

Knowledge, attitudes, and perceptions of student nurses regarding community activities in primary care: A cross-sectional study

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Abstract

Objective: To ascertain student nurses' degree of knowledge, attitudes, and perceptions regarding the implementation of community activities (CA) in primary care.

Design: Questionnaire-based cross-sectional study.

Sample: The study was conducted with 152 students seeking a nursing degree at the University of Santiago de Compostela (North Spain) in the 2022/2023 academic year.

Measurements: We distributed a self-administered online questionnaire on CA, which are actions undertaken in collaboration with the local community and targeted at groups of people with common needs, in order to improve the health and wellbeing of the population.

Results: Only 15.1% of the sample was able to identify CA correctly. However, 93.4% considered these an effective approach for the control of chronic diseases. Special mention should be made of the positive attitude shown by students toward the implementation of these types of activities.

Conclusion: Nurses play a key role in preventing chronic diseases, and it is therefore necessary to ensure that they are trained in the implementation of CA aimed at reducing the incidence of such diseases. Future training plans for nurses should emphasize the community perspective in order to improve the skills of future professionals in this field and to increase the success of these interventions.

KEYWORDS

attitude, community activities, health promotion, knowledge, nursing, primary health care, public health

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1 | BACKGROUND

In recent decades, increased life expectancy and advances in health-care have brought about a significant change in the health-illness continuum, characterized by a marked increase in the prevalence of chronic diseases and a decrease in disease-free years (Izcue et al., 2021).

The morbidity and mortality associated with chronic diseases make it necessary to reevaluate traditional healthcare approaches, which pose an ever greater challenge to healthcare systems around the world (Hajat & Stein, 2018). Although there are chronic diseases due to non-modifiable risk factors, such as family history, genetics, autoimmune pathologies, etc., which are only susceptible to secondary and/or tertiary prevention, many of them are preventable by reducing common risk factors (Pan American Health Organization/World Health Organization, n.d.). In this regard, health-related behaviors, conditioned by social determinants such as socioeconomic level and work or cultural conditions, play a transcendental role in the development of these diseases. Specifically, alcohol consumption, sedentarism, smoking, and poor diet are risk factors for the development of different types of cancer, diabetes, and cardiovascular diseases (World Health Organization, 2023).

Primary prevention through health education and promotion from a community perspective is proposed as the most effective approach for improving health-related behaviors, through the provision of holistic, integrated care (Fisher & Chanan, 2015). In this context, primary care (PC), a model of care that supports first-contact, accessible, continuous, comprehensive, and coordinated person-focused care (World Health Organization, n.d.) enjoys a privileged position for achieving this goal, given its closeness to the population (Pan American Health Organization/World Health Organization, 1978).

Spain's National Health Service is a public system that is universally available and free of charge, financed mainly through general taxes and social security contributions. It is organized in line with a decentralized model, where the Autonomous Regions which make up the country are responsible for managing local resources and healthcare. The system is divided into two levels of care, primary and specialized, with healthcare being structured around primary care (PC) through 13,000 health centers. This model enables individuals, families, and communities to be cared for and followed up in a comprehensive, close, and continuous manner over time, reaching the entire population, regardless of socioeconomic level, thus ensuring health equity. Furthermore, it makes for greater effectiveness and efficiency in caring for the health of the population, which is essential in the context of a heavy disease burden associated with aging, chronic diseases, dependency, and social inequality (National Health System's Interterritorial Council, 2021). This is endorsed by the World Health Organization, which lays down the need to bring healthcare near to where people live and work, fostering a community approach (World Health Organization & the United Nations Children's Fund, 2020) through the implementation of community activities (CA) (Gittelsohn et al., 2017).

CA is defined as "all those intervention and participation activities that are carried out with groups of people that have common characteristics, needs or interests, and are aimed at promoting health, increasing quality of life and social well-being, enhancing the capacity of individuals and groups to address their own problems, demands or needs" (March et al., 2011). CA must be undertaken by a multidisciplinary team made up of staff drawn from municipal councils, social services, primary schools, high schools, associations and health-care, among others (Ministry of Health, 2021). Hence, promoting the participation of PC professionals in the development of CA, together with the identification and utilization of health assets, that is, factors or resources that enhance the capacity of individuals, groups, communities, populations, social systems and institutions to maintain and sustain health and well-being, and thereby contributing to reducing health inequalities (e.g., sports associations, volunteering, art workshops, etc.) (Garipe et al., 2022), forms part of the proposals for improving the community approach in the Spanish PC setting (Ministry of Health, 2022; National Health System's Interterritorial Council, 2021).

Nurses are key agents in the implementation of community interventions (March, Soler et al., 2014) aimed at preventing the adoption of ineffective eating patterns or sedentary lifestyles (Martil et al., 2019). They are also favorably placed when it comes to improving the sustainability of the system (Rafferty et al., 2019) and responding efficiently to the demands of people with chronic diseases (Nohra & Rothan-Tondeur, 2022). Moreover, the role of nursing has been shown to be the profile most involved in the development of these types of activities (March, Soler et al., 2014) and indeed being the benchmark vis-à-vis for people living with a chronic disease in the community (Stephen et al., 2018), by providing cost-effective, high-quality care (Parkinson & Parker, 2013).

Public health nurses working in PC are in close contact with community agents and resources. This gives them the ability to establish trusting relationships with the community and accurately identify local health needs. Furthermore, as key agents in public health, they encourage the involvement of citizens in their own self-care and empower the community in healthy practices and disease prevention (Machado-Becker et al., 2020). CA led by public health nurses include actions as diverse as health promotion sessions in local associations, educational workshops in schools, coordination of training sessions, or intersectoral actions with different community agents, among others (Mosteiro-Miguéns et al., 2024).

People with chronic diseases require professional care that encourages self-care and self-management of the disease, in nearby accessible settings, such as the community and PC (Hone et al., 2018). Similarly, involving patients by making them active partners in their disease process contributes to the empowerment of their self-care (Haldane et al., 2019). In this context, there is a need for proactive measures that would serve to reduce the growing incidence of these diseases, with health-promotion CA being an effective tool. CA-based interventions have succeeded in improving aspects of health, like dietary habits (Gittelsohn et al., 2017), cardiovascular health, and quality of life



(Lapena et al., 2022). Similarly, there is evidence of other health promotion actions, such as social prescribing (SPr), a non-medical service of Primary Health Care that provides people with non-clinical care alternatives to help improve their health and well-being (Howarth et al., 2020) with favorable cost-effective results (Lynch & Jones, 2022) for the improvement of health-related behaviors, including self-care and physical exercise (Htun et al., 2023).

Despite the above evidence, implementation of CA at health centers remains minimal and uneven (March, Soler et al., 2014; Sandhu et al., 2022). Thus, given the transcendental role of nurses as health promoters in the community (Ge et al., 2023), their training should ensure the acquisition of the necessary knowledge and skills, not only for identifying people's needs but also for planning community programs.

2 | METHOD

2.1 | Design

This study used a cross-sectional design.

2.2 | Measures

Data were collected using a purpose-designed questionnaire based on existing scientific literature (Aguiló Pastrana et al., 2002; Rogers et al., 2021). The questionnaire consisted of 33 items divided into 4 sections (Supplementary Material 1): the first was made up of 13 closed questions on sociodemographic and academic aspects (gender, age, undergraduate year of study, and field of nursing in which the participant would like to work), as well as questions to ascertain training and experience in CA; in the second and third sections, data were collected on knowledge about CA (9 closed questions), and on participants' attitudes to implementation of such activities (5 closed questions), respectively. Lastly, the fourth section included nine items to evaluate perceptions about implementation of CA in PC. In this last section, we used a Likert-type scale with 5 response options (1 = strongly disagree, 5 = strongly agree).

The reliability and validity of the questionnaire were assessed. We computed the scale's Cronbach alpha (α) and the scale's α when the item was removed in order to test the tool's internal consistency reliability. From the item-total statistics, items were considered for removal if the item caused a substantial drop (10% or more) in the scale's α score when removed (Betz, 2000). On the other hand, the content validity was assessed by a panel of nurses (10 raters). All the experts were active nurses with more than 5 years nursing experience. Experts used a 4-point Likert scale to evaluate the relevance of each item, from 1 being "not relevant at all," to 4 being "highly relevant." For each item, the content validity index (I-CVI) was calculated as the proportion of respondents answering 3 or 4 on the scale. Furthermore, the total scale content validity index (S-CVI), a mean of the I-CVI for all

items, was calculated. A minimum cut-off I-CVI and S-CVI of 0.78 and 0.90, respectively, was used (Polit & Beck, 2020).

2.3 | Sample and data collection

The study was conducted at the University of Santiago de Compostela in Galicia (North Spain), where the nursing degree is taught over a period of 4 years, with the first and second years conceived as the first cycle, and the third and fourth year as the second cycle. We included registered students of any gender, aged ≥ 18 years, who attended first, second, third, and fourth-year courses during the 2022–2023 academic year and were willing to participate voluntarily.

The size of the study population was 570 at the time of the research. Keeping the expected frequency of all variables at 50%, the desirable sample size using a 95% confidence interval came out to be 307.

Data were collected from December 15 2022 through April 11 2023. The questionnaire, which was distributed in electronic format (Microsoft Forms) via social media and instant messaging groups, was anonymous and self-administered, and no incentive was offered for completing it. In order to achieve the highest response rate, three reminders were sent out (mid-January, February, and March) during the period in which the questionnaire was available for completion. Data-collection ended when 7 consecutive days had elapsed after dispatch of the last reminder without any new responses being received.

2.4 | Analytic strategy

The results were expressed as frequency and percentage distribution in the case of categorical variables, and as median and deviation in the case of quantitative variables. Normality was tested using numerical tests (asymmetry coefficient; kurtosis; relation between mean, median, and mode; Kolmogorov-Smirnov test) and graphs (Q-Q graph).

Differences in knowledge between first and second-cycle students were analyzed using Pearson's chi-squared test. All statistical analyses were performed using the IBM SPSS Statistics (version 27) software program, with 0.05 set as the significance level.

2.5 | Ethical considerations

The study protocol was approved by the Bioethics Committee of the University of Santiago de Compostela (Supplementary Material 2) and Research Ethics Committee of Santiago-Lugo (registration code 2022/277) (Supplementary Material 3). All participants were informed of the study's aims and objectives, the voluntary nature of the questionnaire, and the persons in charge of research. Data confidentiality was

TABLE 1 Socio-demographic and academic characteristics of the sample ($n = 152$).

Item	Total n (%)
Gender	
Male	22 (14.5)
Female	130 (85.5)
Age, median (interquartile range)	20 (18–22)
Academic year of the nursing degree you are currently taking	
First year	60 (39.5)
Second year	6 (3.9)
Third year	45 (29.6)
Fourth year	41 (27.0)
Area of nursing in which you would prefer to work when you graduate (Select the options that apply)	
Community nursing	25 (16.4)
Surgical-medical nursing	36 (23.7)
Pediatric nursing	47 (30.9)
Emergency, ICU and RU	73 (48.0)
Obstetric-gynecological nursing	36 (23.7)
Mental health nursing	22 (14.5)
Geriatric nursing	5 (3.3)

Abbreviations: ICU, intensive care unit; RU, reanimation unit.

guaranteed in accordance with the Helsinki Declaration and Spain's Data Protection Act (Organic Act 3/2018) (Data Protection Act).

3 | RESULTS

3.1 | Description of the sample

A total of 572 nursing degree students at the University of Santiago de Compostela were invited to participate in the study, with a response rate of 26.6% ($n = 152$). Most of the sample were women (85.5%) and first-year students (39.5%), median age 20 years (± 6.9). In terms of a future career choice, the majority of the participants wanted to work in special services, such as emergencies, intensive care, etc., (48%) with community nursing being chosen by only 16.4% (Table 1).

3.2 | Psychometric properties of the questionnaire

Correlation analysis showed that the scores of all items were significantly and positively correlated with the total score. The questionnaire's α was 0.80 (very good internal consistency), which would not have increased if any of the items had been removed (no item caused a drop 10% or more in the questionnaire's α score when removed). On the other hand, the results showed that the questionnaire had the I-CVI ranging from 0.8 to 1 and the S-CVI at 0.935, indicating high content validity.

3.3 | CA training

While approximately half of the participants (56.6%) reported having received training in CA (Q1), only 20% reported having sought information in addition to that received in the degree course (Q2), with the Internet being the main source of information (79.6%) (Q3).

At the time of completing the questionnaire, 20% of the sample had already completed one rotation through PC (Q5), during which 41.9% had received training in CA (Q6), and some even had the opportunity of participating in one such activity (35.4%) (Q8). In contrast, the negligible training received by the students in SPr aspects was noteworthy (Q4, Q7), with 88.2% reporting having received none (Table 2).

3.4 | Knowledge about CA

The great majority of participants (89.5%) knew the definition of CA (Q9), were clear on the fact that there was evidence to show that these activities generated a positive health impact (88.2%) (Q11), and were also able to pinpoint ideal places where these could be carried out (Q12). That said, however, only 15.1% were able to identify an example of CA correctly (Q10). Likewise, more than half of the participants (59.8%) were not sure about the difference between CA and health promotion activity (Q13), displaying scant knowledge about SPr (85.5%) (Q14, Q15), and health assets (76.6%) (Q16, Q17).

3.5 | Attitudes toward CA

Almost 90% of the participants would be willing to take part in CA (Q18), with nursing being the professional category which, in their opinion, should assume leadership of CA (Q19). Furthermore, a great proportion of students (61.2%) would be interested in expanding their training in CA (Q20), essentially to improve their knowledge in this field (Q21), with the nursing degree study plan being the main source via which this group of students would like to learn more about the topic (Q22).

3.6 | Perceptions about CA

Although the majority of participants (93.4%) reported that CA could improve the approach to chronic disease (Q23), they felt that their implementation at health centers was negligible (66.4%) (Q25), that they were not carried out in a standard manner (50%) (Q26), and that, moreover, they were not sufficiently encouraged by the institutions (42.1%) (Q28). Similarly, the participants did not know precisely who were tasked with promoting CA (Q24) but agreed that the training of PC professionals would contribute to their development (90.8%) (Q27) (Table 3).

TABLE 2 Training of participants in CA ($n = 152$).

Item	Total n (%)
Q1. Have you received training on CA?	
Yes	86 (56.6)
No	55 (36.2)
Dk/No	11 (7.2)
Q2. Have you searched for additional information on CA?	
Yes	31 (20.4)
No	118 (77.6)
Dk/No	3 (2.0)
Q3. Source from which you have collected information on CA (Select the options that apply)	
Books	2 (1.3)
Clinical practice guidelines	5 (3.3)
Scientific papers (articles)	11 (7.2)
Internet	16 (79.6)
Specific training courses	3 (2.0)
Other sources	11 (7.2)
Q4. It has been explained to you what SPr is	
Yes	8 (5.3)
No	134 (88.2)
Dk/No	10 (6.6)
Q5. You have done a rotation in PC	
Yes	31 (20.4)
No	121 (79.6)
Q6. During the rotation they explained to you what CA are	
Yes	13 (41.9)
No	17 (54.8)
Dk/No	1 (3.2)
Q7. During the rotation they explained to you what SPr is	
Yes	3 (9.6)
No	28 (90.4)
Q8. During the rotation you performed CA	
Yes	11 (35.4)
No	19 (61.3)
Dk/No	1 (3.2)

Abbreviations: CA, community activity; Dk/No, don't know/ no opinion; PC, primary care; Q, question; SPr, social prescribing.

3.7 | Differences in knowledge between first- and second-cycle students

Knowledge of CA improved with the seniority of the students ($p < .001$). Specifically, there were significant differences between first- and second-cycle students in three of the questions posed on the topic. Second-cycle students were better at identifying places to carry out CA (Q12), had better knowledge of the health impact of CA (Q11), and knew the definition of health assets (Q17) (Table 4).

TABLE 3 Knowledge, attitudes, and students' perceptions about CA ($n = 152$).

Item	Total n (%)
Q9. A CA can be defined as...	
Intervention and participation activities that are carried out with groups that have common characteristics, needs or interests and are aimed at promoting health, increasing quality of life and social well-being, enhancing the capacity of individuals and groups to address their own problems, demands or needs (C)	136 (89.5)
Any factor or resource that enhances the capacity of individuals, communities and populations to maintain health and well-being	4 (2.6)
The educational process that aims to make citizens responsible for the defence of their own and collective health	2 (1.3)
Dk/No	10 (6.6)
Q10. Which of the following activities do you consider CA? (Select the options that apply)^a	
Group sessions on healthy eating, requested by overweight residents of the neighbourhood, with subsequent evaluation of the knowledge acquired; in which the participants contribute by narrating their themselves experiences (C)	116 (76.3)
A talk on oral hygiene at the school given by health staff from the local health centre	102 (67.1)
Handing out and explaining information leaflets on healthy eating at the doors of the local health centre on World Obesity Day	90 (59.2)
Flu vaccination campaign	80 (52.6)
Dk/No	0
Q11. There is evidence that CA have a positive impact on health	
Yes (C)	134 (88.2)
No	1 (0.7)
Dk/No	17 (11.2)
Q12. Possible places to carry out CA (Select the options that apply)	
At a school (C)	140 (92.1)
At a socio-cultural center (C)	137 (90.1)
At a health centre (C)	135 (88.8)
Dk/No	0
Q13. You consider CA and "health promotion activity" to be synonyms	
Yes	63 (41.4)
No (C)	61 (40.1)
Dk/No	28 (18.4)
Q14. Do you know what SPr in PC consists of?	
Yes	4 (2.6)
No	130 (85.5)
Dk/No	18 (11.8)

(Continues)

TABLE 3 (Continued)

Item	Total n (%)
Q15. Which of the following actions do you consider SPPr? (Select the options that apply)	
Overweight patient (BMI 28) who attends the nursing consultation to lose weight, and is referred to weekly sessions in which group Nordic walking sessions are carried out (C)	2 (25.0)
Mindfulness workshops developed by PC nurses at the health centre	2 (25.0)
Referral by a PC doctor to physiotherapy sessions for a patient with lumbosciatica	1 (12.5)
An informative talk given by nursing staff at the health centre, to people over the age of 65, on the benefits of practising yoga	3 (37.5)
Dk/No	0
Q16. Do you know what health assets are?	
Yes	14 (9.2)
No	118 (77.6)
Dk/No	20 (13.2)
Q17. Health assets are defined as:	
Infrastructure intended for profit-making health care necessarily	1 (7.1)
Any factor or resource that enhances the capacity of individuals, groups, communities, populations, social systems and institutions to maintain and sustain health and well-being, contributing to reducing health inequalities (C)	13 (92.8)
The circumstances in which people are born, grow up, work, live and age, including the broader set of forces and systems that influence the conditions of everyday life	0
Dk/No	0
Q18. Are you willing to participate in CA in PC?	
Yes	136 (89.5)
No	5 (3.3)
Dk/No	11 (7.2)
Q19. What category of staff should assume the lead leadership in CA? (Select the options that apply)	
Nursing	142 (93.4)
Doctors	59 (38.8)
Residents in specialised healthcare training	56 (36.8)
Social worker	72 (47.4)
Other	9 (5.9)
Dk/No	0
Q20. Level of interest in acquiring knowledge about CA	
Very disinterested	5 (3.3)
Disinterested	2 (1.3)
Neither disinterested nor interested	52 (34.2)
Interested	74 (48.7)
Very interested	19 (12.5)

(Continues)

TABLE 3 (Continued)

Item	Total n (%)
Q21. Why do you want to increase your training (Select the options that apply)^b	
Participate in CA developed by health care centre	41 (27.0)
Leading CA developed by health care centre	17 (11.2)
To increase knowledge in this field	82 (53.9)
Other reasons	3 (2.0)
Dk/No	0
Q22. From which source would you like to learn more about CA (Select the options that apply)	
Nursing degree subjects	75 (49.3)
Online search engines	13 (8.6)
Accredited courses	54 (35.5)
Other sources of information	3 (2.0)
Dk/No	0
Q23. CA can improve the management of chronic diseases	
Strongly disagree	0
Disagree	1 (7.0)
Neither agree nor disagree	9 (5.9)
Agreed	38 (25.0)
Very much agree	104 (68.4)
Q24. The development of CA stems from the voluntarism of professionals	
Strongly disagree	5 (3.3)
Disagree	17 (11.2)
Neither agree nor disagree	64 (42.1)
Agreed	47 (30.9)
Very much agree	19 (12.5)
Q25. There is little development of CA in health care centres	
Strongly disagree	0
Disagree	6 (3.9)
Neither agree nor disagree	45 (29.6)
Agreed	64 (42.1)
Very much agree	37 (24.3)
Q26. The development of CA in health centres is not standardised	
Strongly disagree	1 (0.7)
Disagree	13 (8.6)
Neither agree nor disagree	62 (40.8)
Agreed	40 (26.3)
Very much agree	36 (23.7)
Q27. Training of PC professionals would encourage the development of CA	
Strongly disagree	1 (0.7)
Disagree	1 (0.7)
Neither agree nor disagree	12 (7.9)
Agreed	40 (26.3)
Very much agree	98 (64.5)

(Continues)

TABLE 3 (Continued)

Item	Total n (%)
Q28. Promotion of CA by the institutions is adequate	
Strongly disagree	11 (7.2)
Disagree	53 (34.9)
Neither agree nor disagree	60 (39.5)
Agreed	16 (10.5)
Very much agree	12 (7.9)

Abbreviations: C, correct; CA, community activity; Dk/No, don't know/ no opinion; PC, primary care; Q, question; SPr, social prescribing.

^aItem formulated as a multiple-choice question with only one correct answer: 15.1% of the participants answered this question correctly.

^bOf those who responded "Interested" or "Very interested" in question 20.

TABLE 4 Differences in knowledge of CA between students taking to the first cycle (1st and 2nd year) or to the second cycle (3rd and 4th year) ($n = 152$).

	Correct n (%)	Incorrect n (%)	<i>p</i>
Q9. Correct definition of CA			
First cycle	57 (86.4)	9 (3.6)	.274
Second cycle	84 (97.6)	2 (2.3)	
Q10. Activities that you consider CA			
First cycle	7 (10.6)	59 (89.3)	.173
Second cycle	16 (18.6)	70 (81.3)	
Q11. They are aware that CA have a positive impact on health			
First cycle	50 (75.7)	16 (24.2)	<.001
Second cycle	84 (97.7)	2 (2.3)	
Q12. Possible places to carry out CA			
First cycle	45 (68.2)	21 (31.8)	<.001
Second cycle	80 (93.0)	6 (7.0)	
Q13. You consider CA and "health promotion activity" to be synonyms			
First cycle	21 (31.8)	45 (68.2)	.067
Second cycle	40 (46.5)	46 (53.5)	
Q17. Correct definition of health assets			
First cycle	1 (1.5)	65 (98.5)	.007
Second cycle	12 (13.9)	74 (86.0)	

Abbreviation: CA, community activity.

4 | DISCUSSION

To our knowledge, this is the first study to examine the knowledge, attitudes, and perceptions of student nurses regarding implementation of CA in PC. The results of this study show that the participants have very little information about what CA entail, despite considering them effective approaches for the control of diseases, and that they are very interested in their implementation. Furthermore, they are not sure about the differences between

CA and health promotion activities. Having said that, however, second-cycle students show themselves to be more knowledgeable about CA.

The low level of knowledge possessed by second-cycle students is a worrying fact because, under the current study plan, they should be fully conversant with CA in PC, given that when the questionnaire was distributed, third-year students had already completed the Community Nursing I course program and fourth-year students had undergone clinical practice in PC. These findings serve to corroborate what other authors have already reported, that is, although community participation and action were the central pillars which underpinned the foundation of PC in Spain (1980s), something that has been reaffirmed in successive changes in the law (Act 16/2003; Royal Decree 1030/2006), it is nevertheless an aspect that is widely neglected, not only during clinical practice but also during the training stage (March et al., 2011, 2015; March, Jordán-Martín et al., 2014).

The lack of knowledge previously reported could have direct repercussions on the working life of future professionals, with their scant knowledge of the topic being one of the obstacles that hinder implementation of CA in PC (March, Soler et al., 2014). In this context, a large proportion of the participants erroneously identified various actions as instances of CA, which highlights the fact that the participants have difficulties in identifying concrete CA. This confusion could arise due to a misinterpretation of the term "community activities," because it is frequently thought that to include *any* health promotion action. Yet, CA are activities aimed at a group of people with common characteristics or needs, whose organization entails the involvement of community agents (neighborhood associations, city council professionals, teachers, etc.), as well as the participation of community in some stages of their development, with the aim of improving their health and wellbeing (the community is thus involved in its own self-care). This accredits CA with having a greater potential health benefit (March et al., 2015). In contrast, "health promotion" is a much broader concept that does not require the collaboration of community agents, and can also be intended for only one person who does not have to take an active role, for example, brief health advice during consultations with a nurse, where the patient is simply a recipient of information.

One noteworthy aspect of this study was the interest shown by student nurses, both in participating in the implementation of CA and in expanding their training. This is highly important because nurses play an indispensable role in carrying out CA, and their intervention is truly essential and yields good results in health promotion (Martil et al., 2019). The fact that these future professionals are willing to undergo further training could eliminate some of the obstacles currently confronting CA, such as the lack of skills for implementing them (Aguiló Pastrana et al., 2002; Cardo et al., 2023). Raising awareness about the current barriers to CA is the first step toward promoting their future implementation (Valls et al., 2018).

To foster the skill set of these professionals, student nurse training needs to be geared to a community approach from the classroom (Hosseinejad et al., 2022), ensuring a solid undergraduate education based on health promotion that would serve to facilitate the transformation

of healthcare demanded by health authorities (Hackbarth & Boccuti, 2011). This would ensure that professionals better trained in health promotion contribute to the cohesive association between the community and healthcare sector, improve the approach to chronicity (Bauer et al., 2014), and strengthen the caregiving aspect of PC (Leppin et al., 2018).

Less than half of the student nurses acknowledged having received CA training in any of the subjects forming part of the study plan or in the context of their clinical practice. Community health-promotion interventions are addressed in the Community Nursing I and II courses, which are taught in the first semester of the second and third years of the University of Santiago de Compostela nursing degree, respectively. The fact that training in CA is given in the second cycle of the degree course, and that the supervised practical training which requires students to rotate through PC is also given in this cycle, might account for the difference in knowledge between first and second-year students on the one hand, and third and fourth-year students on the other. These results highlight the need to introduce improvements in the course program, such as incorporating CA and health promotion actions earlier in the study plan or extending the clinical practice period in the PC setting, since under the current plan these are mostly undertaken in the specialized setting, with the PC setting accounting for only 16.7% of the total duration of such practices (2 months' duration). The suggested change could thus improve the acquisition of and effective establishment of knowledge about this topic, favoring future professional practice in CA.

Although CA are mainly undertaken at PC centers (March, Jordán-Martín et al., 2014), only 27% of study participants were fourth-year students, the undergraduate year during which practical training is rotated through health centers. It should be stressed that the majority of students who had rotated through PC reported that they had not undertaken any CA, which shows that these activities are little implemented (Aguiló Pastrana et al., 2002; March et al., 2015). This may be attributable to one or more of the following: the work overload of PC professionals; organizational aspects (e.g., lack of specific spaces and timetables earmarked for these types of actions); lack of involvement of qualified staff; and lack of information and/or training of professionals (Gittelsohn et al., 2017; Thomson et al., 2018; Wändell et al., 2018).

4.1 | Strengths and limitations

This study provides evidence on the level of preparation of nursing students for the development of CA in PC. Furthermore, the results obtained identify the need to substantially improve nursing training plans. In particular, it is suggested that such improvement should be oriented toward a more community and health promotion approach.

This study has the following limitations. Firstly, given that there was no validated tool for registering the study variables and that the questionnaire completed by students was self-administered, there may possibly have been some information or self-report bias, as well as some participation bias. Secondly, the results of this study only

included data from one university in Spain, so that future studies pursuing this line of research might do well to explore different cultural and educational settings in other countries. Lastly, note should be made of the low participation rate, which could compromise the external validity of the results.

5 | CONCLUSION

Bearing in mind the efficacy of CA in terms of improving the quality of life of patients with chronic diseases and the important role of nurses as public health agents, community-based nursing training must be promoted and enhanced in order to boost the development of community programs targeted at reducing the worldwide epidemic of chronic diseases.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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How to cite this article: Miguéns, D. G. M., Cachafeiro, M. Z., Mallón, S. N., Coego, I. L., Pérez, N. V., & Fernández, A. R. (2024). Knowledge, attitudes, and perceptions of student nurses regarding community activities in primary care: A cross-sectional study. *Public Health Nursing*, 41, 1144–1153. <https://doi.org/10.1111/phn.13385>