



Original article

Predictors for nursing students' perception of working with older people

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Abstract: Introduction: The increasing number of older people around the world has increased the demand for elderly care nursing services. Understanding nursing perceptions can identify willingness to work with older people. **Objective:** This study aims to determine predictors for nursing students' perception of working with older people. **Methods:** A cross-sectional study was performed on 292 nursing students at the University of Medicine and Pharmacy. Stratified random sampling with an online self-reporting questionnaire was used to collect data from first- to fourth-year nursing students. Data analysis was performed using SPSS 20. Independent t-test, ANOVA and Pearson's correlation were utilised to determine the correlation of demographic variables, knowledge and attitude with perception. Moreover, multiple linear regression was applied to determine predictors for the perception of working with older people. **Results:** The mean score of perception of working with older people amongst undergraduate nursing students was 51.79 ± 6.31 . Factors related to perception include gender ($p=0.004$), geriatric nursing choice ($p=0.007$), knowledge about ageing ($p=0.001$) and attitude towards older people ($p<0.001$). Multiple linear regression analysis showed that gender ($\beta=-0.149$, $p=0.005$), geriatric nursing choice ($\beta=0.154$, $p=0.003$), knowledge about ageing ($\beta=0.122$, $p=0.021$) and attitude towards older people ($\beta=0.367$, $p<0.001$) are predictors for the perception of working with older people. **Conclusion:** An in-depth understanding of ageing and attitude towards older people in the geriatric curriculum plays a vital role in promoting nursing students' perception of working with older people.

Keywords: perception; knowledge; attitude; older people; nursing students.

1. INTRODUCTION

The quantity of senior citizens worldwide will grow over the next 30 years. The number of people aged 65 years and older in 2020 was 727 million, and the number of senior citizens worldwide is projected to reach over 1.5 billion by 2050 [1]. According to the General Statistics Office in Vietnam, the life expectancy of Vietnamese people has continuously increased to 73.6 years old from 65.2 years in 1989 [2]. The number of Vietnamese people aged 65 years and older is expected to account for 10.2% of the Vietnamese population by 2026, with an expected growth of 19.9% by 2054 [3]. The senior citizen population is to chronic diseases,

which require age-specific and effective medical treatments [4]. The increasing prevalence of the senior population with health problems, such as hypertension, diabetes, cardiovascular diseases, cancers and Alzheimer's disease, are directly related to the increase of morbidity and disabilities in the ageing Vietnamese population [5]. This phenomenon has led to the increase in the demand for elderly care services in the country.

Nurses are health professionals that have played an important role in caring for all age groups, especially senior citizens or the geriatric age group. However, working with older people is not usually the first career choice of young

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nursing students after graduation [6,7]. Previous studies indicated several factors that influence students' decisions, namely, inadequate knowledge, negative attitude, fear of death of aged patients, poor working environment, perceived unchallenging field of health care and low status related to this choice [8]. Although knowledge about ageing and attitude towards older people have been investigated in Vietnam [9], research on the perception of working with older people amongst nursing students is limited. This study aimed to determine predictors for the perception of working with older people amongst nursing students and identify which factors and how much each factor will contribute to the decision of nursing students towards working with older people. The results of this study may refine nursing geriatric courses and focus on factors that positively affect the perception of nursing students caring for older people. The changed perception of nursing students in caring for older people will meet the demand for care as this age group grows in number [6,10].

2. MATERIALS AND METHOD

2.1. Study setting and participants

A cross-sectional correlation study was conducted amongst nursing students of the University of Medicine and Pharmacy at Ho Chi Minh City (UMP) from March to July 2021. Participants of the study included first- to fourth-year full-time nursing students. Students with perceived study results, withdrawn from nursing school or absent during the time of the study were excluded from the investigation.

2.2. Sample size and sampling

The sample size was estimated using the mean formula of $n = \frac{z_{(1-\alpha/2)}^2 \delta^2}{\varepsilon^2 \omega^2}$, where n =sample size, $z_{1-\alpha/2}^2=1.96$ with a confidence interval of 95%, $\varepsilon=2\%$, ω =mean and δ =standard deviation. Mean±standard deviation of 51.30±6.50 from Ghimire [11] was applied to this study. The sample size of this study was 292 participants after calculating and adding the nonresponse rate (89.7%) [12] from collected data via online survey.

The number of students in each class was calculated using the formula of proportionate stratified random sampling: $n_h = n \times (N_h/N)$, where n_h =sample size for h stratum, N_h =population size for h stratum, N =size of the entire population and n =size of the entire sample. The percentage of student participants was 27.4% in their first year, 28.8% in their second year, 20.2% in their third year and 23.6% in their fourth year. Participants were then randomly selected via random rank in Excel.

2.3. Data collection

The researcher sent a link to the email of each participant chosen via sampling after receiving the permission to collect data. The link for Part I included the research introduction and consent form, and Part II comprised the Vietnamese self-reporting questionnaire. Participants were required to read Part I carefully and provide written consent before allowing access to the Vietnamese self-reporting questionnaire. The consent form clearly specified that the results of this study will not affect the academic outcome of participants to allow them

to feel comfortable and honest whilst sharing responses. In addition, directions for answering each section were described and the researcher's email address and telephone number were provided in the email for any problems or queries of participants. The online survey will take about 20–25 minutes to complete.

2.4. Study variables

Independent variables of this study include gender, year of study, religion, family type, living with older people, completion of geriatric course, elderly care experience, geriatric nursing choice, knowledge about ageing and attitude towards older people. The perception of working with older people was considered the dependent variable. An online self-reporting questionnaire comprised of four sections.

Section A focused on participants' general information with eight questions on gender, year of study, religion, family type, living with older people, completion of geriatric course, elderly care experience and geriatric nursing choice.

Section B measured knowledge on ageing using Facts on Ageing Quiz [13], which was translated to Vietnamese by Doan [9]. The quiz comprised of 38 multiple-choice questions (true/false/don't know), with total scores ranging from 0 to 38. A high score corresponds to high knowledge about ageing. Knowledge about ageing was divided into three categories, namely, low (<13), average (13–26) and high (26–38). Each correct answer is given one point whilst zero points are given to 'don't know/incorrect' answers. Cronbach's alpha of knowledge was 0.86 in this study.

Section C included 34 items for measuring attitude towards older people via Kogan's Attitude Towards Old People Scale, which was translated to Vietnamese by Doan [9]. A six-point Likert scale indicated answers from 'strongly disagree' to 'strongly agree', with results ranging from 34 to 204. Attitude towards older people was divided into three categories, namely, negative (34–101), neutral (102–136) and positive (137–204). A high score indicated giving more attitude. Odd-number items involved questions on negative attitude and were marked from 6 to 1, whereas even-number items involved questions on positive attitude and were marked from 1 to 6. Cronbach's alpha of attitude in this study was 0.886.

Section D consisted of 15 items that assessed perceptions of working with older people and were developed by Nolan (2006). The three broad areas of this section includes students' perception of working with older people in general, students' personal disposition to work with older people and students' perception of consequences of working with older people. A five-point Likert scale was used to express participants' answers from 'strongly disagree' to 'strongly agree', with results ranging from 15 to 75. Items 1, 3, 9, 10, 11, 13, 14 and 15 should be scored in reverse. The questionnaire on student's perception of working with older people was translated to Vietnamese (Appendix 1). Forward and backward translations by bilinguals (Appendix 2) were applied and then sent to a panel of three experts to test the CVI. The Cronbach's alpha of this study for Nolan's scale was 0.73. The content validity of this study was CVI=0.93.

2.5. Data analysis

Data were collected and analysed using SPSS 20. Demographic, levels of knowledge about ageing and levels of attitude towards older people were measured using frequency and percentage. Scores of knowledge, attitude and perception were denoted in mean± standard deviation. The independent t-test, ANOVA and Pearson’s Correlation test were utilised to identify the relationship between the perception of working with older people and demographic factors. p-values<0.05 were considered statistically significant. Predictors for perception of working with older people were examined using multiple linear regression analysis.

Multicollinearity, autocorrelation and homoscedasticity were tested before building a multiple linear regression model. Firstly, finding correlations between the score of perception of working with older people and demographic variables was reliant on t-test, ANOVA, and Pearson’s correlation analyses. Secondly, Pearson and point-biserial analyses were utilised to test for multicollinearity amongst independent variables. Thirdly, a scatter plot was applied to test for homoscedasticity. Fourthly, Durbin–Watson test was used to test for autocorrelation. The Durbin–Watson value was between 1.5 and 2.5, thereby indicating that autocorrelation is absent [14]. Lastly, predictors that influence

the perception of working with older people were determined on the basis of multiple linear regression analysis.

2.6. Ethical considerations

This study was approved by the Ethical Council Ho Chi Minh University of Medicine and Pharmacy following decision No. 409 DHYD-HDDD and signed on 3 June 2021. The purpose of the study was explained before obtaining written consent from nursing students to participate in the study and then their data will be collected if authorised.

3. RESULTS

A total of 292 nursing students participated in this study. The majority of participants were female (87.0%), without religion (75.7%) and from nuclear families (64.7%) and had not completed the geriatric course (49.3%). About 26.0% of participants reported living with older people in their homes. The percentage of first-, second-, third- and fourth-year students was 27.4%, 28.8%, 20.2% and 23.6%, respectively. Approximately 51.0% of participants revealed their inexperience with elderly care. The majority of nursing student participants have no intention of choosing geriatric nursing after graduation (78.4%) (Table 1).

Table 1. Demographic variables of the study participants (n=292)

Variable	Frequency	Percentage
Gender	Male	38
	Female	254
Year of study	First year	80
	Second year	84
	Third year	59
	Final year	69
Religion	Yes	71
	No	221
Family type	Extended	103
	Nuclear	189
Living with older people	Yes	76
	No	216
Completion of geriatric course	Accomplished	109
	Studying	39
	Unlearned	144
Elderly care experience	Yes	143
	No	149
Geriatric nursing choice	Yes	63
	No	229

Table 2. Knowledge about aging, attitude towards older people, perception of working with older people (n=292)

Variable	Frequency	Percentage	Mean±SD	Min–max	
Knowledge about aging	Low	30	10.3	17.24±4.02	0–26
	Average	259	88.7		
	High	3	1.0		
Attitude towards older people	Negative	1	0.3	125.00±9.85	99–167
	Neutral	258	88.4		
	Positive	33	11.3		
Perception of working with older people			51.79±6.31	28–71	

SD: Standard Deviation

Although participants’ knowledge about ageing with low, average and high level corresponded to 10.3%, 88.7% and 1%, their attitude towards older people was negative, neutral and positive at 0.3%, 88.4% and 11.3%, respectively. The mean

score of participants who completed the questionnaire on knowledge about ageing and attitude towards older people was 17.24±4.02 and 125.00±9.85, respectively (Table 2). The

score of perception of working with older people was 51.79 ± 6.31 and ranging from 28 to 71 (Table 2).

Table 3 presents the percentage of each answer of participants on the perception of working with older people. The majority of respondents believed that 'Nursing older people is a highly skilled job' at 80.2% whilst 55.8% believed that 'Nursing older people is challenging and stimulating'. Although 18.2% of respondents slightly agreed that 'Working with older people has a high status', 44.9% of respondents also agreed that 'I would definitely consider working with older people when I qualify'. The majority of respondents strongly disagreed that 'Nursing older people is mainly about basic care – it does not require much skill' at 80.1%, whilst

25% of respondents believed that 'I am really anxious about my first placement with older people'.

Associated factors with the score of perception are listed in Table 4. Gender ($t = -2.875$, $p = 0.004$) and geriatric nursing choice ($t = 2.745$, $p = 0.007$) showed statistically significant relationships with the perception of working with older people. Notably, females (52.19 ± 6.19) demonstrated significantly higher mean scores on perception than males (49.07 ± 6.49). Nursing students who intend to choose geriatric nursing after graduation (54.01 ± 7.62) obtained higher scores than those who did not (51.17 ± 5.77). Knowledge about ageing ($r = 0.197$, $p = 0.001$) and attitude towards older people ($r = 0.403$, $p < 0.001$) were positively correlated with the perception of working with older people.

Table 3. Perception of working with older people of nursing students (n=292)

No.	Question	Scale (%)				
		1	2	3	4	5
Students' perception of working with older people in general						
1	Nursing older people is mainly about basic care - it does not require much skill.	21.9	44.2	16.8	15.4	1.7
2	Nursing older people is challenging and stimulating	3.1	5.1	36.0	46.9	8.9
3	Nurses work with older people because they cannot cope with hi-tech care	41.1	39.0	12.3	6.5	1.0
4	The older you are the easier it is to have a good rapport with older people	4.8	19.2	34.9	36.0	5.1
5	Nursing older people is a highly skilled job	0.7	3.4	15.8	53.1	27.1
6	I think older people are really interesting to nurse	2.4	3.8	37.3	46.2	10.3
Students' personal disposition towards work with older people						
7	I would definitely consider working with older people when I qualify	4.8	8.2	42.1	36.3	8.6
8	I am really looking forward to my first placement with older people	6.5	12.0	47.3	28.1	6.2
9	I am really anxious about my first placement with older people	4.5	20.5	39.0	31.2	4.8
10	Working with older people does not appeal to me at all	9.6	39.7	35.3	11.3	4.1
Students' perception of the consequences of working with older people						
11	Work with older people is a dead-end job	16.4	44.2	25.0	11.3	3.1
12	Working with older people has a high status	5.1	16.1	60.6	16.1	2.1
13	Once you work with older people it is difficult to get a job elsewhere	14.4	44.5	27.7	11.0	2.4
14	Nursing older people provides little satisfaction as they rarely get better	9.2	31.5	33.6	22.9	2.7
15	Working with older people is not a good career move	14.4	38.4	35.3	11.0	1.0

1. Strongly Disagree 2. Disagree 3. Neither 4. Agree 5. Strongly Agree

Table 4. Associated factors with the perception of working with older people among nursing students: Univariate analysis (n=292)

Variable	Perception	p-value
Gender	Male	49.07±6.49
	Female	52.19±6.19
Year of study	First year	52.80±6.97
	Second year	50.60±5.70
	Third year	51.16±5.58
	Final year	52.52±6.63
Religion	Yes	50.84±5.72
	No	52.09±6.47
Family type	Extended	51.54±6.43
	Nuclear	51.92±6.25
Living with older people	Yes	52.56±5.86
	No	51.51±6.45
Completion of geriatric course	Accomplished	51.99±6.21
	Studying	51.17±5.61
	Unlearned	51.80±6.58
Elderly care experience	Yes	52.04±6.36
	No	51.55±6.27
Geriatric nursing choice	Yes	54.01±7.62
	No	51.17±5.77
Knowledge about aging		0.001^c
Attitude towards older people		<0.001^c

a: T-test b: ANOVA

c: Pearson's Correlation

Table 5. Associated factors with the perception of working with older people among nursing students: Multiple regression analysis (n=292)

Independent variables	B	SE	β	t	p-value
Gender [#]	-2.785	0.975	-0.149	-2.857	0.005*
Geriatric nursing choice ^s	2.365	0.798	0.154	2.964	0.003*
Knowledge about aging	0.192	0.083	0.122	2.317	0.021*
Attitude towards older people	0.235	0.034	0.367	6.944	<0.001*

B: Unstandardized coefficient β : Standardized coefficient

Constant=-0.475, R square=0.226, adjusted R square=0.215, Durbin-Watson=1.977

Dependent variable: Perception of working with older people

[#]: 0=female; 1=male

^s: 0=not intend to choose geriatric nursing after graduation; 1=intend to choose geriatric nursing after graduation

*: $p \leq 0.05$ that indicates the independent variables made a statistically significant contribution to the model

Multicollinearity, autocorrelation and homoscedasticity were tested before determining predictors related to the perception of working with older people. Firstly, values were less than or equal to 0.8 in the Pearson and point-biserial correlation tests, thereby indicating the absence of multicollinearity (Appendix 4). Secondly, constant variance was reliant on scattering in a narrow space ($\pm 3SD$), thereby indicating that data are homoscedastic (Appendix 5). Thirdly, the Durbin-Watson value was equal to 1.977. That laid between values of 1.5 to 2.0, thereby indicating the absence of autocorrelation. Lastly, gender, geriatric nursing choice, knowledge about ageing and attitude towards older people were predictors for the perception of working with older people (Table 5).

Table 5 shows that four predictors account for 22.6% of the variance of the perception of working with older people. Gender ($p=0.005$), geriatric nursing choice ($p=0.003$), knowledge about ageing ($p=0.021$) and attitude towards older people ($p<0.001$) were predictors for the perception of working with older people amongst nursing students. Specifically, the perception of working with older people amongst female nursing students was 2.785 times higher than that amongst male students. Besides, students who intend to choose geriatric nursing after graduation had 2.365 times higher score of perception than those who did not. Knowledge about ageing increased in each unit, with 0.192 units in the perception of working with older people, and attitude towards older people increased in each unit, with 0.235 units in the perception of working with older people. Moreover, attitude towards older people was the strongest amongst the predictors for the perception of working with older people.

4. DISCUSSION

Although the number of older people resulted in increased demand for caring services, choosing geriatric nursing was not a prioritised career choice in some studies. For example, Liu [6] showed that only 7.7% of nursing students in Hong Kong and 3.6% of nursing students in China selected working with older people as their first occupation. Gou [7] revealed that 38.1% of students show willingness to care for older people. This study found that approximately 80% of nursing students do not intend to work with older people after graduation, thereby indicating that working with older people is unattractive.

The majority of nursing students in this study reported their knowledge about ageing (physical, psychology and society ageing) from low to average level. This finding is consistent with the results of Gou [7] and Muhsin [15].

Nursing students generally demonstrated a neutral and positive attitude towards older people in this study. Shen [16] indicated that culture involving Confucianism in Eastern countries plays a vital role in influencing people caring for older relatives and is the primary factor that affects students' positive attitude towards older people. Liu [6] and Che [10] discovered an issue that the perception of working with older people is a predictor factor for intention or willingness to care for older people in the future. As a result, understanding the perception of working with older people amongst nursing students has partly played an essential role in providing the workforce for the increasing ageing population. Mattos [17] also argued that the majority of students exhibit positive perceptions using interview measures. Furthermore, the average score of perception in this study was consistent with that of the survey of Nepal [11].

Although perception was generally positive, this study discovered misconceptions study with the item 'Working with older people has a high status' was similar to the finding of Brown [18] because low-paying salaries for nursing older care lead to a negative attitude towards caring for older people. The number of participants that disagreed strongly with the item 'Nursing older people is mainly about basic care – it does not require much skill' was consistent with the results of Coffey [19]. The geriatric domain is regarded as a complicated field because of high-skill requirements. An effective way to improve the positive experience in working with older people is to enrich the clinical environment and help nursing students improve their perception of caring for older people using the Sense Framework of Nolan [20]. The reason for this suggestion is based on the findings of King [21] and Henderson [22]. Students show complex feelings towards the nursing home environment and are overwhelmed because new graduates are unprepared to work in a geriatric environment [21]. In addition, students prefer not to work with older people because of their fear of dealing with death and poor communication with older people [22].

This study discovered four predictor factors related to the perception of working with older people, namely, gender, geriatric nursing choice, knowledge and attitude, which can be used to improve the perception of working with older people. Firstly, females presented higher perception scores than males because Vietnamese women take on more family care roles, such as raising children and nursing older relatives [23]. Secondly, participants who chose geriatric nursing after graduation showed a higher score than those who did not. This finding is consistent with the results of Gou [7], which pointed out that students interested in working with older people can lead to willingness in caring for older people after they

graduate. Lastly, knowledge about ageing and attitude towards older people were predictors in promoting the perception of working with older people. This finding is related to the results of Ghimire [11] and Coffey [19]. Meanwhile, a study in Nepal demonstrated that people living with extended family demonstrate a high score on perception of working with older people [11]. The difference in family types could be explained because the knowledge and attitude of nursing students towards older people are influenced by whether or not they live with extended family and ageing relatives [15]. By contrast, evidence linking family type and perception of working with older people was lacking in this study.

Limitations of the study

Generalisation of this study was restrictive because data were collected from only one university. Thus, future investigations should widen the scope by including a variety of sources. Although honesty in participants' answers was encouraged in the consent form, information bias related to data collected online may occur.

Recommendations

The following recommendations are presented on the basis of the results of this study to enhance the perception of working with older people. Firstly, advancing nursing students' perception in working with older people should be encouraged by offering high positions, improving policies on promotion, offering high compensation, providing high-quality geriatrics unit and improving the care environment for older people. Secondly, nursing students should be equipped with adequate knowledge and a positive attitude towards older people to adapt to the increasing ageing population. Teaching-learning methods, such as film viewing with written reflection, class discussion [24] and empathy skill training programmes [25] as well as ageing simulation games [26], can be used to promote the perception about older people. Thirdly, activities involving interaction with older people, such as visiting nursing homes and volunteering to care for older people, must be made available to nursing students. Fourthly, direct data collection in a follow-up study will likely mitigate information bias. Lastly, qualitative studies can be performed to discover deeper insight into why nursing students prefer not to work with older people. For example, assistance from a clinical lecturer can influence students' willingness to care for older people in the future.

Conclusion

The results of this study showed that knowledge about ageing, attitude towards older people, geriatric nursing choice and gender are predictors for the perception of working with older people amongst nursing students. Therefore, advancing knowledge about ageing and attitude towards older people in the geriatric curriculum plays a vital role in promoting nursing students' perception of working with older people.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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