

ORIGINAL ARTICLE

The Relationship Between Knowledge and Attitudes of Malaysian Undergraduate Students Towards Dementia

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ABSTRACT

Introduction: Providing care for vulnerable people, including older adults with dementia, that is safe and efficient is a significant factor in improving their health. This study aims to determine the knowledge and attitudes of undergraduate nursing students regarding dementia in older adults. **Methods:** This is a cross-sectional study conducted among 126 undergraduate students at a Malaysian university using purposive sampling. The respondents' knowledge of dementia was measured using the Alzheimer's Disease Knowledge Scale (ADKS), and their attitudes towards dementia were measured using the Adolescent Attitudes towards Dementia. The scale of $P < 0.05$ was statistically significant, and the data was analyzed using the Statistical Package for the Social Sciences (SPSS) Statistics 26.0 for Windows. **Results:** The results showed that 78.6% of undergraduate nursing students had higher knowledge of dementia than 92.9% had positive attitudes toward dementia. There is a significant relationship between years of study and knowledge of dementia among UKM nursing students ($\chi^2 = 14.93$, $p = 0.001$). **Conclusion:** Most undergraduate students have higher knowledge of and positive attitudes towards dementia. A better understanding of the disease process improves the quality of life for people with dementia and their caregivers. Longitudinal and comparative studies were suggested for further research.

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INTRODUCTION

Dementia is a disorder that has traditionally been associated with older adults. Dementia affects over fifty million people worldwide, which is expected to rise to 152 million by 2050 (1). In 2015, over 123,000 people in Malaysia were diagnosed with dementia, and out of these, 8.5% of older Malaysian adults had dementia (2). These figures are predicted to rise to 261,000 by 2030, with a progressive increase to 590,000 by 2050 (3). In the United States, a similar situation exists, with the number of people aged 65 and older affected by dementia increasing year after year (4). As a result, dementia has become a significant public health concern.

Caring for seniors with dementia is challenging. As dementia progresses, symptoms impair memory, reasoning, orientation, understanding, estimation, and learning ability, while intelligence remains largely unaffected (1). According to Opara (2012), most dementia

patients are incapable of controlling their emotions, do not care for themselves, and lose their independence in daily life activities (5). Recent developments in dementia have heightened the need for caregivers with a high level of patience, sensitivity, feelings of compassion, empathy, and dedication (5,6,7,8). Thus, a person with these core qualities can easily recognize dementia patients' personalities and support their caregivers (9,10). Despite substantial research, one of the main obstacles is that this disease has neither a cure nor an effective preventative plan, making skilled nursing care a critical component of treatments (1,10). Recent evidence also shows that nurses play an important role in providing high-quality care that meets each patient's unique needs (10).

Previous studies have shown that nurses' knowledge of dementia care quality is inadequate (11,12,13,14). According to Chenoweth et al. (2014), a lack of knowledge is capable of limiting nurses' understanding of the development of dementia and also impairing their ability to recognize behaviors and respond appropriately to patients (15). Hence, in handling dementia patients, knowledge is essential. The increase in knowledge can make a person more skilled in managing dementia patients, and the basics of learning are while being an

undergraduate student. Previous research has proven that undergraduate study experience can improve the level of knowledge and attitudes in managing the health care of dementia patients (16). Indeed, through clinical experience and education, students' understanding of the needs, care, and support of a person with dementia can grow and develop (17,31). Undeniably, previous studies reported that undergraduate students have a high level of knowledge about dementia (16,17,18,19,20,21,24,25). In addition, Griffith et al. (2020) reported that Malaysian undergraduate students significantly had a positive attitude towards people with dementia. Around a third of the respondents determine dementia's potential risks (19). Despite this, numerous studies have revealed that most nursing students lack a basic understanding of dementia, including how it develops, how it can be prevented, and how it can be treated (21, 31). Indeed, the students perceived dementia as associated with a "crazy" stigma (22). Furthermore, the qualitative study findings indicate that nursing students believe they are not qualified to care for dementia patients and do not get to know these patients (19).

However, there has been little discussion about knowledge and attitudes toward dementia among nursing students in a tertiary hospital in Malaysia. The research to date has tended to focus on nursing students' knowledge in the Western world (19,20). So far, there has been no credible evidence regarding nursing students' level of knowledge and attitudes toward dementia among older adults. Moreover, previous research conducted in Malaysia aimed to examine the knowledge of dementia among nurses (11) and undergraduate students enrolled in schools of pharmacy and medicine (19). Nevertheless, Malaysian nurses have poor knowledge of dementia care and are significantly influenced by their nursing experience and personal learning behavior (11). Although dementia is a subject included in mental health courses, Griffiths et al. (2019) stated that there is still a lack of surveys on education in Malaysia for healthcare students. Dementia and its management are covered very minimally in the mental health courses, and there was no particular emphasis on the diagnosis and management of people with dementia in the training of healthcare professionals. Therefore, it is essential to determine the nursing students' knowledge of and attitudes towards dementia.

MATERIALS AND METHODS

This study is cross-sectional and has a quantitative design. The design allows researchers to collect all the data on a study population at a single point in time to examine the relationship between variables of interest. This study involved 126 undergraduate students enrolled in the four-year nursing programme at a public university in Malaysia (Table I). In this study, a purposive sampling approach was employed in which the samples were drawn from the entire population of undergraduate

Table 1: Total of the study population

Year of study	Number of students
One	28
Two	29
Three	48
Four	21
TOTAL	126

nursing students. This type of sampling does not involve sample size calculation and could minimize the risk of losing valuable knowledge or bias from the target population (23).

The exclusion criteria included students on extended leave or postponing their studies during the data collection period and those who had not been exposed to mental health posting. The student's knowledge of dementia was measured using the Alzheimer's Disease Knowledge Scale (ADKS) developed by Carpenter et al. (2009). This instrument consists of 30 closed-ended questions, with the participant selecting one of two true/false alternatives from 1 to 30 for each question (7). Respondents' knowledge level was determined using a cut-off point of 50% of the total maximum score obtained. Accordingly, a low level of knowledge is characterized by scores below 15, whereas a high level of knowledge is defined by scores above 16. Thus, scores below 15 indicate a low degree of knowledge, whereas scores above 15 indicate a high level of knowledge of dementia. The validity of this instrument is good, with a Cronbach's alpha of 0.71 (7).

In this study, attitudes towards dementia were measured using the development of the adolescent attitudes towards dementia scale developed by Griffiths et al. (2018). This scale was chosen in conjunction with the research article by Griffiths et al. (2020), which states the importance of involving young people aged 5 to 25 in associating themselves with dementia-friendly communities. Therefore, this instrument is suitable to use by undergraduate students who are under 25 years of age. This research instrument consists of 23 questions divided into three subdomains: Dementia Perspectives, Personal Sacrifice, and Empathy for People with dementia. This instrument's scale ranges from 1 to 5 points, from strongly disagree (1) to strongly agree (5). In addition, attitudes are divided into positive and negative scores. Having a negative attitude towards dementia when the score is less than 69, and having a positive attitude towards dementia when the score is 70 or more, shows that a person has a negative attitude towards dementia. The Cronbach's alpha for the Development of Adolescent Attitudes towards Dementia Scale is 0.83-0.85 (8).

Data collection procedure

The data collection process was initiated in April and May of 2021 among first-year to fourth-year nursing students. The researchers provided a study information sheet for respondents to read. If respondents accepted

to participate in this study, they were sent a Google Form survey. Next, the researchers gathered completed questionnaires using online records. Participants who had not completed the questionnaire were asked again to complete it. After the study was done, the data was typed up and stored on the computers of the researchers with a password.

Ethics, consent, and permission

The study was approved by the Ethics Committee of Universiti Kebangsaan Malaysia prior to conducting study. All participants provided written informed consent before participation. This research study was based on the ethical principles of autonomy, beneficence, confidentiality, and anonymity to ensure that parental rights were not violated by the study.

Data Analysis

This study analyses data using the Statistical Package for the Social Sciences (SPSS) Statistics 26.0 for Windows. The significance level was set at $P < 0.05$. Descriptive analyses such as mean, standard deviation, frequencies, and percentages were used in this study. The inferential analyses were performed using non-parametric tests due to the non-normal distribution of the data. The tests used in this study were the Mann-Whitney U test and the Kruskal-Wallis test (Table II). In this study, the posthoc test was implemented when the finding of the Kruskal-Wallis test was significant. Furthermore, all the information was presented in tables.

Table II: Table for Normality Distribution (n=126)

Independent Variable	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	Sig.	Statistic	Sig.
Total Knowledge Score	0.12	<0.001*	0.97	0.004*
Total Attitude Score	0.14	<0.001*	0.89	<0.001*

*P-value <0.05

RESULTS

The results show that the highest frequency of year of study among the respondents is third-year, with a total number of 49 (38.9%) respondents, followed by second-year (23.0%) and first-year (21.4%). On the other hand, the least number of respondents is from the fourth year,

with a frequency of 21 (16.7%) respondents. In addition, the study discovered that most participants were female, with 109 (86.0%) and 17 (14.0%) male respondents.

The nursing students' level of knowledge and attitude toward dementia

In this study, the level of knowledge about dementia was divided into low and high levels of knowledge. Most respondents scored a high level, with 99 (78.6%) compared to 27 (21.4%) respondents who scored a low level. Table III shows the evidence of attitude toward dementia, which was divided into a high level of attitude and a low level of attitude towards dementia. Out of 126 respondents, 117 (92.9%) respondents scored a high attitude towards dementia, while 19 (7.1%) scored a low attitude towards dementia. Furthermore, there is no significant relationship between the level of knowledge and the level of attitude towards dementia among undergraduate nursing students ($P = 0.27$).

Table III: The level of knowledge and attitude towards dementia among nursing students (n=126)

Variables	n (%)	Mean(SD)
Knowledge towards dementia		
Low Knowledge Level	27 (21.4)	17.21 (3.40)
High Knowledge Level	99 (78.6)	
Attitude towards dementia		
Low Level of Attitude	19 (7.1)	79.85 (10.07)
High Level of Attitude	117 (92.9)	

SD = standard deviation, *P value <0.05

The relationship between gender, knowledge, and attitude towards dementia

This study examined the relationship between gender, knowledge scores, and attitudes toward dementia with the Mann-Whitney U test (Table IV). Male students had a higher total knowledge score (Md = 17, mean rank: 67.47) than female students (Md = 62.88, mean rank: 62.88). The result showed no significant difference between the total score of knowledge and gender (male, $n = 17$, female, $n = 109$, $U = 859$, $p = 0.06$).

Furthermore, female students had a higher total attitude score (Md = 80, mean rank: 64.37) than male students (mean rank: 57.91). There was no significant difference in the total score of attitudes and gender (male, $n = 17$, female, $n = 109$, $U = 831.5$, $p = 0.50$).

Table IV: Relationship between gender and knowledge and attitude towards dementia (n=126)

Gender	N	Total Knowledge				Total Attitude			
		Mean Rank	Median	U value	p-value	Mean Rank	Median	U value	p-value
Male	17	67.47	17.00	859	0.06	57.91	79.00	831.5	0.50
Female	109	62.88	17.00			64.37	80.00		

Mann-Whitney U Test, *p-value <0.05

The relationship between years of study, knowledge, and attitude

In this study, the Kruskal-Wallis test was performed to identify the relationship between the year of study, total knowledge score, and attitude of the respondents (Table V). The fourth-year nursing students had the highest total score of knowledge (Md = 6, mean rank: 86.79) compared to year 1 (mean rank: 73.16), year 2 (mean rank: 56.87) and year 3 (mean rank: 51.46). There are significant differences between the total score of knowledge and four different years of study (first-year, $n = 27$, second-year, $n = 29$, third-year, $n = 49$, fourth-year, $n = 21$, $\chi^2 = 14.93$, $p = 0.001$). The effect size of this difference was calculated using SPSS, which yielded 0.13. This effect size value indicates that there was a near to large effect between total knowledge and year of study in this study (19).

Furthermore, fourth-year students had the highest total score of attitudes (Md = 8, mean rank: 75.40) compared to first-year (mean rank: 58.78), second-year (mean rank: 65.06) and third-year (mean rank: 60.34). There is no significant difference between attitudes across four different years of study ($\chi^2 = 2.24$, $p = 0.37$).

DISCUSSION

The purpose of this study was to determine the level of knowledge and attitude about dementia in older people and its relationships among nursing students. The overall result showed that more than two-thirds of the undergraduate students scored a high level of knowledge and attitude towards dementia. This finding was similar to the previous study in which the undergraduate nursing students had better knowledge of dementia (16,24,25). It might be because the majority of the students have been exposed to dementia patients since the first year of clinical placement. As a result, individuals who had prior experience caring for dementia patients could enhance their knowledge (24). Furthermore, there is no statistically significant relationship between knowledge level and attitudes toward dementia.

The most intriguing finding was that men and fourth-year students have a piece of high knowledge about dementia. In contrast, nursing students had poor knowledge of dementia, with limited understanding of key items

relevant to their clinical practice (31). Assessment of the level of knowledge of dementia is important to provide evidence of the need to enhance dementia learning in the nursing curriculum. The fourth-year students had the highest knowledge of dementia compared to other students in years one to three. These results align with previous studies confirming that nursing students possess increased knowledge about dementia (24,26). In this study, female and third-year students were the ones who did not know much about dementia, while male and first-year students had negative feelings about it.

This result shows no significant relationship between knowledge and gender. Nonetheless, there is an important relationship between years of study and nursing students' knowledge of dementia. These results seem to be consistent with previous studies, which found the length of the study was one factor influencing the level of knowledge about dementia (22,27). In contrast, a previous study found that female students had a higher overall knowledge score than male students (5). This situation is not surprising considering nursing is a female-dominated profession (28). Indeed, there is a significant gap between the numbers of women and men who become nurses.

The results of this study indicate that positive attitudes towards dementia are among the female and senior years of the study. Surprisingly, the data analysis showed no significant relationships between gender, year of study, and attitude towards dementia. These results are consistent with the previous research that found the respondents in Malaysian universities had a high attitude towards dementia (18). Indeed, this finding is in line with the work of other studies in this field that have linked positive attitudes about dementia with nursing students (19,21,26,27,29). Furthermore, these results reflect those of Poreddi et al. (2015), who also found that Indian nursing students have positive attitudes towards people with dementia (30). The nursing students have positive attitudes towards people with dementia, encouraging them to learn more about the disease (24,31,32).

Additionally, the years of study seemed to influence the student nurses' knowledge level and positive attitude toward dementia, with more years of study being more likely to achieve a high level of knowledge. Numerous

Table V: The relationship between year of study, a total score of knowledge and attitude towards dementia (n=126)

Year of study	N	Total knowledge score				Total attitude score			
		Mean Rank	Median	χ^2	p-value	Mean Rank	Median	χ^2	p-value
Year 1	27	73.16	12	14.93	0.001*	58.78	17	2.24	0.37
Year 2	29	56.87	18			65.06	13		
Year 3	49	51.46	35			60.34	26		
Year 4	21	86.79	6			75.40	8		

Kruskal-Wallis test; *p-value <0.05

studies found that fourth-year nursing students had higher overall knowledge than third-year nursing students (21). A possible explanation for this might be that most students have had experience caring for dementia patients since the first year of clinical placement. As a result, those who had previous experience caring for dementia patients could increase their knowledge about dementia in older people (6,13,15,16). According to Basri et al. (2015), intervention programmes that included hands-on clinical experience with dementia patients consistently improved students' knowledge and attitudes towards people living with dementia. Hence, students who had prior experience with older adults were more likely to plan to work with this population after graduation (20).

It was previously observed that optimal knowledge and skills in dementia care could improve patient outcomes and create positive attitudes towards caring for older people. These results reflect those of Salsabilla et al. (2021) and Cronin and Ojo (2021), who also found that students need to socialize in dementia care during their studies to reduce deficits in dementia care. In contrast, based on an Indian perspective, nursing students had insufficient knowledge related to Alzheimer's disease and dementia (30). While first-year highlights that year 1 students in the United Kingdom expressed a significantly more positive attitude than year 1 students based in Malaysia (17). However, the respondents who took part in Tullo and Young's (2014) study were medical students, not nursing students.

In general, it seems that clinical posting plays an essential role in enhancing knowledge of dementia among student nurses. Improving nursing students' understanding of dementia could help them perform better in various roles, including providing information about the disease process and developing management plans to maintain the highest communication skills (30). Previous research revealed that dementia-specific education has a substantial impact on students' attitudes, knowledge, self-confidence, and empathy, while the type of education has no effect. (19,33). It is suggested that nursing curriculum developers pay more attention to appropriate clinical placements so that students have experience providing care to individuals with dementia. Unfortunately, it was a limitation of this study that the effect of the curriculum on knowledge of dementia was not examined in this study.

However, this study also had several limitations. Firstly, the small sample size of participants is exclusive to nursing students, which may lead to bias as only the curriculum at the study setting was assessed. Secondly, the ability to physically meet the respondents was limited due to the movement control regulation, resulting in a slow response to the given questionnaire. Besides that, the quantitative approaches for this study. Therefore, the results may not be generalizable.

As a recommendation, a qualitative study was suggested for future research to explore the graduate nurses' experiences in caring for dementia patients. A longitudinal study was also suggested to assess the youth's perception of dementia among older adults.

CONCLUSION

The purpose of the current study is to determine the knowledge and attitude towards dementia among student nurses. The most prominent finding from this study is that most student nurses had high knowledge and positive attitudes toward dementia. Significant relationships have been found between the level of expertise and years of study. Further research is needed to explore the impact of the nursing curriculum on the care of dementia patients.

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