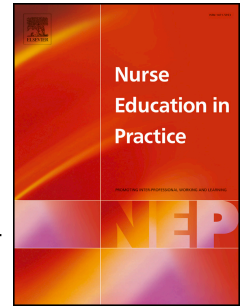# Journal Pre-proof

The impact of volunteering in mental health settings on nursing students' attitudes

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THE IMPACT OF VOLUNTEERING IN MENTAL HEALTH SETTINGS ON NURSING STUDENTS` ATTITUDES.

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ETHICAL STATEMENTS

Undergraduates were informed of the aim of the study, the methods used and how they would participate. Prior to being included at the research, informed consent was obtained in writing. Confidentiality and anonymity of respondents were respected. Participants were informed about the voluntariness of their participation. Also, permission was requested to record the interviews in audio format and the researcher reminded of the absolute confidentiality and anonymity for all

data obtained during the interview and they were informed of their right to quit the study at any time.

Nursing students were registered as official volunteers of the volunteering service "Humanizing" of the hospital where the activity was carried out. They were provided with an identification card and received information about volunteering service rules.

ABSTRACT

Nursing faculties are working to improve students' attitudes towards mental illness and patients given the repercussions a lack of knowledge and negative attitudes may have on the quality of care. Complementing undergraduate programmes with volunteering activities affords students the opportunity to interact with people with severe mental illness, and allow them to develop positive attitudes and overcome prejudice. Aim: to explore and deepen in nursing students attitudes prior to and following volunteering on an Acute Mental Health Inpatient Unit. By means of mixed methods approach, students were assessed at two time points by questionnaires including "Community Attitudes to Mental Illness" and "Semantic Differential", and by testimonies gathered from interviews. Positives changes in attitudes were identified and monitored over time capturing a destigmatizing tendency. The participation in educational strategies such as volunteering in Acute Mental Health Inpatient Unit, complementary to undergraduate programmes and clinical practice placements, allows nursing students to develop more diversified and positive attitudes towards mental illnesses and the people with mental health problems. The impact of an interventional education strategy is not as powerful in nursing students as it might be in students of other non-healthcare oriented university degrees due to their baseline attitudes.

THE IMPACT OF VOLUNTEERING IN MENTAL HEALTH SETTINGS ON NURSING STUDENT ATTITUDES

ABSTRACT

Nursing faculties are working to improve student attitudes towards mental illness, given the repercussions a lack of knowledge and negative attitudes may have on the quality of care provided. Complementing undergraduate programmes with volunteering activities enables students to interact with people with severe mental illness and allows them to develop positive attitudes and overcome prejudices. The aim of this paper was to explore and delve deeper into nursing student attitudes prior to and following volunteering at an Acute Mental Health Inpatient Unit. A mixed-methods approach was conducted using semi-structured interviews and pre-post scales: "Community Attitudes to Mental Illness" and "Semantic Differential". Positives changes in attitudes were identified and monitored over time. A destigmatizing tendency was discovered. The participation in educational strategies such as volunteering at Acute Mental Health Inpatient Units, as a complement to undergraduate programmes and clinical practice placements, allows nursing students to develop more diversified and positive attitudes towards mental illness and people with mental health problems. The impact of an interventional education strategy such as the one here presented is not as powerful in nursing students as it might be in those of other, non-healthcare oriented university degrees, due to their baseline attitudes.

Highlights

- The students' experience of a volunteering educational intervention was explored.

- Volunteering in mental health settings aids students in improving their attitudes.

- The students valued the opportunity to learn offered by the volunteering activity.

Key words: Attitude, nursing student, mental health, volunteer.

1. Introduction

Individuals experiencing a mental health condition have historically been subjected to stigmatising behaviours and discrimination from the general population and mental health providers (Charles & Bentley, 2017). The (large) nursing community also harbours negative stereotyped beliefs (Stuhlmiller & Tolcharda, 2019; Tzouvara *et al*, 2016). The associated stigma is sustained by a lack of theoretical knowledge regarding the processes involved or the people with mental illness *per se*, the creation of negative attitudes towards them and their social exclusion, as well as a low level of confidence in clinical technique (Bennet & Stenett, 2015; Fresán *et al*, 2012; Schafer *et al*, 2011). Research highlights the serious negative impacts these behaviours and discriminatory attitudes have on people experiencing a mental health condition (Alexander *et al*, 2018). Given the global increase in the incidence of mental illness and addiction disorders (WHO, 2014), it is highly likely nursing professionals will come into contact with people who experience problems of this kind over the course of their careers, regardless of whether they work specifically in mental health units or otherwise (Cowley *et al*, 2016), thus the importance of addressing the issue.

In order to offer high-quality healthcare and prevent the consequences of such stigma, university faculties have developed a range of formal and informal teaching strategies. Although there is no international standard covering mental health in terms of a universal undergraduate nursing syllabus, generally, tertiary mental health and psychiatry studies prepare undergraduates for the challenges they will encounter once they graduate (Hastings *et al*, 2017). This is achieved by combining theoretical and practical learning on campus and also by using innovative approaches to teaching such as simulations, role-plays, use of standardized patients or virtual simulation clinics (Alexander *et al*, 2018; Bingham & O'Brien, 2017; Henderson *et al*, 2007). In addition, undergraduates participate in compulsory clinical placements as an integral component of their training, as do nursing students worldwide (ALSagarat *et al*, 2015; Chadwick & Porter, 2014; Moxham, 2016). Nonetheless, each curriculum is based on different theoretical paradigms and involves varying clinical placement periods (Hunter *et al*, 2015).

Nursing studies, both in Spain and remaining European countries, are annexed within the European Higher Education Area (EHEA), whose approach is based on the acquisition of knowledge, skills and competencies by students (Directive 2005/36). As a result, students obtain a bachelor degree worth 180-240 European credits (ECTS). A total of 6,200 hours are accrued between classes, seminars, laboratory sessions and/or assignments. Irrespective of ECTS, all students perform at least 2,300 hours of clinical

placements in healthcare centres. Specifically, in the four-year Degree of Nursing at the University of Alicante, 90 hours of theoretical-practical content are dedicated to mental illness, psychopharmacology, psychotherapy, attitudes towards mental illness and the role of nursing in mental health, as well as legal and ethical topics. During the second semester, four weeks of practical placements are undertaken which include deployment at one of the following: Acute Mental Health Inpatient Units (this consists of acute inpatient hospital settings), Community Care Units, Substance Use Disorder Units or Residential Mental Health centres (the latter consisting of long-term home care), among others.

Nonetheless, more could be done and educators must provide further learning and teaching opportunities which foster ethical values in health and social care, in order to observe the fundamental human rights and dignity of individuals and promote positive attitudes towards those experiencing mental health issues (Haugland *et al*, 2018). Such training opportunities do exist via extra-curricular activities. The use of volunteering to modify or adjust attitudes is quite novel in terms of nursing education. Complementing undergraduate programmes and practice placements with alternative educational initiatives such as volunteering activities affords students the opportunity to discover how mental illness affects real people, to develop positive attitudes and to overcome fears and apprehensions towards mental health nursing (Cowley, 2016; Happell & Gaskin, 2013).

Based on the assumption that the application of alternative educational activities, such as volunteering, modifies undergraduate attitudes, the main aim of this study was to examine the attitudes of nursing students before and after their participation in voluntary activities undertaken in an Acute Mental Health Inpatient Unit (AMHIU). A secondary objective was to investigate the students' experiences about that extra-curricular activity.

2. Method

2.1 Phase 1

Design: In this mixed method study a pre-post design was utilized.

Sample: A convenience sampling method was used. The 199 fourth-year students of the Degree of Nursing at the University of Alicante, Spain, were asked to participate. Of these, 80 (40%) agreed to take part and 51 (64%) completed the activity.

Measures: An *ad hoc* questionnaire was created. Closed-ended survey questions were used for gender, age and whether volunteers were already acquainted with someone experiencing mental illness. Subsequently, two scales were administered. Firstly, the Semantic Differential Scale designed by Osgood,

Suci and Tennenbaun (1957), which measures, via connotative language, the meaning certain concepts hold for those surveyed. No literature was found on attitudes related to mental health using the semantic differential in Spanish, however this instrument has been widely used in psychology (Becoña-Iglesias, 1990; Cabrero, Richart & Sancho, 1988) and gerontology (de Miguel Negredo *et al*, 2012; Rodríguez-Feijoo, 2006; Villar, 1997) due to its simplicity, rapid application, low cost and standardization.

The distribution of the semantic sets was based on the evaluation factor (E): good - bad, worthy - unworthy, comfortable - uncomfortable, personal - impersonal, brave - cowardly and peaceful - violent; the potency factor (P), which refers to the vigour or strength of the concept in terms of: strong - weak; firm - unstable; powerful - powerless; and the activity factor (A), the perception of the vitality of the concept in terms of whether it is active - passive; current - antiquated; simple - complicated. The order of appearance of the pairs of adjectives was randomized. A continuum of seven intervals was defined, with the scores -1, -2 and -3 being for negative attitudes, 0 being a neutral attitude and 1, 2 and 3 increasingly positive attitudes. Adverbial quantifiers were used in order to facilitate interviewee comprehension.

Secondly, the Community Attitudes to Mental Illness (CAMI) scale was administered. CAMI, by Taylor and Dear (1981) was validated in Spanish by Ochoa *et al* (2016). It has been used on nursing students, nursing professionals, psychiatrists, families and the general populace (Chambers, 2010; Cowley *et al*, 2016; Schafer, 2011; Sun, 2014). The CAMI scale canvases opinions on how people with mental illness are treated and attended to, via 40 items divided into 4 dimensions and scored using a Likert 5-point response system (from strongly agree to strongly disagree). The dimension *Authoritarianism* (AU) evaluates whether the mentally ill are considered an inferior class of individuals to healthy people (positive items: 1, 9, 17, 25, 33 and negative items: 5, 13, 21, 29, 37). The dimension *Benevolence* (BE) evaluates the acceptance of attitudes towards people with mental health issues, although the statements involved could give rise to paternalism (positive items: 2, 10, 18, 26, 34 and negative items: 6, 14, 22, 30, 38).

The dimension *Social Restriction* (SR) evaluates the danger the mentally ill pose to society (positive items: 3, 11, 19, 27, 35 and negative items: 7, 15, 23, 31, 39). Finally, the dimension *Mental Health Ideology in the Community* (MHIC) evaluates attitudes regarding the reinsertion of people with mental illness back into the community and wider society (positive items: 4, 12, 20, 28, 36 and negative items: 8, 16, 24, 32, 40). The score for each dimension is the sum of positive items minus the negative ones. This

scale has been shown to have a high internal reliability with a Cronbach's alpha of 0.68, 0.76, 0.80 and 0.88 respectively (Taylor & Dear, 1981).

Data collection procedures: Undergraduates were informed, during theory lectures, about the proposed intervention involving their support and collaboration in Art therapy workshops at the AMHIU. Potential participants presented themselves voluntarily to the relevant professoriate who invited them to attend a meeting in which they were extensively informed. Subsequently, the recruited students received instructions for completing the pre-test with a tracking code provided. It was ensured that the questionnaire was fully comprehended and the feedback by participants was positive both in terms of comprehension and speed of completion (20 minutes).

Nursing students were registered as official collaborators of the volunteering service "Humanizing" of the hospital where the activity was conducted. They were provided with an identification card and received information regarding the volunteering service rules. From September 2016 to March 2017, volunteers participated in monthly art therapy sessions at the AMHIU as support staff in workshops and activities, under the supervision of the professoriate and professionals working at the unit. Over the same time period, they received extra training sessions of three hours duration each, on: (1) Stigma in mental health: awareness and humanization, in which professors spent an hour presenting Goffman's (2010) theoretical model and the analysis of social rejection by Muñoz *et al* (2009) and subsequently, a number of mental healthcare professionals and two patients from the Rehabilitation Unit and the Day Centre belonging to the Provincial Council, gave a talk on the issues surrounding the social integration of people with Serious Mental Illness (SMI); (2) Communication techniques, involving an active listening workshop based on humanist philosophy (Cibanal *et al*, 2014); (3) Support and resolution of queries, whereby students' needs were attended to. When the activity period finished, instructions were given for completion of the post-test questionnaire.

Data analysis: An intra-subject comparison was performed (Ato, 2013). The Social Sciences Statistical Package (IBM SPSS statistics for Windows, Version 20.0) was utilized for storing data, tabulating and generating descriptive statistics. The outcome variables, in the case of the semantic differential scale, were the scores for Factors E, P and A. In the case of CAMI, these were each of its dimensions. Descriptive statistical contrast analyses were carried out via McNemar's test. Furthermore, Cohen's d effect size index (Frías *et al*, 2000) and a paired samples analyses were performed.

2.2 Phase 2

Design: The data were processed via a qualitative content analysis (Abela, 2002; Graneheim & Lundman, 2004; Tong *et al*, 2007). All four authors were nursing educators from the Faculty of Nursing at the University of Alicante, Spain. They were considered as having sufficient training and experience in the subject matter. Two of them were female.

Sample: The 51 volunteers who completed the first activity were asked to participate in phase 2. Of these, 23 declined to participate due to their schedule. The sample size was determined when the saturation point for acquired data, 8 participants (16%), was reached.

Data collection procedures: Once the activity period had finished, students were contacted via e-mail. One-on-one, semi-structured, face-to-face interviews were held. All of the interviews were conducted by one sole researcher (RJS). The particular areas of interest of the study were included in the formulation of 9 open-ended questions, based on the review of the available literature and the specific aims of the project: Have you had previous contact with people experiencing a mental health issue? How many art therapy sessions did you participate in?; What kind of activities did you prepare?; Do you think this volunteering activity has helped patients?; Was it the first time you visited an AMHIU?; What were your feelings about it beforehand?; Following the experience, what are your opinions about the AMHIU now?; How do you think your participation as a volunteer has affected your opinion on mental health and mental health patients?; How would you rate this volunteering experience?.

An appropriate room at the faculty was utilized in order to avoid acoustic interference, background noise and interruptions, where participants would feel comfortable and at ease.

Each interview lasted approximately 20 minutes. The interviews were audio-recorded and further transcribed *verbatim*. Subsequently, the latter were provided to the participants in order for transcription accuracy to be verified. No notes were taken. Data collection took place between April and May, 2017.

Data analysis: Qualitative data reliability was ensured via a systematic process. The transcriptions were then coded by assigning the letter "E" to the file name, followed by a number according to the chronological order in which they were performed (E1, E2, E3... E8).

The interviews were analysed by the authors via data triangulation (analysed by three independent researchers who did not participate in the interviews), applying an individual and open codification system which involved assigning emergent codes to each paragraph or sentence. These codes were classified into groups according to similarity.

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Subsequent to identifying patterns in the transcripts, the resultant classifications were divided into themes and subthemes. Once the differences, with regards to the available bibliography, were identified, analysed and contrasted, the content was then further screened and a consensus reached concerning the most relevant data for each theme and subthemes.

Ethical Considerations

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee (Expedient UA-2018-09-04) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Undergraduates were informed of the aim of the study, the methods used and how they would participate. Participants were informed about the voluntariness of their participation. Prior to being included at the phase 1 research, informed consent was obtained in writing.

Also, permission was requested to record the interviews of phase 2 in audio format and the researcher reminded of the absolute confidentiality and anonymity for all data obtained during the interview and they were informed of their right to quit the study at any time. Confidentiality and anonymity of respondents were respected.

Nursing students were registered as official volunteers of the volunteering service "Humanizing" of the hospital where the activity was carried out. They were provided with an identification card and received information about volunteering service rules.

3. Results

The 51 volunteers who completed the study were, on average, 22.7 years of age (SD=3.9) and 94.1% were females. Close to 60% of participants claimed to have had previous experience with people experiencing SMI, prior to contributing to this study as volunteers, the greater part as family members (69.0%) or as friends (10.3%). Data loss, due to discontinued participation, was less than 1% and any relevant information was deleted from the database.

3.1 Phase 1

Semantic Differential

The reliability analysis revealed an internal consistency of 0.47 for *Mental Illness (MI),* 0.70 for *Psychiatric Patient (PP)* and 0.84 for *Psychiatric Hospitalization Unit (PHU).* The response distribution

according to sociodemographic variables is presented in Table 1. The attitude of the students towards the concepts *PP* and *PHU* remained positive, while *MI* worsened in general.

Nonetheless, older students maintained a destigmatizing tendency towards *MI* (p>0.05), yet conversely their opinion of *PP* (p=0.000) and *PHU* (p=0.000) deteriorated. Likewise, it is noteworthy that those participants who had had previous experience in dealing with people with mental illness scored 25 percent more positively towards the concept *MI* post-intervention (p=0.000) than those who had none, even though, either no change or a change for the worse occurred in students with no previous experience of such illnesses.

The mean scores for the factors E, P and A are shown in Table 2. For *MI*, a moderate shift towards neutral attitudes became evident. For the concept *PHU*, a considerably negative and significant change for the factor Potency was noteworthy. In all cases, the average score was more favourable among the younger participants, although the intervention did not improve attitudes significantly (p>0.05). In terms of gender, despite the attitude of female participants generally improving towards the concept *PP*, as did that of the male volunteers, the intervention did not provide statistically significant changes in this context.

CAMI

The relevant reliability analysis revealed a low internal consistency of 0.35 pre- and 0.20 postintervention. As confirmed by the analysis, there was no statistically significant association (p>0.05), neither globally nor according to dimensions, between the sociodemographic variables and CAMI, neither before nor after the intervention.

In general, the improvement in attitudes of the students towards people with SMI was statistically significant (p=0.048), with a moderate degree of change being effected (see Table 3). Attitudes remained negative for dimensions *Benevolence* and *Mental Health Ideology in the Community* and moderately positive for *Authoritarianism* and *Social Restriction*, although changes were not statistically significant (p>0.05) for any dimension.

3.2 Phase 2

The defining characteristics of the participants are described in Table 4. Three major themes and four subthemes emerged.

3.2.1 Journey into the unknown.

This theme arose based on references to the relationships volunteers establish with people admitted to an AMHIU. There were two subthemes: (1) *Uncertainty.* Undergraduates had mixed feelings, such as uncertainty, surprise or amazement, when they first came to an AMHIU:

> *"I didn't know what to expect so that's why I was a bit nervous" (E3); "when you don't know someone, certain aspects of their way of acting or being seem strange" (E1)*

(*2) Acquaintanceship.* Prejudices dispersed, modifications occurred in the way participants treated people with SMI as a result of direct contact and the need was found to respect and treat them in equal fashion as they would others:

> *"People with SMI deserve empathy and respect just as everyone (does)" because "they are people just like you" (E6); "after being more in touch, you see there's no big deal" (E2); "people who are admitted react the same as anyone else would; I think our stigmatizing ideas have been reduced" (E7)*

3.2.2 Learning experience

(1) *Connection.* The positive connection between theory and practice, through volunteering, was reflected in the majority of the participants' testimonies:

> *"During clinical practices time is limited; you merely observe the unit's surroundings and procedures. While volunteering I could be with them, I was more in touch" (E8).*

(2) *Reinforcing competencies.* Although this was an extra-curricular activity, the increase in knowledge and confidence is noteworthy. The following excerpts from four participants demonstrate this significant finding:

> *"Between what was explained in class (theory lessons) and the support sessions, I think I am prepared" (E1, E2, E3)* and *"Every day I felt more secure. I feel I could work there" (E7).*

3.2.3 Volunteering value

This theme showed the importance interviewees gave to their participation. There were two subthemes (1) *Benefits for volunteers.* Undergraduates largely agreed upon the positive value of the learning activity and appreciated the creation of a meeting space, beyond that offered by curricular clinical placements, in which to interact with people with acute mental health issues:

> *"During clinical placements I was required to shadow the nurse and did not spend much time with patients; however as a volunteer at the hospital I had the opportunity to do so. There was a more open and relaxed atmosphere" (E1).*
>
> *"I feel patients were entertained and appreciated our efforts; I feel good about it" (E5).*

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(2) Benefits for patients. The following excerpts from three participants demonstrate this significant finding:

> *"They had their moment to disconnect and they enjoyed it, because they are used to being locked up all day doing nothing" (E6).*
>
> *"There they were, shut in, bored, and when we arrived... we went down to play tablefootball or ping pong. They smiled" (E2).*
>
> *"Calling them by their names, making them feel like themselves, going for a walk outside the hospital to get some fresh air, talking about their favourite films ... I got the feeling they were comfortable with us" (E3).*

4. Discussion

The attitudes of nursing students towards mental health and individuals experiencing a mental health condition was measured and assessed using a mixed method approach. The present study allowed changes in attitudes to be identified and monitored over time and provided a description of students' perceptions resulting from a complex educational intervention, namely art therapy workshops, with the support of the university professoriate of the Degree of Nursing subject 'Community Intervention, Mental Health and Psychiatry'.

Despite this initiative being conducted in a hospital context, this extra-curricular activity offered modest results. Around the world, nursing students receive formal theoretical and practical mental health training as part of their acquisition of competencies regarding positive attitudes towards mental health, mental illness and mental health nursing. Thereby, the impact of an interventional education strategy such as the present one seems to not be as powerful in nursing students as it would be in students of other, non-healthcare oriented university degrees, due to their baseline attitudes and attitudinal progression resultant from the aforementioned formal educational content. However, volunteering should not be underestimated. Their participation as volunteers of the hospital, individually and not as nursing students, without a nursing uniform, favoured a sense of contact among equals, reducing participants' prejudices and fears and improving self-confidence.

Yet the question remains: how might volunteer educational input have modified results? When this volunteering activity was designed, the professoriate was aware of warnings made by Stuhlmiller (cited at Bingham & O'Brien, 2017) regarding the risks direct interaction between students and people with SMI could have of ultimately reinforcing negative stereotypes. For this reason, awareness raising sessions on

stigma in mental health were included in the present study, in order to offer students the opportunity to establish close, empathetic contact (Schafer *et al*, 2011). However, it was not taken into account the fact that the average time inpatients were admitted was 12 days, and that students would visit just once a month, thus students would rarely coincide with the same inpatients and would not experience their complete recovery process. This was reflected in the responses to *Mental Illness* included in the Semantic Differential scale, which shifted from having positive attitudes to neutral ones. The lack of attitudinal loading might be explained by social desirability bias in which students harbouring unfavourable attitudes are unwilling to express them, considering them inappropriate for a future healthcare professional. This bias was not present in the general populace of studies such as those by Reta or Tzouvara (2016). For future research, closer escorting for students and considering a schedule which allows them to coincide with the same patients on more than one occasion, as well as performing volunteering activities in a broader range of contexts (rehabilitation centres, community centres, etc.) are all proposed.

Also, the lack of time at the ward would cause a biased and negative perception of inpatients and the illness process, affecting their attitudes towards hospitalized people and their subsequent reinsertion back into society, as is described in the available Spanish (Aznar-Lou *et al*, 2016) and European literature (Coppens *et al*, 2013). Furthermore, students experienced strict security measures; controls on entry and departure of all persons and objects which, far from instilling a sense of security, would increase their concerns and worsen the sense of danger (Bennett & Stennett, 2015).

It is noteworthy that the existence of previous experience with people with SMI acted as a protective factor against stigma for the volunteers. Those with previous contact showed positive attitudes both towards SMI itself, as well as towards the people with mental health issues (Schafer *et al*, 2010). Given the latter, volunteering would appear to reaffirm their attitudes. However, if students' first contact with people experiencing SMI occurs in a context such as ours, attitudes worsened for the aforementioned variables. Thus emphasizing further the strategic role educational interventions (Markström *et al*, 2009) play in augmenting the knowledge and skills of nursing students in delivering greater quality care having overcome prejudice (Bennet & Stenett, 2015).

Limitations

The limitations of the present study are related to its reduced sample size, represented by one sole cohort from one sole faculty. Future research should endeavour to recruit a larger number of students from more than one institution, as well as clarifying whether participation was determined by personal motivation or

more positive attitudes due to pre-existing personal characteristics specific to nursing students, or due to their baseline circumstances such as emotional or physical wellbeing, levels of confidence, anxiety or empathy.

The psychometric properties of the CAMI scale might be identified as a limitation. Although a range of previous studies involving nursing students made use of this scale with good results, on this occasion, reliability attributes showed a low level of internal consistency, with the assessment of the construct regarding social stigma towards the mentally ill being overly heterogeneous. This may be explained either by: 1) the low number of participants, 2) the incomprehension of certain items or, 3) social desirability bias (Aznar-Lou, 2016) as mentioned earlier. Future research should be conducted with a larger number of participants in order to corroborate the present results and validate the semantic differential scale for nursing students in the Spanish language. Likewise, '*Mental Illness*' also displayed poor internal consistency for the Semantic Differential.

Finally, the fact that statistical significance was not achieved cannot be overlooked. Despite the present findings indicating that participation in volunteering activities, complementary to formal training, favours the development of more positive attitudes towards mental illness and people with mental health issues, the results herein are not statistically significant. Nonetheless, the authors prefer to publish the results so as not to fall into publication bias (Dickersin, 1990) and consider the present research as having sufficient methodological quality in order to afford reliability to the results.

5. Conclusions

The participation in educational strategies such as volunteering in an Acute Mental Health Inpatient Unit, complementary to undergraduate programmes and clinical practice placements, allows nursing students to develop more diversified and positive attitudes towards mental illnesses and people with mental health issues.

Conflict of interest

Authors declare any financial support or relationships that may pose conflict of interest.

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Table 1. Distribution of attitudes towards concepts (%) according to sociodemographic variables before and after intervention.

CONCEPT			Pre			Post			McNemar's test	OR (95% IC)
			Negative	Neutral	Positive	Negative	Neutral	Positive		
Mental Illness	Age	<22	20.6	8.8	70.6	47.2	16.7	36.1	26.1 (0.000)**	0.30 (0.17-0.47)
		>22	53.8	0.0	46.2	40.0	13.3	46.7	0.5 (0.483)	1.17 (0.77-1.77)
	Gender	Man	33.3	0.0	66.7	33.3	33.3	33.3	10.9 (0.001)**	0.49 (0.31-0.76)
		Woman	29.5	6.8	63.6	45.8	14.6	39.6	11.0 (0.000)**	0.48 (0.30-0.75)
	Contact	Yes	20.8	4.2	75.0	35.7	14.3	50.0	29.2 (0.001)**	0.28 (0.16-0.46)
		No	38.1	4.8	57.1	57.1	14.3	28.6	3.4 (0.065)	0.67 (0.43-1.02)
Psychiatric Patient	Age	<22	8.3	16.7	75.0	8.3	13.9	77.8	52.5 (0.000)**	0.11 (0.04-0.22)
		>22	7.7	15.4	76.9	20.0	13.3	66.7	54.4 (0.000)**	0.10 (0.04-0.22)
	Gender	Man	0.0	0.0	100	33.3	33.3	33.3	90.0 (0.000)**	-
		Woman	8.7	17.4	73.9	10.4	12.5	77.1	49.4 (0.000)**	0.12 (0.05-0.24)
	Contact	Yes	7.7	7.7	84.6	3.6	10.7	85.7	62.1 (0.000)**	0.09 (0.04-0.19)
		No	9.5	23.8	66.7	23.8	14.3	61.9	40.7 (0.000)**	0.15 (0.07-0.29)
PHU	Age	<22	20.6	5.9	73.5	14.7	11.8	73.5	28.5 (0.000)**	0.28 (0.17-0.47)
		>22	30.8	0.0	69.2	33.3	10.2	69.4	13.7 (0.000)**	0.45 (0.28-0.70)
	Gender	Man	0.0	0.0	100	0.0	66.7	33.3	98.0 (0.000)**	-
		Woman	25.0	4.5	70.5	21.7	6.5	71.7	21.1 (0.000)**	0.35 (0.21-0.56)
	Contact	Yes	24.0	8.0	68.0	22.2	11.1	66.7	20.1 (0.000)**	0.35 (0.21-0.57)
		No	20.0	0.0	80.0	15.0	10.0	75.0	34.8 (0.000)**	0.25 (0.15-0.41)

PHU: Psychiatric Hospitalization Unit; Sig: **p<0.01; *p<0.05

Table 2. Pre and post semantic differential scores and effect size of changes.

Concept	Factor	Moment	Mean	SD	d	95%CI	t-test	p	Attitude
Mental Illness	E	Pre	2.0	3.7	0.4	0.8, 3.5	1.58	0.119	Positive
		Post	0.6	3.8		-0.6, 1.8			Neutral
	P	Pre	-1.0	2.5	0.5	-1.7, -0.2	-2.0	0.055	Negative
		Post	0.1	2.2		-0.6, 0.8			Neutral
	A	Pre	2.1	2.0	0.1	1.4, 2.7	-1.4	0.179	Positive
		Post	1.8	5.3		0.1, 3.4			Positive
Psychiatric Patient	E	Pre	3.9	4.1	0.1	2.6, 5.0	0.0	1.000	Positive
		Post	3.6	4.6		2.2, 5.0			Positive
	P	Pre	-0.2	2.7	0.2	-1.1, 0.6	-0.69	0.496	Neutral
		Post	0.3	2.2		-0.4, 1.0			Neutral
	A	Pre	1.7	1.9	0.3	1.2, 2.2	-2.00	0.056	Positive
		Post	2.3	2.0		1.8, 2.9			Positive
Psychiatric Hospitalization Unit	E	Pre	3.6	5.5	0.0	1.9, 5.3	0.39	0.698	Positive
		Post	3.6	6.4		1.6, 5.6			Positive
	P	Pre	1.6	3.1	0.9	0.6, 2.6	5.08	0.000**	Positive
		Post	-1.0	2.5		-1.8, 1.7			Negative
	A	Pre	2.3	2.5	0.2	1.6, 3.1	-1.56	0.124	Positive
		Post	2.8	2.1		2.1, 3.4			Positive

E: evaluation; P: potency; A: activity. Sig: **p<0.01; *p<0.05

Table 3. Mean and standard deviation with pre-post effect size according to dimensions.

	Mean (SD) pre	Mean (SD) post	d	T-test	p-value
Authoritarianism	9.1 (3.5)	10.3 (3.9)	0.3	-1.45	0.115
Benevolence	-13.7 (3.3)	-14.0 (5.3)	0.1	0.25	0.800
Social restriction	13.2 (3.6)	15.2 (7.2)	0.4	-1.62	0.116
Mental Health Ideology in the Community	-13.0 (3.9)	-13.3 (4.7)	0.1	0.41	0.687
CAMI total	-4.4 (4.2)	-1.8 (8.6)	0.4	-2.03	0.048*

Sig **p<0.01; *p<0.05

Table 4. Defining characteristics of interview participants.

ID	Age	Gender	Previous contact
E1	21	Female	Relatives
E2	22	Female	Relatives
E3	21	Female	Relatives
E 4	27	Female	Herself
E5	30	Female	Relatives
E6	21	Female	Relatives
E7	23	Female	Relatives
E8	21	Female	Non