

Ethnic Groups Difference in Discriminatory Attitude Towards HIV/AIDS Patients Among Medical Students: A Cross-Sectional Study

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ABSTRACT

Medical students are future doctors who are trained to treat all kinds of diseases including people living with HIV/AIDS (PLWHA) without prejudice. Teaching basic scientific knowledge and technical skills is no longer adequate for today's medical students. There is also a need for them to be provided with high personal and professional values. This study examined stigmatizing attitude towards people living with HIV/AIDS (PLWHA) among the medical students in a public medical school. The participants were stratified to preclinical-year (year 1 and year 2) and clinical-year (year 3 and year 4) medical students. Simple random sampling was carried out to select 170 participants from each category of students. Self-administered questionnaires captured socio-demographic data, HIV/AIDS knowledge and stigmatisation attitudes towards PLWHA. Multiple linear regression was used to assess the relationship between ethnic groups and stigmatization attitude. Three hundred and forty participants were recruited. Malay medical students who did not have previous encounter with PLWHA were associated with stigmatizing attitude towards HIV/AIDS patients, whereas clinical-year medical students who had no clinical encounter with PLWHA were more likely to feel uncomfortable with PLWHA. Malay ethnicity and medical students in clinical years who had not encounter a PLWHA were more likely to have stigmatizing attitude towards PLWHA.

Keywords: Stigma, People living with HIV/AIDS (PLWHA), Undergraduate Medical Education

INTRODUCTION

Today's medical students are tomorrow's doctors. Tomorrow's medical practice is increasingly diversified in terms of patient's ethnicity, personality, socioeconomic status, religion, spirituality and value^[1,2]. Teaching basic scientific knowledge and technical skills is no longer adequate for today's medical students. There is a need for them to be provided with high personal and professional values^[3-5]. Medicine in the cyber-age tomorrow is still about interaction with patient and respecting the diverse perspectives of others is the essence of patient-centeredness^[1]. This is ever more important in dealing with patients with medical condition of high social stigmas such as human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS). Appreciation and provision of health care without prejudice and discrimination can lead to adherence and better health outcomes for people living with HIV/AIDS (PLWHA)^[6,7].

With increasing PLWHA, any effective health care system in the world will need to be equipped with adequate facilities and staff for improved treatment outcomes for PLWHA^[8-10]. In Malaysia and worldwide (except Eastern Europe and Central Asia), HIV incidence and mortality has been falling over the last decade but the incidence of overall new infections and the number of people living with HIV/AIDS (PLWHA) are still high. Globally, it was estimated that 33.3 million of people living with HIV (adults and children) in 2009; there were about 100 thousand PLWHA in Malaysia up to December 2009^[11,12].

In an effort to reduce discriminatory attitude towards PLWHA in health care professionals, medical school does have a strategic role to prepare future doctors in facing the challenges in handling PLWHA^[13]. The medical students, disregard of their varied ethnic and cultural background, should be equipped with adequate knowledge about HIV/AIDS, positive attitude and behaviour in providing care to these patients. The recognition and appreciation of the importance of these soft skills have not been well perceived by medical students and junior doctors^[1,14].

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This desire to treat was related to perceived risk of HIV contagion and sense of professional obligation^[15]. This study looked into the ethnic differences of discriminatory attitude towards PLWHA among the medical students in our culturally diverse medical school. The multi-ethnic student population offers a very conducive setting to study cultural variations. This study could help to gauge the adequacy of the curriculum at different stages of professionalization of the medical students in this medical school, in imparting this particular professional attribute of non-discrimination towards PLWHA, as well as the generic professional value of respecting different others from self in any health setting^[1,16].

METHODS

This study is a cross-sectional research conducted from January to June 2010. The study was approved by Universiti Putra Malaysia medical ethics committee. It is a part of another study assessing HIV/AIDS knowledge and stigmatizing attitudes among medical students at this university^[17].

Participants

The study population consisted of first to fourth year medical students. The first and second year medical students were stratified as the pre-clinical year medical students (PCMS), while the third and fourth years medical students were the clinical year medical students (CMS).

Questionnaires

One case record form was developed to capture demography characteristics comprised gender, age, ethnicity, religion, religiosity, academic year and previous encounter with people living with HIV/AIDS. Religiosity was defined as adherence to the teaching/ceremony/way of life of one's religion^[18]. This was captured by the item "I am a religious person" with the afore definition put in a bracket following the item, with a 5-points Likert scale from strongly agree to strongly disagree. Encounter referred to personally had known, seen or interacted with a person diagnosed with HIV/AIDS. Another questionnaire assessing the stigmatizing attitude was obtained with permission from the original authors, Andrewin and Chien, who had developed and conducted a similar study earlier^[19].

The items assessing stigmatizing attitudes were ranked on the five-point Likert-type scales. Responses to each statement ranged from 1 (strongly disagree) to 5 (strongly agree). A score of 1 was regarded as least stigmatizing and 5 being most stigmatizing. Therefore, a higher score indicates a more stigmatizing attitude or a higher frequency of committing a discriminatory act. There are nine items fitted into three subscales: (1) Attitudes of blame/judgment - 3 items, Cronbach α 0.60; (2) Attitudes toward imposed measures - 4 items, Cronbach α 0.71. These measures are coercive in nature such as isolation and quarantine and mandatory testing for PLWHA; and (3) Comfortableness in dealing with HIV/AIDS patients - 2 items, Cronbach α 0.83; reverse scoring was applied to these items in analyses. The scores of all the items were summed and averaged to give stigmatization overall scores and for each subscale, which were then used in the analysis. A further description of this questionnaire is available in the original report^[19].

HIV/AIDS knowledge was assessed using six items for which the overall number of accurate responses was categorised into poor (≤ 2), moderate (3-4) and good (≥ 5)^[19]. The items for the HIV/AIDS knowledge assessment are listed as below.

1. One can contract HIV infection by sharing meals with an HIV-infected person. (False)
2. Procedures for avoiding Hepatitis B and HIV infection are similar. (True)
3. Most newborns born to HIV-positive women have HIV/AIDS infection at birth. (False)
4. After needle stick injury with a needle from an HIV-infected person, the chance of contracting HIV virus is less than 1%. (True)
5. After needle stick injury with a needle from an HIV-infected patient, immediately gently expressing blood from the puncture site reduces the risk of contracting HIV infection. (True)
6. Through sexual contact gonorrhoea is more easily transmitted than HIV virus. (True)

These questionnaires were all in English and piloted with 20 medical students for face validity, as well as the acceptability of their content with local culture. The demography questionnaire was modified and improved but we left the other two questionnaires assessing on the HIV/AIDS knowledge and stigmatizing attitude intact as they were found acceptable by the participants in the pilot study.

Sampling

The sample size was calculated based on the 0.08 estimated standard deviation of stigmatizing attitude mean scores of a previous study in Belize^[19], whereas desired precision at 0.1 and p value of less than 0.05 were considered statistically significant at 95% confidence interval, which was about 300. Meanwhile, an estimated non-response rate of 15%, based on the previous studies in local universities^[20,21], whereby a sample size of 40 was calculated and included to give a total sample size of 340. A simple random sampling was carried out by using Table of Random Digits^[22] to select 170 participants from each stratum of students, namely, the pre-clinical and the clinical years medical students (PCMS, n = 247 and CMS, n = 237).

The identified students were approached in person with the questionnaires, information sheet and consent form. After giving their written consent, the students were left alone to complete the questionnaires. Each questionnaire was checked for completion as best possible. On occasions where there were questions unanswered, explanations were given again. Confidentiality was ascertained throughout whereby the investigators only handled the completed questionnaires, and the questionnaires bore no identifiable or traceable codes to the participants.

Statistical Analyses

Data were analyzed using SPSS version 19. Information recorded on the questionnaires was manually checked for missing values, data-entry errors and consistency. Outliers and extreme values were double checked for transcription errors. Statistical assumptions were ascertained before statistical analysis. Ethnicity was collapsed and dichotomously coded to reflect Malay vs. non-Malay (Chinese, Indian and other ethnic groups), and this was done based on the initial analyses that showed significant differences between the ethnic groups. Multiple linear regression with stepwise method was used to assess the association between ethnic groups (non-Malays as the reference group) and stigmatization attitude with adjustment for significant covariates. As a variable, religion was found to give very similar results as the ethnic variable, and also with the evidence of close relation of ethnicity and religion in this study as well as in this country; therefore, the authors decided to report on ethnicity over religion^[18].

RESULTS

A total of 340 participants were recruited, equal proportion from both the pre-clinical and clinical (100% response rate). The mean and standard deviation (SD) of age for pre-clinical and clinical medical students were 20.5 (0.72) and 22.3 (0.53) years old, respectively. Meanwhile, demographic characteristics were comparable between the two groups in terms of gender (about two thirds were female students) and level of religiosity (about 70% of them self-reported to be religious in their own faith), as shown in Table 1. However, the ethnic backgrounds of the PCMS and CMS were significantly different (Table 1). There were about one-third (31.2%, 106/340) of the medical students in the highest quartile of the stigmatizing scale (mean score 31.8 SD 1.96, CI 31.43 to 32.19, range 30.0 to 40.0). However, there was no significant association between ethnic background, previous encounter with PLWHA and HIV/AIDS knowledge levels among both PCMS and CMS. Meanwhile, academic year (PCMS vs CMS) of the students was associated with stigmatizing attitudes of the subscales “attitudes toward imposed measures” ($t = 3.917$, $p < 0.001$) and “comfortableness in dealing with HIV/AIDS patients” ($t = 0.039$, $p = 0.039$). Gender and religiosity were not associated with stigmatizing attitudes.

Figure 1 shows that the three main ethnic groups of the medical students were associated with stigmatizing attitude towards HIV/AIDS patients (ANOVA: $F = 5.05$, $df = 336$, $p = 0.002$). Overall, Malay medical students were feeling significantly less comfortable than their Indian counterpart in dealing with PLWHA (ANOVA: $F = 4.28$, mean difference = 0.995, $p = 0.016$ CI 0.12, 1.87), more so for the pre-clinical (ANOVA: $F = 3.16$, mean difference = 1.392, $p = 0.012$ CI 0.25, 2.54) but not the clinical years students ($p = 0.06$). In clinical years, when compared to the Indian students, Malay students showed significant attitude of blame and judgement towards PLWHA (ANOVA: $F = 4.84$, mean difference = 2.008, $p = 0.005$ CI 0.47, 3.54).

Multiple linear regression with stepwise method (Table 2) showed that Malay ethnicity with no previous encounter with a PLWHA as a significant predictor of the overall stigmatizing attitude ($p = 0.013$); Malay ethnicity was a predictor of stigmatizing “attitude of blame and judgement towards PLWHA” ($p = 0.024$) and uncomfortable in dealing with PLWHA ($p = 0.001$), but not in “imposed measures” ($p = 0.65$). Malay ethnicity, CMS and had no previous encounter with PLWHA were significant predictors of uncomfortableness in dealing with PLWHA (Table 2).

Table 1. Characteristics of study population and HIV/AIDS knowledge levels according to ethnicity, n = 340

	n (%†)			χ^2 Statistic	P value
	Total, n (%*)	Malay	Non-Malay		
Total	340 (100.0)	206 (60.6)	134 (39.4)	NA	NA
Academic year					
PCMS	170 (50.0)	119 (70.0)	51 (30.0)	13.02	0.01
CMS	170 (50.0)	87 (51.2)	83 (48.8)		
Gender					
Male	122 (35.9)	63 (51.6)	59 (48.4)	6.51	0.09
Female	218 (64.1)	143 (65.6)	75 (34.4)		
Religion					
Islam	181 (53.2)	174 (96.1)	9 (3.9)	480.68	< 0.0001
Buddhism	114 (33.5)	28 (24.6)	86 (75.4)		
Christian	23 (6.8)	4 (17.4)	19 (82.6)		
Hindu	19 (5.6)	0	19 (100)		
Taoism	3 (0.9)	0	3 (100)		
Religiosity					
Not religious	91 (26.8)	48 (52.7)	43 (47.3)	6.47	0.09
Religious	249 (73.2)	158 (63.5)	91 (36.5)		
Encounter‡					
Yes	93 (27.4)	55 (59.1)	38 (40.9)	1.12	0.77
No	247 (72.6)	151 (61.1)	96 (38.9)		
Knowledge level§					
Poor	96 (28.2)	60 (62.5)	36 (37.5)	10.67	0.10
Moderate	194 (57.1)	123 (63.4)	71 (36.6)		
Good	50 (14.7)	23 (46.0)	27 (54.0)		

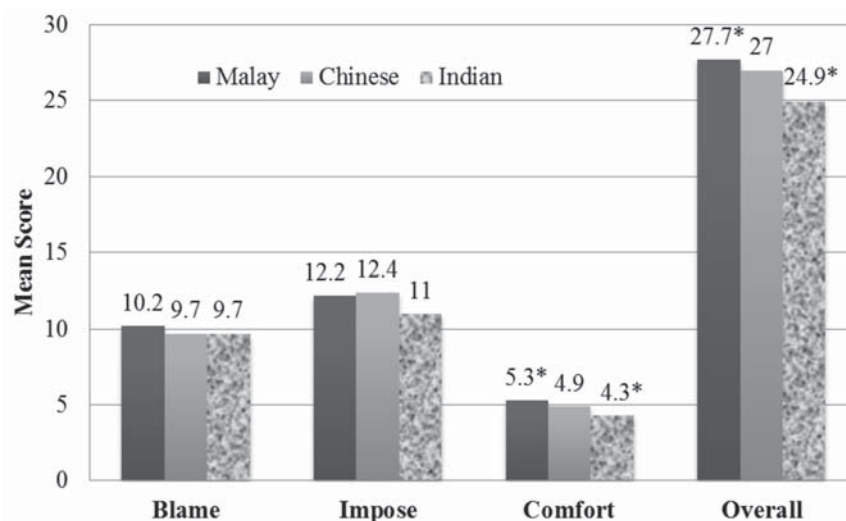
* Column percentage

† Row percentage

PCMS= pre-clinical year medical students

CMS= clinical year medical students

‡ previous encounter with people living with HIV/AIDS

§ knowledge of HIV/AIDS based on the number of accurate responses: Poor = ≤ 2 , moderate = 3-4, good ≥ 5 .**Figure 1.** Means score of the stigmatizing attitudes according to the three main ethnic groups

*the mean difference is significant with bonferroni multiple comparison post-hoc test

Table 2. Multiple linear regression used stepwise method conducted for stigmatizing attitudes, n = 340

Model	Unstandardized Coefficients		t	Sig.	95% CI* for B	
	B	Std. Error			Lower Bound	Upper Bound
Dependent Variable: StigmaAttitude†						
Constant	25.79	0.513	50.21	< 0.0001	24.78	26.80
Malay	1.16	0.464	2.50	0.013	0.25	2.08
Had No Encounter¶	1.02	0.509	2.00	0.046	0.02	2.02
Dependent Variable: Blame‡						
Constant	9.63	0.189	50.97	< 0.0001	9.26	10.01
Malay	0.55	0.243	2.27	0.024	0.07	1.03
Dependent Variable: Uncomfortableness§						
Constant	3.99	0.242	16.52	0.000	3.52	4.47
Malay	0.60	0.170	3.50	0.001	0.26	0.93
CMS	0.63	0.176	3.59	< 0.0001	0.29	0.98
Had No Encounter¶	0.58	0.194	3.00	0.003	0.20	0.97
Dependent Variable: Uncomfortableness						
Constant	12.78	0.223	57.32	0.000	12.34	13.22
CMS	-1.24	0.315	-3.92	< 0.0001	-1.86	-0.62

*CI= Confidence Interval, CMS = clinical year medical students

† Excluded variables = academic year, gender, religion, religiosity, HIV/AIDS knowledge

‡ Excluded variables = academic year, previous encounter, gender, religion, religiosity, HIV/AIDS knowledge

§ Excluded variables = gender, religion, religiosity, HIV/AIDS knowledge

|| Excluded variables = ethnicity, previous encounter, gender, religion, religiosity, HIV/AIDS knowledge

¶ previous encounter with people living with HIV/AIDS

DISCUSSION

As a whole, there was 1 out of 3 medical students at this university who showed some kind of stigmatizing attitude towards PLWHA according to the stigmatizing scale. The discriminatory attitude of blame and judgement towards PLWHA was very much related to Malay medical students even after controlling other covariates. The Malay medical students were also feeling more uncomfortable in handling PLWHA. Although the significant difference was seen only between the Malay and the Indian students, the Chinese medical students showed the mean scores that were close to the Malay students in the total stigma score and imposed measure subscale, whereas in the subscales of “blame” and “comfort” they were more similar to the Indian students. These ethnic differences could be accrued to the cultural differences among the students as the concept of stigma is very much social-based within the cultural context of specific ethnicity; stigma exists when a dominant culture of a locality labels persons with undesirable characteristic in order to distinguish “them” from “us” and to effect a separation leading to the labelled person a loss of social status^[23-25]. These ethnic differences in stigmatization as perceived and experienced by PLWHA were also reported between the Black and White Americans PLWHA^[26]. What surprises us was that the ethnic specificity of the stigmatizing attitude towards PLWHA among the students. Kai *et al.* (1999) shared their common experience in teaching whereby they found that students were reluctant to reflect and acknowledge own cultural background as important in health encounters^[1]. This phenomenon may also be true here in view of the disproportionally high number of students in the higher quartiles of the stigmatizing scale. It was also observed that CMS was significantly uncomfortable in dealing with PLWHA. Thus, the authors are uncertain regarding the phenomenon of levelling in moral reasoning caused by regression in reflective ability as the student mature^[27]. However, from their unique perspectives of cultural value and health belief, the Malay medical students turned out to have more discriminatory attitude towards PLWHA compared to those of other ethnicities. Although this study did not show ethnic differences in religiosity, it is believed that the Malay medical students are inherently more religious compared to other ethnic students^[22]. Being more religious could be the other reason that making the Malay medical students showing more stigmatizing attitudes^[28,29]. The other reasons of the Malay students to have more stigmatizing attitude are their stronger health belief in personal responsibility in contracting HIV/AIDS and the seriousness of the disease^[30].

HIV/AIDS knowledge levels which did not correlate with stigmatizing attitudes were also noted in Belize^[17] who carried out a study among healthcare workers and tertiary students in Nigeria^[31]. This observation signifies that stigmatizing attitudes are beyond cognitive level and very much influenced by the personal health belief system or model^[30]. Further discussion on the association between HIV/AIDS knowledge and stigmatizing attitudes has been published elsewhere^[17].

Learning value ethnic diversity opportunity is abound in the current curriculum of our medical faculty. Right from the first and second years, there are Problem-based Learning (PBL), modules on Family Health, Behavioural Science, Communication skills, Professional Development that cover social anthropology, cultural issues in health, holistic medicine and ethical issues. In the fourth and fifth years, there are medical ethics in family medicine and in clinical case conferences. Throughout these periods, there are small groups' discussions and role plays in communication skills training^[32]. Probably what lacking were the effective integration of this learning into the curriculum, faculty support in coordinating teaching activities, training of academic staff in becoming a culturally competent role model, and learning outcomes that are explicitly linked to assessment and evaluation systems^[1,33,34]. The experiential component rather than the cognitive component of the teaching and learning activities were more likely needed to look into and be improved^[35].

We recommend the following measures to reduce the stigmatizing attitudes among medical students, i.e. teaching sessions should include both the lectures and bed-side to provide comprehensive experiences that address all the possible prejudice and discriminatory health beliefs^[36,37]. A PLWHA could be engaged to speak of their life experiences and interact with the students in person or in virtual form (watching a documentary)^[38-40]; clinical encounters with PLWHA should be increased and be supervised by experienced physician who was proven as a good role model in clinical practice and teaching^[13,41], while a structured programme as an elective or weekend seminar could be prepared with the above-mentioned components for knowledge enhancement and cognitive exercise for the Malay and any students who seek improve their skills in handling PLWHA^[42,43]. A curriculum incorporating cultural competency training is highly possible to be successful in reducing discriminatory attitudes and improving ethnic health disparities and clinical outcomes^[44].

The suggestion that future studies assessing medical students' stigmatizing attitude towards PLWHA should begin with a validated scale for stigmatizing attitude towards HIV/AIDS patient and initial effort to elucidate their possible stigmatized perception towards PLWHA is laudable. Cultural competency of the students could be assessed and compared between PCMS and CMS to confirm the existence of moral reasoning levelling or regression^[45]. Socio-demographic, especially ethnic, differences in stigmatizing attitude could be further explored through qualitative study and thus to inform teaching deliveries that are effective for students with multi-ethnics background^[26,46].

One of the limitations of this study would be the social-desirability bias in answering questionnaire assessing stigmatizing attitude in the lecture hall for a student with friends sitting close next to each other. However, we believe this was minimal as the questionnaire was self-administered and returned immediately after completion leaving minimal chances for discussion among the students. The fifth year or the final year medical students were not involved in this study because they were on semester break during the data collection period. Year 5 students would be a very important group to study as they will be practising medicine upon graduation. A future study that includes all medical students is indisputably necessary to assess the adequacy of the existing medical curriculum in preparing doctors to treat stigmatised conditions.

CONCLUSIONS

More medical students in clinical years reported to have previous encounter with PLWHA compared to those in pre-clinical years. Clinical encounter with PLWHA was associated with comfortableness in handling PLWHA. Malay medical students were associated with discriminatory attitude towards HIV/AIDS patients.

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