

**ATTITUDES OF EMERGENCY DEPARTMENT DOCTORS
TOWARDS OLDER ADULTS IN MALAYSIA**

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ABSTRAK

Latar Belakang: Warga emas mempunyai perbezaan dari segi mental, fizikal, fisiologi dan psikososial berbanding orang muda. Disebabkan ini, ilmu, kemahiran dan sikap yang baik diperlukan ketika merawat golongan tersebut. Kajian ini adalah untuk menentukan sikap doktor yang bertugas di jabatan kecemasan di negara Malaysia terhadap warga tua serta faktor-faktor yang berkaitan dan kesanggupan doktor untuk memilih bidang geriatrik untuk kerjaya masa depan mereka.

Metodologi: Doktor yang bertugas di Jabatan Kecemasan di Hospital Universiti Sains Malaysia (HUSM), Hospital Raja Perempuan Zainab (HRPZ) II, Hospital Kuala Krai and Hospital Tanah Merah telah diminta secara sukarela untuk menyertai kaji selidik di awal tahun 2017. Soalan dalam survey tersebut merangkumi informasi tentang sosio-demografi dan 14 soalan yang diadaptasikan daripada soal selidik University of California Los Angeles (UCLA) Geriatrics Attitudes Scale. Soalan ke-lima belas telah ditambah untuk mengenalpasti kesudian peserta untuk memilih bidang geriatrik untuk kerjaya masa depan mereka. Markah daripada soalan yang dijawab akan dijumlahkan mengikut skalar Likert. Dengan menggunakan SPSS versi 22.0, analisis 'simple and multiple linear regression' digunakan untuk menentukan faktor-faktor yang berkaitan dengan bacaan min sikap yang diperolehi. Bacaan min sikap tersebut juga dikaitkan dengan kesudian untuk memilih bidang geriatrik untuk kerjaya masa depan dengan menggunakan 'Pearson's correlation coefficient'.

Keputusan: Seramai 122 peserta telah menyertai soal selidik ini. Bacaan min sikap berdasarkan soal selidik UCLA ialah 3.38 (SD 0.335) (CI 95%, 3.32-3.44). Analisis turut menunjukkan kesudian untuk memilih bidang geriatrik untuk kerjaya masa depan adalah berkaitan dengan sikap baik terhadap golongan tersebut. Hampir separuh daripada jumlah kesemua peserta (n=60) tidak menunjukkan kesanggupan untuk memilih bidang geriatrik sebagai kerjaya masa depan dan cuma 14% yang sanggup. Yang lain menjawab neutral atau tidak pasti.

Kesimpulan: Doktor yang bertugas di Jabatan Kecemasan di Negara Malaysia mempunyai sikap yang positif terhadap warga emas tetapi hanya segelintir peserta iaitu 14% yang sudi memilih bidang geriatrik untuk kerjaya masa depan. Bacaan min sikap yang positif mendorong seseorang doktor untuk memilih bidang geriatrik sebagai kerjaya masa depan.

ABSTRACT

Background: Specific knowledge, skills and attitudes are necessary for the evaluation and treatment of older adult patients due to the frailty, vulnerability and disadvantages of this group of individuals compared to their younger counterparts. This study is to determine the attitudes of emergency department doctors in Malaysia towards older adults, its associating factors and their willingness to consider care for these individuals as their career.

Methods: Emergency department doctors in Hospital Universiti Sains Malaysia (HUSM), Hospital Raja Perempuan Zainab (HRPZ) II, Hospital Kuala Krai and Hospital Tanah Merah were asked to participate voluntarily in a survey in early 2017. The questionnaires consisted of the basic socio-demographic information and a 14-item validated instrument based on the University of California Los Angeles (UCLA) Geriatrics Attitudes Scale. A fifteenth question enquired about their willingness to consider geriatric medicine as a future career choice. Scoring was performed on a 5-point Likert scale. Using SPSS software ver. 22.0, simple and multiple linear regression analyses were conducted to determine the factors associated with the mean UCLA attitude score. Pearson's correlation coefficient was used to assess the relation between the mean attitude scores and willingness to consider a future career in geriatrics.

Results: A total of 122 completed questionnaires were collected. The mean UCLA attitudes score was 3.38 (SD 0.335) (CI 95%, 3.32-3.44). There was a significant weak positive correlation between the participants' mean attitude score and willingness to consider geriatrics as a future career choice ($r=0.289$, $P=0.001$). Only 14% ($n=17$) is keen to choose to care for the older adults in the future, almost half ($n=60$) were not unwilling to and the remaining were indecisive.

Conclusion: ED doctors in Malaysia generally showed positive attitudes towards older adults although only 14% were keen to consider geriatrics in their future career. Positive attitudes were associated with willingness to consider geriatrics as a future career choice.

CHAPTER 1

INTRODUCTION

An older adult is defined as more 60 years old for developing country and more than 65 for developed country (WHO, 2013). According to World Health Organization (WHO), the world's population is ageing rapidly. The number of older adult is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050, with most of the increase in developing countries (WHO, 2011). Similar to most parts of the world, the older population is expected to increase in years to come in Malaysia as life expectancy of Malaysian is increasing. Life expectancy at birth of Malaysia population continues to rise over the past decades to reach 74.7 years in 2016 as compared to 72.2 years in 2000 (Malaysia, 2016a). In the latest survey in Malaysia, the proportion of population aged 65 years and over has increased to 5.1 per cent in 2010 as compared with 3.9 per cent in 2000. The trend of these indicators is in line with the transition of age structure towards aging population of Malaysia.(Malaysia, 2010)

Older people are associated with significant mental, physical, physiological and psychosocial difference compared to their younger counterparts. Given their growing proportion of the population, older individuals will impose a big impact in every aspect in the society, including the health services. As the older population is growing, the older adults are predicted to comprise an increasing share of emergency department (ED) patients in the coming years (Roberts, McKay, & Shaffer, 2008). In various countries such as the US, India, Turkey and Italy, older adult patients constitute an average of 12 to 25% of current ED volumes (Albert M, 2013; Fayyaz, Khursheed, Umer Mir, & Khan, 2013; Keskinoglu & Inan, 2014; Salvi et al., 2013). A recent study in a tertiary hospital in Malaysia echoed similar pattern of older population utilization of ED. (Mohd Mokhtar et al., 2015). It is predicted that one out of four or five patients presenting to the ED will be an older adult.

Compared with younger persons, older adults visit ED more often, their visits have a greater level of urgency, they have longer stays in the ED, they are more likely to be admitted or to have repeat ED visits, and they experience higher rates of adverse health outcomes after discharge (Aminzadeh & Dalziel, 2002). Thus, the complexity of this group of people demand more attention and also vigilance from the doctors and this is likely to strain the ED services.

Literature review

Geriatric health care is an established subspecialty of internal medicine in many other countries including Malaysia. In this country, geriatric medicine has been developed by a group of dedicated local geriatricians for the past two decades to improve in various aspects of geriatric health care (P. J. Poi, D. R. Forsyth, & D. K. Chan, 2004). One can no doubt agree that all doctors except paediatricians and obstetricians will be treating older adults in their clinical practice. This is particularly true for those serving as front liners especially the primary care and emergency department doctors.

Although most specialty training in Malaysia included geriatric components in the course of their training, but a formal geriatric subspecialty as for internal medicine has not been widely established in the other fields of medicine. In Malaysia, there is as yet neither includes the emergency medical services nor is there a specialized geriatric ED catered for the older adults. As the ED serves as the front liner to deal with increasing number of older adults presenting with various problems, a specialized training in dealing with older adults may be necessary for ED doctors for better care of these individuals.

Specific knowledge, skills and attitudes are necessary for the evaluation and treatment of older adult patients due to the frailty, vulnerability and disadvantages of this group of individuals. Despite these facts, these older adults tend to be undertreated compared to their younger counterparts (Protiere, Viens, Rousseau, & Moatti, 2010). Negative attitudes among healthcare professionals have been identified as a key factor of poor quality of care of these older adults received (Courtney, Tong, & Walsh, 2000; Lothian & Philp, 2001). Existing literature showed that negative attitude towards older adults reduce one's likelihood to choose to care for these people as his career choice. (Chua, Tan, Merchant, & Soiza, 2008; Fitzgerald, Wray, Halter, Williams, & Supiano, 2003; Hughes et al., 2008)

There is a handful of studies especially involving the healthcare personals on the attitudes towards older adults; including qualified doctors, nurses, therapists, and healthcare-related students such as medical, nursing, osteopath and others (Liu, While, Norman, & Ye, 2012). These studies have utilized different materials or tools in their methodologies, which few was validated for healthcare professionals and others are meant for general populations. Examples of materials or tools used for measuring the attitudes for the general population such as Kogan's Attitudes toward Old People Scale (Kogan, 1961), aging semantic differential (Rosencranz & McNevin, 1969), Fraboni's Scale of Ageism (Fraboni, Saltstone, & Hughes, 1990), the Age Group Evaluation and Description Inventory (Knox, Gekoski, & Kelly, 1995) and Attitudes toward the Elderly (Cha & Seo, 2009). Some studies used the validated scales for healthcare professionals such as doctors and other healthcare professionals. One of them which was widely used is the University of California, Los Angeles (UCLA) Geriatrics Attitudes Scale (Reuben et al., 1998). These studies have shown mixed results, but most showed overall positive attitudes towards older adults.

A few of studies have also reported the factors contributing to the attitudes towards older adults. In the US involving primary care, internal medicine and geriatric medicine residents showed positive attitudes towards older adults (Kishimoto, Nagoshi, Williams, Masaki, & Blanchette, 2005; Lee, 2005). The positive results were attributed to previous exposure and adequate geriatric teachings in the medical curriculum. Internal medicine residents in Turkey were also found to show positive attitudes towards older adults especially after attending geriatric rotation as part of their training (Tufan et al., 2015). One study in the Australia involving internal medicine residents revealed that female doctors, younger doctors less than 30 years old age, and more frequent social contacts with older people have more positive attitudes towards older adults (Leung, Logiudice, Schwarz, & Brand, 2011). In the US, a study involving rural physicians showed an overall positive attitudes towards older adults but a sub-analysis of the same study revealed a more negative perceptions towards those over 85 years old and those from nursing homes (Gunderson, Tomkowiak, Menachemi, & Brooks, 2005). Another study among family medicine residents showed overall positive attitudes but some reported they do not like treating older patients due to the chronic and complicated nature of their conditions, financial constraints, and time pressures in their care. (Helton & Pathman, 2008).

Similar pattern of positive attitudes of doctors towards older adults was reported in ASEAN countries as well. A single-center study among junior doctors in a tertiary hospital in Singapore reported that geriatric training contributed to better attitudes towards older adults (Lui & Wong, 2009). Another study in Thailand echoed similar positive findings among its medical students and doctors in a single hospital (Muangpaisan, Intalapapron, & Assantachai, 2008). Exposure to older adults has been identified as the key contributing the positive attitude found in these countries. Most of

these studies are on primary care and internal medicine residents. To date, only one published study in the US on the attitudes of emergency doctors towards older people (Hogan, Chan, & Hansoti, 2014).

At the present, there was scant data on the attitudes of Malaysia healthcare providers towards older adults. As life expectancy and thus the older population is growing in this country, one should expect the higher number of older adults presenting seeking healthcare and presenting to the ED for various reasons. Similar concern was also mentioned by an emergency physician in the country recently (Chung, 2016).

This study was conducted to explore the attitude scores of ED medical doctors toward older adults in Malaysia. At the same time, this study also aimed to provide some insight on the factors associated with the attitude scores. Lastly, correlation between the attitude scores with the willingness of these doctors to care for these older adults as their career choice is sought. The results from this study possibly may have implications on influencing the practice, education and policy-makers.

CHAPTER 2
OBJECTIVES OF THE STUDY

2.1 General Objective

- To study the attitude of ED doctors toward older adults and its associated factors in Malaysia.

2.2 Specific Objectives

- To estimate the mean attitude score of ED doctors toward older adults.
- To determine the association between the socio-demographic factors and the mean attitude scores of ED doctors.
- To determine the correlation between the mean attitude scores and willingness to consider a career in geriatric medicine.

CHAPTER 3
MANUSCRIPT

3.1 Title page

ATTITUDES OF EMERGENCY DEPARTMENT DOCTORS

TOWARDS OLDER ADULTS IN MALAYSIA

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3.2 Abstract

Background: Specific knowledge, skills and attitudes are necessary for the evaluation and treatment of older adult patients due to the frailty, vulnerability and disadvantages of this group of individuals compared to their younger counterparts. This study is to determine the attitudes of emergency department doctors in Malaysia towards older adults, its associating factors and their willingness to consider care for these individuals as their career.

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At the present, there was scant data on the attitudes of Malaysia healthcare providers towards older adults. As life expectancy and thus the older population is growing in this country, one should expect the higher number of older adults presenting seeking healthcare and presenting to the ED for various reasons. Similar concern was also mentioned by an emergency physician in the country recently (Chung, 2016).

This study was conducted to explore the attitude scores of ED medical doctors toward older adults in Malaysia. At the same time, this study also aimed to provide some insight on the factors associated with the attitude scores. Lastly, correlation between the attitude scores with the willingness of these doctors to care for these older adults as their career choice is sought. The results from this study possibly may have implications on influencing the practice, education and policy-makers.

3.4 Methodology

Study sites

This study was carried out at Hospital Universiti Sains Malaysia (HUSM), Hospital Raja Perempuan Zainab II (HRPZ II), Hospital Kuala Krai (HKK) and Hospital Tanah Merah (HTM). These four hospitals are located in Kelantan, a northern state of Malaysia and are the only four government hospitals in the state of Kelantan with emergency physicians. Approval for this study was obtained from the Research and Ethics committee of medical sciences of the Health campus, University Sains Malaysia and also the approval from National Medical Research Registry of Malaysia.

Study design

This was a cross sectional observational study and was conducted in the first quarter of the year 2017. With anticipated medium effect size (f^2 of 0.15), type I error (α) of 0.05, power of study of 80% and number of predictors of 10, the estimated minimum number of sample size of 118 was obtained using an online A-priori Sample Size Calculator for Multiple Regression (<http://www.danielsoper.com/statcalc/calculator.aspx?id=1>). After adding 20% anticipated dropout rate, the number of participants needed was 148 participants.

The study participants were medical doctors serving at the ED of the designated hospitals for at least a minimum of three months. These medical doctors include house officers, medical officers, postgraduate or master degree medical students and emergency physician. The participants were selected from simple random sampling after obtaining the list of doctors working at the

ED of the respective hospitals. Participation in this study was completely voluntary and the participants' confidentiality was maintained at all time. Once consent was obtained, a hardcopy survey questionnaire was distributed to the eligible participants in all four hospitals. After completion of the questionnaire, each participant was given a black ballpoint pen as a token of gratitude. The completed questionnaires were then collected at the end of the study period and returned back to the principal researcher.

Survey tool

The self-administered questionnaire consisted of two parts. The first part is the participant socio-demographic details including basic details such as their age, gender, ethnicity, religion and nationality, marital status and number of children if available, and their average household income. Other information included was prior experience of caring for older adults, questions if their parents were alive or deceased and whether their parents were living together with them, previous formal geriatric education, tertiary education abroad or at local university, their years of working experience, and their current position at the time of study. These factors were chosen because previous studies suggested that these factors might influence attitudes.

The second part was adapted from the University of California Los Angeles Geriatric Attitude Scale (UCLA-GAS). It was developed by Reuben et al for primary healthcare providers (Reuben et al., 1998). This tool has been validated previously by (Kishimoto et al., 2005; Lee, 2005). The tool contained of a mixture of 14 positively and negatively worded questions. Items on the tool

were rated using 5-point Likert scale with the options of “I strongly disagree”, “I disagree”, “I am indecisive or neutral”, “I agree”, and “I strongly agree”.

The positively-worded questions are question 1, 4, 7, 9, and 14. Participants scored “5” points if they strongly agreed with the sentences of positive attitude toward older adults, they scored “4” points if they agreed, they scored “3” points if they were indecisive or neutral, they scored “2” points if they disagreed, they scored “1” point if they strongly disagreed.

The other remaining questions are negatively-worded sentences. For these questions, a reverse scoring system was applied. A lower score indicated a more positive attitude. Thus, the score were obtained as “1” point if they strongly agreed, “2” points if they agreed, “3” points if they were indecisive or neutral, “4” points if they disagreed, “5” points if they strongly disagreed in the reverse order of the above-mentioned.

However, minor modifications were required to adapt the questionnaire to the local context in 2 questions: “federal government” to “government”, and “medicare” to “care of the elderly”. This was also adapted by Chua et al when they used the ULCA-GAS in their published study when assessing medical student attitudes in Singapore (Chua et al., 2008). The scores were then summed from all the 14 questions and tabulated to estimate the mean attitude score.

A fifteenth question was included at the end of the questionnaire, which enquired about participants’ willingness to consider geriatric medicine (GM) as a potential career choice or subspecialty.

Data Analysis

Data entry and analysis were performed using SPSS version 22. All basic socio-demographic details of the participants were tabulated in a table. Descriptive analysis was performed to estimate the mean attitude score of ED doctors toward older adults. The scores of all the 14 questions from the UCLA attitudes scale were summed and tabulated. It was reported as mean and its 95% confidence interval. Simple and multiple linear regression analyses were conducted to determine the factors associated with the mean UCLA attitude score. Pearson's correlation coefficient was used to assess the relation between the mean attitude scores and willingness to consider a career in GM. Level of significance was set at 0.05. A correlation coefficient of 0.1-0.3 was considered as weak, 0.3-0.5 as moderate and >0.5 as strong correlation.

3.5 Results

A total of 122 completed questionnaires were collected and analyzed. Table 1 showed the socio-demographic characteristics of the all the participants in this study. The mean UCLA attitudes score was 3.38 (SD 0.335) (CI 95%, 3.32-3.44) which suggests that the cohort had a relatively positive attitude overall as shown in Figure 1.

Table 2 showed the distribution of the participants' willingness to choose geriatric medicine as the choice of their career. Almost half of the participants (n=60) disagree or strongly disagree to choose to care for the older adults in the future. This study also found that 36.9% were indecisive about taking up GM as their career choice. The mean score was estimated at 2.49 (CI 95%, 2.32-2.67) which suggests the less likelihood of choosing GM as a career choice as shown in Figure 2.

In linear regression analysis, categorical variables with more than 2 categories were reorganized to ease analysis and interpretation. For example, the variable 'Ethnicity' was reorganized into Non-Malay (Chinese, Indian, Others) and Malay; 'Religion' was reorganized into Non-Islam (Buddhist, Christian, Hinduism and Others) and Islam; 'Household income' was reorganized into $\leq 10K$ and $>10K$; 'Hospital' was reorganized into General hospital (HUSM and HRPZ II) and District hospital (HKK and HTM); and 'Position' was reorganized into HO and MO in one group, and Master and EP in another separate group.

Simple linear regression was used as univariate analysis to determine linear association between each factor and the mean UCLA attitudes score as

shown in Table 3. The variables with $P < 0.25$ (ethnicity, parents living together and position) were included in the variable selection process to obtain preliminary main effect model. Although religion was also found to have significant linear association with attitude score ($P = 0.002$), it was highly correlated with ethnicity as all Malay respondents were Islam. Due to this multicollinearity issue, variable religion was not included in the multivariable analysis. Three methods of variable selection (stepwise, forward and backward) were executed. All three methods retained only one variable which was the variable 'ethnicity' (Malay vs. non-Malay). It was found that there was a linear relationship between 'ethnicity' and attitude score in which Malay respondents had 0.268 unit lower attitude score compared to non-Malay as shown in Table 4. 'Ethnicity' explained 7.8% of the variation in the attitudes scores as shown in Figure 3.

Pearson correlation analysis was conducted to assess the direction and strength of linear relationships between the participants' mean attitude score and willingness to consider GM as a career choice. Result was as shown in Figure 4 below. There was a significant weak positive correlation between the participants' mean attitude score and willingness to consider GM as a career choice ($r = 0.289$, $P = 0.001$).

3.6 Discussion

Attitude can be defined as a complex mental state involving beliefs and feelings and values and dispositions to act in certain ways (Dictionary). A famous theory in psychology states that human action is influenced by attitude (Ajzen, 1991).

This study offers some insights on the doctors working at the ED in Malaysia with regard to their attitude towards older adults. It revealed that an overall positive attitude score among ED doctors towards older adults. It is in keeping with emergency medicine residents based in the US whom also showed the same overall positive attitudes (Hogan et al., 2014). Similar findings were found with studies conducted elsewhere in the world involving non-emergency medical doctors such as the US (Kishimoto et al., 2005; Lee, 2005), Turkey (Tufan et al., 2015), Singapore (Leung et al., 2011) and Thailand (Muangpaisan et al., 2008). These positive attitudes toward older adults may be attributable to the facts that Asian people including Malaysian has strong cultural background with utmost respect for the older adults.

Most of the socio-demographic factors in this study except ethnicity have been shown to be independent from the mean attitude score. This study found no association found between previous experience in caring for older adults and the attitude score. This differs from other studies where previous experience in the care of older adults (Kishimoto et al., 2005; Lee, 2005) were associated with positive attitudes. These were studies done in the US. Although this UCLA scale was used in the study of medical doctors in other countries mainly the US, it has not been validated in a similar cohort of Malaysian doctors. Previous