Student radiographers' attitudes toward the older patient – An intervention study

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Radiography

Introduction

A consequence of Norway's ageing population is that Norwegian student radiographers are increasingly exposed to older people both during their clinical placements and after graduation. It is postulated that working with these frail and ill older patients can bring about negative ageist attitudes,[1] which in turn impacts on the care of this vulnerable group. Therefore a positive attitude is an important step towards providing high quality care for the ageing population.

Background/literature review

The population in developed countries is ageing.[2] In 2000, the population aged 60 years or over numbered 600 million globally, and this number is expected to surpass 2 billion by 2050.[3] In 2010 there were 625,000 people aged over 67 in Norway, which represented 13% of the population and this number is expected to increase to 1.5 million, representing over 20% of the population, by the year 2060.[4] Increased life expectancy results in individuals spending more years living with chronic illnesses[5] and an inevitable consequence of growth in the older population will be an increase in demand for hospital services.[2] In 2012 alone, a total of 304,222 patients aged over 67 years of age were admitted to Norwegian hospitals, making up 34% of the total admissions during this time.[6]

Health practitioners have been shown to foster negative ageist attitudes.[7] This perhaps explains why these hospital admissions are correlated with decreases in life satisfaction scores[8] and dissatisfaction with care, when the experiences of older people are compared to those of their younger counterparts.[9] Older patients who are hospitalised complain of being made to feel; inferior, passive, lacking in understanding which in turn contributes to feelings of isolation, loneliness and depression.[10] Increased morbidity and mortality has also been noted in this age group.[11]

A practitioner's behaviour may go some way to improving the older patient's experience whilst in hospital,[10, 12] but the literature suggests that age related attitudes and stereotypes, which open the door to stigmatization, exclusion and ageism are common amongst healthcare staff.[13] Kearney et al. (2000)[1] argues that practitioners are particularly susceptible to developing ageist attitudes and stereotypes because their exposure to older adults tends to be to those who are frail, infirm, vulnerable and ill. This suggestion is supported by Collins & Brown (1989)[14] who found that student nurses who were initially exposed to well older patients held significantly more positive attitudes towards older patients

than those students who were initially exposed to older patient who were infirm and unwell. Similarly, Lookinland & Anson (1995)[15] found that qualified nurses who worked with the frail and unwell elderly had more negative attitudes than those who worked with the well elderly. Attitudes of health practioners are an important predictor of the quality of care an older patient might receive, for example in their literature review Courtney et al. (2000) cite several studies where attitudes have directly impacted on care.[16] They go on to discuss correlations between negative attitudes towards older patients and the use of restraint as well as the tendency to stereotype the older patient rather than seeing them as an individual. Nurses who hold positive attitudes are more interested in talking to their patients, and placed a great deal of importance on general nursing care e.g. bathing and toileting.[16]

Although very little research has been undertaken on attitudes towards older patients in diagnostic radiography, it appears that these attitudes are mixed. For example, Fowler (1997)[13] demonstrated a positive attitude towards older patients amongst undergraduate and qualified radiographers, using Kogan's attitudes towards old people scale (KOP). Despite this positive response, interviews with radiographers revealed that they find working with older patients more difficult, as it requires more time in an already busy environment. However, the sample size used here was small and limited to a single district general hospital. In contrast Kearney et al. (2000)[1] found that radiographers have a negative attitude towards older people, although it is unclear whether this research was conducted using therapy or diagnostic radiographic staff and this might explain the difference between the two studies. Both Fowler (1997)[13] and Kearney (2000)[1] agree that if radiographers are to provide optimal treatment to older patients, negative attitudes must be addressed.

To our knowledge no literature exists on how care of older patients might be improved in radiography, although strategies are well documented in both the medical and nursing literature. For example Nicol et al. (2005)[17] demonstrated a significant improvement in the oral health of older patients after a targeted educational intervention with healthcare staff. “As with any societal group, the older adult has particular needs”,[13] perhaps it is time that care of the older adult is seen as a speciality in radiography, as it is in other disciplines. When reviewing the literature it seems academia, particularly undergraduate education, has an important role to play in preparing students for working with the ageing population, dispelling myths and stereotypes around ageing and promoting positive attitudes.[18] For example, Aday and Campbell (1995)[19] reported positive attitudes towards older patients after teaching gerontological care in nursing. These findings have been reflected in numerous studies that used education as a vehicle for promoting positive attitudes towards ageing, some of whom argue the effects of which remain up to 12 months post intervention.[20] However, there were many variations in how these interventions are delivered, with some lasting only 6 hours[21] to others using many sessions over a whole semester.[22] There are also variations in the techniques used to deliver positive ageing messages e.g. didactic lectures,[20] simulations[22] and role play.[23]

This paper, which forms part of a wider longitudinal study, reports on the attitudes of radiography students towards older adults and the influence of an educational intervention on these attitudes.

Design

A pre-test post-test design using 1st year undergraduate radiography students

Sample

All first year undergraduate radiography students (n = 42) volunteered to take part in the study. All forty two undergraduate students attended the class and completed the pre-test. Three students attended only part of the intervention, day 1, and one student did not attend on the second day. Therefore the final sample consisted of 38 students who attended the full programme and completed both the pre and post-test questionnaire. The mean age was 23.47, (SD 4.38). 76% were female. It should be noted that, at this stage in their training, the students had no experience of clinical placement as the present study also provides the base line scores for the wider longitudinal study. Further information such as ethnicity, previous experience of older people or education was not collected as the sample size was not large enough to draw any meaningful conclusions; previous research has been contradictory in the significance of these variables[15]; finding a correlation between these variables was not an aim of the present study.

Measures

Attitudes were assessed using the Norwegian version of the English questionnaire 'Kogan's attitudes toward old people scale' (KOP)[24] which has been used in gerontological research for more than 35 years. The KOP was translated into Norwegian using a standard translation-back-translate procedure, however this is not the first time the KOP has been translated into the Nordic languages.[25] It demonstrates good internal and external reliability[1] and due to its historical use in research, the results from the present study can easily be compared. However in criticism of the KOP it has been argued to be outdated, and lacks a patient/caring focus.[16] It could be argued here that as a consequence of this, the present study will reflect general societal attitudes rather than those that are specific to the clinical environment.

The questionnaire itself consists of 34 attitudinal statements, seventeen of which are positive statements and seventeen are negative. Responses are graded using a seven point Likert scale. Response alternatives include, strongly agree, slightly agree, agree, uncertain, disagree, slightly disagree and strongly disagree; negative statements are reverse scored for analysis. The total score ranges are from 34 to 238, with a score of 136 indicating a neutral attitude; scores above 136 signify a more positive attitude.

Procedure

The study followed the standard ethical guidelines for research conducted on students in Norway. The Dean of the Faculty of Health and Social Sciences, Bergen University College was contacted to request consent regarding participation in this study. After the approval, the questionnaire was distributed on-site to all students attending the classes. Before distributing the questionnaire students were informed of the aim of the study, the voluntary nature of their participation, were guaranteed anonymity, and assured that no personal identifiers would be collected.

Intervention

The intervention itself took place over two days and was based partly on the work of Aday and Campbell (1995),[19] Blundell et al. (2011)[22] and Palmore (1999).[26] The first day used mainly didactic sessions, which covered statistics around the ageing population, ageing processes, pathologies associated with ageing and ageism itself. The purpose of these sessions was to dispel many beliefs around ageing, as it is widely considered that it is these beliefs that give rise to ageist attitudes and stereotypes.[17, 24, 26] We used Palmore (1999)[26] and his extensive work around ageism, attitudes and stereotypes as the basis for these common myths and perceptions e.g. figures on dementia and chronic conditions in older patients. The ageism session focussed on how ageism is perpetuated both overtly in media and health care and covertly through communication styles.[16, 18, 26] These sessions were not specifically focused on dealing with older people in the clinical environment as age related stereotypes are societal i.e. they are not only formed in the clinical environment.

The second day made use of workshops where students dressed in suits that simulated the physical conditions associated with ageing e.g. muscle fatigue and movement restriction (Sakamoto Model, M176). Other activities were designed to simulate the sensory conditions associated with ageing e.g. macro-degeneration, diabetic retinopathy and hearing loss. These sessions, used successfully in previous research that looked at attitudes towards older patients,[22] were clinically focussed (took place in x-ray rooms) and designed to enable students to reflect on the conditions associated with ageing and how with adaptation, activities in the x-ray room (positioning techniques) can be achieved.

Data analysis

Summary statistics (frequencies and percentages) are presented for age, gender and pre and post KOP scores. Wilcoxon sign test was used to compare the KOP score between pre and post-tests. A *p*-value of $\leq .05$ was considered to indicate significance. All analyses were conducted using the statistical package of social sciences (SPSS) window, version 21.0 (SPSS Inc. Chicago USA).

Results

The mean pre-intervention KOP score was 155.84, SD 16.32 (range 121–187) increasing to 165.92, SD 18.13 (range 133–206) post intervention. Wilcoxon sign test identified significant differences between these pre and post intervention scores ($p = 0.01$). No students scored the same pre and post intervention; 33 students had an overall more positive score; and 5 had a more negative score (though these scores were still more positive than the neutral). Further analysis of individual questions reveals that these differences are not significant for all questions. The pre and post-test scores are presented in Table 1.

Table 1. Pre- and post-test scores for each question and associated levels of significance. Scores presented in italics are those that were found to be significant.

Items	**Positive (P) Negative (N)**	**Pre-test mean score (SD)**	**Post-test mean score (SD)**	***p* values**
1. It would probably be better if most old people lived in residential units with people their own age.	N	*4.63(1.78)*	*5.21(1.38)*	*.016*
2. Most old people are cheerful, agreeable, and good humoured	P	*4.34 (1.46)*	*5.16(1.29)*	*<.001*
3. Most old people are constantly complaining about the behaviour of the younger generation	N	*3.71(1.41)*	*4.29(1.47)*	*.019*
4. People grow wiser with the coming of old age.	P	4.26(1.55)	4.63(1.36)	.129
5. Old people have too much power in business and politics	N	*4.84(1.39)*	*5.26(1.20)*	*.027*
6. When you think about it, old people have the same faults as anybody else	P	4.66(1.82)	4.45(1.83)	.730

Items	Positive (P) Negative (N)	Pre-test mean score (SD)	Post-test mean score (SD)	*p* values
7 In order to maintain a nice residential neighbourhood, it would be best if too many old people did not live in it.	N	5.79(1.19)	5.87(.84)	.688
8. Most old people would prefer to continue working just as long as they possibly can rather than be dependent on anybody	P	*4.55(1.43)*	*5.37(1.46)*	*.001*
9. Most old people tend to let their homes become shabby and unattractive.	N	5.63(1.10)	5.39(1.13)	.330
10. Most old people seem quite clean and neat in their personal appearance.	P	*4.50(1.47)*	*5.00(1.41)*	*.030*
11. Most old people are irritable, grouchy, and unpleasant.	N	*5.13(.91)*	*5.61(1.15)*	*.042*
12. Most old people need no more love and reassurance than anyone else	P	2.53(1.48)	2.21(1.26)	.141
13. It is evident that most old people are very different from one another.	P	5.71(1.61)	6.03(1.37)	.277
14. Most old people are really no different from anybody else; they're as easy to understand as younger people.	P	3.37(1.48)	3.42(1.67)	.773
15. Most old people get set in their ways and are unable to change	N	*3.37(1.67)*	*4.08(1.65)*	*.009*
16. Most old people can generally be counted on to maintain a clean, attractive home	P	5.32(1.25)	5.29(1.41)	.933
17. It is foolish to claim that wisdom comes with age	N	4.39(1.55)	4.55(1.72)	.566

Items	Positive (P) Negative (N)	Pre-test mean score (SD)	Post-test mean score (SD)	*p* values
18. You can count on finding a nice residential neighbourhood when there is a sizeable number of old people living in it.	P	4.11(1.49)	4.42(1.22)	.091
19. There are a few exceptions, but in general most old people are pretty much alike	N	5.32(1.65)	5.55(1.27)	.388
20. One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences.	P	5.66(1.40)	5.53(1.35)	.283
21. Most old people spend too much time prying into the affairs of others and giving unsought advice	N	*4.37(1.58)*	*5.03(1.40)*	*.034*
22. Most old people should be more concerned with their personal appearance; they're too untitdy	N	5.42(1.00)	5.50(1.01)	.703
23. Old people should have power in business and politics	P	3.84(1.57)	4.24(1.58)	.093
24. Most old people make one feel ill at ease	N	5.18(1.37)	5.26(1.31)	.757
25. It would probably be better if most old people lived in residential units with younger people.	P	*4.13(1.55)*	*4.63(1.42)*	*.040*
26. There is something different about most old people; it's hard to find out what makes them tick	N	4.89(1.27)	4.92(1.32)	.771
27. Most old people are capable of new adjustments when the situation demands it.	P	*4.39(1.62)*	*5.24(1.50)*	*.007*

Items	Positive (P) Negative (N)	Pre-test mean score (SD)	Post-test mean score (SD)	*p* values
28. Most old people would prefer to quit work as soon as pensions or their children can support them.	N	3.87(1.23)	4.16(1.31)	.198
29. Most old people tend to keep to themselves and give advice only when asked.	P	2.97(1.42)	3.39(1.35)	.054
30. If old people expect to be liked the first step is to try to get rid of their irritating faults	N	*5.34(1.49)*	*5.87(1.02)*	*.004*
31. One seldom hears old people complaining about the behaviour of the younger generation.	P	*3.29(1.52)*	*3.71(1.52)*	*.038*
32. Most old people make excessive demands for love and reassurance than anyone else	N	5.53(1.35)	5.74(1.39)	.074
33. Most old people are very relaxing to be with	P	5.37(1.32)	5.13(1.28)	.146
34. Most old people bore others by their insistence on talking "about the good old days"	N	*5.42(1.50)*	*5.79(1.34)*	*.038*

Discussion

The Mid-Staffordshire enquiry[27] called for better training and education in the care of older patients, presenting new challenges for academics in how to deliver these interventions and evaluate their impact on care. A healthcare practitioner's attitudes are known to affect behaviour towards a particular group,[16] with more positive attitudes being associated with better care[16] and it is for this reason that attitudes were measured to determine the success of the education intervention we designed.

This study, like Fowler (1997),[13] identified positive attitudes amongst student radiographers before the intervention (mean score 155.84) but a significant overall increase in positive attitudes after the intervention (mean score 165.92).

Although an overall increase in positive attitudes was noted in this study, it is apparent that this change is not significant for all questions (see Table 1). For example a significant difference in positive attitudes was noted for questions relating to personality;

"*Most old people are cheerful, agreeable and good humoured*" (Q2) ($p < .001$). Scored more positively

"*Most old people are irritable, grouchy and unpleasant*" (Q11). ($p > .042$). Scored more negatively

But no significant difference in positive attitudes were seen for Q.4 and Q.17, '*wisdom is associated with old age*' ($p > .05$), although the attitude scores were positive both pre and post intervention.

It was also interesting to note conflicting responses. For example a significant difference was found pre and post intervention to the statement '*Most old people seem quite clean and neat in their personal appearance*' (Q10), but not to the statement '*Most old people should be more concerned with their personal appearance; they're too untidy*' (Q22). However Q22 scored more positively pre-intervention than Q10 and this is perhaps why we did not see a significant move post intervention.

Question 12 '*Most old people need no more love and reassurance than anyone else*', received the lowest score pre-intervention and an even lower score post intervention, indicating a negative attitude here. It would seem therefore that the intervention had no effect on dispelling this common stereotype known to exist amongst care professionals. [18] and [26] Stubborn attitudes are hard to change[26] and this comon stereotype may be particularly prevalent amongst care staff as they perceive their role to be that of providing a service of caring and reassurance. It is a recommendation of this study to investigate why such a stereotype exists.

Despite closer analysis revealing that a significant difference did not exist for all questions, the overall significant increase in positive attitudes correlates with the findings of Aday & Campell (1995)[19] and Eymard et al. (2010)[28] who found education to have a significant positive effect on attitudes to older people. These studies and the findings of the present study therefore suggest that education has an important role in developing positive attitudes towards the older patient.

What the findings of this present study do not demonstrate however, is whether these positive attitudes do actually influence the quality of care given to the older patient. Again the literature on whether they do is contradictory and little has been undertaken in radiography. Certainly the literature review conducted by Courtney et (2000)[16] suggest that positive attitudes engender positive care. However, Harrison and Novak (1988)[29] found that although nurse's attitudes towards older patients were more positive after an educational intervention, patients were no more satisfied with their care. It is therefore a recommendation for future research that radiographer's attitudes towards older patients and impact on patient satisfaction with clinical care be evaluated.

It has also been suggested that exposure to the clinical environment can have a negative impact on radiographer's attitudes.[1] A follow up to this study will be to retest this cohort of students throughout

their training to determine whether this academic intervention is enough to foster positive attitudes towards the older patient throughout their educational tenure.

The education intervention itself was well received by the students with many commenting on how the simulation sessions helped them consider the mobility difficulties that older patients may face in the x-ray department. This is considered to be an important finding as ' … students remember 20% of what is heard, 30% of what is seen and 80% of what is experienced'.[30] It would be interesting to evaluate in future research how this experience translates into clinical practice e.g. the consideration of mobility and adaptations of positioning techniques.

Conclusion

This study aimed to assess the attitudes of Norwegian radiography students towards older patients and the influence of an educational intervention on these attitudes. It was found that these students had a positive attitude towards older people using KOP scale prior to the intervention, which was similar to findings from research conducted in other countries. These positive attitudes significantly increased post intervention. Given the increasing ageing population healthcare practitioners need to be prepared for caring for this vulnerable group. This study provides evidence that education can play a vital role in at least dispelling some of the negative attitudes towards the older person.

Conflict of interest statement

There are no conflicts of interest.

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