

Original Research Article

Attitude towards the Elderly among Healthcare Related Students in Malaysia

Panmial P. Damulak, Halimatus S. Minhat, Anita A. Rahman

Department of Community Health, Faculty of Medicine and Health Sciences, University Putra, Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

Corresponding Author: Halimatus S. Minhat

Received: 28/05/2015

Revised: 24/06/2015

Accepted: 05/10/2015

ABSTRACT

The focus of this study was to determine the attitude towards the elderly among healthcare related students in Malaysia. The Cross-sectional survey design (CSD) was used for the study. A total of 63 nursing students and 456 medicine students were drawn by stratified random sampling from University Putra Malaysia. Data was collected using a validated modified standard questionnaire consisting of socio-demographic characteristics, Kogan's Attitude Towards Old People Scale, Facts on Ageing Quiz 2, filial responsibility questionnaire, experience living with elderly questions as well as questions on exposure to geriatric module. Data generated were subjected to statistics of frequency count, percentage and chi-square. The results showed that the mean attitude score was 37.82 ± 5.641 with overall attitude being negative (52.0%). Mean filial score was 30.10 ± 5.387 , and students had low filial responsibility (53.0%), although there was no exposure to geriatric module (54.1%), nevertheless students had a good knowledge of ageing (74%), 70.3% are currently living with the elderly while 74.0% previously lived with the elderly. Furthermore, there was significant association between attitude towards the elderly and filial responsibility ($\chi^2 = 44.599$, $p = 0.001$), age ($\chi^2 = 11.518$, $p = 0.042$) and year of study ($\chi^2 = 12.699$, $p = 0.031$). Consequently, it was concluded that the attitude towards the elderly is significantly associated with low filial responsibility, age, year of study and nursing home visit with the recommendation that geriatric components should be improved and included at every stage of healthcare professional training.

Keywords: Attitude, elderly; filial responsibility; geriatric module.

INTRODUCTION

Population ageing is one of the most important events occurring in the 21st century, and it happens to be a by-product of population transition; demographers posit that every country will go through the four stages of transition of fertility and mortality. [1] The end of the 20th century brought about decrease in birth rates and increase in life expectancy especially in developed countries, leading to population ageing. [2]

The increasing trend in older population globally has not left Malaysia behind, and seems to be associated with modernization. [1] In Malaysia, the population is ageing and is conjectured to become an aged nation by 2030, by then 15 per cent of the population will be classified as elderly. [3] There are indications that senior age population of 60 years and above which is still small, will increase thereby actualizing into an ageing population as evidence by the increasing medium age, dependency ratio

and ageing index. [1] The ageing population is accompanied with implications on every aspect of the society such as health and socioeconomic divisions; [3] changes such as cognitive disorders, chronic disease, physical failure and pain are concomitant with older population thereby affecting their families and health care systems negatively. [4]

Furthermore, the attitude towards the elderly is meant to be constructive because of the practice of the concept of filial responsibility amongst the Malaysian indigenes. [5,6] The concept of filial responsibility encompasses children supporting and assisting their aged parents, especially at present, where the aged are faced with a lot of challenges ranging from high living costs to susceptibility to chronic diseases and its' overwhelming medical and healthcare costs, lack of support from government and extended family. [7]

Consequently, it is necessary that all healthcare professionals prepare for the ageing population and students of healthcare professions should be equipped adequately for the looming older population who will frequent their visits to the clinic in the nearest future. [8]

Several studies have found that health professionals and their students are not interested in the field of geriatrics and even possess preconceived misconceptions and stereotypes about the elderly, [9-11] however, some other studies have revealed more favourable attitudes toward the elderly. [8, 12,13]

Similarly, Yee et al. [5] reported on filial responsibility and attitude towards the elderly among Malaysian students. Numerous studies focussing on filial responsibility and attitude towards the elderly has been carried out, but there is no report on the influence of attitudinal factors of students towards the elderly. Therefore, this study aims to identify the factors such as age, culture, past experiences and relationships with older

people, education and gender associated with attitude towards the elderly.

MATERIALS AND METHODS

Design and sample: A cross-sectional design (CSD) was used in this study. Stratified random sampling proportionate to size was used to select 504 Medicine students and 64 Nursing students in the Faculty of Medicine and Health Sciences, University Putra Malaysia, Serdang, Selangor, Malaysia during the 2014-2015 academic sessions. However, only 519 responded (456 Medicine students and 63 Nursing students) resulting to a response rate of 91.4%. The study involved medicine students from year 1 to year 5 and nursing students from year 1 to year 3; this is because nursing program had just begun in the institution. These disciplines were chosen due to the nature of their profession that will enable them to be in direct contact with the elderly patients. The institution was chosen because it had both disciplines as well as a large number of students.

Procedures: Prior to data collection, an approval was sought and obtained from JKEUPM, University Putra Malaysia ethics committee. The institution's administrators gave a written approval to conduct the study as there were no invasive procedures for any human being or animal during the study. Furthermore, verbal consent and written consent were obtained from each student that was involved in the study.

Instruments: The instrument used for the study was a modified standard questionnaire, validated and self-administered. According to Bowling, [14] the use of questionnaire for survey research was the best instrument for collecting data because as surveys are carried out in natural settings, questionnaire increases the external validity of the study. The data collection was done by the researcher, within the period of the study. The questionnaire consisted of six sections; section A was the

socio-demographic factors, section B - knowledge of ageing, section C- attitude towards the elderly, section D - experience living with the elderly, section E - filial responsibility, section F- exposure to geriatric module.

Socio-demography: The socio-demographic section included six items related to the personal characteristics of the participants, such as age, year of study, marital status, gender, ethnicity and religion. It was a form that required subjective answers.

Knowledge of ageing: For the purpose of this study, 10 questions were selected and modified into statements from the FAQ2 by Palmore 1988, and Likert scale coding of “No [0]”, “Yes [1]”, “I don’t know [2]”. The “I don’t know” option was recoded to 0. The range of possible scores was 0 to 10. Each right response was attributed a score of 1 while a wrong or unsure response was allotted a score of 0. The median score was chosen as the cut-off for differentiating the two categories of knowledge; scores below median were considered as poor knowledge while scores above the median were measured good knowledge. Some selected items in the questionnaire were reviewed and modified by the researcher in order to suit the Malaysian scenario, for example, age 60 years old was termed as old age in Malaysia as compared to age 65 years which was used in the original FAQ2.

Attitude towards old people (ATOP) scale: The Kogan’s Attitude toward Old People Scale which remains the most commonly used instrument, ^[15] was modified and used to determine the attitude of student towards the elderly. A mixture of 16 negative and positive questions with 5-point Likert scale ranging from “strongly disagree [0], “disagree [1], “unsure [2], “agree [3], “strongly agree [4]” was used. The range of scores was from 0 to 64.

In the event of analysis, the mean score was chosen as the cut-off for

differentiating the two categories of attitude; scores below mean were considered as negative attitude while scores above the mean were considered positive attitude.

Experience living with the elderly: Experience living with the elderly involves living arrangement, past and present living arrangements with the elderly. The questionnaire was designed by the researchers, and embroils questions on history of living with the elderly in the same home, number of elderly lived with, history of debilitating illnesses in the elderly and the duration of stay with the elderly. It consisted of four questions consisting of ‘yes’ and ‘no’ options and four sub-sections to be answered subjectively.

Filial responsibility questionnaire: The filial responsibility of the respondents was verified using the filial responsibility questionnaire adapted from, ^[16] and modified by Yee et al. ^[5] The questions were modified into 10 statements and a 5-point Likert scale coding ranging from “strongly disagree” [0], “disagree” [1], “unsure” [2], “agree” [3], “strongly agree” [4] was used to measure the attitude of filial responsibility of the respondents. The negative statements were reversed. The range of possible scores was 0 to 40. The higher mean scores indicated higher filial responsibility of student towards the elderly while the scores lower than the mean filial responsibility score were considered low filial responsibility.

Exposure to geriatric module: Exposure to geriatric modules of the respondents was determined using a questionnaire designed by the researcher, which comprised of nine questions with a mixture of ‘yes’ or ‘no’ options and spaces for subjective answers. It addressed questions about the geriatric module, if it was taken or not, nursing home visits and other constituents of the module.

Statistical analysis: Statistical analysis was carried out using SPSS (version 22),

descriptive statistics such as measures of central tendency was used to measure and explain the descriptive findings. Frequencies and percentages were found for each variable and chi-square analysis was done to determine the associations between the variables. The statistical probability value $p < 0.05$ was considered statistically significant at 95% confidence interval throughout the analysis of results.

RESULTS

Table 1 gives the details of the student's socio-demographic characteristics. The mean age was 20.95 ± 1.498 . Majority of the respondents were females 410 (79%), in their second year of study 126 (24.3 %), Malay 358 (69%), Muslims 362 (69.7%) and single 510 (98.3%).

Table 2 presents descriptive distribution of factors associated with the elderly among the respondents. For the total attitude score of the respondents, those who had higher scores above the mean 37.82 ± 5.641 were considered to have positive attitude towards the elderly and those who scored below the mean were considered to have negative attitude

towards the elderly. It can be seen that negative attitude was widely held among the respondents (52%).

Table 1 Distribution of respondents according to socio-demographic factors (N=519)

Variables	n (%)
Gender	
Male	109 (21.0)
Female	410 (79.0)
Age	
19	106 (20.0)
20	130 (25.0)
21	93 (17.9)
22	82 (15.8)
23	89 (17.1)
24	19 (3.7)
Ethnicity	
Malay	358 (69.0)
Chinese	115 (22.2)
Indian	38 (7.30)
Others	8 (1.5)
Religion	
Islam	362 (69.7)
Buddhist	35 (6.7)
Hindu	32 (6.2)
Christian	87 (16.8)
Others	3 (0.6)
Year of study	
First year	106 (20.4)
Second year	126 (24.3)
Third year	106 (20.4)
Fourth year	98 (18.9)
Fifth year	83 (16)
Marital status	
Single	510 (98.3)
Married	8 (1.5)
Divorced	1 (0.2)

Table 2: Factors associated with attitude towards the elderly (N=519)

Variables	n (%)	Mean \pm SD	Median (IQR)
Attitude towards elderly		37.82 ± 5.641	
Positive (≥ 37.82)	248 (48%)		
Negative (< 37.82)	270 (52%)		
Filial responsibility		30.10 ± 5.387	
Low	275 (53)		
High	244 (47)		
Knowledge of ageing			9 (8-10)
Good	384 (74)		
Poor	135 (26)		
Currently living with elderly aged ≥ 60 years old			
Yes	154 (29.7)		
No	365 (70.3)		
Previously lived with elderly aged ≥ 60 years old			
Yes	384 (74.0)		
No	135 (26.0)		
Elderly with debilitating illness	210 (40.5)		
Cared for the elderly	211 (40.7)		
More than 1 elderly	456 (87.9)		
Family members	207 (39.9)		
Living with the elderly for ≥ 1 year	230 (44.3)		
Have taken geriatric module			
Yes	203 (39.2)		
No	315 (60.8)		
Nursing home visits			
Yes	226 (43.5)		
No	293 (56.5)		

Table 3: Association between attitude towards the elderly and socio-demography, filial responsibility, experience living with elderly, knowledge of ageing, exposure to geriatric module (n=519)

Variable	Negative attitude (%)	Positive attitude (%)	χ^2	df	p-value
Age			11.518	5	0.042*
19	46 (43.4)	60 (56.6)			
20	71 (54.6)	59 (45.4)			
21	61 (65.6)	32 (34.4)			
22	39 (47.6)	43 (52.4)			
23	43 (48.3)	46 (51.7)			
24	10 (52.6)	9 (47.4)			
Year of study			12.699	4	0.013*
Year 1	44 (41.5)	62 (58.5)			
Year 2	77 (61.1)	49 (38.9)			
Year 3	63 (59.4)	43 (40.6)			
Year 4	46 (46.9)	52 (53.1)			
Year 5	40 (48.2)	43 (51.8)			
Marital status			0.936	2	0.626
Single	265 (52.0)	245 (48.0)			
Married	4 (50.0)	4 (50.0)			
Divorced	1 (100.0)	0 (0.0)			
Gender			0.858	1	0.354
Male	61 (56.0)	48 (44.0)			
Female	209 (51.0)	201 (49.0)			
Ethnicity			0.953	3	0.813
Malay	189 (52.8)	169 (47.2)			
Chinese	56 (48.7)	59 (51.3)			
Indian	20 (52.6)	18 (47.4)			
Others	5 (62.5)	3 (37.5)			
Religion			1.012	4	0.908
Islam	190 (52.5)	172 (47.5)			
Hinduism	18 (51.4)	17 (48.6)			
Christianity	18 (56.3)	14 (43.8)			
Buddhism	42 (48.3)	45 (51.7)			
Others	2 (66.7)	1 (33.3)			
Filial responsibility			44.599	1	0.001*
Low	181 (65.8)	98 (34.2)			
High	89 (36.5)	155 (63.5)			
Experience Living with elderly			0.569	1	0.451
Currently					
No	182 (51.6)	171 (48.4)			
Yes	85 (55.2)	69 (44.8)			
Previously			0.125	1	0.723
No	72 (53.3)	63 (46.7)			
Yes	198 (51.6)	186 (48.4)			
Knowledge of ageing			0.200	1	0.655
Good	68 (50.4)	67 (49.6)			
Poor	202 (52.6)	182 (47.4)			
Exposure to geriatric module			1.019	1	0.323
Yes	170 (63)	146 (58.6)			
No	100 (37)	103 (41.1)			
Nursing home visits			4.964	1	0.027*
Yes	105 (46.5)	121 (53.5)			
No	165 (56.7)	128 (43.7)			

(*) - Significant $p < 0.05$

For the median (IQR) knowledge score of the respondents which was 9 (2), it was observed that 384 (74%) of the respondents which was the majority, had good knowledge of ageing while 135 (26%) had poor knowledge on ageing.

The mean (SD) score for filial responsibility was 30.10 (5.387) with those scoring above the mean score having high filial responsibility and those scoring

below the mean as low filial responsibility. It can be seen that majority of the respondents had low filial responsibility 275 (53%) while 244 (47%) had high filial responsibility.

The findings reported that 210 (40.5%) of the respondents are living with elders with debilitating illness, 211 (40.7%) have cared for the elderly while 456 (87.9%) are living with more than one

elderly at home. Also, 39.9% affirmed that the elderly they live with are family members while 44.3% have lived with the elderly in their home for over one year. However, 74% of the respondents stated that they have ever lived with an elderly while 26% have never lived with an elderly in the past.

It also reports the respondent's exposure to geriatric module in the course of their training. The findings show that majority of the respondents are not exposed to geriatric module as 315 (60.8%) have not taken a geriatric module while only 315 (39.2%) have taken geriatric module.

Furthermore, the findings show that majority of the respondents (56.5%) have not visited the elderly in the nursing homes while 43.5% have visited the elderly in the nursing homes.

Table 3 shows the presence of significant associations between attitude towards the elderly and age ($x^2 = 11.518, p = 0.042$), year of study ($x^2 = 12.699, p = 0.013$), filial responsibility ($x^2 = 44.599, p = 0.001$), nursing home visits ($x^2 = 4.964, p = 0.027$),. However, no significant associations were found between attitude towards the elderly and gender ($x^2 = 0.858, p = 0.354$), ethnicity ($x^2 = 0.953, p = 0.813$), marital status ($x^2 = 0.936, p = 0.626$), religion ($x^2 = 1.012, p = 0.908$), currently living with elderly ($x^2 = 0.569, p = 0.451$), previously living with elderly ($x^2 = 0.125, p = 0.723$), knowledge of ageing ($x^2 = 0.200, p = 0.655$), exposure to geriatric module ($x^2 = 1.019, p = 0.323$).

DISCUSSION

The findings of this study reveals that majority of the students (52.0%) have negative attitude towards the elderly. This finding agrees with the findings of a study in Ajman [17] and a study in Jordan, [18] in which female medical students were found to exhibit more negative attitude towards the elderly. Again, another study in

Sweden has recounted negative attitude among younger males [19] in the same way, negative attitude was allied to male gender, younger age and lack of experience, [20] as well the study among Dutch nursing students in which students displayed less favourable attitude towards the elderly at the start of the study. [21] The basis for the negative attitude is unknown but according to UlkuPolat et al. [22] the negative attitude of health professionals towards older people has a consequence of discriminatory distribution of health services. [22] In their study, Celik et al. [23] noted that majority of the students had negative views about ageing and defined it as a negative process; the study disclosed that such negative views may have been instigated from seeing older persons living inactive and unproductive lives or from older patients who were uncompromising to nursing interventions. [23] Yet again, it has been stated that students had respect for the elderly but have preconceived negative ideas about them. [24] According to Abreu & Caldevilla, [25] students begin schooling with negative attitudes about ageing, which might have been derived from culture, experiences, observations, personal beliefs and values [26] and media, which are not in actual sense the reality of most old people. [27] Inversely, some other studies have reported positive attitudes toward the elderly among students. [28-31]

More so, the results of this study reveal a significant relationship between age and attitude towards the elderly. It was observed that those aged 19 had the most positive attitude whereas those aged 21 had negative attitude. There is no exclusive reason why those aged 21 years had a high negative attitude but it could be linked to their year of study. It should be noted from observation of the study those aged 19 years were in their first year, year two students were 20 years old, third year students were aged 21 years, fourth year students were 22 years old and lastly fifth year students were 23 and 24 years old.

Their attitude towards the elderly is greatly attributed to their age. In a similar study, [32] age was significantly associated with attitude towards older people, where older females had more positive attitude towards older people.

The results of this study further show a significant association between the student's year of study and attitude towards the elderly. It was observed that majority of the year two students had negative attitude while year one, year four and year five were seen to possess the highest positive attitude which is dissimilar with the findings of a Taiwanese study in which sophomore students were seen to have more positive attitude and final year students had less positive attitude. [8] This finding however correlates with that of the Jordanian study, [18] in which senior students were reported to have more positive attitude than junior students. The positive attitude of the first year students of this study is reflective of Malaysian society [5] which demonstrates favourable attitudes towards the elderly as a result of the culture of respect for the elderly; possibly the positive attitude is because they are new to the health field and have not encountered ill aged patients which could have an influence on their attitude towards the elderly.

Harmoniously, findings of this study coincide with a study among first-year medical students in Singapore, which revealed positive attitude towards the elderly among the students. [10] It is nonetheless hard to state why second and third year students had the most negative attitude however it could be related to loss of idealism towards the elderly in the third year clinical clerkship as described in a study; [33,34] also, in the present study, students in these classes had the majority of respondents. However, some studies have revealed that there is no significant association between year of study and attitude towards the elderly among students [35, 28, 36, 31, 37] and among health

professionals [22] indicating that progress in education, experience and exposure to geriatric components is not adequate to improve attitudes toward the elderly.

In the present study, the findings revealed a significant association between filial responsibility and attitude towards the elderly. In this study, it was observed that majority of the students that had low filial responsibility exhibited negative attitude towards the elderly. This finding however, is incongruent with results of a Malaysian study which had 73.6% of students displaying high filial responsibility. [5] Additionally, Loossee & Yoong [6] posited that there was a positive relationship between parents and children's expectations about filial responsibility also, it was identified that more contact between children and their parents, enhance financial and social support given to the parents.

However, the findings of the present study are not as distressing as previous literature discussed the gradual attrition of filial piety concept in Malaysia. [5-6] Furthermore, any signs of alterations in the existence of elder respect as expressed by the younger generations in East Asian societies can indicate trending towards a more individualistic nature among the young generation therefore, it is necessary to take more closer view into the adult child-parent relationship in terms of care-giving and mutual exchange. [5]

What's more, some studies have found a significant association between modernization and industrialization with sense of filial responsibility; it was concluded that modernization and industrialization weaken sense of filial responsibility. [38] Now this could be related to the students in this study; even as Malaysia is undergoing industrialization, it is important to take into cognizance the importance of filial responsibility; in order to avoid the consequences of discourteous treatment of the elderly as reported in Malaysia which

was becoming an emerging trend among adult children to desert their parents in residential homes. [5]

In addition, research has revealed that modernization tarnishes the image as well as lower the status of old people. [39] The gradual wearing a way of filial responsibility is majorly influenced by modernization especially in modern cities for instance China, yet again; their citizens from modernized cities display a lesser degree of filial responsibility. [40] As a consequence, the negative attitude towards filial responsibility as revealed by the present study is not so alarming because modernization in itself brings with it a dwindled positive attitude towards the elderly while promoting the weakening of filial responsibility in modern societies. [41]

Furthermore, the findings of this study revealed significant association between attitude towards the elderly and nursing home visits. Students who were not exposed to nursing home visits had a more negative attitude towards the elderly while students who had performed home visits had a more positive attitude. This agrees with the report of Adkins et al. [42] that pharmacy students developed positive attitudes towards the elderly after exposure to nursing home visits. On the contrary, the findings of Tufan et al. [43] found no significant association between attitude towards the elderly and nursing home visits.

Finally, from the results in the present study, no significant association was found between attitude towards the elderly and gender similar to previous studies, [29, 5, 4, 31, 25] also, there was no association between ethnicity and attitude towards the elderly which is corresponding with past studies. [10,42] In the same way, there was no significant association between attitude towards the elderly and religion, [10,42] likewise there was no significant association between attitude towards the elderly and marital status. [44-46,32,42] Also, there was no significant

relationship between attitude towards the elderly and experience living with the elderly, [34, 47-49, 22, 43, 37, 25] similarly, there was no significant association between attitude towards the elderly and knowledge of ageing in line with previous studies. [5] No significant association was found between attitude towards the elderly and exposure to geriatric module as found in some similar studies. [50-53]

CONCLUSION

Attitude towards the elderly is influenced by variables such as age, year of study and filial responsibility and nursing home visits. Students have been observed to have negative attitude towards the elderly with low filial responsibility. The study found that majority of the students had a good knowledge of ageing, were not exposed to geriatric module, are not currently living with the elderly but have previously lived with an elderly. However, with the upcoming ageing population and increase in elderly population, the need for adequate preparation of the healthcare related students is crucial. In a bid for students to develop more positive attitude towards the elderly, the inclusion of gerontology components at every stage of learning is very paramount as well as exposure of the students to geriatric interventions involving theoretical and clinical practices throughout their training.

ACKNOWLEDGEMENT

The authors are grateful for the financial support received from the University Putra Malaysia.

REFERENCES

1. Wan-Ibrahim WA, Zainab I. Some Demographic Aspects of Population Aging in Malaysia. *World Applied Sciences Journal*. 2014; 30(7), 891-894.
2. World Health Organization. Ageing and Life Course: Interesting facts about ageing [Internet]. 2014, September 30th [updated 2015].

- Available from:
<http://www.who.int/ageing/about/facts/en/index.html>; 2015.
3. AbdSamad S, Mansor N. Population ageing and social protection in Malaysia. *Malaysian Journal of Economic Studies*. 2013; 50(2), 139–156.
 4. Kizilci S, Kucukguclu O, Mert H, Soylemez BA. Examination of nursing students' attitudes towards older people in Turkey. *Journal of society for development in new net environment in B& H*. 2013; HealthMED;7(2), 544
 5. Tien WYM, Alagappar, PN, David MK. The Attitude of Filial Responsibility of Malaysian Students towards their Elderly Parents [s.n]. 2011. <http://eprints.um.edu.my/638/1>
 6. LooSee BEH, Jee Yoong FOLK. A study of filial piety practice in Malaysia: Relationship between financial well-being and filial piety. *African Journal of Business Management*. 2013;7(38), 3895-3902.
 7. Lan PC. Subcontracting filial piety: Elder care in dual-earner Chinese immigrant households in the Bay Area. Centre for Working Families, University of California, Berkeley; 2001. Working Paper No.21.
 8. Wang CC, Liao WC, Kao MC, Chen YJ, Lee MC, Lee MF, Yen CH. Taiwanese Medical and Nursing Student Interest Levels in and Attitudes Towards Geriatrics. *Annals Academy of Medicine Singapore*, 2009;38:230-6
 9. Van Zuilen MH, Rubert MP, Silverman M, et al. Medical students' positive and negative misconceptions about the elderly: The impact of training in geriatrics. *Gerontol Geriatr Educ*. 2001; 21:31-40.
 10. Chua MPW, Uk M, Tan CH, Psy MM, Merchant R. Attitudes of First-year Medical Students in Singapore Towards Older People and Willingness to Consider a Career in Geriatric Medicine. *Ann Acad Med Singapore*. 2008 Nov;37(11):947-51
 11. Alsenany S. Student nurses' attitudes and knowledge towards the care of older people in Saudi Arabia. *British Society of Gerontology*. 2007. Available: <http://www.britishgerontology.org>
 12. Engström G, Fagerberg I. Attitudes towards older people among Swedish health care students and health care professionals working in elder care. *Nursing Reports*, 2011; 1(1).
 13. Samra R, Griffiths A, Cox T, Conroy S, Knight A. Changes in Medical Student and Doctor Attitudes Toward Older Adults After an Intervention : A Systematic Review, 2013;1188–1196.
 14. Bowling, A. *Research Methods in Health: Investigating Health and Health Services*. Second ed. Buckingham Philadelphia. Open University Press McGraw-Hill Education (UK); 2014.
 15. Neville C. Undergraduate nurse attitudes toward older adults and perceptions of working with older adults: An analysis of measurement instruments. *Nurse education today*. 2015; 35(1), 183-188.
 16. Dinkel MR. Attitudes of Children toward Supporting Aged Parents. *American Sociological Review*. 1944;9 (4) pp 370-379.
 17. Sheikh RB, Mathew E, Rafique AM, Suraweera RSC, Khan H, Sreedharan J. Attitude of medical students toward old people in Ajman, United Arab Emirates. *Asian Journal of Gerontology and Geriatrics*. 2013; 8:85–89.
 18. Hweidi IM, Al-Obeisat SM. Jordanian nursing students' attitudes toward the elderly. *Nurse Education Today*. 2006; 26, 23–30.
 19. Söderhamn O, Lindencrona C, Gustavsson SM. Attitudes toward older people among nursing students and registered nurses in Sweden. *Nurse Education Today*. 2001;21, 225–229.
 20. Holroyd A, Dahlde S, Fehr C, Jung P, Hunter A. Attitudes toward aging: Implications for a caring profession. *Journal of Nursing Education*. 2007; 48(7), 374-380.
 21. Bleijenberg N. Dutch nursing students' knowledge and attitudes

- towards older people - A longitudinal cohort study. *Journal of Nursing Education and Practice*. 2012;2(2), 1–8.
22. Ülkü P, Ayişe K, Zekeriya Ü, Nevra D. Nurses' and physicians' perceptions of older people and attitudes towards older people: Ageism in a hospital in Turkey. *Contemporary Nurse*.2014;48:1,88-97.
 23. Celik SS, Kapucu S, Tuna Z, Akkus Y. Views and attitudes of nursing students towards ageing and older patients. *Australian Journal of Advanced Nursing*. 2010;27(4), 24.
 24. Ross L, Duigan T, Boyle M, Williams B. Student Paramedic Attitudes Towards the Elderly: A cross-sectional study. *Australasian Journal of Paramedicine*, 2014; 11(3).
 25. Abreu M, Caldevilla N. Attitudes toward aging in Portuguese nursing students. *Procedia-Social and Behavioral Sciences*.2015; 171, 961-967.
 26. Neri A, Jorge M. Attitudes and beliefs toward aging among undergraduate students from the education and health fields: curriculum planning contributions. *Estudos de Psicologia*. 2006; 23, 127-137.
 27. Van Dussen D, Weaver R. Undergraduate students' perceptions and behaviors related to the aged and to aging processes. *Educational Gerontology*.2009; 35(4), 342-357.
 28. Zverev, Y. Attitude towards older people among Malawian medical and nursing students. *Educ. Gerontol*. 2013;39:57–66
 29. Sadaf A, Yazdanie N. Attitude of Dental Students Towards Elderly. *Pakistan Oral & Dental Journal*.2012; 32(1).
 30. Booth L, Kada S. Student radiographer's attitudes toward the older patient- An intervention study. *Radiography*.2014;21 (1) 160-164
 31. Gupta S, Venkatraman S, Kamarthi N, Goel S, Goel, S, Keswani T. Assessment of the attitude of undergraduate dental students toward the geriatric population. *Tropical Journal of Medical Research*.2014; 17(2), 104.
 32. Lambrinou E, Sourtzi P, Kalokerinou A, Lemonidou C. Attitudes and knowledge of the Greek nursing students towards older people. *Nurse Education Today*.2009;29(6),617-622.
 33. Griffith CH, Wilson JF. The loss of idealism throughout internship. *Eval Health Prof*. 2003; 26:415–26.
 34. Cankurtaran M, Halil M, Ülger Z, Dagli N. Influence of Medical Education on Students ' Attitudes towards the Elderly. *J Natl Med Assoc*.2006; 98(9),1518-22.
 35. Guven SD, Muz GU, Erturk NE. The attitudes of University students towards elderly discrimination and the relation of these attitudes with some variables. *J Anatolia Nurs Health Sci*. 2012;15(2):99-105.
 36. Ayoğlu FN, Kulakçı H, Ayyıldız TK., Aslan GK, Veren F. Attitudes of Turkish nursing and medical students toward elderly people. *Journal of Transcultural Nursing*. *J Transcult Nurs*. 2013;25(3):241-248.
 37. Türgay AS, Şahin S, Aykar FŞ, Sari D, Badir A, Özer ZC. Attitudes of Turkish nursing students toward elderly people. *European Geriatric Medicine*. 2015;6(3), 267–270.
 38. Chen D, Hosoe Y. Attitudes and sense of responsibility of University students toward their aging parents in Japan and Korea. *Asian Social Science*.2011;7(2), 60–63.
 39. Chow N, Bai X. Modernization and its impact on Chinese older people's perception of their own image and status. *International Social Work*. 2011; 54, 800-815.
 40. Cheung CK, Kwan AYH. The erosion of filial piety by modernization in Chinese cities. *Aging and Society*. 2009;29, 179-198.
 41. Huang C. Undergraduate students' knowledge about aging and attitudes toward older adults in east and west: a socio-economic and cultural exploration. *Journal of Education and Practice* cultural exploration. *International Journal of Aging Hum Dev*.2013;77(1):59-76

42. Adkins DM, Mayhew SL, Gavaza P, Rahman S. Pharmacy students' attitudes toward geriatric nursing home patients. *American journal of pharmaceutical education.*2012; 76(5).
43. Tufan F, Yuruyen M, Kizilarlanoglu MC, Akpınar T, Emiksiye S, Yesil Y, Ozturk ZA, Bozbulut UB, Bolayir B, Tasar PT, Yavuzer H, Sahin S, Ulger Z, Ozturk GB, Halil M, Akcicek F, Doventas A, Kepekci Y, Ince N, Karan MA. Geriatrics education is associated with positive attitudes toward older people in internal medicine residents: A multicenter study. *Archives of Gerontology and Geriatrics.*2014; 60(2).
44. Kimuna SR, Knox D, Zusman M. College students' perceptions about older people and aging. *Educational Gerontology.*2005;31(7), 563-572.
45. Gallagher S, Bennett KM, Halford JC. A comparison of acute and long-term health-care personnel's attitudes towards older adults. *International Journal of Nursing Practice.*, 2006; 12(5), 273-279.
46. Kipruto J. The influence of socio-demographic characteristics of healthcare workers on their attitudes towards older people in nairobi, western and rift valley provinces of kenya. (Doctoral thesis. Moi University). 2013.
47. Zambrini DAB, Moraru M, Hanna M, Kalache A, Nuñez JFM. Attitudes toward the elderly among students of health care related studies at the University of Salamanca, Spain. *Journal of Continuing education in the health professions.*2008; 28(2), 86-90.
48. Muangpaisan W, Intalapapron S, Assantachai P. Attitudes of medical students and residents toward care of the elderly. *Educational Gerontology.* 2008. 34(5), 400-406.
49. Hatami B, Ahmady AE, Khoshnevisan MH, Lando HA. Senior dental student's attitudes toward older adults and knowledge of geriatric dental care in the Islamic Republic of Iran. *East MediterrHealth J,* 2014;19(3): 172-7.
50. Heycox K, Hughes M. Social work students' attitudes towards and interest in working with older people: an exploratory study. *Advances in Social Work and Welfare Education.*2006; 8(1), 6.
51. Hughes NJ, Soiza RL, Chua M, Hoyle GE, MacDonald A, Primrose WR, Gwyn Seymour D. Medical student attitudes toward older people and willingness to consider a career in geriatric medicine. *Journal of the American Geriatrics Society.*2008; 56(2), 334-338.
52. Diachun L, Van Bussel, L, Hansen KT, Charise A, Rieder MJ. "But I see old people everywhere": Dispelling the myth that eldercare is learned in nongeriatric clerkships. *Academic Medicine.*2010; 85(7), 1221-1228.
53. LuL, KaoSF, Hsieh YH. Positive attitudes toward older people and well-being among Chinese community older adults. *Journal of applied gerontology.* 2009;29(5), 622-639

How to cite this article: Damulak PP, Minhat HS, Rahman AA. Attitude towards the elderly among healthcare related students in Malaysia. *Int J Health Sci Res.* 2015; 5(11):248-258.
