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E-B Environment - Behaviour Proceedings Journal

AcE-Bs2016Taipei

7th Asian Conference on Environment-Behaviour Studies
National Taiwan University, Taipei, Taiwan, 09-10 April 2016

e-IPH e-International Publishing House Ltd., United Kingdom

Attitudes among Medical Imaging Students towards older adults in Malaysia: A Preliminary Study

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Abstract

A positive attitude is an essential element towards delivering a high-quality patient care for older people. A consequence of aging population in Malaysia is that Medical imaging students are increasingly exposed to older people during their clinical attachments and importantly as a graduated technologist. This study attempted to determine the Medical Imaging students' attitudes towards elderly in Malaysia based on 5 selective characteristics. This study employed a self-administered questionnaire involving 283 students. The finding revealed that well exposed and good result students' have a better attitude towards elderly. This study suggested relevant educational intervention and community engagement program.

Keywords: Elderly People;Medical Imaging;Attitudes;Kogan Attitude's Scale

1. Introduction

The world that we are living is facing the new paradigm shift in terms of its age structure in the next few years. That is the expansion of its inhabitant towards the aging population. Aging population is the main issue discussed as this scenario can be observed in Europe(Abreu & Caldevilla, 2015; Długosz, 2011) and Asia(Długosz & Raźniak, 2014). Malaysia is one of the fastest growing countries in South East Asia region. In addition, Malaysia is also professing as an active aging population in Asia. Population aging is a term referring to the growth of older adults in the community due to the by-product of demographic transition.

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DOI: http://dx.doi.org/10.21834/e-bpj.v1i3.353

It is projected that by the year 2020, the older adults aged 65 and above to be at 7.3% from 4.2% in the past twenty decade(Damulak, 2015). Malaysia takes an adult aged 60 years and above to coin the term for old age or also known as "warga emas"(Abbas & Saruwono, 2012). Based on the median age, dependency ratio and aging index from the number of the population aged 60 and above have shown a progressive increment that indicates the Malaysian are steadily aging(Wan-Ibrahim W.A., 2014). The growth of the Malaysia economy and the industrialization of its society have contributed to higher life expectancy. Increasing demand for labor workforces and human capital at present have created a large margin of young adults compare to older adults. The change of the standard of living and rapid development in Malaysia to achieve developed country status may have causes the declining of the fertility as well as the mortality rate. Therefore, this has resulted in a greater proportion of the older adults' population compare to young adults' population in future. In return, more health services and providers are needed to cater the growth of healthcare services consumption by this age group (Cheong, 2009).

Health professions, in particular, have constant and continuous contact with the older adults. Delivering caring services and high-quality patient care with zero discrimination is vital to all kind of patients. Despite that, allied health professionals are receptive to become ageist towards the geriatric. Ageist and ageism are interchangeably used to describe the discrimination or prejudice towards the elderly (Carmen, 2012). Several studies have reported that workers and students from allied health background are fairly having good interest in gerontology topic and have typical stereotyping on older adults (Özer & Terkeş, 2014). Medical imaging is one of the branches under allied health professionals. In recent years, allied health sciences programs are growing like a mushroom in Malaysia. The demands have seen augmented trends on allied health undergraduate programs such as nursing, physiotherapy and not to mention medical imaging or radiography. Since then, job prospect of medical imaging technologist has been revived and revamped particularly in the government sector. Evaluating the attitudes of the medical imaging students on the older adults will allow sufficient and valuable information for private and public universities to prepare and review the existing curricula exclusively on geriatric patient care education. The requirement to urge all allied health professionals' especially medical imaging per se to be prepared for the aging population and such the medical imaging students should be well-equipped sufficiently to provide first class services to the looming older population that our country will be facing in future.

To date, there are limited studies on allied health students' attitudes towards the older people in Malaysia (Damulak, 2015) and no study have been conducted on medical imaging students exclusively. Hence, this study sought to identify the attitudes hold by our future medical imaging technologists towards the older adults.

2. Materials & Methods

2.1 Designs and Sample

This study is based on a cross-sectional design using a stratified simple random sampling to select a minimum of 278 respondents. The 278 respondents were full-time undergraduate students comprised of Medical Imaging/Diagnostic Radiography/Radiography single program from 15 public universities/colleges and private colleges offering radiography/medical imaging undergraduate programs in Malaysia. This program was chosen because it is one of the important professions under allied health that involved providing imaging services for the elderly patients. Most of the curriculum structures offering a medical Imaging program in the higher institutions are rather identical. The program covers Anatomy and Physiology, Patient Care Management, First Aid and Health Psychology and basic pharmacology in the early year of students' enrollment. However, the participants' attitudes were not analyzed according to university/colleges they enrolled because it was not a main concern under this study.

2.2 Ethical Consideration

This study had been approved in principle by the Research Ethics Committee, Faculty of Health Sciences, Universiti Teknologi MARA. The ethical clearance was given in a written approval to conduct the study because this study

does not involve a high risk of ethical issue. Apart from that, all the participating respondents had been briefly explained about the aims of this study. Their participation is based on volunteerism duty. Prior to participating in the survey, the respondents were advised to complete the written consent with their respective signature. The selections of students are random and specifications on their enrollment at any universities or colleges were not considered.

2.3 Research Tools

The students are required to complete a "Personal Information Form" in part A categorized into specific demographic characteristics age, gender, semester, cumulative grade point average (CGPA), and exposure to elderly people. The form continued with the survey on part B consisted of 34 items to complete as part of the data collection. The data were collected for the duration of 3 months in 2014 using online survey form. The survey form was in English language and was advertised with a link embedded on Facebook. The survey was conducted by an adapted and adopted one set questionnaire from Kogan's Attitudes toward Old People Scale (KAOP) to measure the initial value of students' attitudes. The permission was obtained and granted from Prof. Emeritus Kogan prior to adapted and utilized the KAOP questionnaire. Internal consistency of 0.924 is acquired for the implementation to succeed. This was a self-administered questionnaire with a 34-item tool at 6 points Likert-scale ranging from strongly disagree to strongly agree distributed through online. There are 17 positive statements (KAOP+) and 17 negative statements (KAOP-) covering 11 types of exposures with elderly people comprised of exposure from formal education, social network, the web, newspaper, television, radio, elderly exposure programs, parents, grandparents, relatives, and neighbors. The score is calculated by tallying the positive responses with the value of reversed negative responses. The lowest score is 34 and the highest score is 204. A score of 102 is considered a neutral attitude (Turan et al., 2016). A higher total score represents a more positive attitude and vice versa. The data were then recorded and analyzed.

2.4 Statistical Analysis

A statistical analysis was performed using Statistical Package for the Social Sciences for Windows, version 22.0 (SPSS Inc. Chicago, IL, USA). Data obtained from Part A (Personal Information) and Part B (KAOP Questionnaires) was used in the analysis. The total score of the KAOP questionnaire is calculated to obtain the levels of attitudes. There are 5 items included in Part A (Personal Information) constituted of age, gender, semester, CGPA, and personal exposure towards elderly people. The total score and the 5 variables were analyzed descriptively. Chi-square test was used to analyze the 5 characteristics. Kolmogorov-Smirnov test was made to determine the normality of the data distribution. Since the data is not in normal distribution, data from Part A and Part B were made correlated using Spearman correlation coefficient (rho). The correlation was considered either positive correlation with positive sign (r = +0.0) or negative correlation with negative sign (r = -0.0).

3. Findings

3.1 Distribution of Characteristics Data

The findings in Table 1 revealed a total of 283 participants responded and recorded in this study. It was identified that the respondents consists of 187 female (66.1%) and 96 male (33.9%) in this study population and presented according to semester enrolled. The mean ± standard deviation (SD) of the respondents' age was 21.74 ± 1.834 years (range: 18-25 years). The mean ± standard deviation (SD) of the respondents' age was 21.74 ± 1.834 years (range: 18-25 years).

Table 1. Distribution of respondents according to some demographic characteristics (N= 283).

Characteristic	**Sem 1 n=7** [n (%)]	**Sem 2 n=57** [n (%)]	**Sem 3 n=4** [n (%)]	**Sem 4 n=56**[n (%)]	**Sem 5 n=7** [n (%)]	**Sem 6 n=81**[n (%)]	**Sem 7 n=17**[n (%)]	**Sem 8 n= 54** [n (%)]	**X^2 P value**	**Conclusion**
Mean age (y)(SD)	18.4 (0.8)	19.86(1.2)	21 (1.4)	21.23 (1.5)	21.6 (0.8)	21.9 (0.99)	22.9 (0.97)	24.056 (0.656)	NA	
Sex [n (%)]										X^2 (7, N=283)=29.139, p=.000
Male	1 (1.0)	34 (35)	0 (0)	11 (11.5)	4 (4.2)	26 (27.1)	3 (3.1)	17 (17.7)	.000	
Female	6 (3.2)	23 (12)	4 (2.1)	45 (24.1)	3 (1.6)	55 (29.4)	14 (7.5)	37 (19.8)		
CGPA [n (%)]									.000	X^2 (35, N=283)=109.646, p=.000
2.00-2.49	1 (5.0)	13 (65)	0	2 (10)	0	4 (20)	0	0		
2.50-2.99	5 (7.8)	20 (31)	0	8 (12.5)	3 (4.7)	18 (28.1)	7 (10.9)	3 (4.7)		
3.00-3.24	1 (2.0)	8 (16)	0	13 (26)	1 (2.0)	11 (22)	4 (8)	12 (24)		
3.25-3.49	0	7 (11)	1 (1.5)	10 (15.2)	0	28 (42.4)	5 (7.6)	15 (22.7)		
3.50-3.74	0	7 (12)	3 (5.1)	15 (25.4)	3 (5.1)	19 (32)	1 (1.7)	11 (18.6)		
3.75-4.00	0	2 (8.3)	0	8 (33.3)	0	1 (4.2)	0	13 (54.2)		

Table 2. Total score of positive attitudes presented in median attributed according to the 5 selective characteristics.

Variable	**Characteristic**	**Total Score (Median)**
Age (years)	18	66.00
	19	104.00
	20	123.00
	21	126.00
	22	128.00
	23	130.00
	24	141.00
	25	139.50
Gender	Male	123.00
	Female	126.00
Semester	1	64.00
	2	113.00
	3	134.00
	4	121.00
	5	133.00
	6	129.00
	7	133.00

	8	144.00
CGPA	2.00-2.49	104.00
	2.50-2.99	122.00
	3.00-3.49	124.50
	3.50-4.00	128.00
Exposure	1	112.00
	2	117.50
	3	115.00
	4	118.00
	5	121.00
	6	127.00
	7	128.00
	8	132.00
	9	132.00
	10	142.00
	11	162.00

Table 3. Correlation between the variables with the KAOP+ totals score.

		Gender	Semester	CGPA	Exposure	Total Score
Age	r-value	0.106	0.786	0.297	0.502	0.565
	p-value	0.076	0.000	0.000	0.000	0.000
Gender	r-value	-	0.125	0.135	0.151	0.087
	p-value		0.036	0.023	0.011	0.145
Semester	r-value	-	-	0.270	0.502	0.660
	p-value			0.000	0.000	0.000
CGPA	r-value	-	-	-	0.252	0.343
	p-value				0.000	0.000
Exposure	r-value	-	-	-	-	0.629
	p-value					0.000

3.2 Correlation of total KAOP+ scores with Characteristics

The data analysis was emphasized on the total score KAOP+ and neglected the total score KAOP- due to insufficient appropriate data. Table 2 explained the total KAOP score for positive attitudes based on 17 positive items. Table 3 describes all the characteristics in correlation with the total positive KAOP (KAOP+) score. The significant value for gender is 0.145, which is larger than 0.05 shows there is no different between male and female for total KAOP+ score. Age, semester, and exposure have a large effect towards total score while CGPA has a medium effect towards total score. The lowest CGPA range between 2.00-2.49 with a lowest median score of 104.00 and the highest CGPA range of 3.50 to 4.00 have the highest median score of 128.00. This is evident with the higher the semester the students are the more CGPA it have accumulated in the entire duration. CGPA has a small correlation with semester while exposure has a large correlation with the semester. However, this finding shows a small correlation between the exposure and CGPA. Semester and exposure have a large correlation with age while gender and CGPA have a small correlation with age. All variables have a small correlation with gender. Exposure towards elderly people has shown that roughly higher exposure has higher median score at 162.00. Age, semester, and exposure have large effects towards total KAOP+ score.

4. Discussion

The current age structure in Malaysia is still at its young phase but experiencing steady blooming towards the peak of the age pyramid. Malaysia has been forecasted to comprised with an aging nation 14 years from now when 15% of the current young population reaches mature elderly (Samad, 2013). This percentage would steadily increase each year and the effects of growing older adults should be taken into considerations from every angle. Hospitality management and services are one of the main aspects needed attention that is required for the elderly besides than their stability in financial. This is no exception from the healthcare aspect of hospitality and services. Comparatively, medical imaging was also deemed as an integral component in providing health services to the public. The faces of labor workforce also see more female workers are contributing to the development of Malaysia's rapid growth. It is no surprise that the majority of respondents participated in the present study are females students. Additionally, this is due to the gender distribution in education institutions around Malaysia. The enrollments in tertiary education from female students are greater as compared to male students. As a matter of fact, female students in Malaysia are over-shadowing the male students with 64.8% enrolled in public universities compared to male students only at 35.2% for 46, 506 places offered(Latifah, 2015). Apart from that, the female students are more involved and willing to participate in the survey. Based on the participation from the students in this study, it was found that the older age group and senior semester group are 154 and 159 respectively. Initially, this study does not marginalize a number of respondents for each age group and semester since this was based on the random collection. Male and female do not have a lot of different for total KAOP+ median score. However, females were shown to have a slightly higher median score than males. It has been proven on another study despite differences in culture that female practices traditional gender roles that emphasize on elderly respect and prioritization. Moreover, the finding in this study revealed more students were a higher achiever in this program with a total of 199 from the total participants, which is comparatively double than the lower achiever group with a total of 84. Different semesters have different results of total KAOP+ median score estimated an increment from lower semester towards higher semester. This suggested that junior semester students are newbies and they have little knowledge of caring for elderly people. The attitude increases as they matured and progress towards semester 2 (113.00) and semester 3 (134.00). In second year or beginning of semester 4 (121.00), the majority of the students involved with clinical posting in public or private hospitals. They experienced the first time to handling an elderly patient and the first impression might not be good for them. They were under a lot of pressure and stress on how to handle an elderly patient properly and correctly.

Clinical placement may have a causal effect on the change of attitudes and account for the rise and fall of results. During the final year, between semester 6, 7 and 8 with proper knowledge and experiences have built up their confidences level and advertently boost their median score of a positive attitude. Exposure of individual lives with elderly shows large correlation with the semester. Hence, this is coherence with the more senior the students the more he/she is exposed to older adults. The pattern of total KAOP+ score stipulated that when people are getting older, their attitude has flourished towards positive beliefs. This is likely due to people getting exposed to a lot of experience and education on shaping the attitude as they getting older. Accumulative lifetime exposure towards elderly people improves their attitudes towards the elderly population. As the semesters increases, the more clinical placements they have been attached to, the more exposure they get hence increases their understanding of handling elderly patients. Consequently, their positive attitude toward elderly also increases as their personal contact with elderly give them confidence. Conversely, there has been a suggestion postulate that exposure to clinical setting could impose negative attitude from radiographers(Booth & Kada, 2015).Apart from that, the CGPA observed in this study shows increment patterns of the total KAOP+ median score on contrary to expose shows a small correlation with CGPA. This is due to the fact that the students do not enroll in specific gerontology studies or aging education courses. Likewise, the CGPA accumulated is based on other courses related with medical imaging. CGPA has a medium effect towards total score which means that lower of higher CGPA have an average effect towards attitude. Semester seniority and exposure have a large correlation with age. This is because students aged as they advance into the higher semester. Gender and CGPA have a small correlation with age means students grow up no matter they are male or female and whether they pass their study or not. This can be explained and they have been exposed to elderly people during education or clinical placement as they advance into higher semesters.

It is a soothing feeling to learn that most of the students with vast experience handling and living with elderly people in their lifetime have a considerable positive attitude towards elderly people.
Women, in particular, are encouraged to get involved with elderly people and stay with them even after adolescents. Stigmatism towards elderly in which elderly people are perceived senile and physically unfit impacted from the social qualities, standards, and cultural structures of the community. The educational institutions from private and public universities will need to consider the necessity to include relevant courses on gerontological topic and combine with education intervention such as simulation to Medical Imaging students. This is sufficient to implement at the early semester and follow-up with the observation by the facilitator and on-site trip to introduce the subject matter starting from junior years. Due to the steady increment of aging population in Malaysia in the near future, the existing curricula should be considered for aging education. Aging education should also be initiated to school children and young teenagers available in selected relevant topics in their textbooks through image depiction, visuals and figures (Kaya et., 2014) hope that it could educate the youngsters on aging and old adults. Starting early to educate the young on the importance and the implications of an aging population would bring great benefits to our generations. Besides than reviewing the curricula, another initiative such as social engagement and volunteerism among the students especially in the nursing home should be encouraged instilling awareness and trusts towards elderly people.

5. Conclusion and recommendation

The present study aimed to identify the attitudes of Medical Imaging students' in Malaysia towards older people based on their personal exposures and some demographic data from individual information consisted of age, gender, semester and CGPA. It was found that the medical imaging students' in general have a positive attitude towards the elderly people in Malaysia based on the characteristics define in this study. Nevertheless, relevant education intervention focusing on the importance of delivering quality care towards geriatric patients is still in need especially in hospitals and other health centers that involved medical imaging technologist.

Acknowledgements

The authors acknowledge Universiti Teknologi MARA with grant number RAGS/1/2014/ST06/UITM//4 for continuous support and motivation.

References

Abbas, Mohamed Yusoff, & Saruwono, Masran. (2012). Our 'Golden' Citizens with 'Golden' Facilities? *Procedia - Social and Behavioral Sciences, 49*, 127-146. doi: 10.1016/j.sbspro.2012.07.012

Abreu, Margarida, & Caldevilla, Nilza. (2015). Attitudes toward Aging in Portuguese Nursing Students. *Procedia - Social and Behavioral Sciences, 171*, 961-967. doi: 10.1016/j.sbspro.2015.01.215

Booth, L., & Kada, S. (2015). Student radiographers' attitudes toward the older patient – An intervention study. *Radiography, 21*(2), 160-164. doi: 10.1016/j.radi.2014.09.010

Carmen, Stanciu Mariana. (2012). Ageism in Romania and Intergenerational Practices. *Procedia - Social and Behavioral Sciences, 46*, 4736-4740. doi: 10.1016/j.sbspro.2012.06.327

Cheong, S.W., Wong, T.Y., Koh, G.CH. (2009). Attitudes towards the elderly among Singapore medical students. *Ann Acad Med Singapore, 38*, 857-861.

Damulak, P.P., Minhat, H.S. & Rahman, A.A. (2015). Attitude towards the elderly among healthcare related students in Malaysia. *International Jounral of Health Sciences and Research, 5*(11), 248-258.

Długosz, Zbigniew. (2011). Population ageing in Europe. *Procedia - Social and Behavioral Sciences, 19*, 47-55. doi: 10.1016/j.sbspro.2011.05.106

Długosz, Zbigniew, & Raźniak, Piotr. (2014). Risk of Population Aging in Asia. *Procedia - Social and Behavioral Sciences, 120*, 36-45. doi: 10.1016/j.sbspro.2014.02.079

Latifah, I. (2015). Gender gap in higher education: Perspective on factors influencing enrolment in Malaysian universities: A University of Malaya sample. *The Online Journal of Quality in Higher Education, 2*(4), 35-45.

Özer, Zeynep Canlı, & Terkeş, Nurten. (2014). Evaluation of Nursing Student's Attitudes towards Ageism in Turkey. *Procedia - Social and Behavioral Sciences, 116*, 2512-2515. doi: 10.1016/j.sbspro.2014.01.602

Samad, S.A. & Mansor, N. (2013). Population ageing and social protection in Malaysia. *Malaysian Journal of Economic Studies, 50*(2), 139-156.

Wan-Ibrahim W.A., Zainab, I. (2014). Some demographic aspects of population aging in Malaysia. *World Applied Sciences Journal, 30*(7), 891-894. doi: 10.5829/idosi.wasj.2014.30.07.14078