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Lesbian, gay, bisexual, and transgender clinical competence of health professionals in Poland and Spain: results of the health exclusion research in Europe (HERE) study

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Abstract

Introduction Health disparities experienced by lesbian, gay, bisexual, and transgender (LGBT) individuals have been partially attributed to healthcare professionals' lack of cultural competence in addressing their specific needs. This study aimed to assess the differences in competencies and preparedness among health professionals from Poland and Spain when working with LGBT patients.

Methodology Data were collected between June and August 2024 through a cross-sectional survey involving 673 health professionals (Mage = 33.54, SD = 9.74; 61.5% female), including 273 participants from Spain and 400 from Poland. Participants completed a self-administered survey, which included sociodemographic questions and the Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale (LGBT-DOCSS). Multivariate linear regression was used to analyze predictors of clinical preparedness, attitudes, and knowledge regarding LGBT care. Clinical trial number: not applicable.

Results Spanish health professionals showed higher total LGBT-DOCSS scores compared to Polish participants ($B = 0.503, p < 0.001$). Gender was a significant predictor, with men scoring higher in clinical preparedness ($B = 0.771, p = 0.002$), while women scored higher in attitudes ($B = -0.457, p < 0.001$). In Poland, age was positively correlated with clinical preparedness ($B = 0.034, p = 0.022$), and physicians scored significantly higher in overall competency compared to nurses/midwives ($B = 0.621, p = 0.005$). Participation in LGBT-related training was associated with higher clinical preparedness in both countries, with those attending training 3 or more times scoring higher than those who never attended ($B = 1.659, p < 0.001$).

Conclusion The study revealed significant differences in LGBT competency between Polish and Spanish health professionals. Factors such as gender, age, profession, and participation in LGBT-related training were associated with these competencies. Results suggest that a more tailored approach in professional education and training may be necessary to ensure all health workers possess adequate skills and attitudes toward LGBT care.

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Keywords LGBT, Clinical competence, Sexual and gender minorities, Health Knowledge, LGBT Health

Introduction

Poland and Spain, despite being part of the European Union, show significant differences in terms of social and legal acceptance of LGBT (Lesbian, Gay, Bisexual and Transgender) people. Both cultures are characterized by a strong commitment to family values and private life [1, 2], but differ in their attitudes towards sexual diversity and gender diversity [3]. According to Ipsos Global LGBT + Pride Survey (2024), approximately 3% of adults in Poland and 6% in Spain identify as lesbian, gay, or bisexual [4]. Additionally, ILGA-Europe's 2024 Rainbow Map reports that Spain demonstrates 76% compliance with LGBT human rights standards, including comprehensive legal protections such as marriage equality and adoption rights. Conversely, Poland scores only 17%, reflecting significant gaps in legal recognition and protections for LGBT individuals [5]. Recent data from a comprehensive study of 10,704 LGBT individuals in Poland indicate that 7.2% of respondents identify as transgender [6]. Meanwhile, estimates for Spain suggest a prevalence of 4.6 transgender individuals per 100,000 population, highlighting regional disparities in demographic representation and inclusivity [7].

These differences have a direct impact about LGBT people in various spheres of life, including the health system. Before 1975, Spain was a country with conservative values, restrictive social and moral norms, which were characteristic of the governments of the time. Since then, a series of legislative norms have been approved that have led not only to the decriminalization of homosexuality but also to the abolition of such punitive laws [8, 9].

In the following years, Spain became one of the most progressive countries in Europe in terms of LGBT rights. The legalization of same-sex marriage and effective legal protection contributed to a significant improvement in the situation of this social group [10]. Legislation prohibiting discrimination based on sexual orientation has contributed to improving the situation of the different people and groups within LGBT communities, with supportive regulations gradually becoming more widespread in different regions, including allowing transgender people to update and correct their gender on their legal documents without requiring medical evaluation, protection for transgender people against discrimination, and access for minors to change the gender used on legal documents with parental consent, although significant barriers still remain [11–13]. In Poland, although there has been a gradual increase in social acceptance, LGBT people still experience discrimination and exclusion. The lack of legislation protecting against discrimination based on sexual orientation and gender diversity, as well as the ongoing

presence of negative stereotypes, hinder access to equal treatment in many spheres of life, including the health care system [14].

In Poland, LGBT patients often report a lower standard of medical care due to prejudice and stereotypes of medical staff. This manifests itself in the form of inappropriate comments, discrimination, and difficulties in obtaining information and support related to their specific health needs.

Understanding the experiences of LGBT individuals in accessing healthcare requires examining the cultural and societal factors specific to Poland and Spain. Spain has been recognized for its progressive LGBT rights, consistently ranking among the top European countries in terms of legal protections and social acceptance [15]. Despite these achievements, studies indicate that 42% of LGBT individuals report discrimination in public or institutional settings, and 21% encounter workplace discrimination [15, 16]. Additionally, non-binary individuals face significant systemic invisibility and challenges, including misgendering and limited access to gender-affirming care [17]. These findings emphasize the ongoing gaps between legal protections and lived experiences.

In Poland, societal norms heavily rooted in traditional family values intensify stigmatization and limit the inclusivity [18]. This is exacerbated by political actions such as the creation of "LGBT ideology-free zones," where local governments passed resolutions that symbolically reject "LGBT ideology." These actions, supported by national culture wars, have led to several negative outcomes, including discrimination in services and a reluctance among institutions to engage with LGBT rights for fear of political and financial repercussions [19]. Furthermore, transgender and gender non-binary individuals in Poland face significant barriers to accessing gender-affirming care due to rigid medical gatekeeping practices and a lack of legal recognition for non-binary identities, which increases their exposure to stigma and worsens health outcomes [20]. Research highlights a lack of diversity competency among health professional in Poland, compounded by systemic barriers and administrative shortcomings [21]. These barriers contribute to significant healthcare inequities for LGBT individuals, discouraging them from seeking necessary care [22].

Both countries illustrate distinct healthcare disparities for LGBT individuals. In Spain, while the legal framework is robust, systemic gaps persist, particularly for marginalized groups like non-binary individuals. Studies reveal that non-binary individuals often feel invisible within healthcare systems, experiencing discriminatory practices and a lack of gender-affirming care [17, 23]. In

Poland, pervasive heteronormative assumptions hinder equitable healthcare access. The Health4LGBTI Project identifies stigmatizing attitudes among healthcare professionals as a major barrier, alongside limited training on LGBT issues [22]. The European Union Agency for Fundamental Rights underscores the role of societal stigmas in exacerbating these inequities, particularly in conservative regions [16]. This contextual understanding of cultural and institutional disparities highlights the intersection of societal attitudes and healthcare access for LGBT individuals in Poland and Spain, aligning with the study's objective to examine systemic disparities and inform future research.

One of the most common problems reported by homosexual patients in Poland is the questioning of their rights as a patient in relation to intimate, same-sex partners [24]. The Spanish health system, with its friendlier legislation and greater public awareness, is generally rated as better. Nonetheless, there are still documented cases of discrimination based on gender and gender diversity [25]. Both Poland and Spain have regulations governing the professional training of health care professionals. In Spain, Royal Decree 822/2021 [26] applies to all official university study programs in Spain, encompassing all disciplines, including health professions. In Poland, the basis for training in the medical professions is the regulation of the Minister of Science on educational standards [27], which is applicable to all Higher Education Institutions providing medical studies.

Although there are no direct references to the care of LGBT patients in either of these regulations, it is possible for universities to introduce additional modules or optional subjects that address this topic. Study programs must also include competences related to working in interdisciplinary teams, which provides an opportunity to reduce discriminatory practices and attitudes towards LGBT people in the health system [28]. To ensure that these programs of study and training are truly comprehensive in their ability to properly prepare clinical professionals to successfully engage with LGBT patients and clients, an analysis of the gap in knowledge of the specific health needs of patients and the level of clinical preparedness to provide competent care is needed. In doing so, gaps or differences in competencies and preparedness can be identified. With these potential gaps or differences determined, it will be possible to have the evidence needed to emphasize the importance of improving the competencies of medical professionals in the context of holistic and non-discriminatory care for LGBT patients, particularly with a focus on understanding the unique health challenges faced by these individuals [29]. Despite these challenges, comparative research on the competencies and preparedness of healthcare professionals in addressing LGBT health needs in Poland and Spain

remains limited. This study addresses these gaps by comparing the competencies and preparedness of health professionals in two distinct cultural contexts.

Therefore, the aim of this study was to assess the differences in competencies and preparedness between health professionals from Poland and Spain in working with LGBT patients, and to identify factors influencing these differences.

Methodology

Study population

This research was conducted in Poland and Spain between June and August 2024. Participants were fully informed about the study's goals and provided their informed consent before completing an anonymous, self-administered questionnaire. Eligibility criteria included being at least 18 years old, having the ability to read and write in Polish or Spanish, and either practicing or studying a medical profession (such as physician, nurse, dietitian, paramedic, or dentist). A total of 673 individuals participated in the survey, with 273 completing the questionnaire in Spain and 400 participating in Poland. The recruitment for the study was carried out through targeted social media campaigns on platforms such as Facebook, X (formerly Twitter), LinkedIn, and Instagram. Posts inviting participants to the study were shared by the co-authors and individuals approached by them. On Facebook, in addition to posts on personal profiles, recruitment efforts included posting in professional groups dedicated to medical professionals in Poland and Spain. The recruitment period spanned from June to August 2024. The survey was hosted on the webankieta.pl platform, which facilitated data collection and ensured sample integrity by implementing IP filtering.

Tools

Data collection was carried out using a self-administered questionnaire divided into two sections. The first section gathered comprehensive sociodemographic data, including variables such as gender, age, place of residence, marital status, education level, profession, years of work experience, participation in LGBT training (workshops, webinars) within the last five years, and direct work experience with LGBT patients outside of training.

The second section utilized the LGBT-DOCSS, a validated scale for assessing clinical skills in working with LGBT patients. The Polish (LGBT-DOCSS-PL) [30] and Spanish (LGBT-DOCSS-ES) versions, were based on the original LGBT-DOCSS by Bidell [31]. The LGBT-DOCSS-ES has been validated for the purposes of this study (Table S1), and the full English and Spanish versions of the questionnaire are provided as supplementary materials for reference. This 18-item instrument employs a 7-point Likert scale, with eight items reverse-coded to

ensure accurate scoring of positive attitudes, knowledge, and preparedness in treating LGBT patients. Responses range from 1 (“strongly disagree”) to 7 (“strongly agree”). Scores are grouped into “Overall LGBT-DOCSS” and three subscales: Clinical Preparedness, Attitudes, and Knowledge. Higher scores on both the overall scale and subscales indicate greater clinical preparedness, more positive attitudes, and better knowledge in working with LGBT patients.

The Polish version demonstrated robust internal consistency, with a Cronbach’s alpha of 0.789. The Spanish version similarly showed good reliability, also achieving a Cronbach’s alpha of 0.769. This high level of internal consistency supports the tool’s validity in both cultural contexts, ensuring reliable measurement of health professionals’ skills and attitudes toward LGBT patient care.

Statistical analysis

Mean, standard deviation, median, quartiles and range of continuous variables were shown. For categorical variables, absolute and relative frequencies (N and %) were reported. Chi-squared test (with Yates correction for 2×2 tables) or Fisher exact test (in case of low expected values) were used for comparisons of categorical variables between groups. Mann-Whitney test was used for comparisons of continuous variables between two groups, while Kruskal-Wallis test (followed by post-hoc Dunn test) was used for three or more groups. Spearman’s correlation coefficient was used to assess correlation between two continuous variables. Multiple linear regression was employed to model the potential impact of predictors on a quantitative variable. The regression parameters, alongside the 95% confidence intervals, were presented. Significance level was set to 0.05. All the analyses were conducted in R software, version 4.4.1.

Results

Study group characteristics

The study group characteristics revealed several notable differences between the Spanish and Polish participants across various parameters. The proportion of female respondents was higher in the Spanish group (66.67%) compared to the Polish group (58.00%) ($p=0.048$), while the proportion of male respondents was higher in the Polish group (41.50%) than in the Spanish group (32.97%). In terms of age, respondents from the Spanish group were significantly older, with a mean age of 38.08 years (SD=9.64), compared to 30.44 years (SD=8.52) in the Polish group ($p<0.001$).

Residence patterns showed that more Polish participants lived in larger cities. Specifically, 54.50% of Polish respondents resided in cities with over 500,000 inhabitants, compared to 39.56% of Spanish participants ($p<0.001$). Marital status data revealed a higher

proportion of single respondents in the Polish group (31.25%) compared to Spain (21.61%). There was a greater proportion of respondents married to a woman in Poland (4.75%) compared to Spain (2.40%), while a higher percentage of respondents in Spain were married to a man (32.97%) compared to Poland (15.75%).

Participants in Spain were more likely to be in formalized partnerships (33.33%) compared to Poland (24.50%), whereas informal relationships were more common among Polish respondents (47.75%) than their Spanish counterparts (7.56%). Divorce or separation was reported more frequently in Spain (4.40%) than in Poland (2.00%).

Regarding professional roles, the majority of respondents in Spain were nurses or midwives (75.09%), while only 21.00% of Polish respondents held these positions. Conversely, the proportion of physicians was higher in the Polish group (27.75%) compared to Spain (8.79%) ($p<0.001$).

Concerning LGBT-related training in the last five years, Spanish participants were more likely to have attended such training, with 35.33% having participated, compared to 17.00% in Poland ($p<0.001$). Detailed results are presented in Table 1.

Results of LGBT-DOCSS comparison between Spain and Poland

The LGBT-DOCSS questionnaire assesses preparedness for working with LGBT patients, attitudes toward them, and knowledge about this community. Higher scores indicate better preparedness, knowledge, and more open-minded attitudes. The LGBT-DOCSS does not have pre-determined norms.

The total score on the LGBT-DOCSS scale was significantly higher in the Spanish group than in the Polish group ($p<0.001$). The clinical preparedness score was also significantly higher in the Spanish group compared to the Polish group ($p<0.001$). Similarly, the attitudes score was significantly higher in Spain ($p<0.001$). However, the knowledge score was significantly higher in the Polish group compared to the Spanish group ($p<0.001$). Table 2 presents the detailed results of the LGBT-DOCSS comparison between Spain and Poland.

Dependencies with demographic characteristics - Spain

For further analysis, only the heterosexual representation of the Spanish group was included. The results showed several notable trends related to gender, age, and other demographic characteristics, as well as the impact of LGBT-related training on LGBT-DOCSS scores. Regarding gender differences, the score for clinical preparedness was significantly higher among men compared to women, while the attitudes score was significantly higher in women than in men. No significant differences were observed for the total LGBT-DOCSS score or the

Table 1 Study group characteristics

Parameter		Spain (N=273)	Poland (N=400)	Total (N=673)	p
Gender	Female	182 (66.67%)	232 (58.00%)	414 (61.52%)	0.048 *
	Male	90 (32.97%)	166 (41.50%)	256 (38.04%)	
	I'd rather not to tell	1 (0.37%)	2 (0.50%)	3 (0.45%)	
Age [years]	Mean (SD)	38.08 (9.64)	30.44 (8.52)	33.54 (9.74)	< 0.001*
	Median (quartiles)	39 (31–45)	29 (24–35)	32 (26–40)	
	Range	18–63	18–63	18–63	
	n	273	400	673	
Place of residence	Rural area	40 (14.65%)	52 (13.00%)	92 (13.67%)	< 0.001*
	City up to 20 th. intab.	8 (2.93%)	22 (5.50%)	30 (4.46%)	
	City 20–100 th. intab.	48 (17.58%)	51 (12.75%)	99 (14.71%)	
	City 100–500 th. intab.	69 (25.27%)	57 (14.25%)	126 (18.72%)	
	City over 500 th. intab.	108 (39.56%)	218 (54.50%)	326 (48.44%)	
Sexual orientation	Heterosexual	165 (60.44%)	234 (58.50%)	399 (59.29%)	0.125
	Homosexual	70 (25.64%)	126 (31.50%)	196 (29.12%)	
	Bisexual	38 (13.92%)	40 (10.00%)	78 (11.59%)	
Marital status	Single	59 (21.61%)	125 (31.25%)	184 (27.34%)	< 0.001*
	Married to a woman	12 (4.40%)	19 (4.75%)	31 (4.61%)	
	Married to a man	90 (32.97%)	63 (15.75%)	153 (22.73%)	
	Formalized partnership	91 (33.33%)	6 (1.50%)	97 (14.41%)	
	Informal relationship	7 (2.56%)	179 (44.75%)	186 (27.64%)	
	Divorced/separated	12 (4.40%)	8 (2.00%)	20 (2.97%)	
	Widow/widower	2 (0.73%)	0 (0.00%)	2 (0.30%)	
Profession	Nurse/midwife	205 (75.09%)	84 (21.00%)	289 (42.94%)	< 0.001*
	Physician	24 (8.79%)	111 (27.75%)	135 (20.06%)	
	Student	15 (5.49%)	90 (22.50%)	105 (15.60%)	
	Nutritionist	0 (0.00%)	60 (15.00%)	60 (8.92%)	
	Paramedic	0 (0.00%)	26 (6.50%)	26 (3.86%)	
	Physiotherapist	5 (1.83%)	13 (3.25%)	18 (2.67%)	
	Nursing Assistant	14 (5.13%)	0 (0.00%)	14 (2.08%)	
	Dentist	1 (0.37%)	10 (2.50%)	11 (1.63%)	
	Pharmacist	3 (1.10%)	5 (1.25%)	8 (1.19%)	
	Podiatrist	3 (1.10%)	0 (0.00%)	3 (0.45%)	
	Laboratory Diagnostician	1 (0.37%)	1 (0.25%)	2 (0.30%)	
	X-ray technician	1 (0.37%)	0 (0.00%)	1 (0.15%)	
	Occupational therapist	1 (0.37%)	0 (0.00%)	1 (0.15%)	
LGBT-related trainings (conferences, webinars) in last 5 years	Never	176 (64.47%)	329 (82.25%)	505 (75.04%)	< 0.001*
	1–2 times	76 (27.84%)	56 (14.00%)	132 (19.61%)	
	3–5 times	14 (5.13%)	9 (2.25%)	23 (3.42%)	
	More than 5 times	7 (2.56%)	6 (1.50%)	13 (1.93%)	

p - categorical variables: chi-squared or Fisher's exact test. continuous variables: Mann-Whitney test

* statistically significant ($p < 0.05$), th. Intab, - thousand inhabitants**Table 2** Results of the LGBT-DOCSS comparison between Spain and Poland

LGBT-DOCSS	Country	N	Mean	SD	Median	Min	Max	Q1	Q3	p
Total LGBT-DOCSS score	Spain	273	5.09	0.72	5.11	2.72	7	4.61	5.56	$p < 0.001$ *
	Poland	400	4.77	0.82	4.78	1.56	7	4.26	5.28	
Clinical preparedness	Spain	273	3.89	1.46	3.86	1	7	2.71	5	$p < 0.001$ *
	Poland	400	3.02	1.35	3	1	7	1.86	3.86	
Attitudes	Spain	273	6.82	0.43	7	3.57	7	6.86	7	$p < 0.001$ *
	Poland	400	6.42	0.94	6.86	1.57	7	6.14	7	
Knowledge	Spain	273	4.14	1.49	4	1	7	3.25	5.25	$p < 0.001$ *
	Poland	400	4.92	1.46	5	1	7	4	6	

p - Mann-Whitney test, SD - standard deviation, Q1 - lower quartile, Q3 - upper quartile * statistically significant ($p < 0.05$)

knowledge score across genders. The detailed results are presented in Table S2.

When examining the relationship between age and LGBT-DOCSS scores, no significant correlations were found between age and any of the scales, including the total LGBT-DOCSS score, clinical preparedness, attitudes, or knowledge. These findings indicate that age did not significantly affect the participants' scores in this study. The full data on age and its correlation with the LGBT-DOCSS scales are detailed in Table S3.

In terms of place of residence, no statistically significant differences were observed in the total LGBT-DOCSS score, clinical preparedness, attitudes, or knowledge across different residential areas, such as rural or urban locations. This suggests that place of residence did not significantly impact the preparedness or attitudes of the participants in this study, as outlined in Table S2.

Similarly, no statistically significant associations were found between marital status and any of the LGBT-DOCSS scales. Whether participants were married, single, in formalized partnerships, or in informal relationships, their scores on the LGBT-DOCSS did not differ significantly, as shown in Table S2.

Moreover, an analysis of professions also revealed no significant differences in the total LGBT-DOCSS score, clinical preparedness, attitudes, or knowledge across various professions, including nurses/midwives, physicians, and students. These findings indicate that the participants' professions did not significantly influence their LGBT-DOCSS scores, as detailed in Table S2.

However, the frequency of participation in LGBT-related training, such as conferences and webinars, did have a significant impact on scores. Participants who had attended such training three or more times scored significantly higher on the total LGBT-DOCSS score as well as the clinical preparedness scale compared to those who participated fewer times or never. This suggests that more frequent engagement with LGBT-related training improves clinical preparedness and overall competency. However, no significant differences were found in the attitudes or knowledge scales between participants with varying levels of training. These results are detailed in Table S2.

Overall, the data indicate that gender and LGBT-related training significantly influence certain LGBT-DOCSS scores, while age, place of residence, marital status, and profession do not appear to have a statistically significant effect.

Dependencies with demographic characteristics– Poland

In the analysis, only the heterosexual representation of Poland was included. The results revealed several significant differences related to gender, age, place of residence, marital status, and profession, while no significant

differences were observed in relation to participation in LGBT-related training.

In terms of gender, the score for clinical preparedness was significantly higher among men compared to women. On the other hand, women scored significantly higher than men on both the attitudes and knowledge scales. The overall LGBT-DOCSS score did not show significant differences between genders. Detailed results are presented in Table S4.

Age was positively correlated with both the total LGBT-DOCSS score and the clinical preparedness scale, meaning that older respondents scored higher on these measures. No significant relationships were observed between age and the attitudes or knowledge scales. These findings are summarized in Table S5.

When examining the place of residence, significant differences were found only on the clinical preparedness scale. Participants from cities with up to 20,000 inhabitants, as well as those from cities with over 500,000 inhabitants, scored higher on this scale compared to participants from medium-sized cities (20,000-100,000 inhabitants). There were no significant differences in the total LGBT-DOCSS score, attitudes, or knowledge scales based on place of residence, as detailed in Table S4.

Marital status also showed significant differences in clinical preparedness. Divorced, separated, or widowed participants, as well as married individuals, scored significantly higher on the clinical preparedness scale compared to single individuals. No significant differences were observed in the total LGBT-DOCSS score, attitudes, or knowledge scales across marital status groups. Further details can be found in Table S4.

Profession was another factor that showed significant differences. Physicians had significantly higher total LGBT-DOCSS scores compared to nurses/midwives and students. Additionally, those classified in "other" professions and physicians scored higher on clinical preparedness than nurses/midwives, dietitians, and students. There were no significant differences observed on the attitudes or knowledge scales across professions. The results are provided in Table S4.

Lastly, participation in LGBT-related trainings, such as conferences or webinars in the last five years, did not yield significant differences in any of the LGBT-DOCSS scales. Whether participants attended these trainings or not did not appear to influence their scores on the preparedness, attitudes, or knowledge scales. Full results are available in Table S4.

This analysis indicates that gender, age, place of residence, marital status, and profession significantly influenced certain LGBT-DOCSS scores, while participation in LGBT-related training did not show any significant impact.

Multivariate Analysis - Spain

The multivariate linear regression analysis of the Spanish cohort revealed several significant predictors across the different LGBT-DOCSS subscales. For the Total LGBT-DOCSS score, being in a formalized partnership was associated with an average increase of 0.308 points compared to being single ($B = 0.308$). Participants working in “other” professions experienced a decrease in their overall score by 0.396 points compared to nurses/midwives ($B = -0.396$). Additionally, attending LGBT-related training 1–3 times led to an increase of 0.455 points in the overall score compared to those who had never participated ($B = 0.455$). Participants who attended LGBT-related training 3 or more times saw an even greater increase of 0.674 points ($B = 0.674$) compared to those with no training participation.

For the Clinical Preparedness subscale, male participants scored 0.771 points higher than female participants ($B = 0.771$). Furthermore, participation in LGBT-related training also had a significant impact, with those attending 1–3 times scoring 0.898 points higher than those with no training ($B = 0.898$). The largest increase was observed among participants who had attended 3 or more trainings, who scored 1.659 points higher than those who had never attended ($B = 1.659$).

In the Attitudes subscale, male participants scored 0.457 points lower than female participants ($B = -0.457$), indicating that women generally had more positive attitudes. Additionally, those working in “other” professions scored 0.328 points lower than nurses/midwives ($B = -0.328$).

For the Knowledge subscale, none of the variables analyzed, including gender, age, place of residence, marital status, profession, or LGBT-related training, emerged as significant independent predictors (all p -values > 0.05). Details of these results are provided in Table 3.

Multivariate analysis– Poland

The multivariate linear regression analysis of the Polish cohort revealed several significant predictors across the different LGBT-DOCSS subscales.

For the Total LGBT-DOCSS score, being a physician was associated with an increase of 0.503 points compared to nurses/midwives, while working in “other” professions increased the score by 0.299 points. Additionally, participation in LGBT-related training 1–3 times resulted in a 0.388-point increase compared to those who had never attended such training.

Regarding the Clinical Preparedness scale, each additional year of age was associated with an increase of 0.034 points. Living in a city with 20,000–100,000 inhabitants decreased the score by 0.633 points compared to living in rural areas. Physicians scored 0.621 points higher than nurses/midwives on this scale. For the Attitudes subscale,

being male was associated with a 0.426-point decrease compared to being female. On the Knowledge subscale, being male was linked to a 0.773-point decrease compared to females, and each additional year of age was associated with a reduction of 0.035 points. Conversely, being a physician increased the score by 0.733 points compared to being a nurse/midwife. Details of these results are provided in Table 4.

Discussion

The aim of this study was to assess the differences in competencies and preparedness among health professionals living and working in Spain and Poland when working with LGBT patients. The results of this study highlight several key differences between the competency and preparedness of health professionals in Spain and Poland, as well as differences in what appeared to predict competency. One significant finding from this study was that Spanish health professionals showed higher total LGBT-DOCSS scores compared to Polish participants. This is not entirely surprising, as Spain continually finds itself listed as one of the best countries in Europe for LGBT equality [32]. This includes the prohibition of harmful practices such as conversion therapy, as well as advancements at the societal and legislative levels regarding transgender human rights. In Poland, a different situation is present. Compared to other European countries, Poland ranks among the lowest regarding LGBT rights, protection, and acceptance [32–35].

The societal culture and political landscape of a country can significantly influence health professionals’ attitudes and practices. For instance, societal norms and political policies can shape unconscious biases, stereotypes, and systemic inequities, which, in turn, affect the care provided to marginalized groups, including LGBT individuals. It is crucial to recognize these influences as part of broader systemic factors rather than attributing variations solely to individual characteristics or training [36]. Future initiatives should explore how to bridge these cultural and systemic gaps to ensure equitable care for LGBT populations across diverse contexts. The societal and political environments in which health professionals are educated and practice changes the care that their patients and community members receive, as these are factors that can lead to the development of unconscious biases, stereotypical beliefs, and societal prejudices that lead to greater health disparities for marginalized groups, including LGBT individuals [37].

An additional significant finding was gender, with male-identified participants showing higher scores related to clinical preparedness, while female-identified participants showed higher scores in attitudes. Previous research has shown that gender can influence the levels of clinical preparedness for health professionals. Work

Table 3 Multivariate Regression Analysis of LGBT-DOCSS scores in the Spanish cohort

Trait	Level	Total LGBT-DOCSS score	Clinical preparedness	Attitudes	Knowledge
Gender	Female	ref.	ref.	ref.	ref.
	Male	0.171 (-0.14;0.482), $p=0.283$	0.771 (0.093;1.449), $p=0.027$ *	-0.457 (-0.693;0.221), $p<0.001$ *	0.221 (-0.512;0.953), $p=0.556$
Age [years]		0.001 (-0.011;0.013), $p=0.892$	-0.004 (-0.03;0.022), $p=0.765$	0.007 (-0.002;0.016), $p=0.12$	-0.002 (-0.03;0.026), $p=0.891$
Place of residence	Rural area	ref.	ref.	ref.	ref.
	City up to 20 th. intab.	0.246 (-0.334;0.826), $p=0.407$	0.363 (-0.9;1.627), $p=0.574$	0.006 (-0.434;0.446), $p=0.979$	0.461 (-0.904;1.826), $p=0.509$
	City 20–100 th. intab.	-0.103 (-0.414;0.209), $p=0.519$	-0.275 (-0.953;0.404), $p=0.429$	-0.009 (-0.245;0.228), $p=0.942$	0.034 (-0.698;0.767), $p=0.927$
	City 100–500 th. intab.	-0.205 (-0.492;0.083), $p=0.165$	-0.62 (-1.246;0.007), $p=0.054$	0.076 (-0.142;0.294), $p=0.496$	0.03 (-0.647;0.707), $p=0.931$
	City over 500 th. intab.	0.047 (-0.232;0.326), $p=0.743$	0.106 (-0.501;0.714), $p=0.732$	-0.078 (-0.29;0.133), $p=0.47$	0.161 (-0.495;0.818), $p=0.63$
Marital status	Single	ref.	ref.	ref.	ref.
	Married	0.149 (-0.15;0.448), $p=0.331$	0.088 (-0.564;0.739), $p=0.792$	0.132 (-0.095;0.358), $p=0.257$	0.286 (-0.418;0.989), $p=0.427$
	Formalised partnership	0.308 (0.01;0.607), $p=0.045$ *	0.42 (-0.23;1.071), $p=0.207$	0.115 (-0.111;0.342), $p=0.321$	0.45 (-0.253;1.152), $p=0.212$
	Informal relationship	0.378 (-0.252;1.007), $p=0.241$	0.404 (-0.968;1.775), $p=0.565$	0.238 (-0.24;0.716), $p=0.331$	0.577 (-0.904;2.058), $p=0.446$
	Divorced/separated/widowed	0.422 (-0.06;0.904), $p=0.088$	0.782 (-0.268;1.831), $p=0.146$	-0.037 (-0.403;0.328), $p=0.842$	0.596 (-0.538;1.729), $p=0.305$
Profession	Nurse/midwife	ref.	ref.	ref.	ref.
	Physician	0.266 (-0.367;0.9), $p=0.411$	1.156 (-0.224;2.536), $p=0.103$	-0.148 (-0.628;0.333), $p=0.548$	-0.565 (-2.056;0.925), $p=0.458$
	Student	-0.122 (-0.616;0.371), $p=0.628$	-0.735 (-1.809;0.339), $p=0.182$	0.276 (-0.098;0.651), $p=0.15$	0.252 (-0.908;1.412), $p=0.671$
	Others	-0.396 (-0.704;-0.089), $p=0.013$ *	-0.421 (-1.09;0.249), $p=0.221$	-0.328 (-0.561;-0.094), $p=0.007$ *	-0.473 (-1.196;0.251), $p=0.202$
LGBT-related trainings (conferences, webinars) in last 5 years	Never	ref.	ref.	ref.	ref.
	1–2 times	0.455 (0.246;0.664), $p<0.001$ *	0.898 (0.443;1.352), $p<0.001$ *	0.118 (-0.04;0.276), $p=0.146$	0.27 (-0.221;0.761), $p=0.283$
	3 times or more	0.674 (0.208;1.139), $p=0.005$ *	1.659 (0.645;2.673), $p=0.002$ *	0.045 (-0.308;0.398), $p=0.803$	0.049 (-1.046;1.144), $p=0.93$

* statistically significant ($p<0.05$)

by Svirko, Lambert, & Goldacre found that among medical school graduates, women were slightly less likely than men to indicate that they felt clinically prepared and ready to work in medicine [38]. This may in part be influenced by societal expectations and gender norms, which shape self-perceived preparedness and approaches to stress management among health professionals. Women often score higher than men on anxiety measures and lower on self-esteem, which could reflect broader societal pressures rather than intrinsic differences between genders [38, 39, 40].

The finding that women scored higher in attitudes than men is consistent with international research conducted by Pew Research Center. In findings from a 2020 report, when surveyed countries were found to show differences between men and women regarding attitudes towards LGBT people, women were always found to be more

approving of homosexuality and LGBT people than men [41]. Future research would benefit from exploring the societal and psychological reasons for this discrepancy.

It is interesting to note that while in Spain there were no significant differences in scores related to age or profession, this study did find that among Polish participants, age was positively correlated with clinical preparedness, and physician scores were significantly higher when compared to nurses/midwives. Prior research has shown that professionals who were of an older age showed better attitudes towards LGBT patients when compared to younger professionals [42]. This may be due to the influence of experience and years of practice, which may lead to greater exposure to patients and colleagues who are more diverse when compared to the level of exposure a newer practicing health professional may have had. And Polish physicians may receive more continuing education

Table 4 Multivariate Regression Analysis of LGBT-DOCSS scores in the Polish cohort

Trait	Level	Total LGBT-DOCSS score	Clinical preparedness	Attitudes	Knowledge
Gender	Female	ref.	ref.	ref.	ref.
	Male	-0.22 (-0.494;0.054), $p=0.116$	0.302 (-0.147;0.75), $p=0.189$	-0.426 (-0.809;-0.043), $p=0.03$ *	-0.773 (-1.296;-0.25), $p=0.004$ *
Age [years]		0.003 (-0.012-0.017), $p=0.718$	0.034 (0.011;0.057), $p=0.004$ *	-0.007 (-0.027;0.012), $p=0.467$	-0.035 (-0.062;-0.008), $p=0.012$ *
Place of residence	Rural area	ref.	ref.	ref.	ref.
	City up to 20 th. intab.	0.047 (-0.397;0.49), $p=0.837$	0.367 (-0.36;1.093), $p=0.323$	0.13 (-0.491;0.751), $p=0.682$	-0.66 (-1.507;0.187), $p=0.128$
	City 20–100 th. intab.	-0.25 (-0.593;0.093), $p=0.155$	-0.633 (-1.195;-0.071), $p=0.028$ *	-0.012 (-0.492;0.469), $p=0.962$	0.005 (-0.651;0.66), $p=0.989$
	City 100–500 th. intab.	-0.139 (-0.515;0.237), $p=0.469$	0.036 (-0.58;0.652), $p=0.909$	-0.417 (-0.944;0.109), $p=0.122$	0.042 (-0.677;0.76), $p=0.909$
	City over 500 th. intab.	-0.039 (-0.337;0.259), $p=0.797$	-0.112 (-0.6;0.376), $p=0.653$	0.017 (-0.401;0.434), $p=0.937$	-0.01 (-0.579;0.56), $p=0.974$
Marital status	Single	ref.	ref.	ref.	ref.
	Married	0.02 (-0.265;0.305), $p=0.891$	0.068 (-0.398;0.534), $p=0.775$	-0.131 (-0.53;0.267), $p=0.519$	0.201 (-0.343;0.744), $p=0.471$
	Formalised partnership	-0.705 (-2.201;0.791), $p=0.357$	-1.01 (-3.459;1.439), $p=0.42$	-0.879 (-2.974;1.216), $p=0.412$	0.133 (-2.724;2.991), $p=0.927$
	Informal relationship	-0.029 (-0.279;0.221), $p=0.82$	0.159 (-0.25;0.568), $p=0.447$	-0.145 (-0.495;0.205), $p=0.419$	-0.156 (-0.633;0.321), $p=0.522$
	Divorced/separated/widowed	-0.031 (-0.61;0.548), $p=0.917$	0.642 (-0.307;1.591), $p=0.186$	-0.465 (-1.277;0.346), $p=0.262$	-0.448 (-1.555;0.659), $p=0.428$
Profession	Nurse/midwife	ref.	ref.	ref.	ref.
	Physician	0.503 (0.173;0.833), $p=0.003$ *	0.621 (0.081;1.162), $p=0.025$ *	0.254 (-0.208;0.716), $p=0.283$	0.733 (0.102;1.363), $p=0.024$ *
	Student	0.026 (-0.3;0.353), $p=0.875$	0.162 (-0.373;0.697), $p=0.553$	-0.034 (-0.491;0.424), $p=0.885$	-0.107 (-0.731;0.518), $p=0.738$
	Others	0.299 (0.023;0.575), $p=0.035$ *	0.278 (-0.174;0.73), $p=0.23$	0.195 (-0.192;0.581), $p=0.325$	0.519 (-0.009;1.046), $p=0.055$
	LGBT-related trainings (conferences, webinars) in last 5 years	ref.	ref.	ref.	ref.
	Never	ref.	ref.	ref.	ref.
	1–2 times	0.388 (0.028;0.748), $p=0.036$ *	0.367 (-0.222;0.957), $p=0.223$	0.245 (-0.259;0.749), $p=0.342$	0.676 (-0.012;1.364), $p=0.055$
	3 times or more	-0.298 (-1.803;1.207), $p=0.698$	-1.354 (-3.819;1.111), $p=0.283$	0.348 (-1.761;2.456), $p=0.747$	0.419 (-2.457;3.295), $p=0.775$

and professional training regarding LGBT competency than other professions, such as nurses and midwives, although this potential difference is not known in this current study. One potential reason for the differences in findings related to age and profession being significant predictors of clinical preparedness between Spanish and Polish respondents may again be due to the differences in the cultural and political landscape of these countries. Given the much more favorable attitudes and practices in Spain towards LGBT communities, one's age and chosen health profession may not influence their level of competency and clinical skill in working with LGBT patients since there is already a more supportive and positive environment in which one is learning and practicing.

Lastly, participation in LGBT-related training positively influenced clinical preparedness in both countries, with those attending training 3 or more times scoring higher than those who never attended. However, it is important

to note that this association does not imply causation. While professionals with more training scored higher on competence and preparedness, it is also possible that professionals with pre-existing positive attitudes are more inclined to participate in such training. This underscores the need for mandatory inclusion of LGBT-related content in broader medical curricula to reach a wider audience. Addressing discrimination effectively requires a multifaceted approach that includes systemic interventions, legislative measures, and institutional policies, in addition to training programs. This finding further reinforces the crucial importance of having health professionals participate in continuing education trainings and professional development opportunities related to LGBT health and competence. It is well documented that professionals who engage in ongoing training related to LGBT health considerations are able to provide care and services that lead to markedly improved health outcomes

for LGBT patients [43]. What is more, those trainings and continuing education programs that are focused on intergroup contact and experiential learning have been shown to be particularly effective [43, 44]. Educational opportunities that do not solely focus on only the didactic elements of knowledge acquisition, but provide opportunities for hands-on learning and actual contact and dialogue with the group or groups in question, lead to especially positive outcomes related to cultural humility, competence, and acceptance [43, 45]. And given the positive dose-effect relationship between the number of trainings received and total LGBT-DOCSS scores, these findings would suggest that ongoing and higher frequency trainings pertaining to LGBT health and competence are key. Nevertheless, training should be viewed as one component of a broader strategy rather than a stand-alone solution to discrimination.

Study limitations

This study, despite its contributions to understanding the competencies of health professionals in LGBT care, faces several limitations. First, the sample was recruited through social media, which might limit the generalizability of the results due to potential selection bias. Individuals active on social platforms may differ in their attitudes and competencies compared to those not engaged online. Second, the study relied on self-reported data, which introduces the risk of social desirability bias, where participants might overstate their preparedness or attitudes toward LGBT patients. Additionally, while the LGBT-DOCSS is a validated tool, its focus may not capture the full complexity of skills and knowledge required for comprehensive LGBT patient care. Another significant limitation is the demographic differences between the Spanish and Polish samples. The Spanish participants had more years of professional experience and prior training on LGBT patient care, which may have biased the higher clinical competency and preparedness scores observed in this group. These differences should be considered when interpreting the direct comparisons. A further limitation is the lack of representation of non-binary individuals in the sample. While the study was open to all gender identities, the absence of responses from individuals identifying as non-binary highlights a critical gap. Future research should actively engage and prioritize their inclusion to better understand their unique challenges in health settings. This limited the analysis to binary gender groups (women and men) and may have excluded perspectives crucial to understanding the full scope of gender-related differences in LGBT health competencies. Future research should prioritize inclusive recruitment strategies to ensure representation of non-binary individuals. Lastly, the cross-sectional design of the study provides a snapshot of competencies

at one point in time but does not allow for the examination of changes over time or the effects of interventions aimed at improving these competencies. Future research should consider longitudinal designs and include a more diverse sampling method to address these limitations and provide a more comprehensive understanding of LGBT clinical competencies in health professionals.

Conclusion

The findings of this study reveal clear disparities between Poland and Spain in terms of health professionals’ preparedness, attitudes, and knowledge toward working with LGBT patients. These differences underline the importance of cultural context and healthcare system support in shaping competencies. Spanish health workers displayed a greater overall preparedness and competence related to LGBT-related issues compared to their Polish counterparts. The findings suggest that targeted interventions may be particularly important in countries like Poland, where LGBT-related topics are less integrated into medical education. These interventions should address specific gaps in training and knowledge, while considering the broader societal and institutional factors that shape health professionals’ preparedness.

Furthermore, gender and professional roles emerged as significant factors influencing preparedness, especially with physicians consistently scoring higher than nurses in both countries. This suggests that a more tailored approach in professional education and training may be necessary to ensure all healthcare workers possess adequate skills and attitudes toward LGBT care. The positive impact of LGBT-related training, as observed in both cohorts, highlights the necessity of widespread and accessible education on this topic, especially for healthcare systems striving to provide inclusive care.

Moving forward, future research should explore the longitudinal impact of such interventions and examine the barriers that prevent professionals in certain regions or roles from acquiring adequate LGBT-related competencies. Moreover, there remains an opportunity to investigate the role of institutional policies and societal attitudes in fostering or inhibiting such competencies, providing a more comprehensive understanding of how healthcare systems can adapt to better serve LGBT populations.

Abbreviations

EU	European Union
IP	Internet Protocol
LGBT	Lesbian, Gay, Bisexual and Transgender
LGBT-DOCSS	Lesbian, Gay, Bisexual and Transgender Development of Clinical Skills Scale
LGBT-DOCSS-ES	Spanish version of the Lesbian, Gay, Bisexual and Transgender Development of Clinical Skills Scale
LGBT-DOCSS-PL	Polish version of the Lesbian, Gay, Bisexual and Transgender Development of Clinical Skills Scale

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12909-025-06744-4>.

Supplementary Material 1

Acknowledgements

Not applicable.

Author contributions

Authors' Contributions: Conceptualization, P.K. and A.D.; methodology, P.K. and M.C.; software, P.K.; validation, P.K., formal analysis, P.K. and M.C.; investigation, P.K.; data curation, P.K.; writing—original draft preparation, P.K., Ł.P. R.J.-V. A.D., J.K. A.M.-S., J.Z. and M.C.; writing—review and editing, P.K., and M.C.; supervision, M.C.; project administration, P.K. All authors have read and agreed to the published version of the manuscript.

Funding

This study did not receive any funding or financial support.

Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study was conducted by the Declaration of Helsinki, and approved by the Bioethics Committee of Wrocław Medical University in Poland (Approval No. KB 976/2022) and the University of Valencia in Spain (Approval No. 2024-ENFPOD-3314668). This research is part of the Health Exclusion Research in Europe (HERE) project. Participation in the survey was entirely voluntary, with no collection of personal data, ensuring anonymity throughout. All potential participants were furnished with written information outlining the study's purpose, objectives, procedures, and data protection measures. They were also allowed to reach out to the investigators with any questions at any point during the study. Informed consent was obtained from all participants before their involvement in the study. Clinical trial number: not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Published online: 29 January 2025

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Received: 26 November 2024 / Accepted: 22 January 2025

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