Knowledge and attitudes of undergraduate occupational therapy students towards older adults with dementia

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Abstract

Purpose – Due to the increasing incidence of dementia in Ireland, there is a need to prepare occupational therapy students for future careers in dementia-focused health care. The purpose of this study are to measure the knowledge and attitudes of Irish undergraduate occupational therapy students towards older people with dementia and examine related variables including year of study, personal and placement dementia experiences and future career choice.

Design/methodology/approach – Data was gathered using a cross-sectional online survey, incorporating the Alzheimer's Disease Knowledge Scale and the Dementia Attitudes Scale, which was analysed using descriptive and inferential statistics.

Findings – Seventy-five responses were gathered and analysed, indicating more advanced occupational therapy students demonstrate higher levels of dementia knowledge, but dementia attitudes remain similar across different year groups. Students with clinical dementia experiences displayed comparable levels of dementia knowledge and attitudes to those without. However, students with familial dementia experiences displayed significantly more positive attitudes. The likelihood of selecting a future career with older adults with dementia significantly related to students' positive dementia attitudes but not dementia knowledge.

Originality/value – To the best of the authors' knowledge, this is the first Irish study that focuses on undergraduate occupational therapy students' dementia knowledge and attitudes. The results could be used to inform and develop Irish undergraduate occupational therapy programmes.

Keywords Occupational therapy education, Older people with dementia, Dementia knowledge, Dementia attitudes

Paper type Research paper

Introduction

Dementia is an umbrella term that describes a progressive syndrome causing changes to the brain (Alzheimer's Society of Ireland, 2021) that cannot be attributed to the normal ageing process. Currently, 50 million people live with dementia worldwide, with figures projected to reach 82 million in 2030 (World Health Organisation, 2020). Presently, in Ireland, there are over 64,000 people living with dementia (Alzheimer's Society of Ireland, 2021), estimated to reach 150,000 by 2045 (Pierse *et al.*, 2019). The incidence is most common among older adults (Alzheimer Europe, 2020), who comprise 13.4% of Ireland's population (Central Statistics Office, 2016). Therefore, research addressing the care of older adults with dementia is both relevant and important to the current Irish situation.

The quality of care provided to people with dementia is influenced by health-care practitioners' and health-care students' knowledge of and attitudes towards people diagnosed with dementia (Glynn *et al.*, 2017; Horowitz *et al.*, 2014). Knowledge of dementia is the ability to understand the condition through acquired skills and information, whereas attitudes, including those towards dementia, are judgements with potential to affect behaviours and feelings in positive or negative ways (Basri *et al.*, 2017). To ensure future health-care practitioners are adequately prepared to work with individuals with dementia, research on undergraduate students' knowledge and attitudes is needed (Horowitz *et al.*, 2010).

Themes in existing literature

Studies have shown that both qualified health-care professionals and students can display stereotypical attitudes towards people with dementia (Piver *et al.*, 2013), viewing them as helpless, infantile or lacking awareness (Kane *et al.*, 2020). Such attitudes can have an adverse impact on older adults with dementia (Kane *et al.*, 2020) and can reduce the

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quality of dementia care provided (Scott *et al.*, 2019). Assessing and improving attitudes of health-care professionals towards people with dementia is of utmost importance. One factor that has been shown to encourage the formation of positive dementia attitudes is having more contact with older adults with dementia (Farina *et al.*, 2019).

As a research team, we were unable to find any published information specifically about occupational therapy students' dementia attitudes. However, a study on the attitudes of occupational therapists suggested that while many consider themselves unbiased, they demonstrate an infantilising approach when communicating with clients with dementia (Alden and Toth-Cohen, 2015). Given the significant effect that attitudes can have on the care provided to a person with dementia (Kane *et al.*, 2020), it is desirable for negativity to be eliminated in occupational therapy education. Therefore, it is important to explore how occupational therapy students' dementia knowledge and attitudes are influenced by aspects of their undergraduate education, including classroom-based learning, clinical placement experiences or volunteering opportunities.

The education that health-care students receive in college has been shown to have an effect on attitudes and beliefs, including those about older people (Knecht-Sabres, 2013). Studies have found that when content specifically focused on older adults with dementia is taught in a health-care degree, students' knowledge of dementia increases and attitudes can improve (Mastel-Smith *et al.*, 2020).

There has been research investigating whether the increase in dementia knowledge that often occurs during college education affects health-care students' dementia attitudes. Some studies conclude that as health-care students acquire more knowledge, they develop more positive dementia attitudes (Fernandez *et al.*, 2018). However, studies conducted on nursing students found that stereotypical beliefs increased as students progressed (Frost *et al.*, 2016), as a result of negative clinical experiences or exposure to ageist bias in the wider community (Stevens, 2011).

Overall, the literature on health-care students appears inconclusive, and further research is warranted to determine whether positive attitude development coincides with an increase in knowledge as occupational therapy students progress in their degrees.

Clinical placement is a major component of health-care education and is an essential learning experience for students (Knecht-Sabres, 2013). Undergraduate occupational therapy education in Ireland requires students to complete 1,000 h of clinical placement in addition to theoretical classroom learning (Association of Occupational Therapists of Ireland [AOTI], 2010). The combination of theoretical and experiential learning allows students to develop their understanding of key principles and put them into practice (Knecht-Sabres, 2013).

Studies have shown that service-learning experiences encouraging interaction between students and adults with dementia have reduced students' negative attitudes (Kimzey and Mastel-Smith, 2022). Short placement experiences, even five consecutive days, have been shown to increase the dementia knowledge of health-care students (Annear *et al.*, 2016). It was also found that students who had not completed dementia-focused placements demonstrated dementia knowledge but lacked understanding of how to apply theory (Kimzey *et al.*, 2016). This suggests that while theoretical education is valuable, clinical experience is a more significant factor in the development of health-care students' dementia knowledge and attitudes.

While there is limited research focusing on the development of occupational therapy students during placement, some studies found that gerontological placements with experienced mentors improved the willingness of students to work with older adults in future (Horowitz *et al.*, 2014). Due to the significance of placement in occupational therapy education, the gap in literature surrounding clinical placement with older adults with dementia and the development of dementia knowledge and attitudes warrants further investigation.

Research aims and hypotheses

The aim of this research was to measure the knowledge of and attitudes towards older adults with dementia held by undergraduate occupational therapy students in Ireland. Furthermore, sub-aims include investigating the relationships between independent variables: year of study, clinical placement and personal experience with older adults with dementia and dependent variables: dementia knowledge and attitudes and likelihood of pursuing a future dementia-focused career. Based on the results of the literature review and the researchers' experiences, the authors hypothesised a causal increase in both dementia knowledge and positive dementia attitudes due to increased dementia-related placement experiences and advancement in occupational therapy undergraduate degree.

Research design

Methodology

A quantitative correlational study using cross-sectional design was conducted to achieve the aims of the study. Ethical approval was granted from a Social Research Ethics Committee (Reference Number CT-SREC-2021-04).

Method

An online survey, designed by the researchers and incorporating two standardised tools, was used. Prior to its distribution, the survey instrument was piloted with seven occupational therapy students and their feedback regarding clarity and comprehensibility informed the final survey design.

The online survey consisted of three sections. Part 1 provided demographic information on respondents, including whether or not students had previous significant experience of dementia from past occupational therapy placements or their personal lives. Following questions gathered more detail on this, for example, the nature of personal experience through use of multiple choice, for example, family, part-time employment, voluntary work or other. Part 2 consisted of the Alzheimer's Disease Knowledge Scale (ADKS) (Carpenter *et al.*, 2009), a 30-statement true/false questionnaire that examined knowledge of dementia in seven areas: risk factors, symptoms, assessment and diagnosis, disease trajectory, life impact, treatment and management and caregiving. A maximum score of 30 can be achieved with higher scores indicating higher levels of dementia knowledge. Previous studies found that the ADKS had a high test–retest reliability coefficient of 0.81 and internal consistency

reliability values between 0.71 and 0.92 (Eshbaugh, 2014). Part 3 used the Dementia Attitudes Scale (DAS) (O'Connor and McFadden, 2010), a 20-statement questionnaire with a seven-point Likert scale designed to deduce respondents' attitudes towards people with dementia, with statements categorised as social comfort or knowledge. Scores can range from 20 to 140 with higher scores signifying more positive attitudes. O'Connor and McFadden (2010) found that the DAS had high internal reliability between 0.83 and 0.85. Both the ADKS and the DAS are valid tools, as they have previously been used to examine the dementia knowledge and attitudes of different groups (Scerri and Scerri, 2013). Permission was granted to use these standardised tools by the respective authors.

Study respondents and recruitment

Purposive sampling was used to recruit students currently enrolled in undergraduate occupational therapy degree programmes in two Irish universities. Occupational therapy lecturers in the respective universities acted as gatekeepers and received an introduction letter via email. It was ensured that students were aware that their participation was entirely voluntary and consent was obtained.

Data collection

Survey answers were collected via a password-protected Google Form, registered to secure accounts. Following distribution of the survey link via email by gatekeepers, the survey remained live from 10 January to 14 February 2022, with a reminder to participate sent on two occasions. Only members of the research team and supervisor had access to the data collected.

Data analysis

Demographic information was analysed through descriptive statistics. Other data generated was analysed through inferential statistics, using SPSS to conduct bivariate analysis for relationships between the variables, students' year of study, knowledge of dementia, attitudes to older people with dementia, desire for a future career with older adults with dementia and previous placement or personal experience with older adults with dementia. Shapiro–Wilk tests determined whether data was parametric or non-parametric. Parametric data was analysed using independent samples *t*-tests and one-way analysis of variance (ANOVA)s, whereas non-parametric data was analysed using Mann–Whitney *U* tests, Kruskal–Wallis tests and Spearman's rank-order correlations. This is discussed in more detail in the results section.

Results

Respondent profile

From a potential sample size of 210 students, 75 responses were received with a response rate of 35.7%. Seventy-two respondents were female (96%), two were male (2.6%) and one preferred not to say (1.3%). From the four-year degree programmes, respondents included 28 first-years (37.3%), 8 second-years (10.7%), 27 third-years (36%) and 12 fourth-years (16%). Socio-demographic and educational profiles are provided in Table 1.

The majority of respondents (n = 46, 61.3%) did not have placement experience with older adults with dementia. Of the respondents who had n = 29, 38.7%, they reported meeting this client group in a variety of practice settings, such as primary care (n = 9, 31.2%), acute hospitals (n = 8, 28.6%), residential centres (n = 7, 9.3%), adult mental health (n = 3, 4%) and psychiatry of later life (n = 1, 1.3%). The majority of respondents reported they had personal experiences with older adults with dementia (n = 52, 69.3%) related to family members (n = 32, 42.7%), whereas others gained experience in contexts such as part-time jobs, neighbours and friends. Most respondents (n = 53, 70.67%) would work with older adults with dementia in future, with the most common reason that the work is fulfilling (n = 42, 33.33%) and the most frequent reason for a negative response was increased interest in other areas of occupational therapy (n = 21, 16.67%).

Alzheimer's Disease Knowledge Scale scores

The mean ADKS score from 75 respondents was 23.37 (standard deviation [SD] = 3.47, range 10–30) equivalent to 77.69% (n = 1,753) of correct answers (Table 2). The mean score was higher in fourth-year students (25.36 ± 1.49) compared to third-year (24.7 ± 2.62), second-year (23 ± 3.67) and first-year students (21.48 ± 3.65). One-way ANOVA showed a significant difference between groups [$F(3,71)$ = 6.58, $p < 0.001$], with post hoc testing indicating significant differences in ADKS scores between first- and third-year students (mean diff: 3.221, p = 0.002) and first- and fourth-year students (mean diff: 3.881, p = 0.005), but not between first- and second-year students (mean diff: 1.517, p = 1.00). A steady increase can be seen in mean score as students advance in their undergraduate occupational therapy degree. Fourth-year respondents all scored within the narrow range of 22 and 27, giving the lowest SD of any year group (SD = 1.49). The fourth-year group as a whole displayed a higher level of dementia knowledge, compared to other years.

Dementia Attitudes Scale scores

Seventy-four students completed the Dementia attitudes scale (DAS). The mean DAS score was 112.15 (SD = 10.56) indicating that occupational therapy students have relatively positive attitudes towards individuals with dementia. Mean scores by year of study were as follows: first-year: (112.31 ± 11.415), second-year: (114.13 ± 14.086), third-year: (112.92 ± 9.147) and fourth-year: (108.45 ± 9.015) (Table 2).

A Kruskal–Wallis test revealed that there was no significant difference in the mean DAS scores of students in different years of their undergraduate programme, X^2 (2, n = 74) = 3.304, p = 0.347. Fourth-year students (mean = 108.45) recorded the lowest mean DAS score, signifying poorer attitudes, despite them being furthest in their college education. However, all fourth-year students scored above 96, the highest minimum score for any year group within the study.

Relationship between Alzheimer's Disease Knowledge Scale and Dementia Attitudes Scale scores

A Spearman's rank-order correlation assessed the relationship between DAS and ADKS scores. Results indicated no statistically significant correlation between scores, $r_s(72) = -0.143$, p = 0.225, meaning there is no significant relationship between undergraduate occupational therapy students' dementia knowledge and their attitudes towards older adults with dementia.

Table 1 Demographic profile of survey respondents

Demographic information	%	*n*
Total number of respondents		75
Female	96	72
Year of study		
- Year 1	17.44	30
- Year 2	15.12	26
- Year 3	25	43
- Year 4	18.6	32
Any placement experience with older adults with dementia	38.7	29
Placement duration		
- 1 week	6.7	2
- 3 weeks	6.7	2
- 5 weeks	30	9
- 8 weeks	33.3	10
- 10 weeks	13.3	4
- 12 weeks	3.3	1
Other:		
- 24 weeks	3.3	1
- 32 weeks	3.3	1
Any personal experience with older adults with dementia	69.3	52
Nature of personal experience*		
- Family	65	39
- Part-time job	20	12
- Neighbour	8.33	5
- Friend	5	3
- Volunteer work	1.67	1
***Some respondents (*n* = 7) reported having personal experience with older adults with dementia in more than one area**		
Would select a future career in an area with older adults with dementia	70.67	53
Rationale behind future career choice**		
- It is fulfilling	33.33	42
- I feel I work well with clients with dementia	19.84	25
- I enjoy working with older adults with dementia	18.25	23
- I am more interested in other areas of occupational therapy	16.67	21
- I find it stressful	2.38	3
- I feel that clients with dementia's needs are too much for my capacity	2.38	3
- Other	7.14	9
****Some respondents (*n* = 34) reported more than one reason behind career choice**		

Source: Authors' own work

Table 2 Mean ADKS and DAS scores according to year of study

Mean score ± SD	First-year	Second-year	Third-year	Fourth-year
Total ADKS	21.48 (3.65)	23 (3.67)	24.7 (2.62)	25.36 (1.49)
Assessment and diagnosis (4 questions)	3.39 (0.629)	2.88 (0.991)	3.63 (0.629)	3.5 (0.798)
Risk factors (6 questions)	3.54 (0.999)	4 (0.926)	4.3 (1.203)	4.58 (0.996)
Disease progression (4 questions)	2.61 (1.031)	2.75 (0.886)	2.78 (0.801)	2.83 (0.718)
Life impact (3 questions)	2.11 (0.786)	2.38 (0.744)	2.67 (0.48)	2.5 (0.674)
Treatment and management (4 questions)	3 (0.861)	3 (0.756)	3.67 (0.480)	3.67 (0.651)
Symptoms (4 questions)	2.68 (1.124)	3.38 (0.518)	3.19 (0.736)	3.58 (0.515)
Caregiving (5 questions)	3.93 (1.016)	4.25 (1.035)	4.52 (0.7)	4.67 (0.492)
Total DAS	112.31 (11.415)	114.13 (14.086)	112.92 (9.147)	108.45 (9.015)
Dementia knowledge	68.39 (5.763)	68.88 (8.543)	69.58 (3.455)	68.42 (3.260)
Social comfort	43.57 (9.151)	45.75 (8.795)	43.35 (8.409)	41.17 (7.234)

Source: Authors' own work

Placement experience, Alzheimer's Disease Knowledge Scale and Dementia Attitudes Scale scores

An independent samples *t*-test revealed that ADKS scores for those who had relevant placement experiences (24.03 ± 0.542) and those who did not (22.96 ± 0.580) were not statistically significantly different (95% cognitive impairment (CI), −2.72 to 0.564), $t(73) = -1.309$, $p = 0.195$. A Mann–Whitney *U* test was run to determine whether there were differences in attitudes towards older adults with dementia between those who had a placement experience and those who had not. Median scores were not statistically significantly different, $U = 646$, $z = 0.22$, $p = 0.982$. This demonstrates that having a previous placement experience working with older clients with dementia was not significantly related to higher ADKS or DAS scores.

Personal experience, Alzheimer's Disease Knowledge Scale and Dementia Attitudes Scale scores

An independent samples *t*-test revealed that ADKS scores for those who had personal experiences with older adults with dementia (23.5 ± 0.467) and those who did not (23.09 ± 0.767) were not statistically significantly different (95% CI, −2.164 to 1.33), $t(73) = 0.47$, $p = 0.640$. A Mann–Whitney *U* test examined the relationship between DAS score and personal dementia experiences. Median DAS score was statistically significantly higher in those who had personal experience with older adults with dementia (115) than those who had not (105), $U = 840.5$, $z = 2.969$, $p = 0.003$.

Relationship between future career choice and other variables

An independent samples *t*-test showed that ADKS scores for those with an interest in a future career involving older adults with dementia (23.08 ± 0.448) and those who did not (24.09 ± 0.847) were not statistically significantly different (95% CI, −0.745 to 2.776), $t(73) = 1.15$, $p = 0.250$. A Mann–Whitney *U* test demonstrated that the mean DAS score was higher in those who had expressed interest in a future career (mean = 115.12) than those who had not (mean = 105.14), $U = 890$, $z = 3.764$, $p < 0.001$.

A Spearman's rank-order correlation determined that there was no statistically significant relationship between the variables of future career choice and dementia placement experiences, $r_s(73) = 0.030$, $p = 0.795$. In contrast, there was a statistically significant weak, positive correlation between the variables of future career choice and personal dementia experience $r_s(73) = 0.334$, $p = 0.003$. Higher ADKS scores and previous placement experience were not associated with higher likelihood of selection of dementia-related careers, whereas DAS scores and personal dementia experiences did.

Discussion

This study investigated the relationship between dependent variables, students' dementia knowledge, attitudes and likelihood of pursuing a future dementia-focused career and independent variables, year of study, clinical placement and personal experience with older adults with dementia. As hypothesised, more advanced students displayed higher levels of dementia knowledge. However, contrary to the research team's expectations, year of study was not associated with more positive dementia attitudes. A further surprising finding was the fact that personal experience was the main factor associated with developing positive attitudes.

The correlation between year of study and increased dementia knowledge is concurrent with the results of similar international studies on nursing and medical students (Scerri and Scerri, 2013; Wang *et al.*, 2020). Similarly, the lack of correlation between year of study and development of positive dementia attitudes is congruent with similar studies conducted on nursing students (Frost *et al.*, 2016). The results of this study showed a significant drop in the fourth-year occupational therapy year group's mean DAS score, in comparison to the other year groups. It is possible that high scores obtained by students in other year groups were as a result of personal experiences and not solely as a result of progression through the occupational therapy undergraduate degree course. In addition, a lack of clinical experience could partially explain lower scores.

The data showed that there was no positive correlation between clinical placement and the knowledge or attitudes of occupational therapy students. As clinical placement is a large component of national and international undergraduate occupational therapy education (AOTI, 2010; Tokolahi and Robinson, 2021), this finding is surprising and contrasts with previous research which found that the dementia knowledge and attitudes of health-care students improved post-placement (Annear *et al.*, 2016; Kimzey *et al.*, 2016).

However, it is possible that clinical placement experiences, and by extension study results, were affected by the COVID-19 pandemic. As a result of global restrictions, health-care placements were carried out non-traditionally with fewer client contact hours (Conlon *et al.*, 2020), especially evident in services used by older adults with dementia (Numbers and Brodaty, 2021), which could account for 61.3% of respondents lacking dementia-related placements. However, some studies have found that even short dementia-related health-care placements can improve dementia knowledge, raising the question whether it is clinical placement quality and not reduced duration that affects the development of dementia knowledge and attitudes. Regardless of the underlying reason, dementia-focused clinical placements are not improving knowledge and attitudes, which needs to be addressed.

Contrastingly, students who had personal experiences with older adults with dementia displayed more positive attitudes in comparison to their peers who had not. Interestingly, the strongest correlation with more positive dementia attitudes is familial dementia experiences, not academic-related factors. This may have generated empathy for those with the condition (Hamill, 2021). To produce occupational therapy graduates with positive attitudes towards future clients with dementia, it is necessary that the undergraduate occupational therapy degree course promotes the development of such empathy through varied teaching approaches (Mastel-Smith *et al.*, 2020).

Student's positive dementia attitudes strongly relate to their likelihood of considering dementia-related future careers. Notably, the majority of respondents expressed a desire to work with older adults with dementia in future. In addition, students with personal experiences with older adults with dementia were more likely to consider careers where they would encounter clients with dementia. Interestingly, future career choice did not correspond with higher levels of dementia knowledge or

placement experiences. There is increased demand for occupational therapists in dementia-focused health care, suggesting a need for redesign of the current practice education programme to better prepare students. The development of positive dementia attitudes needs to be facilitated through undergraduate occupational therapy education by increasing interaction with older adults with dementia through volunteering or service-based learning opportunities (Feeney *et al.*, 2021).

Implications for practice and future research

This study has highlighted that there is no correlation between clinical occupational therapy dementia placement and development of students' dementia knowledge and attitudes. Future occupational therapy education development needs to focus on enhancing the dementia knowledge and attitudes of future clinicians. This study has provided a baseline for occupational therapy students' current knowledge of and attitudes towards older adults with dementia. There is much scope for further research, as occupational therapy educators, individuals with dementia and their caregivers could provide valuable insight into this topic. These findings provide a starting point for the development of dementia education and training programmes for undergraduate occupational therapy students, specific to the context of practice in Ireland. In addition, given that both class-based and clinical placement-based learning experiences of undergraduate occupational therapy students surveyed were disrupted by the COVID-19 pandemic, it would be interesting to conduct a similar study on students in post-pandemic times.

Conclusion

Older adults with dementia are a growing population in Ireland, resulting in a need to adequately prepare occupational therapy students to effectively fill positions in this expanding area of health care, by ensuring they have high levels of dementia knowledge and positive dementia attitudes. This study found that progression through an undergraduate occupational therapy degree is associated with increasing dementia knowledge. However, there is no correlation between year of study, or placement experiences, and development of positive dementia attitudes. However, the likelihood of students choosing a future career working with older adults with dementia is higher among those with more positive attitudes towards such clients. Further research is required to determine how to address this potential deficit in Irish occupational therapy education and ensure a graduating workforce with positive dementia attitudes.

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Further reading

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