: odds ratio.  
Hosmer-Lemeshow = 1.15;  $g^2 = 4$ ;  $p = 0.88$ .



tion. This is especially true in sexual minority adolescents, in whom prevention and intervention strategies for reducing suicidal behaviour are the exception rather than the rule.<sup>3</sup> The explanations surrounding greater suicide risk in adolescence are based on multiple findings, according to which adolescence is a transitional period, involving multiple biological, psychological and psychosocial changes that affect the way in which adolescents adapt to their immediate environment, particularly in terms of poor family relationships, but primarily with authority figures such as their parents.<sup>38</sup> Similar findings have been reported in Colombia regarding attempted suicide, with higher scores in adolescents than in adults.<sup>39</sup>

Despite the fact that the descriptive data seem to indicate a relationship between identification with one's sexual orientation and suicidal ideation, this research found no statistically significant association ( $r_s = 0.04$ ). These data do not match the previously presented hypotheses, according to which suicidal ideation in sexual minority young adults is more closely linked to the age at which they reveal their sexual orientation rather than their chronological age.<sup>3,6,7</sup> It should be noted that this study explored the subjects' positions on the Kinsey scale, but did not specifically ask about the age at which they revealed their sexual orientation, nor did it investigate their degree of self-acceptance regarding the latter.

The participants' degree of identification with their sexual orientation and IHP were significantly associated. This result coincides with the relationship established in previous literature, which reveals that a lesser degree of IHP is associated with greater acceptance of one's sexual orientation,<sup>40</sup> as reflected in the Kinsey scale. Males who defined themselves as bisexual tended to score higher for IHP. This finding coincides with the results of other studies.<sup>16,41</sup>

The lack of association between suicidal ideation and religious affiliation is reasonable in relation to the discordance present in the literature. Schneider et al.<sup>42</sup> analysed the relationship between sexual identity and suicidal conduct in young gay men and found that a family background of alcoholism, physical abuse, negative social support and a lack of religious affiliation are associated with a history of suicidal ideation. These authors argued that, besides belonging to a community of faith, religious beliefs may play an important role in dissipating or increasing suicidal thoughts. In fact, the review by Hong et al.<sup>2</sup> concluded that studies are contradictory and it is not clear what role religious beliefs have on suicide risk among sexual minority young adults, and that more research is needed in this regard.

The fact that sexual abuse in our sample is an important factor associated with suicidal ideation is consistent with studies on the youth population in general,<sup>21</sup> the youth population of sexual minorities versus sexual non-minorities<sup>43</sup> and the LGB population specifically.<sup>44</sup> In fact, Alessi et al.<sup>44</sup> highlighted that the LGB population is more susceptible to suffering sexual abuse than their peers, relatives and adults and that this may lead to mental health issues. Similarly, Friedman et al., in an interesting meta-analysis comparing sexual minorities to the heterosexual population, found a similar figure to this study ( $OR = 3.8$ ) and concluded that sexual minorities are 3.8 times more likely to be victims of sexual abuse than the heterosexual population.

The results presented herein support the minority stress theory,<sup>9-11</sup> since IHP was associated with suicidal ideation in the sample of Colombian homosexual adolescents and young adults studied, as per previous results.<sup>18,19</sup> Similarly, the results coincide with the idea that IHP might have constituted a stumbling block for the participants' identification with their sexual orientation and have been detrimental to the process of "coming out of the closet". The previous result highlights the contribution of the social context to the aetiology of the suicide risk.<sup>45</sup>

### Limitations and recommendations for future research

As found in this study, it is a fact that the younger population, including adolescents, is at a greater risk of suicide than young adults. Nonetheless, larger samples should be obtained insofar as possible from a probabilistic perspective. Bodies such as the National Administrative Department of Statistics (*Departamento Administrativo Nacional de Estadísticas*, DANE) in Colombia and the Ministry of National Education are called upon to conduct national studies, subject to the authorisation of parents or guardians, according to our psychological ethics. An exhaustive assessment of the elements involved in "coming out of the closet" is an incredibly important subject to be taken into account in future studies.

Significant limitations include those specific to cross-sectional designs, which do not enable causal relationships to be established. Likewise, our findings cannot be generalised beyond the group in question. Moreover, this study was not controlled by psychopathological variables such as depression, a variable that is clearly established as a risk factor for ideation and attempted suicide. Future studies should be controlled by this and other important individual variables, such as hopelessness, self-esteem, resilience, coping and impulsivity. In the school setting, the role of homophobic bullying, the school climate, positive social support and the presence of cohabitation rules against discrimination due to sexual orientation and gender identity should be taken into account, among others.

Future studies would do well to include other sexually diverse populations such as lesbians and bisexuals of both genders, as well as to obtain samples with greater geographic diversity, analysing the differential effect of these contexts according to the degree of homophobia perceived in each subsample. Finally, this research only addressed the first link in the suicide chain: ideation. Future studies should not only reproduce the present results, but also include attempted suicide, which is considered a strong predictor of completed suicide.

### Conclusions

In summary, this research identified the following as factors related to suicidal ideation in adolescents and young adults who self-identify as homosexuals, in this order: sexual abuse, chronological age and IHP. These results coincide with studies in other contexts, such as those conducted in the USA, Canada, the United Kingdom and other industrialised countries. With a

view to implementing prevention and intervention strategies in said population, more studies are needed that place emphasis on the family, sociocultural and school environments and on factors that protect against suicide risk at a young age.

## Ethical disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this research.

**Confidentiality of data.** The authors declare that no patient data appear in this article.

**Right to privacy and informed consent.** The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the corresponding author.

## Funding

Thanks to Colciencias, the Colombian Administrative Department of Science, Technology and Innovation, for funding the Doctorate in Psychology, call 727, 2015.

## Conflicts of interest

The authors have no conflicts of interest to declare.

## REFERENCES

- Ploderl M, Wagenmakers EJ, Tremblay P, Ramsay R, Kralovec K, Fartacek C, et al. Suicide risk and sexual orientation: a critical review. *Arch Sex Behav*. 2013;42:715-27.
- Hong JS, Espelage DL, Kral MJ. Understanding suicide among sexual minority youth in America: an ecological systems analysis. *J Adolesc*. 2011;34:885-94.
- Haas AP, Eliason M, Mays VM, Mathy RM, Cochran SD, D'Augelli AR, et al. Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: review and recommendations. *J Homosexuality*. 2010;58:10-51.
- Hatzenbuehler ML. The social environment and suicide attempts in lesbian, gay, and bisexual youth. *Pediatrics*. 2011;127:896-903.
- King M, Semlyen J, Tai S, Killaspy H, Osborn D, Popelyuk D, et al. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry*. 2008;8:70.
- Marshall M, Dietz LJ, Friedman MS, Stall R, Smith HA, McGinley J, et al. Suicidality and depression disparities between sexual minority and heterosexual youth: a meta-analytic review. *J Adolesc Health*. 2011;49:115-23.
- Birkett M, Espelage DL, Koenig B. LGB and questioning students in schools: the moderating effects of homophobic bullying and school climate on negative outcomes. *J Youth Adolesc*. 2009;38:989-1000.
- Promoción de la Salud Sexual. Recomendaciones para la acción. Antigua: OPS; 2000.
- Meyer IH. Minority stress and mental health in gay men. *J Health Soc Behav*. 1995;36:38-56.
- Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychol Bull*. 2003;129:674-97.
- Meyer IH, Frost DM, Nezhad S. Minority stress and suicide in lesbians, gay men and bisexual. In: Goldblum P, Spelage DL, Chu J, Bongar B, editors. *Youth suicide and bullying: challenges and strategies for prevention and intervention*. New York: Oxford University Press; 2015. p. 177-87.
- Beck A, Kovacs M, Weissman A. Assessment of suicidal intention: the scale for suicide ideation. *J Consult Clin Psychol*. 1979;47:343-52.
- Carvajal G, Caro CV. Ideación suicida en la adolescencia: una explicación desde tres de sus variables asociadas en Bogotá. *Colombia Médica*. 2009;42 Suppl. 1:45-56.
- Beyond Herek G. Homophobia: thinking about sexual prejudice and stigma in the twenty-first century. *Sexual Res Soc Policy*. 2004;1:6-23.
- Weinberg GH. *Society and the healthy homosexual*. New York: McMillan; 1972.
- Herek GM, Gillis JR, Cogan JC. Internalized stigma among sexual minority individuals: insights from a social psychological perspective. *J Couns Psychol*. 2009;56:32-43.
- Granados-Cosme JA, Delgado-Sánchez G. Identidad y riesgos para la salud mental de jóvenes gays en México: recreando la experiencia homosexual. *Cad Saúde Pública*. 2008;24:1042-50.
- Pineda-Roa CA. Factores asociados con riesgo de suicidio de adolescentes y jóvenes autoidentificados como lesbianas, gays y bisexuales: estado actual de la literatura. *Rev Colomb Psiquiatr*. 2013;42:333-49.
- Baiocco R, Ioverno S, Cerutti R, Santamaria F, Fontanesi L, Lingiardi V, et al. Suicidal ideation in Spanish and Italian lesbian and gay young adults: the role of internalized sexual stigma. *Psicothema*. 2014;26:490-6.
- Irwin JA, Coleman JD, Fisher CM, Marasco VM. Correlates of suicide ideation among LGBT Nebraskans. *J Homosexuality*. 2014;61:1172-91.
- Evans E, Hawton K, Rodham K. Factors associated with suicidal phenomena in adolescents: a systematic review of population-based studies. *Clin Psychol Rev*. 2004;24:957-79.
- Moral J, Valle A, Martínez E. Evaluación del rechazo hacia la homosexualidad en estudiantes de medicina y psicología con base en tres escalas conceptualmente afines. *Psicol Caribe*. 2013;30:526-50.
- Goldston DB, Daniel SS, Erkanli A, Reboussin BA, Mayfield A, Frazier PH, et al. Psychiatric diagnoses as contemporaneous risk factors for suicide attempts among adolescents and young adults: developmental changes. *J Consult Clin Psychol*. 2009;77:281.
- Kinsey AC, Pomeroy WB, Martin CE. *Sexual behavior in the human male*. Philadelphia: WB Saunders; 1948.
- Osman A, Gutiérrez PM, Kopper BA, Barrios FX, Chiros CE. The positive and negative suicide ideation inventory: development and validation. *Psychol Rep*. 1998;82:783-93.
- Villalobos-Galvis FH. Validez y fiabilidad del Inventario de Ideación Suicida Positiva y Negativa PANSI, en estudiante colombianos. *Univ Psychol*. 2010;9:509-20.
- Herek GM, Cogan JC, Gillis JR, Glunt EK. Correlates of internalized homophobia in a community sample of lesbians and gay men. *J Gay Lesbian Med Assoc*. 1998;2:17-25.
- Pineda-Roa CA. Propiedades psicométricas de una prueba de homonegatividad internalizada en varones homosexuales y bisexuales colombiano. *Rev Psicol Caribe*. 2016;33:47-65.
- Resolución 8430 de 1993, por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud. Bogotá: Ministerio de Salud; 1993.
- Spearman C. Correlation calculated from faulty data. *Br J Psychol*. 1910;3:271-95.

31. Kaplan RM, Saccuzzo DP. Pruebas psicológicas: principios, aplicaciones y temas. 6.<sup>a</sup> ed. México: Thompson; 2006.
32. IBM-SPSS Statistics for Windows, version 22.0. Armonk: SPSS. Inc.; 2013.
33. Greenland S. Modeling and variable selection in epidemiologic analysis. *Am J Public Health*. 1989;79:340-9.
34. Hosmer DW, Lemeshow S. Applied logistic regression. 2.<sup>a</sup> ed. New York: John Wiley & Sons; 2000.
35. Ferguson CJ. An effect size primer: a guide for clinicians and researchers. *Prof Psychol Res Pract*. 2009;40:532-8.
36. Daniel S, Goldston D. Interventions for suicidal youth: a review of the literature and development considerations. *Suicide Life-Threat Behav*. 2009;39:252-67.
37. Rueda-Jaimes GE, Martínez-Villalba AMR, Castro-Rueda VA, Camacho PA. Suicidabilidad en adolescentes, una comparación con población adulta. *Rev Colomb Psiquiatr*. 2010;39:683-92.
38. Torres de Galvis Y, Berbesí Fernández DY, Silva JB, Montoya Vélez LP. Situación de salud mental del adolescente. Estudio Nacional de Salud Mental Colombia. Bogotá: Ministerio de Protección Social; 2010. p. 105-57.
39. Rueda-Jaimes GE, Martínez-Villalba AMR, Castro-Rueda VA, Camacho PA. Suicidabilidad en adolescentes, una comparación con población adulta. *Rev Colomb Psiquiatr*. 2010;39:683-92.
40. Vargas-Trujillo E, Villalobos S, Trevisi G, González F, García P. Variables psicosociales asociadas con el grado de aceptación de la orientación sexual no heterosexual. *Psicol Caribe*. 2003;12:39-51.
41. Costa PA, Pereira H, Leal I. Internalized homonegativity, disclosure, and acceptance of sexual orientation in a sample of Portuguese gay and bisexual men, and lesbian and bisexual women. *J Bisexuality*. 2013;13:229-44.
42. Schneider SG, Farberow NL, Kruks GN. Suicidal behavior in adolescent and young adult gay men. *Suicide Life-Threat Behav*. 1989;19:381-94.
43. Friedman MS, Marshal MP, Guadamuz TE, Wei C, Wong CF, Saewyc EM, et al. Meta-analysis of disparities in childhood sexual abuse, parental physical abuse, and peer victimization among sexual minority and sexual nonminority individuals. *Am J Public Health*. 2011;101:1481-94.
44. Alessi E, Kahn S, Chatterji S. 'The darkest times of my life': recollections of child abuse among forced migrants persecuted because of their sexual orientation and gender identity. *Child Abuse Neglect*. 2016;51:93-105.
45. Pineda-Roa CA. Etiología social del riesgo de suicidio en adolescentes y jóvenes lesbianas, gays y bisexuales: una revisión. *Rev Psicogente*. 2013;16:218-34.