Original Article

Homophobia Short Scale (HSS): Performance in female nursing students

Short Homophobia Scale (SHS): desempenho em estudantes universitárias de enfermagem

Short Homophobia Scale (SHS): desempeño en estudiantes universitarias de enfermería

Zuleima Cogollo-Milanés[1] https://orcid.org/0000-0003-3310-4052
Adalberto Campo-Arias[2] https://orcid.org/0000-0003-2201-7404
Edwin Herazo[3] https://orcid.org/0000-0002-9461-7997

How to cite:
Cogollo-Milanés Z, Campo-Arias A, Herazo E. Homophobia Short Scale (HSS): Performance in female nursing students. Acta Paul Enferm. 2021;34:eAPE02692.

DOI
http://dx.doi.org/10.37689/acta-ape/2021A002692

Keywords
Students nursing; Homophobia; Validation studies;

Descritores
Estudantes de enfermagem; Homofobia; Estudos de validação

Descriptores
Estudiantes de enfermería; Homofobia; Estudio de validación

Submitted
September 13, 2019

Accepted
August 20, 2020

Corresponding author
Zuleima Cogollo
E-mail: zcogollom@ucartagena.edu.co

Abstract

Objective: To estimate the psychometric performance of the Homophobia Short Scale (HSS) in female nursing students in a university in Cartagena, Colombia.

Method: A validation study was designed in which 419 female nursing students from the first to the eighth semester participated, aged between 18 and 29 years (*M*=20.9, *SD*=2.9). The students completed all four items of the HSS. Internal consistency was found (Cronbach's alpha and McDonald's omega) and dimensionality (confirmatory factor analysis, CFA).

Results: The internal consistency was acceptable (Cronbach of 0.68 and McDonald of 0.69) and in the CFA one factor was retained which accounted for 51.5% of the variance, with acceptable global indicators of goodness of fit (the root of the mean square error of approximation =0.08, CI=90% 0.03-0.14, Comparative Fit Index=0.98, Tucker-Lewis Index=0.94, and standardized mean square residual=0.02). The scores were similar, according to ethnic-race and political orientation (p>0.001) and significantly higher in Christians than in other religious affiliations (p<0.001).

Conclusion: In female nursing students, the HSS shows an acceptable performance in internal consistency and one factor, with good dimensionality indicators. It is necessary to know this performance in male nursing students.

Resumo

Objetivo: Estimar o desempenho psicométrico da escala de homofobia Short Homophobia Scale (SHS) em estudantes de enfermagem do sexo feminino de uma universidade em Cartagena, Colômbia.

Métodos: Desenhou-se um estudo de validação que incluiu 419 estudantes de enfermagem do sexo feminino cursando do primeiro ao oitavo semestre com 18 a 29 anos de idade (*M*=20,9; *DP*=2,9). As estudantes preencheram os quatro itens da SHS. Observou-se que o instrumento tem consistência interna (alfa de Cronbach e ômega de McDonald) e dimensionalidade (análise fatorial confirmatória, AFC).

Resultados: Considerou-se a consistência interna aceitável (Cronbach 0,68 e McDonald 0,69). Na AFC, um fator retido explicou 51,5% da variância. Os indicadores globais de qualidade do ajuste foram aceitáveis (raiz quadrada da média do erro de aproximação = 0,08; IC = 90% 0,03 a 0,14; índice de ajuste comparativo = 0,98; índice de Tucker-Lewis = 0,94; e raiz quadrada média residual padronizada = 0,02). Os escores foram semelhantes por etnia/raça e orientação política (p >0,001) e significativamente mais elevados em estudantes cristãs que em outras afiliações religiosas (p <0,001).

[1]University of Cartagena, Cartagena, Colombia.
[2]University of Magdalena, Cartagena, Colombia.
[3]Human Behavior Research Institute, Bogota, Colombia.
Conflicts to interest: none to declare.

Conclusão: Em estudantes de enfermagem do sexo feminino, o desempenho da escala SHS foi considerado aceitável pela consistência interna e pela observância de um fator, havendo também bons indicadores de dimensionalidade. É necessário pesquisar o desempenho em alunos do sexo masculino.

Resumen

Objetivo: Estimar el desempeño psicométrico de la escala de homofobia Short Homophobia Scale (SHS) en estudiantes de enfermería de sexo femenino de una universidad en Cartagena, Colombia.

Métodos: Estudio de validación que incluyó 419 estudiantes de enfermería de sexo femenino, cursando desde el primer al octavo semestre, de 18 a 29 años de edad (*M*=20,9; *DP*=2,9). Las estudiantes completaron los cuatro ítems de la SHS. Se observó que el instrumento tiene consistencia interna (alfa de Cronbach y omega de McDonald) y dimensionalidad (análisis factorial confirmatorio, AFC).

Resultados: La consistencia interna fue considerada aceptable (Cronbach 0,68 y McDonald 0,69). En el AFC, un factor retenido fue el motivo del 51,5 % de varianza. Los indicadores globales de calidad del ajuste fueron aceptables (raíz cuadrada del promedio del error de aproximación = 0,08; IC = 90 % 0,03 a 0,14; índice de ajuste comparativo = 0,98; índice de Tucker-Lewis = 0,94; y raíz cuadrada promedio residual estándar = 0,02). La puntuación fue semejante por etnia/raza y orientación política (p>0,001) y significativamente más elevada en estudiantes cristianas que en otras religiones (p>0,001).

Conclusión: El desempeño de la escala SHS en estudiantes de enfermería de sexo femenino fue considerado aceptable por la consistencia interna y por el cumplimiento de un factor. También se observaron buenos indicadores de dimensionalidad. Es necesario estudiar el desempeño en alumnos de sexo masculino.

Introduction

The term homophobia refers to the negative attitude of aversion, condemnation, rejection, or proscription towards homosexual persons.[1] However, since homophobia is not a phobia, as conceived in the clinical context, but prejudice based on orientation,[2] other nominations have been proposed as homonegativity[3] or homoprejudice;[4] moreover, the term homophobia has been used in scientific and popular literature and is still in use, like other terms, which move away from the etymological root.[5] At present, several scales are available to quantify the attitude towards homosexual persons: the Index of Homophobia or Towards Homosexuality Scale Attitudes,[3] Seven-item Homophobia Scale, HS-7,[6] Attitudes Towards Lesbians and Gay Men Scale,[7] Prejudical Evaluation Scale,[8] Modern Homophobia Scale,[9] Homonegativity Scale,[10] Homophobia Scale-25,[11] and Modern Homonegativity Scale.[12] However, the HS-7[6] and Attitudes Towards Lesbians and Gay Men Scale[7] are the instruments more used in research; despite their limitations.[13,14]

The HS-7 is a short instrument designed by Bouton *et al*, which purpose is to quantify the attitude towards homosexual individuals.[6] HS-7 has been often used in different researches with university students in the global context.[13-15] In Colombia, HS-7 performance was evaluated in medical students in cities like Bogotá and Bucaramanga.[15-17] A Spanish version was used whose translation, back-translation, and adjustment process for Spanish usage in Colombia was reported in a previous publication.[18] The HS-7 that explore the attitude towards homosexuality asking if "homosexuality is disgusting", "homosexuals are just as moral as heterosexuals", "homosexuals corrupt young people", "homosexuals should have equal civil rights," "homosexuality is a sin," "homosexuals contribute positively to society," and "homosexuality should be against the law." Each item provides five response options ranging from "strongly disagree" to "strongly agree," which are rated from one to five, the higher the score is, the more negative is the attitude towards homosexuality.[19]

However, this instrument presented a substandard performance, like other measuring scales of the construct, with factorial solutions lower than 50%, and without having a confirmatory factor analysis (CFA).[15-17] Therefore, starting from the observation of CFA, Campo-Arias *et al* carried out a process of enhancement and proposed a version of only four items (HSS); the new HSS showed high internal consistency (Cronbach's alpha and McDonald's omega of 0.77) and better factorial solution, the only factor accounting for 59.7% of the total variance.[19]

In this study, the performance of the HSS in female nursing students was tested, not only for the best psychometric performance but also for the advantage that short scales represent in the research processes. The instruments are more comfortable to apply, qualify and interpret; they need less time to fill out and induce less fatigue for those who fill them; all this helps to guarantee better indicators of reliability and validity during the measurement.[20]

Regarding the HSS nomological performance, it is observed that in this study the means and standard deviations were compared with religious attachments, through an analysis of variance (ANOVA, test F); it was assumed that non-Catholic Christians would present higher scores than Catholics, or than that of participants of other religions who actively participate in religious commitments.

Homophobia is present in all areas of daily life, including university students who, due to their education level, should have a positive attitude towards sexual diversity, especially students of health sciences.[21,22] Homophobia, like other prejudices, represents a daily stressor for homosexuals,[23] with negative impacts on people, communities, and general society, since they negatively impact mental health and explain much of the inequities in health for gay people.[24]

Now, concerning nursing students, and because of the characteristics of their profession that provides support that integrates through a holistic view, the biological, psychological, social, cultural and ethical dimensions; as well as, the conceptions, perceptions, and values of the person as a starting point to provide care, they must assume a favorable attitude towards LGBT community; hence, negative attitudes limit the possibility of providing personal and integral care: Homophobia represents a barrier in the relationship between nursing staff, gay, lesbian, bisexual, transgender and transgender patients,[25] thus measuring homophobia attitudes in nursing students become very important given the high incidences of sexual prejudice in this group of professionals.[26] These investigations that provide information about the magnitude of the situation allow us to take precise and timely measures from the training institutions, to reduce the negative impact of sexual prejudices in this practice.[27]

In nursing students, the psychometric performance of the HSS has not been determined, so it is necessary to have information that guarantees the reliability and validity in this area of higher education.

This research aims to estimate the psychometric performance, internal consistency, and dimensionality of the HSS in female nursing students studying in a university at Cartagena, Colombia.

Methods

Design

A methodological study of screening tests was performed using an instrument that is answered with a pencil and paper. The university ethics committee approved it. Given the study's characteristics, it is classified as a risk-free investigation by Resolution No. 8430 of the Colombian Ministry of Health of 1993.[28]

Sample

For this study, the participation of nursing students from a public university in Cartagena- Colombia was requested. It had a voluntary collaboration of 419 female students from the first to the eighth semester. This number of participants was ideal for performing CFA and calculating the usual coefficients to establish internal consistency.[29,30] The participants' ages were between 18 and 29 years old (M=20.9, SD=2.9). The semester studied was distributed: first 71 students (16.9%); second, 82 (19.6%); third, 50 (11.9%); fourth, 54 (12.9%); fifth, 79 (18.9%); sixth, 44 (10.5%); seventh, 18 (4.3%); and eighth semester, 21 (5.0%). Regarding their marital status, 376 students (89.7%) said they were single and 43 (10.3%), married or living in a free union. The racial-ethnic self-recognition was distributed along mestizos, 271 students (64.7%); Afro-Colombian, 89 (21.2%); indigenous, 21 (5.0%); did not respond, 38 (9.1%), with respect to the religious background, 300 students (71.6%) reported following Catholicism; 103 (24.6%) other Christian currents; and 16 (3.6%), none. Concerning the political orientation, the distribution was: 181 liberals (43.2%), 123 conservatives (29.4%), 37 socialists (8.8%) and 78 none (18.6%).

Instruments

The research questionnaire included the aforementioned demographic information and the HSS questions. This measurement instrument is composed of four items: "homosexuality is disgusting", "homosexuals corrupt young people", "homosexuality is a sin," and "homosexuality should be against the law." It provides five response options ranging from

"strongly disagree" to "strongly agree." Answers are scored from one to five in such a way that the total score is between four and twenty; lower scores suggest a more positive attitude towards homosexual condition.[19]

Process

The students completed the research questionnaire in the classroom, using an application form. The questionnaire was delivered in an envelope without any label. Students should omit the name and any information that would allow for possible identification. A team of research assistants explained the objectives of the study, how to answer the questionnaire, and resolved doubts about the HSS items, without conditioning the individual's response. Likewise, the research assistants informed the students that they could refuse to participate: not to receive the envelope, not to answer some of the points if they found them annoying or to return it without responding if it seemed to them, without this it could mean that it would be treated negatively by the researchers. At the end of the questionnaire, they should keep them back in the envelope and return them to the assistants. Reliability was always maintained during the fingering and analysis process since the questionnaires were anonymous. This information was collected between March 1st and May 31st, 2018.

Statistical analysis

A CFA was carried out to corroborate the one-dimensional structure of HSS. This process was carried out with the maximum likelihood method. In the same way, the adequacy test of the Kaiser Meyer Olkin sample (KMO),[31] and Bartlett's sphericity coefficient[32] were calculated. The CFA was completed with the calculation of the root of the mean square error of approximation (*RMSEA)* coefficient (with a confidence interval of 90%, CI=90%), the Comparative Fit Index (*CFI*), the Tucker-Lewis index (TLI) and the standardized mean square residual *(SRMR)*. The *RMSEA* and the *SRMR* if these are less than 0.06; and the *CFI* and *TLI* if they are above 0.89. Cronbach's alpha[33] and McDonald's omega[34] were calculated to quantify the internal consistency. Likewise, the scores between the HSS and ethnic-race, religious affiliation, and political affiliation were compared with an analysis of variance (ANOVA, test F). Since this test is highly sensitive to the size of the sample, those values of p less than 0.001[35] were accepted as significant. The analysis was carried out with the statistical program STATA 13.0.[36]

Results

The HSS showed scores between four and twenty (*M*=10.1, *SD*=3.7). The coefficients for internal consistency were 0.68 for Cronbach's alpha of 0.68 and 0.69 for McDonald's omega of 0.69. More information is presented in table 1.

Table 1. Mean, standard deviation (SD), corrected item-total correlation (CIIC), and Cronbach alpha if the item is deleted (CAID) the HSS items

Item	Mean (SD)	CIIC	CAID
1	2.31 (1.24)	0.48	0.60
2	2.50 (1.20)	0.52	0.58
3	3.05 (1.49)	0.42	0.65
4	2.22 (1.18)	0.45	0.62

In the CFA, Bartlett's sphericity test showed chi-square of 254.8, degrees of freedom of 6; and probability less than 0.001. A single factor was identified, with an eigenvalue of 2.1, responsible for 51.5% of the variance. The goodness of fit indicator was for the *RMSEA*=0.08 (CI=90% 0.03-0.14); *CFI*=0.98, and *TLI*=0.94. Table 2 shows the communalities and loadings for these items.

Table 2. Communality and loadings for the HSS items

Item	Communality	Loading
1	0.399	0.632
2	0.442	0.655
3	0.272	0.522
4	0.311	0.558

According to race-ethnicity, religious affiliation, and political orientation, the scores are shown in table 3. Students with affiliation to any of the groups other than Catholicism had significantly higher scores than those of Catholics beliefs or no determined religion. The differences in the ethnic-race or religious orientation were not statistically significant.

Table 3. Scores comparison in HSS according to some characteristics and values of F and p (ANOVA)

Variable	M	SD	F	p-value*
Ethnicity-race				
Others	10.7	4.8	2.36	0.095
Afro-Colombian	10.6	3.6		
Mestizo	9.8	3.6		
Religious affiliation				
Christian	12.3	3.9	29.3	0.001*
Catholic	9.4	3.2		
None	8.2	3.9		
Political orientation				
None	10.5	3.6	2.75	0.042
Conservative	10.4	3.8		
Liberal	9.9	3.4		
Socialist	8.6	4.2		

*Statistically significant difference

Discussion

In this study, it is observed that the HSS shows acceptable internal consistency and indicators of goodness of fit for the set of aspects concerning the nursing students in the city of Cartagena, Colombia.

It has observed that the HSS showed internal consistency with values of Cronbach's alpha of 0.68 and omega McDonald's of 0.69, these findings are inferior to those observed in the only study that has evaluated this performance of the HSS; Campo-Arias *et al* reported values of Cronbach alpha and McDonald's omega 0.77.[20] Under ideal conditions, internal consistency values are expected between 0.70 and 0.95.[29,37] However, these findings should be interpreted together with the thought that they may vary from one population to another, thus, becoming necessary to validate them in groups of people with particular characteristics, such as nursing students.[38]

This study corroborated the dimensionality of the HSS, and the factorial solution showed a single factor that explained 51.5% of the total variance. Campo *et al* found a slightly higher percentage of variance; the factorial solution of the HSS explained 59.7% of the total variance.[20] This finding corroborates the uni-dimensionality, given that the variance explained is greater than 50%.[39] The heterogeneity of the populations can explain the differences in variance between the studies, differences between the country's cities, and different cultural characteristics.[40]

Concerning the nomological performance, the statistical significance was observed between homophobic scores and being a non-Catholic Christian compared to students of other religious affiliations. This finding is consistent with other studies that reported that students with religious involvement or participants of religious services showed higher homophobia scores than those with less commitment.[41,42] Christian religions condemn homosexuality and consider it an abominable sin.[43]

This study is the first of its kind to show the psychometric performance of HSS in nursing students, therefore, representing an essential contribution to the quantification of homophobia as a relevant aspect in this group of future health professionals, considering that during the care provided by these professionals, subjects with sexual orientation different from heterosexual may be victims of stigma-prejudice-discrimination.[44] However, it has the limitation that only women included given the small number of men studying nursing. at the university where the study was conducted, and it has been observed that there is a difference in the attitudes of men and women towards non-hegemonic sexual orientations, women usually show more positive attitude homosexuality.[1]

In this sense, we deduce the importance of this study for academic and research purposes. It is necessary to have a brief scale such as HSS, that can provide a valid and reliable quantification of homophobia in future research as well as to obtain accurate information about homophobia, not only in the nursing training field but also between those who are practicing the profession;[45] hence, this rejection constitutes a barrier from providing a humanized and dignified care to the patients. Homophobia is configured as a stressor in the daily life of homosexuals.[23] Like other stressors, homophobia increases the risk of emotional problems in people who face it in everyday life.[46,47]

The attitudes of rejection towards this population, not only affects from the scope of the profession the users of the health services but also qualifies the interaction with other people in the different contexts where the students or professionals perform their practices, study or work colleagues, neighbors, ordinary people, who may have homosexual orientations.[27]

Conclusion

It is concluded that the HSS is a high internal consistency instrument; nevertheless, the dimensionality cannot be demonstrated with all the indicators. It is necessary to review the validity of the HSS construct in other contexts and review the performance of the HSS in male nursing students.

Acknowledgments

We thank the nursing students who participated in the study at the University of Cartagena, University of Magdalena, Human Behavior Research Institute.

Collaborations

Cogollo Z, Campo A and Herazo E were the main author of the manuscript, design and conceived the research idea, built the methodology and drafted the results, participated in the writing and argumentation of the article, reviewed the entire content of the manuscript for final approval for publication.

References

1. Fone B. Homofobia. Una historia. México: Océano; 2008.
2. Herek GM. The psychology of sexual prejudice. Curr Dir Psychol Sci. 2000;9(1):19–22.
3. Hudson WW, Ricketts WA. A strategy for the measurement of homophobia. J Homosex. 1980;5(4):357–72.
4. Logan CR. Homophobia? No, homoprejudice. J Homosex. 1996;31(3):31–53.
5. Isay R. Being homosexual: Gay men and their development. New York: Avon Books; 1989.
6. Bouton RA, Gallaher PE, Garlinghouse PA, Leal T, Rosenstein LD, Young RK. Scales for measuring fear of AIDS and homophobia. J Pers Assess. 1987;51(4):606–14.
7. Herek GM. Heterosexuals' attitudes toward lesbians and gay men: correlates and gender differences. J Sex Res. 1988;25(4):451–77.
8. Kelly JA, St Lawrence JS, Smith S Jr, Hood HV, Cook DJ. Stigmatization of AIDS patients by physicians. Am J Public Health. 1987l;77(7):789–91.
9. Raja S, Stokes JP. Assessing attitudes toward lesbians and gay men: The Modern Homophobia Scale. J Gay Lesbian Bisex Identity. 1998;3:113–34.
10. Morrison TG, Parriag AV, Morrison MA. The psychometric properties of the Homonegativity Scale. J Homosex. 1999;37(4):111–26.
11. Wright LW Jr, Adams HE, Bernat J. Development and validation of the Homophobia Scale. J Psychopathol Behav Assess. 1999;21(4):337–47.
12. Morrison MA, Morrison TG. Development and validation of a scale measuring modern prejudice toward gay men and lesbian women. J Homosex. 2002;43(2):15–37.
13. Grey JA, Robinson BB, Coleman E, Bockting WO. A systematic review of instruments that measure attitudes toward homosexual men. J Sex Res. 2013;50(3-4):329–52.
14. Costa DR, Bandeira HC, Nardi HC. Nardi Systematic review of instruments measuring homophobia and related constructs. J Appl Soc Psychol. 2013;43(6):1324–32.
15. Miller DB, Briggs H, Corcoran K. Fear of AIDS and Homophobia Scales: additional estimates of reliability and validity. Psychol Rep. 1997;81(3 Pt 1):783–6.
16. Campo-Arias A, Lafaurie MM, Gaitán-Duarte HG. Confiabilidad y validez de la escala para homofobia en estudiantes de medicina. Rev Colomb Psiquiatr. 2012;41(4):867–80.
17. Campo-Arias A, Oviedo-Acevedo HC, Herazo-Acevedo E. Desempeño psicométrico de la escala para homofobia en estudiantes de medicina. Rev Cinc Biomed. 2014;5:287–94.
18. Campo-Arias A, Oviedo H, Herazo E. Escala para homofobia: validez y confiabilidad en estudiante de medicina de una universidad de Bogotá (Colombia), 2010. Arch Med (Manizales). 2014;14:9–20.
19. Campo-Arias A, Herazo E, Oviedo HC. Escala breve para homofobia en estudiantes de Medicina de dos universidades colombianas: resultados de un proceso de refinamiento. Rev Colomb Psiquiat. 2017; 46:31-5.
20. Roberts P, Priest H, Traynor M. Reliability and validity in research. Nurs Stand. 2006;20(44):41–5.
21. Campo-Arias A, Herazo E. Homofobia en estudiantes de medicina: una revisión de los diez últimos años. Medunab. 2008;11:120–3.
22. Campo-Arias A, Díaz AJ, Herazo E. Homofobia en estudiantes de odontología e higiene oral: una revisión sistemática de la última década. Rev CES Odontol. 2008;21:63–8.
23. Meyer IH. Prejudice as stress: conceptual and measurement problems. Am J Public Health. 2003;93(2):262–5.
24. Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a fundamental cause of population health inequalities. Am J Public Health. 2013;103(5):813–21.
25. Zambrano GE, Escalante HE. Grado de homofobia en estudiantes de enfermería de una universidad pública en Colombia. Rev Cienc Cuidado. 2013;10:115–26.
26. Campo-Arias A, Herazo E, Cogollo Z. Homofobia en estudiantes de enfermería. Rev Esc Enferm USP. 2010;44(3):839–43.
27. Sanchez NF, Rabatin J, Sanchez JP, Hubbard S, Kalet A. Medical students' ability to care for lesbian, gay, bisexual, and transgendered patients. Fam Med. 2006;38(1):21–7.
28. Bogotá. Ministerio de Salud. Resolución 008430 por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud. Santa Fe de Bogotá: Ministerio de Salud; 1993.
29. Campo-Arias A, Oviedo HC. Propiedades psicométricas de una escala: la consistencia interna. Rev Salud Publica (Bogota). 2008 ;10(5):831–9.

30. Campo-Arias A, Herazo E, Oviedo HC. Análisis de factores: fundamentos para la evaluación de instrumentos de medición en salud mental. Rev Colomb Psiquiatr. 2012; 41(3):659–71.

31. Kaiser HF. An index of factorial simplicity. Psychometrika. 1974;34(1):31–6.

32. Bartlett MS. Test of significance in factor analysis. Br J Psychol. 1950;3:77–85.

33. Cronbach J. Coefficient alpha and the internal structure of test. Psychometrika. 1951;16(3):297–334.

34. McDonald RP. Theoretical foundations of principal factor analysis and alpha factor analysis. Br J Math Stat Psychol. 1970;23:1–21.

35. Norman GR, Streiner DL. Bioestadística. Madrid: Mosby/Doyma Libros; 1996.

36. STATA 13.0. College Station: STATA; 2013.

37. Keszei AP, Novak M, Streiner DL. Introduction to health measurement scales. J Psychosom Res. 2010;68(4):319–23.

38. Macía F. Validez de los tests y análisis factorial: nociones generales. Cienc Trab. 2010;35:276–80.

39. Gorsuch RL. Exploratory factor analysis: its role in item analysis. J Pers Assess. 1997;68(3):532–60.

40. Reise SP, Waller NG, Comrey AL. Factor analysis and scale revision. Psychol Assess. 2000;12(3):287–97.

41. Skinner CJ, Henshaw PC, Petrak JA. Attitudes to lesbians and homosexual men: medical students care. Sex Transm Infect. 2001;77(2):147–8.

42. Arnold O, Voracek M, Musalek M, Springer-Kremser M. Austrian medical students' attitudes towards male and female homosexuality: a comparative survey. Wien Klin Wochenschr. 2004;116(21-22):730–6.

43. Alio AP, Makhale L, Hornschuh S, Hlongwane K, Otwombe K, Keefer M, et al. "Loving the sinner, hating the sin": an investigation of religious leaders' perceived role in the lives of persons living with HIV in Soweto, South Africa. J Glob Health Rep. 2019;3:e2019021.

44. Kan RW, Au KP, Chan WK, Cheung LW, Lam CY, Liu HH, et al. Homophobia in medical students of the University of Hong Kong. Sex Educ. 2009;9(1):65–80.

45. Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a fundamental cause of population health inequalities. Am J Public Health. 2013;103(5):813–21.

46. Pineda Roa CA. [Factors Associated with Suicide in Adolescents and Young People Self-Identified as Lesbian, Gay, and Bisexual: Current State of the Literature]. Rev Colomb Psiquiatr. 2013;42(4):333–49.

47. Lucassen MF, Stasiak K, Samra R, Frampton CM, Merry SN. Sexual minority youth and depressive symptoms or depressive disorder: A systematic review and meta-analysis of population-based studies. Aust N Z J Psychiatry. 2017 ;51(8):774–87.