



Research article



Gender-based violence attitudes and dating violence experiences of students in nursing and other health sciences: A multicentre cross-sectional study

Carla Freijomil-Vázquez^{a,*}, María-Jesús Movilla-Fernández^a, Carmen Coronado^a,
Teresa Seoane-Pillado^b, Javier Muñiz^c

^a Grupo de Investigación Cardiovascular (GRINCAR), Facultade de Enfermería e Podoloxía, Campus Industrial, Universidade da Coruña, Naturalista López Seoane s/n, 15471 Ferrol, Spain

^b Unidade de Medicina Preventiva e Saúde Pública, Departamento de Ciencias da Saúde, Universidade da Coruña-Instituto de Investigación Biomédica da Coruña (INIBIC), Naturalista López Seoane s/n, 15471 Ferrol, Spain

^c Grupo de Investigación Cardiovascular (GRINCAR), Departamento de Ciencias da Saúde, Universidade da Coruña-Instituto de Investigación Biomédica da Coruña (INIBIC), CIBERCV, Naturalista López Seoane s/n, 15471 Ferrol, Spain

ARTICLE INFO

Keywords:

Intimate partner violence
Dating violence
Gender-based violence
Violence against women
Students nursing
Undergraduate students
Nurses
Nursing

ABSTRACT

Background: Gender-based violence is a major public health problem. Healthcare providers' ability to identify this type of violence and support victims may be influenced by their knowledge, attitudes, and beliefs, which requires solid education.

Objectives: To identify the gender-based violence attitudes and dating violence experiences of students in nursing and other health sciences.

Design: A multicentre cross-sectional study was performed.

Settings: This study was conducted in three faculties of the University of A Coruña, Spain.

Participants: Participants were undergraduate students of nursing, podiatry, occupational therapy, and physiotherapy.

Methods: The Attitudes towards Gender and Violence Questionnaire and the Dating Violence Questionnaire were used from October 2019 to March 2020. Descriptive and inferential statistics were calculated to determine associated factors and identify differences in gender-based violence attitudes and dating violence experiences between sexes and degrees.

Results: Data from 459 students were analysed, of whom 180 (39.2 %) studied nursing. The mean age was 20.9 (SD = 3.6) and 76.0 % were women. Statistically significant differences were obtained in attitudes towards gender-based violence according to sex where men displayed more sexist attitudes and violence justification. Results showed a significant difference in attitudes regarding the biological usefulness of sexism and violence between students of nursing and other health sciences. 61.9 % of students had experienced one or more abusive behaviours in relationships; no significant differences were detected according to the degree. However, male students experienced dating violence more often than females. It was observed that students who had suffered dating violence showed greater agreement with sexist attitudes that justify violence.

Conclusion: Students of health sciences, particularly males and nursing students, show sexist attitudes that justify gender-based violence. They also frequently experience dating violence, especially psychological violence. It is necessary to intensify or include education on these types of violence in the curricula of degrees in health sciences.

* Corresponding author at: Facultade de Enfermería e Podoloxía, Campus Industrial, Universidade da Coruña, Naturalista López Seoane s/n, 15471 Ferrol, Spain.
E-mail addresses: carla.freijomil@udc.es (C. Freijomil-Vázquez), maria.jesus.movilla@udc.es (M.-J. Movilla-Fernández), carmen.coronado@udc.es (C. Coronado), maria.teresa.seoane.pillado@udc.es (T. Seoane-Pillado), javier.muniz.garcia@udc.es (J. Muñiz).

<https://doi.org/10.1016/j.nedt.2022.105514>

Received 10 May 2022; Received in revised form 14 July 2022; Accepted 10 August 2022

Available online 13 August 2022

0260-6917/© 2022 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The [United Nations \(1993\)](#) defines violence against women as ‘any act of gender-based violence (GBV) that results in, or is likely to result in, physical, sexual, or mental harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or in private life’. Violence against women is a serious public health problem and a violation of women's rights ([World Health Organization \[WHO\], 2021a](#)).

The World Health Organization (WHO) reveals that globally around 30 % of women have been subjected to sexual and/or physical intimate partner violence (IPV) or non-partner sexual violence throughout their lives. Most of this violence is IPV. Almost 27 % of women between the ages of 15 and 49 who have been in a relationship report that their partners have used some type of sexual and/or physical violence against them. Violence can have negative consequences on the physical, mental, sexual, and reproductive women's health ([WHO, 2021b](#)).

2. Background

Healthcare providers have an important role to play in the prevention, early detection, and clinical management of GBV ([WHO, 2021b](#)). Nurses are often the first health professionals in the healthcare system to come into contact with women experiencing IPV and are, therefore, in a unique position to identify this type of violence and support victims. However, nurses' ability to identify and manage IPV may be influenced by their knowledge, attitudes, behaviours, and beliefs ([Beccaria et al., 2013](#); [Maquibar et al., 2018](#)), so they should be properly trained ([Gómez-Fernández et al., 2017](#); [Öztürk, 2021](#)).

Scientific evidence on the attitudes, beliefs, and experiences of nursing students about GBV and IPV is scarce. Researchers have described that nursing students recognise GBV as a serious social and health problem that must be addressed by nursing professionals ([Diéguez-Méndez et al., 2020](#); [Maquibar et al., 2018](#)). Nevertheless, due to lack of tutoring on GBV ([Brigidi and Birosta, 2020](#)), students feel insecure when it comes to properly handling cases ([Maquibar et al., 2018](#)) and express fear of harming the victims ([Beccaria et al., 2013](#)). Nursing students typecast GBV as well as those who commit it ([Diéguez-Méndez et al., 2020](#); [Maquibar et al., 2018](#); [Rigol-Cuadra et al., 2015](#)). They identify different types of IPV, considering that physical and psychological violence are the most common ([Diéguez-Méndez et al., 2020](#)). In addition, the nursing students report knowing about close cases of IPV or having been victims of GBV, having suffered intimidating and sexist comments, physical aggressions, and isolation from their friends ([Barroso-Corroto et al., 2022](#); [Brigidi and Birosta, 2020](#); [García-Díaz et al., 2013](#); [Kisa and Zeyneloğlu, 2019](#)).

Currently, the University of A Coruña (Universidade da Coruña – UDC), located in Northwestern Spain, offers four degrees in health sciences: degrees in nursing, podiatry, occupational therapy, and physiotherapy ([University of A Coruña \[UDC\], 2022a](#)). It was in the 2009/2010 academic year when, in response to a social need to offer better health assistance to victims of GBV and under the new Bologna regulations in relation to Bachelor's Degrees (application of the European Higher Education Area) ([Ministry of Science and Innovation, 2008](#)), the following compulsory professional skill related to GBV was included exclusively in the nursing degree: ‘To know and identify the psychological and physical problems derived from GBV in order to train students in its prevention and early detection, as well as edify students in the assistance and rehabilitation of victims of this form of violence’ ([UDC, 2022b](#)). This skill is taught during the first semester of the first year of the nursing degree in the subject of ‘Psychology’, a compulsory basic training subject with a total of 6 European credits (ECTS) ([UDC, 2022b](#)).

In this study we will determine if nursing students, who receive specific tutoring on GBV, are more aware of this social and health problem, showing fewer attitudes that support GBV and experiencing fewer situations of IPV, than the students of other health sciences

degrees.

3. Methods

3.1. Aims

The aim of the study was to identify the GBV attitudes and dating violence (DV) experiences of students in nursing and another three four-year health sciences degrees (podiatry, occupational therapy, and physiotherapy). The results obtained were analysed according to sex and degree (nursing vs. other health sciences degrees).

3.2. Design

A multicentre cross-sectional descriptive observational study was carried out in three faculties of the UDC, located in different cities of north-western Spain: the Faculty of nursing and podiatry, the Faculty of health sciences, and the Faculty of physiotherapy. We used the STROBE Checklist to guarantee suitable data reporting.

3.3. Participants

A quota sampling was carried out, stratifying by sex and degree. Eligible participants were health science undergraduate students who comply with 1) being enrolled in one of the four degrees of health sciences at the UDC (degree in nursing, podiatry, occupational therapy, and physiotherapy) in the academic year 2019–2020, and 2) consenting to participate (through prior informed consent). Students belonging to national or international mobility programs were excluded. The final sample size (n = 459) allowed us to estimate the parameters of interest with a confidence level of 95 % and a precision of ± 2.1 %.

3.4. Data collection

Data were collected from October 2019 to March 2020 (academic year 2019/2020). Two questionnaires were distributed once the class ended and took students 10 min to fill in:

1. The *Attitudes towards Gender and Violence Questionnaire* (AGVQ) (Spanish version) ([Díaz-Aguado, 2002](#)): It is a validated questionnaire aimed at the adolescent and young population that includes 47 statements (e.g., ‘When a woman is assaulted by her husband, she would do something to provoke him’). The instrument is divided into 4 factors: Factor 1: sexist beliefs about psychosocial differences and using violence as an excuse for reaction (28 items); Factor 2: beliefs about the biological usefulness of sexism and violence (8 items); Factor 3: conceptualising GBV as a private matter and as an unavoidable problem (8 items); and Factor 4: opinions of women's access to financial prospects, power, and responsibility (3 items). The responses are scored on a Likert-type scale from 1 (‘totally disagree’) to 7 (‘totally agree’). The total possible score ranges from 28 to 196 for Factor 1; 8 to 56 for Factor 2 and Factor 3, and 3 to 21 for Factor 4. Scoring for the indirect items was reversed. For the first three factors, higher scores indicate more sexist attitudes and greater acceptance of violence. Higher scores on the fourth factor indicate more positive perceptions.
2. The *Dating Violence Questionnaire* (DVQ) (Spanish version) ([Rodríguez-Franco et al., 2010](#)): It is a validated questionnaire that assesses violence within couple relationships in adolescents and young people of both sexes. It consists of 42 items (e.g., ‘Your partner humiliates you in public’) that will be answered on a Likert-type scale from 0 (‘never’) to 4 (‘usually’). It is divided into 8 factors, each corresponding to a type of abuse: Factor 1: detachment (7 items); Factor 2: humiliation (7 items); Factor 3: sexual (6 items); Factor 4: coercion (6 items); Factor 5: physical (5 items); Factor 6: gender (5 items); Factor 7: emotional punishment (3 items); and Factor 8: instrumental

punishment (3 items). The student was considered to suffer violence when he/she responded to any indicator with a frequency of 'sometimes' or higher.

In addition, the sociodemographic characteristics of the sample (age, sex, degree, and academic year) were recorded, and each participant was asked about the importance they attached to GBV problems in society and in the university environment, on a scale from 0 ('no importance') to 10 ('maximum importance').

3.5. Ethical considerations

The study protocol was approved by the Research and Teaching Ethics Committee of the UDC (registration code: 2019-0019). The aims of the study and information about the research team were included in the printed questionnaires. Participation was voluntary and informed consent was obtained on paper. All data were processed anonymously according to current European regulations on data protection.

3.6. Data analysis

SPSS Version 25.0 (SPSS Inc.) was used to analyse the data. The Shapiro–Wilk test was then used to evaluate the suitability of the variables for normal distribution. Descriptive statistics were generated for all variables: central tendency and dispersion measures, and distribution analysis. An independent samples *t*-test or a Mann-Whitney non-parametric test was used to compare students' quantitative AGVQ scores by sex, degree, and whether they experienced dating violence. Pearson's correlation analysis was used to examine the link between the AGVQ dimensions and the importance of GBV problems in society and in the university environment. The Chi-square test was used to compare proportions. The confidence intervals (CI) were established at 95 %, while the significance level for the statistical tests was set at $p < 0.05$.

3.7. Validity and reliability/rigour

All questionnaires were validated scales that had been previously used by healthcare professionals (Díaz-Aguado, 2002; García-Díaz et al., 2013; Macías-Seda et al., 2012; Linares et al., 2021; Rodríguez-Franco et al., 2010). The type of variable being studied determined the nature of the data description and statistical inference. Nonparametric methods were implemented when data were continuous with non-normal distribution or any other types of data other than continuous variable.

4. Results

Data from 459 undergraduate students at UDC were analysed, of whom 180 (39.2 %) were from occupational therapy, 129 (28.1 %) from nursing, 102 (22.2 %) from podiatry, and 48 (10.5 %) from physiotherapy. 34.9 % of those surveyed were in their first year of college, 23.3 % in their second year, 23.7 % in their third year, and 18.1 % in their fourth year. The mean age was 20.9 (SD = 3.6) and 76.0 % were women.

On a scale of 0 to 10 points, the importance given by male students to GBV problems in society was significantly lower than that of female students (8.98 (SD = 1.55) vs. 9.60 (SD = 1.01); $p < 0.001$). Regarding the importance given to GBV problems in the university environment, women again showed significantly better scores than men (9.04 (SD = 1.73) vs. 7.91 (SD = 2.55); $p < 0.001$). Scores in the above scales are significantly higher in nursing students than students in other health sciences. Nursing students give greater importance to the problems of GBV in society (9.68 (SD = 0.77) vs. 9.36 (SD = 1.31); $p = 0.009$) and in the university (9.22 (SD = 1.50) vs. 8.59 (SD = 2.16)).

4.1. Attitudes of gender-based violence in undergraduate students: comparisons by sex and degree (nursing vs. other health sciences degrees)

The results from the students of the different health sciences degrees offered at the UDC regarding the AGVQ are described below. When the differences according to sex were analysed, statistically significant differences were observed in the four factors. Female participants scored significantly lower for sexist attitudes and violence justification than men (factors 1, 2, and 3). In the fourth factor ('opinions of women's access to financial prospects, power, and responsibility') female participants obtained significantly higher mean scores than males (Table 1).

Comparing the score of the factors according to the degree (nursing vs. other health sciences degrees), we observed that nursing students obtained significantly higher scores in factor 2 ('beliefs about the biological usefulness of sexism and violence') than students of other health sciences. Furthermore, the scores obtained by nursing students are slightly higher in all factors of the questionnaire (Table 1).

A statistically significant inverse linear correlation was observed between sexist attitudes and justification of violence, and the importance that students give to GBV problems in society and in the university environment. It should be noted that a direct, significant, and weak linear relationship was detected between the importance of GBV problems, both in society and in the university environment, with the fourth factor ('opinions of women's access to financial prospects, power, and responsibility') (Table 2).

4.2. Dating violence in undergraduate students: comparisons by sex and degree (nursing vs. other health sciences degrees)

In relation to the DVQ, it was considered that a student suffered DV when he/she responded to any item with a frequency of 'sometimes' or higher. 61.9 % (CI 95 %: 56.6 %–67.2 %) of the students had experienced one or more abusive behaviours in their couple's relationships.

The most common types of DV in students of other health sciences degrees were 'detachment' (50.0 %; CI 95 %: 44.7 %–55.3 %) and 'coercion' (36.9 %; CI 95 %: 31.9 %–42.0 %), followed by 'emotional punishment' (29.0 %; CI 95 %: 24.2 %–33.7 %), 'sexual' violence (27.4 %; CI 95 %: 22.8 %–32.1 %), and 'humiliation' (26.6 %; CI 95 %: 22.0 %–31.2 %). The least frequent types of abuse were 'gender' (23.7 %; CI 95 %: 19.3 %–28.2 %), 'physical' violence (10.2 %; CI 95 %: 7.0 %–13.5 %), and 'instrumental punishment' (5.1 %; CI 95 %: 2.7 %–7.4 %) (Table 3).

According to sex, male students experienced DV more often than females, except for factor 8 ('instrumental punishment'). The differences were significant in the 'coercion' and 'emotional punishment' factors. No significant differences were detected according to the degree (nursing vs. other health sciences degrees). Despite this, it should be noted that nursing students showed slightly higher percentages than students of other health sciences degrees in most factors except in factor 4 ('coercion') (see Table 3 for more details).

When relating the results obtained in the DVQ and the AGVQ, it was observed that the students who had suffered any type of DV obtained higher scores in factors 1, 2, and/or 3 of the AGVQ and, therefore, they showed greater agreement with sexist attitudes and the use of violence than the rest of the participants (see Table 4 for more details).

Participants who suffered humiliation from their partner obtained significantly higher scores in factor 1 of the AGVQ ('sexist beliefs about psychosocial differences and using violence as an excuse for reaction') than those who were not. Students who experienced detachment, coercion, physical violence, and emotional punishment during their dating relationship scored significantly higher than students who did not experience it in factor 1 ('sexist beliefs about psychosocial differences and using violence as an excuse for reaction') and 2 ('beliefs about the biological usefulness of sexism and violence') of the AGVQ. Students who were victims of gender violence and instrumental punishment scored significantly higher in factor 3 of the AGVQ ('conceptualising GBV as a private matter and as an unavoidable problem') than students

Table 1
Attitudes towards Gender and Violence Questionnaire results by sex and degree.

	Total sample	Male students of HS degrees	Female students of HS degrees	p	Students of nursing	Students of other HS degrees	p
	Mean (SD)	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
Factor 1: Sexist beliefs about psychosocial differences and using violence as an excuse for reaction	32.84 (7.34)	37.98 (11.38)	31.26 (4.51)	<0.001	33.00 (5.94)	32.77 (7.83)	0.775
Factor 2: Beliefs about the biological usefulness of sexism and violence	16.51 (6.36)	18.91 (7.59)	15.74 (5.72)	<0.001	17.51 (6.81)	16.09 (6.13)	0.035
Factor 3: Conceptualising gender-based violence as a private matter and as an unavoidable problem	13.44 (4.71)	15.00 (5.49)	12.95 (4.34)	0.001	13.84 (4.41)	13.29 (4.82)	0.274
Factor 4: Opinions of women's access to financial prospects, power, and responsibility	16.13 (3.93)	14.97 (4.18)	16.50 (3.79)	0.001	16.49 (3.61)	15.99 (4.05)	0.237

Note: HS stands for "health sciences", SD stands for "standard deviation". Range scores for factors are: factor 1 (28–196); factors 2 and 3 (8–56); factor 4 (3–21).

Table 2
Linear correlation between the Attitudes towards Gender and Violence Questionnaire factors and the importance given by the students of health sciences degrees to the problems of gender-based violence in society and in the university environment.

	Importance of gender-based violence problems in society	Importance of gender-based violence problems in the university environment
	r (p)	r (p)
Factor 1: Sexist beliefs about psychosocial differences and using violence as an excuse for reaction	-0.281 (<0.001)	-0.264 (<0.001)
Factor 2: Beliefs about the biological usefulness of sexism and violence	-0.134 (0.006)	-0.206 (<0.001)
Factor 3: Conceptualising gender-based violence as a private matter and as an unavoidable problem	-0.085 (0.082)	-0.072 (0.141)
Factor 4: Opinions of women's access to financial prospects, power, and responsibility	0.182 (<0.001)	0.105 (0.032)

who were not (Table 4).

5. Discussion

This study provides an original contribution to the identification of GBV attitudes and DV experiences of students from different health sciences degrees at the UDC (nursing, podiatry, occupational therapy, and physiotherapy), analysing the results obtained according to sex and degree (nursing vs. other health sciences degrees).

Regarding the results obtained in the AGVQ, as demonstrated in the previous international scientific literature (Erdem and Sahin, 2017;

Table 3
Dating Violence Questionnaire results by sex and degree.

	Total sample	Male students of HS degrees	Female students of HS degrees	p	Students of nursing	Students of other HS degrees	p
	n (%)	n (%)	n (%)		n (%)	n (%)	
Factor 1: Detachment	183 (50.0)	45 (51.7)	138 (49.5)	0.713	48 (50.5)	135 (49.8)	0.905
Factor 2: Humiliation	99 (26.6)	23 (26.7)	76 (26.6)	0.975	27 (28.1)	72 (26.1)	0.697
Factor 3: Sexual	101 (27.4)	27 (31.8)	74 (26.1)	0.309	31 (32.6)	70 (25.6)	0.188
Factor 4: Coercion	137 (36.9)	40 (46.5)	97 (34.0)	0.036	33 (34.4)	104 (37.8)	0.547
Factor 5: Physical	38 (10.2)	13 (14.9)	25 (8.8)	0.098	13 (13.5)	25 (9.1)	0.216
Factor 6: Gender	88 (23.7)	22 (25.6)	66 (23.2)	0.643	24 (25.0)	64 (23.3)	0.732
Factor 7: Emotional punishment	108 (29.0)	34 (39.1)	74 (25.9)	0.017	29 (30.5)	79 (28.4)	0.696
Factor 8: Instrumental punishment	19 (5.1)	4 (4.7)	15 (5.2)	0.836	8 (8.4)	11 (3.9)	0.086

Note: HS stands for "health sciences".

Macías-Seda et al., 2012; Wang, 2019), the male undergraduate students who participated in our study showed a greater agreement with the sexist statements that justify GBV and give less importance to problems of GBV in society and in the university environment than the female undergraduate students. An unexpected finding of our study was that the nursing students, despite being schooled in GBV in the first year of their degree, showed higher scores than the rest of the students in other health sciences degrees, especially related to factor 2 of the AGVQ ('beliefs about the biological usefulness of sexism and violence'). These data confirm what has been established by other authors (Diéguez-Méndez et al., 2020; Maquibar et al., 2018; Rigol-Cuadra et al., 2015), that nursing students have limited and stereotyped beliefs about GBV. This situation causes nurses to have difficulties in the early detection and adequate management of a case of GBV in the clinical setting (Beccaria et al., 2013; Maquibar et al., 2018).

Knowing the attitudes of students of health sciences degrees has allowed us to reaffirm that, currently, GBV continues to be normalized in our context. As Barreiro-Maceira (2018) has established, GBV is an important social problem in Spain. Every day the media tell of different cases of violence against women. Our culture is based on a parenting style strongly influenced by the patriarchal system, which traditionally imposes on men and women how they should behave. Society expects men to be dominant, active, and strong, whereas women should be subservient to male power. This patriarchal system implicitly carries the superiority of men over women, which translates into the conservation of sexist beliefs leading to GBV (Barreiro-Maceira, 2018).

The results of our study showed that the students of the health sciences degrees at the UDC, especially the students of the nursing degree, considered GBV problems as important, both in society and in the university environment. This statement is consistent with the findings obtained in other studies (Diéguez-Méndez et al., 2020; Maquibar et al., 2018), where nursing students stated that GBV is a serious social and health problem that must be addressed by nursing professionals. However, our results also contrast with those obtained in the study by Brigidi

Table 4
Relationship between the results obtained by the students of health sciences degrees in the DVQ factors and the AGVQ factors.

	Detachment (Factor 1, DVQ)			Humiliation (Factor 2, DVQ)			Sexual (Factor 3, DVQ)			Coercion (Factor 4, DVQ)			Physical (Factor 5, DVQ)			Gender (Factor 6, DVQ)			Emotional punishment (Factor 7, DVQ)			Instrumental punishment (Factor 8, DVQ)		
	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	p	No	Yes	p
	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
Factor 1, AGVQ	31.8 (5.8)	33.5 (8.5)	0.036	32.0 (6.5)	34.3 (8.9)	0.033	32.0 (5.6)	34.0 (10.4)	0.097	31.6 (5.3)	34.4 (9.7)	0.004	32.2 (6.5)	37.2 (11.4)	0.009	32.2 (6.8)	34.1 (8.5)	0.077	31.9 (5.8)	34.5 (9.8)	0.020	32.4 (7.0)	35.8 (12.0)	0.473
Factor 2, AGVQ	15.5 (5.3)	17.3 (7.1)	0.010	15.9 (5.9)	17.5 (7.1)	0.058	16.1 (6.1)	16.5 (6.3)	0.551	15.7 (5.5)	17.6 (7.2)	0.009	16.0 (6.0)	18.5 (7.7)	0.024	16.1 (6.1)	17.0 (6.7)	0.263	15.9 (5.9)	17.4 (7.1)	0.042	16.3 (6.2)	17.7 (7.2)	0.435
Factor 3, AGVQ	13.0 (4.7)	14.0 (4.9)	0.062	13.1 (4.8)	14.1 (4.7)	0.114	13.2 (4.8)	14.2 (5.1)	0.078	13.4 (4.9)	13.5 (4.9)	0.781	13.3 (4.9)	14.6 (4.5)	0.131	13.1 (4.8)	14.6 (4.9)	0.021	13.1 (4.7)	14.1 (5.2)	0.090	13.3 (4.8)	16.1 (5.3)	0.026
Factor 4, AGVQ	16.1 (4.3)	16.4 (3.8)	0.520	16.1 (4.2)	16.5 (3.4)	0.369	16.3 (4.1)	16.1 (3.9)	0.782	16.1 (4.3)	16.5 (3.6)	0.337	16.2 (4.1)	15.8 (3.8)	0.594	16.3 (4.0)	16.0 (4.2)	0.447	16.3 (4.1)	16.0 (3.9)	0.502	16.2 (4.1)	16.3 (3.2)	0.703

Note: DVQ stands for "Dating Violence Questionnaire", AGVQ stands for "Attitudes towards Gender and Violence Questionnaire", SD stands for "standard deviation".

and Birosta (2020), where most nursing students perceived the University as a space free of sexist attitudes or behaviours.

In our study, we perceived that students of health sciences degrees have suffered different types of abuse by their partners. The most frequent types of intimate partner violence were those related to psychological violence (detachment (50.0 %), coercion (36.9 %), and emotional punishment (29.0 %)), as described by other authors (Flake et al., 2013; García-Díaz et al., 2013). An unexpected finding of our research was that, when making comparisons by sex, male participants scored significantly higher in the 'coercion' and 'emotional punishment' factors. However, these data should be interpreted with caution because the sample size for men was smaller (n = 110) than for women (n = 349). Studies carried out on undergraduate students from different areas of knowledge (Tomaszewska and Krahé, 2018; Zamudio-Sánchez et al., 2017) have shown that female students experience more frequent violence of different types than male students. Nevertheless, recently published data on DV among students of health sciences (particularly nursing and midwifery students) do not show statistically significant differences by sex (Kisa and Zeyneloğlu, 2019).

Although the scores obtained by the nursing students were slightly higher in most of the factors evaluated in the DVQ, no statistically significant differences were found according to the degree. The results obtained in the DVQ on nursing students are both encouraging and worrying. In 2013, García-Díaz et al. carried out a study on the DV experiences of Spanish nursing students, where they found that 85.8 % of the students suffered some situation of DV, of whom 73.3 % suffered 'detachment', 66.3 % 'coercion', 58.6 % 'humiliation', 42.0 % 'emotional punishment', 37.3 % 'sexual' violence, 18.3 % 'physical' and 'gender' violence, and 5.9 % 'instrumental punishment'. These percentages were higher than those obtained in our study ('detachment' (50.5 %), 'coercion' (34.4), 'humiliation' (28.1 %), 'emotional punishment' (30.5 %), 'sexual' violence (32.6 %), 'physical' violence (13.5 %), 'gender' violence (25.0 %), and 'instrumental punishment' (8.4 %)). It seems that the DV experiences of nursing students have decreased in less than a decade. However, nursing students continue to be frequently subjected to different types of violence by their partners, even though in our setting mandatory education on GBV has been included in the nursing degree (Barroso-Corroto et al., 2022; UDC, 2022b).

Our study shows that having stereotyped beliefs about gender and the use of violence is related to experiencing a greater number of situations of DV. This finding confirms that awareness in GBV may improve the recognition of the different types of IPV (García-Díaz et al., 2013).

5.1. Limitations

Among the limitations of the study, is that we evaluated data from students in health science degrees studied at the UDC, which reduces the possibility of applying or generalizing the results to students in other health education programs. The study sample is not equitable based on sex, since a greater number of women than men have participated in the research. For this reason, we must be careful when interpreting the data from the questionnaires according to sex. However, it should be noted that the study sample represents the current reality of the UDC and other universities worldwide, where the different health sciences degrees are studied by a greater number of women than men.

6. Conclusions

Students of health sciences, particularly males and nursing students, showed sexist attitudes that justify GBV. They also frequently experienced DV, especially psychological violence. In light of the results, nursing students, who had received specific tutoring on GBV, did not show less favourable attitudes towards GBV nor did they experience fewer DV situations than students from other health sciences degrees who were not specifically trained in GBV.

The compulsory education on GBV that has been included in the

curriculum of the nursing degree is limited and focuses on the use of a clinical protocol allowing for the identification and assistance of victims of GBV, regardless of the beliefs that future professionals have. We believe that this learning process must be preceded by the deconstruction of the patriarchal discourse that sustains GBV, which is deeply rooted in our society, culture, and education. This practice in student awareness must be carried out throughout the four years that make up the nursing degree, instead of being offered only during the first semester of the first year of the degree, so that students can adequately integrate and internalise the concepts.

Future studies should further explore the beliefs and experiences of GBV and DV of students of health sciences degrees, as conditioning factors for their professional work in caring for patients suffering from these types of violence.

CRedit authorship contribution statement

Carla Freijomil-Vázquez: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing - Original draft, Writing - Review & editing. **María-Jesús Movilla-Fernández:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing - Original draft, Writing - Review & editing. **Carmen Coronado:** Conceptualization, Data curation, Investigation, Formal analysis, Methodology, Writing - Original draft, Writing - Review & editing. **Teresa Seoane-Pillado:** Conceptualization, Formal analysis, Methodology, Writing - Original draft, Writing - Review & editing. **Javier Muñoz:** Conceptualization, Investigation, Formal analysis, Methodology, Project administration, Supervision, Writing - Original draft.

Author contributions

All authors have made substantial contributions to each of the following points: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) approval of the final version.

Declaration of competing interest

No conflict of interest has been declared by the authors.

Acknowledgments

The authors wish to acknowledge all the students who took part in the study, willing shared their beliefs and experiences. The authors also thank Diego Lopez-Cao for his services in editing the manuscript.

Funding

Funding for open access charge: Universidade da Coruña/CISUG.

This work was supported by a grant from the State Pact against Gender Violence (Ministry of the Presidency, Government of Spain, 2019). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

References

- Barreiro-Maceira, J.M., 2018. In: *Una visión de la intervención sobre las actitudes sexistas como factor de riesgo en la violencia de género. Intervención psicoeducativa en la desadaptación social: IPSE-ds*, 11, pp. 55–63.
- Barroso-Corroto, E., Cobo-Cuenca, A.I., Laredo-Aguilera, J.A., Santacruz-Salas, E., Pozuelo-Carrascosa, D.P., Rodríguez-Cañamero, S., Martín-Espinosa, N.M., Carmona-Torres, J.M., 2022. Dating violence, violence in social networks, anxiety and depression in nursing degree students: a cross-sectional study. *J. Adv. Nurs.* 1–13 <https://doi.org/10.1111/jan.15170>.

- Beccaria, G., Beccaria, L., Dawson, R., Gorman, D., Harris, J.A., Hossain, D., 2013. Nursing student's perceptions and understanding of intimate partner violence. *Nurse Educ. Today* 33 (8), 907–911. <https://doi.org/10.1016/j.nedt.2012.08.004>.
- Brigidí, S., Birosta, J., 2020. Awareness on issues of gender-based violence in nursing students. *IndexEnferm.* 29 (1–2), 69–73.
- Díaz-Aguado, M.J., 2002. Prevent violence against women by building equality. In: *Program for Secondary Education. Ministry of Labour and Social Affairs, Madrid, Spain*.
- Diéguez-Méndez, R., Martínez-Silva, I.M., Medrano-Varela, M., Rodríguez-Calvo, M.S., 2020. Beliefs and attitudes of university students towards gender violence. *Educ. Méd.* 21 (1), 3–10. <https://doi.org/10.1016/j.edumed.2018.03.017>.
- Erdem, A., Sahin, R., 2017. Undergraduates' attitudes toward dating violence: its relationship with sexism and narcissism. *Int.J.Higher Educ.* 6 (6), 91–105. <https://doi.org/10.5430/ijhe.v6n6p91>.
- Flake, T.A., Barros, C., Schraiber, L.B., Menezes, P.R., 2013. Intimate partner violence among undergraduate students of two universities of the state of São Paulo, Brazil. *Rev. Bras. Epidemiol.* 16 (4), 801–816. <https://doi.org/10.1590/S1415-790X2013000400001>.
- García-Díaz, V., Fernández-Feito, A., Rodríguez-Díaz, F.J., López-González, M.L., Mosteiro-Díaz, M.P., Lana-Pérez, A., 2013. Gender violence in nursing students during their dating relationships. *Aten Primaria* 45 (6), 290–296. <https://doi.org/10.1016/j.aprim.2012.11.013>.
- Gómez-Fernández, M.A., Goberna-Tricas, J., Payà-Sánchez, M., 2017. Intimate partner violence as a subject of study during the training of nurses and midwives in Catalonia (Spain): a qualitative study. *Nurse Educ. Pract.* 27, 13–21. <https://doi.org/10.1016/j.nepr.2017.08.001>.
- Kisa, S., Zeyneloğlu, S., 2019. Perceptions and predictors of dating violence among nursing and midwifery students. *J. Adv. Nurs.* 75, 2099–2109. <https://doi.org/10.1111/jan.13982>.
- Linares, R., Aranda, M., García-Domingo, M., Amezcua, T., Fuentes, V., Moreno-Padilla, M., 2021. Cyber-dating abuse in young adult couples: relations with sexist attitudes and violence justification, smartphone usage and impulsivity. *PLOS One* 16 (6), e0253180. <https://doi.org/10.1371/journal.pone.0253180>.
- Macías-Seda, J., Gil-García, E., Rodríguez Gázquez, M.A., González-López, J.R., González-Rodríguez, M.M., Soler-Castells, A.M., 2012. Beliefs and attitudes toward Gender-Based Violence (GBV) in nursing students. *IndexEnferm.* 21 (1–2), 9–13. <https://doi.org/10.4321/S1132-12962012000100003>.
- Maquibar, A., Hurtig, A.K., Vives-Cases, C., Estalella, I., Goicolea, I., 2018. Nursing students' discourses on gender-based violence and their training for a comprehensive healthcare response: a qualitative study. *Nurse Educ. Today* 68, 208–212. <https://doi.org/10.1016/j.nedt.2018.06.011>.
- Ministry of Science and Innovation, 2008. Orden CIN/2134/2008, de 3 de julio, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Enfermero [Nursing School Requirements]. Boletín Oficial del Estado. Retrieved from: https://www.boe.es/diario_boe/txt.php?id=BOE-A-2008-12388.
- Öztürk, R., 2021. The impact of violence against women courses on the attitudes of nursing students toward violence against women and their professional roles. *Nurse Educ. Pract.* 52, 103032 <https://doi.org/10.1016/j.nepr.2021.103032>.
- Rigol-Cuadra, A., Galbany-Estragué, P., Fuentes-Pumarola, C., Burjales-Martí, M.D., Rodríguez-Martín, D., Ballester-Ferrando, D., 2015. Perception of nursing students about couples' violence: knowledge, beliefs and professional role. *Rev.Lat.Am. Enferm.* 23 (3), 527–534. <https://doi.org/10.1590/0104-1169.0357.2584>.
- Rodríguez-Franco, L., López-Cepero-Borrego, J., Rodríguez-Díaz, F.J., Bringas-Molleda, C., Antuña-Bellerín, M.A., Estrada-Pineda, C., 2010. Validation of the Dating Violence Questionnaire, DVQ (Cuestionario de Violencia entre Novios CUVINO) among Spanish-speaking youth: analysis of results in Spain, Mexico and Argentina. *Annu.Clin.Health Psychol.* 6, 43–50.
- Tomaszewska, P., Krahé, B., 2018. Sexual aggression victimization and perpetration among female and male university students in Poland. *J.Interpers.Violence* 33, 571–594. <https://doi.org/10.1177/0886260515609583>.
- United Nations, 1993. Declaration on the elimination of violence against women. Retrieved from: <https://www.ohchr.org/en/professionalinterest/pages/violenceagainstwomen.aspx>.
- University of A Coruña, 2022. Degrees, masters, and doctorates at the UDC, 2022. Retrieved from: <https://estudios.udc.es/es>.
- University of A Coruña, 2022b. Teaching guides of the faculty of nursing and podiatry: subjects and professional skills of the nursing degree. Retrieved from: https://guia docente.udc.es/guia_docent/index.php?centre=750&ensenyament=750G01&idoma=cast.
- Wang, L., 2019. Education, perception factors, and prevention of intimate partner violence: empirical research on Chinese university students' perceptions and attitudes concerning intimate partner violence. *J.Interpers.Violence* 34, 1611–1632. <https://doi.org/10.1177/08862605166652263>.
- World Health Organization, 2021. Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women: executive summary. Retrieved from: <https://apps.who.int/iris/handle/10665/341338?locale-attribute=es&>.
- World Health Organization, 2021. Violence against women. Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/violence-against-women>.
- Zamudio-Sánchez, F.J., Andrade-Barrera, M.A., Arana-Ovalle, R.I., Alvarado-Segura, A.A., 2017. Gender violence on college students. *Convergencia* 24 (75), 133–157.