

ORIGINAL ARTICLE

A Study on Malaysian Medical Students' Perception towards Career Opportunities and their Knowledge on Malaysia Health Care System.

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Abstract

Introduction: Motivation is a psychological notion that is important in all aspects of a person's life, including studies, education, and career choice. Lack of motivation in medical students' life could be due to their lack of interest in medical education as well as to students' worries and uncertainty about job security and job satisfaction in becoming a doctor. Most of the students who choose to pursue medical degree because of their own interest and their profound knowledge on recent health care system in Malaysia, but minority of them choose it because of their family influences and other reasons.

Objective: To evaluate the knowledge and perception of medical students on Malaysia Health Care System and how much it has influence on their career opportunities after graduation.

Method: This was a cross-sectional study, and 300 medical students from 27 medical universities/college across Malaysia participated in the study. Using convenience sampling method, online questionnaires were distributed through social media platforms and personal contact from 5 January to 13 January 2022. The questionnaires included the sociodemographic characteristics of medical students, their knowledge on Malaysia Health Care System and their attitude towards career opportunities after graduation. Statistical Package for Social Sciences (SPSS) was used to analysis the data and chi-square test was run to find out the associations among the study variables.

Results: The study found that 73% of the respondents (n=219) had sufficient knowledge on Malaysia Health Care System and 76.7% of the respondents (n=230) had negative perception towards career opportunities after their graduation. Chi-square test showed that there was association between medical students' knowledge on Malaysia Health Care System and the type of universities they were attending.

Conclusion: Based on our finding, we can conclude that medical students with general knowledge on Malaysia Health Care System are more likely to understand their career pathways. However, some appropriate measures and initiatives should be taken by the policy makers, to improve views of Malaysia's medical careers particularly among future medical graduates. More information on the current health care system and suitable psychological training for medical students who will become future medical officers in Malaysia's health care system are two recommended measures that should be undertaken during medical students' lifetimes.

Keywords: perception, career opportunities, medical students.

Introduction

Motivation is a psychological notion that is important in all aspects of a person's life, including studies, education, and career.¹ Lack of motivation in medical students could be due to their lack of interest in medical education as well as due to students' worries and uncertainty about job security and job satisfaction in becoming a doctor. A decline in a person's desire and a lack of necessary knowledge leads to ambiguity in identifying goals, resulting in confusion, aimlessness, and amotivation, which is one of the causes of incuriosity and disinclination to study and career choices.¹ Every individual has different motivations for their goals, and they also have different priorities in achieving them.² Hence, there will be differences in students' perceptions of career opportunities because every one of them has a different set of career goals and motivation.

Most of the students who choose to pursue medical degree usually pursue it because of their own interest and their profound knowledge on Malaysia Health Care System, but minority of them choose it because of their family influences and choices. Interest is a strong motivator that energizes learning, directs academic and career paths, and is critical to academic achievement. Students who choose to study medicine without their own interest will feel demotivated, hard to adapt and have a hard time to keep on track of the subjects, which will then affect their academic performance. These eventually affect the students' motivation to continue their studies in medical school and their choices in career path which are influenced by their perception towards career opportunities. This is because they stick only to the career pathway which they know of, and when there is obstacle in the path, they might not be interested in finding alternative way to achieve their goals because it is not their goals to begin with. Besides that, lack of motivation in medical students can be due to their concern about job security and job satisfaction in becoming a doctor. Annually, Malaysia produces 5,000-6,000 medical graduates due to the rise in number of

medical schools a few years ago. Despite this, healthcare facilities in the country are inadequate to accommodate all medical graduates.³ In 2016, government introduced the contract system for medical doctors as a plan to address the surplus of medical graduates in Malaysia. However, as seen most recently in Free Malaysia Today news portal, only 789 out of 23,077 contract doctors have been offered permanent posts in Malaysia's public healthcare system since 2016, according to the Malaysian Medical Association.⁴ As a result, many medical students worried about their job opportunities and job security in the future.

Medical career preferences are influenced by multiple factors. Currently, several specialties are undergoing recruitment problems and there is an urgent need to develop an understanding of medical career decision-making to ensure an appropriate future workforce. However, the complex interplay of these factors can make predicting career destinations difficult, particularly when complicated by individuals' preferences changing, and specialty choice trends changing over time. Career preferences of medical students were found to change for a variety of reasons within three broad themes, such as, 'influence of medical school', 'perceived suitability to specialty' and 'belonging and fitting in'.⁵ In addition, medical schools themselves have been found to play a role in affecting career choice, with several studies showing a variation between medical schools in terms of graduate career intentions.⁶ Additionally, personal characteristics have been found to influence career choice, with gender having a significant impact.⁷ Other factors include ethnicity, age of entry into medical school, personal values and arguably personality traits.

A 2019 study found that overall, most participants (96.7%) expressed their intention to pursue a residency program after receiving their Bachelor of Medicine, Bachelor Surgery Degree (MBBS Degree) and about two-thirds intended to do so.⁸ The preferences regarding work settings were not different across the various stages of the degree program. The self-reported awareness and

certainty of choices were significantly higher among interns and students in year three and four of MBBS program. When explicitly asked, 76.6% of participants indicated their willingness to serve in rural areas. It was also noted that 82 students (25.0%) indicated that they would be willing to work in rural areas if an opportunity was given.⁸ Malaysian medical students' perception towards career opportunities in a general way has rarely been investigated in many studies although many studies have done research on students' attitude towards medical disciplines such as primary care and general practice and mostly focus on clinical year students. There was also a study done on clinical year medical students' perception of job demands and job control on their working lives as doctors in Malaysia. Although there has been an increasing amount of research on house officers in Malaysia over the last five years, the transition between being a medical graduate and a house officer has yet to be understood. Thus, this study serves as a starting point towards understanding the Malaysian medical students' perspective on the career opportunities while still in their pre-clinical and clinical phases.

In Malaysia, several clinical specialties are experiencing human resources issues and there may be an urgent demand to develop an understanding of medical career decision-making to ensure an appropriate future workforce. However, the ambiguous understanding on how Malaysia Health Care System is running can make medical students difficult to predict their career destinations, particularly when individuals' preferences changing and specialty choice trends changing over time. It is also observed that the career preferences of medical students become more diverse in the later stages of the medical degree programs.

The main objective of this study was to evaluate the knowledge and perception of medical students on Malaysia Health Care System and how much it has influence on their career opportunities after graduation.

Methodology

This was a cross-sectional study, and 300 medical students from 27 medical universities/college across Malaysia participated in the study. Using convenience sampling method, online questionnaires were distributed through social media platforms such as, Facebook, WhatsApp, Twitter, and via personal contacts from 5 January to 13 January 2022. According to Higher Education Minister Malaysia who answered an interview in "Free Malaysia Today" News on 2nd December 2021, there was a total of 2,967 medical students graduated from higher learning institutions in 2020. As there are 5 years of study period under medical curriculum, it was assumed that there were around 15,000 medical students across Malaysia and the sample size for this study was calculated by using OpenEpi Version 3 software. The inclusion criteria were medical students who are recently studying in Malaysia and those who were willingly to participate in the study.

The questionnaires included the demographic characteristics of medical students, their knowledge on Malaysia Health Care System and their attitude towards career opportunities after graduation. Gender, age, type of university and year of study were asked under the demographic characteristics and thirteen questions were asked regarding the knowledge on Malaysia Health Care System. Perception was assessed by means of two components: Component I (Personal Interest) and Component II (Personal Perception). Component I consisted of two multiple-response questions, three single-best-answer questions and three scale-type questions while Component II had five scale-type questions.

Data Collection Method

A set of self-administered online questionnaires was distributed to thirty-one medical universities/colleges in Malaysia. Students from 27 medical universities/colleges responded the online questionnaires.

The following were the list of the 27 medical schools.

1. Faculty of Medicine, University of Malaya
2. Faculty of Medicine, National University of Malaysia
3. Universiti Sains Malaysia, School of Medical Science
4. Universiti Malaysia Sarawak, Faculty of Medicine and Health Sciences
5. Universiti Putra Malaysia, Faculty of Medicine and Health Sciences
6. RCSI and UCD Malaysia Campus
7. International University of Malaysia, Kulliyyah of Medicine
8. Manipal University College Malaysia
9. International Medical University
10. UniKL Royal College of Medicine Perak
11. Universiti Teknologi MARA, Faculty of Medicine
12. Universiti Malaysia Sabah faculty of Medicine and Health Sciences
13. University of Cyberjaya, Faculty of Medicine
14. UCSI University, Faculty of Medicine and Health Sciences
15. Monash University, School of Medicine and Health Sciences
16. Universiti Sains Islam Malaysia, Faculty of Medicine and Health Sciences
17. Management & Science University, International Medical School
18. Universiti Sultan Zainal Abidin, Faculty of Medicine
19. National Defence University of Malaysia, Faculty of Medicine and Defense Health
20. MAHSA University, Faculty of Medicine
21. Newcastle University, Medicine Malaysia
22. SEGi University, Faculty of Medicine
23. Universiti Tunku Abdul Rahman, Faculty of Medicine and Health Sciences
24. Perdana University, Graduate School of Medicine
25. Widad University College, Faculty of Medicine
26. Quest International University Perak, Faculty of Medicine

27. Universiti Islam Antarabangsa Sultan Abdul Halim Mua'dzam Shah, Kulliyyah of Medicine and Health Sciences

Data Entry and Analysis

Data obtained from the respondents was first cleaned by Microsoft Excel. Analysis of data was done using Statistical Package for Social Sciences (SPSS). Chi-Square Test was run to figure out the association between the study variables.

Ethical Consideration

Ethical approval before executing this study was obtained from Universiti Kuala Lumpur Royal College of Medicine Perak (UniKL RCMP). Participation was voluntary and a consent form was obtained from every respondent to ensure that they were well-informed of the main purposes of this study. All data and information provided by the respondents was kept confidential and anonymous. The usage of these data was only aimed for teaching and learning purposes only.

Results

Demographic characteristics of medical students

Table 1 showed the distribution of demographic profile which comprised of gender, age, type of university and year of study of 300 medical students across Malaysia.

Knowledge on Malaysia Health System

There were 13 questions outlined to assess one's knowledge on Malaysia Healthcare System. Table 2 showed distribution of the closed-ended questions for this component.

Table 3 displayed the overall frequency and percentage of knowledge of Malaysian Healthcare system which based on the points assigned to every answer given by the respondents. The result depicted that only 73% (n = 219) had sufficient knowledge on Malaysia Healthcare system.

Components in Perceptions of Respondents on Career Opportunities

Perceptions was assessed by means of two components: Component I (Personal Interest) and Component II (Personal Perception). Component I consisted of two multiple-response question, three single-best-answer questions and three scale-type questions but component II had five scale-type questions. Figure 1 showed the bar chart distribution of question 1 (multiple response) of component I.

Table 4 showed question 2 of component 1, indicating that only 5.3% (n = 16) Malaysian medical students chose rural area as their preferred place of work. (*Note: Urban = Big city, Suburban = Small city, Rural = Outside of city*)

Question 3 of Component I was a continuation of question 2, which was a multiple-response question. Table 5 depicted that “better work-life balance” was the most chosen option (64.3%). ‘Easier to get transportation’, ‘better environment’, ‘better medical facilities’ were few answers given by the respondents for “others” option.

Question 4 of component I, table 6, was a single-response question, and “Acts of service” option was the most chosen one (70%).

Question 5 of component I, table 7, was a single response question and it showed that majority of the respondent 84% (n = 252) would like to apply for master programme or Housemanship in other country.

Question 6, 7 and 8 of component I, table 8, were scale questions. Based on this scale, the respondents’ positive or negative person interest towards medical career could be seen.

Component II consisted of five scale-type questions, and it determined the respondents’ perception towards career opportunities.

Table 10 showed overall percentage and frequency of Malaysian medical students’ perception on career opportunities. The result showed only 23.3% (n = 70) had positive perception towards career opportunities.

Association Between demographic characteristics with Knowledge and Perceptions

Table 11 indicated that there was only one association between types of university and knowledge on Malaysia Health Care System. It showed that medical students from government universities have 2.5 times better knowledge on Malaysia healthcare system compared to medical students from private universities.

Table 12 showed that there was no association between demographic and perceptions of Malaysian medical students on career opportunities.

Association Between Knowledge and Perceptions

Table 13 showed no association between knowledge on healthcare system and perception towards career opportunities.

Discussion

According to the results obtained that it could be generally said both clinical and pre-clinical year medical students had positive thoughts of medical careers. However, the inner negative feelings about becoming into a doctor was also present at the same time. Observation made based on our results in figure 1 demonstrated that most student, 86.7% (260 participants) had a positive notion that doctor was a ‘professional’ figure. In the second place, there was a shift towards a negative view of being a doctor as a busy profession which holds a percentage of 76.0 % with 228 number of participants. This shifting was comprehensible because as stated by Medical Economics,⁹ Covid-19 pandemic noticeably put massive strain on the entire health care system, pushing physicians to their limits as they tried to care for patients in an

environment where there already weren't enough doctors to go around.⁹ Health care organizations made changes to adapt, and not all of them were positive. Thus, it may influence their perceptions towards career.

Referring to Table 4, this study also revealed that among urban, suburban and rural area as a choice of workplace, majority of respondents prefer to work at urban area with a percentage of 32.7% (98 participants). In brief, urban area is defined as 'Well-built area with high population density'. For example, in Malaysia, most places/cities that are referred as urban area likes, Kuala Lumpur, Georgetown, and Johor Bahru. The high response rate from respondents that chose urban area may be influenced by the easy access to any facilities including housing areas, hospitals, and most importantly, public transport availability which ease them to migrate anywhere without hassle.

Principally, there were various factors contributing to the respondents' choice of workplace such as myriad job opportunities, better work-life balance, unlimited career progression, high salary, and high demand for medical services. Out of the choices given in the survey, Table 5 indicated that 'Better work-life balance' appealed to have a high voting among participants that account for 64.3% (193 of the total respondents). Besides the choices given, there are several applicants that stated their own reasons for their choice of workplace, such as, easy access to transportation, where they could easily go back and forth from home to workplace, reaching the hospital quickly in case of emergencies was also a major plus point. Equivalently, 'Unlimited experiences' was also stated under the "others" option. Experiences are indeed a privilege in medical field. Through these, it is learnt that outstanding and qualified doctors are born as they are exposed to being flexible in handling any cases efficiently regardless of workplace area. Aspiration to contribute to community is another top reason stated. They are willing to work in every nook and cranny as long as they can give back to the society through their services and skills.

In addition, there were several determinants that drove students' motivation in becoming a doctor. Referring to table 6, 'Acts of service, Respect, and High salary' arose as top responses in this category of the survey. In spite of that, notably there were 22 respondents that chose to state their own reasons that encouraged them to become a doctor. The common reason was the thoughts of helping others in need because it was an honor and privilege to be given the opportunity to support families going through difficult emotions and uncertainty, familial reason. Interestingly, there was an eye-catching response from a respondent, which stated that he/she was eager to help oppressed women and children who have been the victim of domestic and sexual abuse. On the grounds of this, it was learnt that the participants truly understood their purpose of becoming a doctor and what motivated them to do so.

While assessing the students' choice in the condition that they were not offered permanent medical officer positions in the government sector after graduation, it was found that 84% of the applicants decided to further their studies by applying for Master programmes in other countries. About 10% of applicants intended to work in the private sector. It might be because they assumed Malaysia have scarce job opportunities especially for permanent position in government sectors. The assumption might be coming from the news released from Free Malaysia Today news portal⁴ and it stated that only 789 out of 23,077 contract doctors had been offered permanent posts in Malaysia's public healthcare system since 2016, according to the Malaysian Medical Association.⁴ As a result, many medical students worried about their job opportunities and job security in the future. Interestingly, one of the respondents had a desire to venture into politics. However, sparks of desire were seen to achieve their goals and the respondents stayed optimistic while considering about their alternative career opportunities.

It was also learnt that more than half of the participants chose to pursue medicine because of

their own personal interest rather than other influences such as family, media, and role model. According to research done by Dr. Nadia Mohammad Hatta (September, 2016),¹⁰ the author mentioned that it could be assumed that medical students who did not take up yet clinical subjects might not be interested to know about the current situation of working doctors in Malaysia and only relied on general perception; given that they were too focused on passing their exams in the current moment in order to graduate rather than doing research on what their working lives would like after graduation.

While evaluating the perceptions of medical students towards career opportunities, it was found that 274 participants (91.3%) agree that there was a high competition to be a permanent doctor in government hospitals. It might be due to the large number of doctors graduating annually from local and foreign universities that led to intense competition in career opportunities.¹¹ However, 69.3% of the respondents still believed the statement that 'Doctor is one of the high demand jobs in Malaysia'. This result was consistent with a narration from JobStreet (2021),¹² in which it stated that as the pandemic continued to create uncertainty, health would continue to be a top priority in Malaysia. Therefore, medical professionals are predicted to be in high demand as of 2022. Due to uncertainty on opportunities to serve as medical doctors in Malaysia, most of the respondents (32.3%) answered that they felt neutral on how current Malaysia Health Care System was beneficial and attractive to medical doctors/students. In drawing things to a close, majority of respondents (51%) disagreed the statement that 'General hospital have a high doctor to patient ratio' and the students' responses were in contrast with the current doctor-population ratio. As claimed by 27Group (2021),¹³ Malaysia had 71,041 medical doctors in both public and private sectors. This was equivalent to 1 doctor for every 454 people, better than the 1:500 ratio. Out of these, 73%, or 51,912 doctors, were working in the Ministry of

Health (MOH). This perception might be caused by lack of self-update on doctor to patient ratio.

Limitations

As it was small research conducted for academic purpose, the duration of the study, the representativeness and generalization of the results were limited. Medical students from a few universities did not response the questionnaires, and the study sample size might correlate to the inaccuracy of the study.

Conclusion

It can be concluded that although the medical students in Malaysia had sufficient knowledge on Malaysia Health Care System, majority of them foresaw that there were still challenges to walk through their professional career in Malaysia. The demographic characteristics of medical students did not have any influence on their perception towards career opportunities. But there was an association between the type of universities they were attending and their knowledge on Malaysia Health Care System.

Recommendation

The findings suggested that the medical universities should be aware of medical students' perception on their career opportunities and appropriate measures should be taken to improve views of Malaysia's medical careers particularly among future medical graduates. Some recommended actions that should be implemented during medical students' life are providing more information on recent health care system and delivering relevant psychological trainings to be mentally prepared by medical students who will become future medical officers in Malaysia Health Care System. Improvement and initiatives should be done in order to keep the interest of working in medical profession as there are still high demand of medical doctors in hospitals, especially in current COVID-19 pandemic situation. It is recommended that

Malaysia Health Care System improve and resolve current contract doctor issues by giving equal rights to all doctors, regardless whether they are permanent or contract doctors, which indirectly will motivate and encourage Malaysian medical students to remain optimistic in their

studies to be doctors in the future for the betterment and development of our country.

Table 1. Demographic profile of the respondents

Variables	Category	Frequency (n)	Percentage (%)
Gender	Male	80	26.7
	Female	220	73.3
Age (Complete age)	20 and below	150	50
	21 and above	150	50
Type of University	Government	122	40.7
	Private	178	59.3
Year of study	Pre-clinical	203	67.7
	Clinical	97	32.3

Table 2. Distribution of Questions to Access Respondents' Knowledge in Healthcare System

Knowledge on Malaysia Health Care System Questions	Options					
	Yes		No		Not Sure	
	n	%	n	%	n	%
You are aware that about 3,000 medical graduates produced each year in Malaysia.	216	72	52	17	32	10
You are aware about 3,000 medical graduates that Malaysia produced each year did not reach Health Ministry Strategic Plan 2016/2020 requirement.	147	49	86	29	67	22
You are aware that the average waiting time for fresh medical graduates to be offered a grade UD41 Housemanship placement in Malaysia is about 6 to 13 months.	264	88	21	7	15	5
You are aware that after finishing 2 years compulsory service period, doctors would need to train for a further 4 years to become specialist.	272	91	19	6	9	3
You are aware that 23,000 of 71,000 doctors in Malaysia are contract doctors.	214	71	47	16	39	13
You are aware that most contract doctors only get 5 years of tenure including 2 years of compulsory service period.	203	68	50	17	47	16
You are aware that Malaysian contract doctors walk out to seek fairer treatment to be permanent doctor in government hospital.	269	90	16	5	15	5
You are aware that the average salary of medical doctors who work in private hospital is higher compared to government hospital.	284	95	8	3	8	3
You are aware that some Government doctors in Malaysia are still working 33 hours shift.	216	72	45	15	39	13
You are aware that patients sometimes have to wait in the accidents-and-emergency department for over a day for a bed in the ward.	235	78	36	12	29	10
You are aware that Malaysia needs 28,000 more specialists by 2030 because there is shortage of specialists.	218	73	46	15	36	12
You are aware that many patients have to wait for months for certain non-elective surgeries due to the high patient count and less number of specialists.	255	85	23	8	22	7
You are aware that in 2019, with a score of 95 points out of 100, Malaysia has been ranked first as the world's best in healthcare with its world-class healthcare services and sophisticated infrastructure.	146	49	88	29	66	22

Table 3. Knowledge on Malaysia Healthcare System

Component	Sufficient		Insufficient	
	n	%	n	%
Knowledge	219	73	81	27

What are the words that comes to your mind when you hear the word "doctor"? (Multiple response)

300 responses

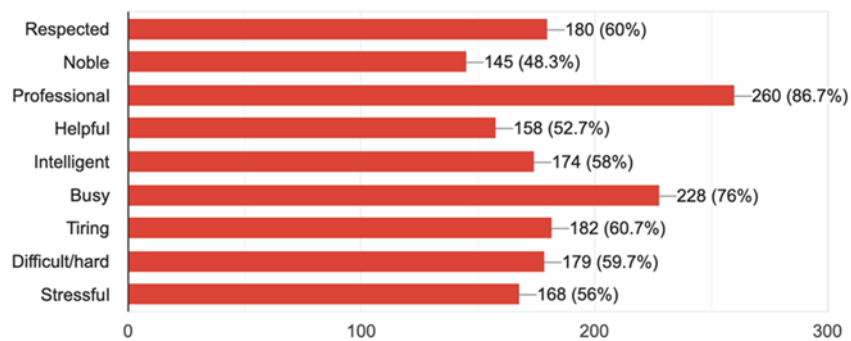


Figure 1. Question 1 of Component I (Multiple Response) Question

Table 4. Question 2 of Component I

	Urban		Suburban		Rural		All of above	
	n	%	n	%	n	%	n	%
What is your preferred place of work?	98	32.7	89	29.7	16	5.3	97	32.3

Table 5. Question 3 of Component I

	Many Job Opportunities		Unlimited Career Progression		High Salary		High Demand for Medical Services		Better Work Life Balance		Others	
	n	%	n	%	n	%	n	%	n	%	n	%
Reasons for preferred place of work? (Multiple response)	135	45	125	42	60	20	144	48	193	64.3	18	6

Table 6. Question 4 of Component I

	High salary		Acts of service		Respect		Other	
	n	%	n	%	n	%	n	%
What do you like the most about being a doctor?	34	11.3	209	69.7	35	11.7	22	7.3

Table 7. Question 5 of Component I

	Apply for Master Programme/HO in other country		Take another major such as engineering		Decided to stop studying/working		Other	
	n	%	n	%	n	%	n	%
What would you do if you are not accepted as a Government Permanent Doctor?	252	84	8	2.7	10	3.3	30	10

Table 8. Question 6, 7 and 8 of Component I

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
You choose to study medicine because of your personal interest and not because of other influences (family influence, media influence, role model)	5	1.7	23	7.7	67	22.3	89	29.7	116	38.7
You get supports from people around you to pursue medicine.	7	2.3	7	2.3	22	7.3	98	32.7	166	55.3
You plan to work in Malaysia because you think there are many job opportunities for medical students after graduation.	16	5.3	45	15	125	41.7	66	22	48	16

Table 9. Scale Questions of Component II

Perception towards career opportunities questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
There is a high competition to be a permanent doctor in government hospitals.	3	1	8	2.7	15	5	69	23	205	68.3
Doctor is one of the high demand jobs in Malaysia.	6	2	21	7	65	21.7	85	28.3	123	41
Malaysian medical students have a high and great career opportunity to serve as a medical doctor in Malaysia.	19	6.3	55	18.3	105	35	61	20.3	60	20
Current Malaysia Healthcare System is beneficial and attractive to the medical students/doctors.	53	17.7	69	23	97	32.3	48	16	33	11
General hospitals have high doctor to patient ratio.	74	24.7	79	26.3	74	24.7	36	12	37	12.3

Table 10. Overall frequency and percentage of Malaysia Medical Students' Perception

Component	Positive		Negative	
	n	%	n	%
Perception	70	23.3	230	76.7

Table 11. Association between demographic characteristics and knowledge

Demographic factors		Knowledge		Chi-square value	Degree of freedom	Odd ratio (95% CI)	P-value
		Sufficient	Insufficient				
		n (%)	n (%)				
Gender	Male	71 (88.8)	9 (11.3)	3.027	1	-	0.082
	Female	208 (94.5)	12 (5.5)				
Age	20 and below	136 (90.7)	14 (9.3)	2.509	1	-	0.113
	21 and above	143 (95.3)	7 (4.7)				
Type of university	Government	109 (89.3)	13 (10.7)	4.221	1	2.534 (1.97 – 2.88)	0.040*
	Private	170 (95.5)	8 (4.5)				
Year of Study	Pre-clinical	186 (91.6)	17 (8.4)	1.822	1	-	0.177
	Clinical	93 (95.9)	4 (7)				

Table 12. Association between demographic characteristics and perception

Socio-demographic		Perception		Chi-square value	Degree of freedom	Odd ratio	P-value
		Positive	Negative				
		n (%)	n (%)				
Gender	Male	25 (31.3)	55 (68.8)	3.822	1	-	0.051
	Female	45 (20.5)	175 (79.5)				
Age	20 and below	32 (21.3)	118 (78.7)	0.671	1	-	0.413
	21 and above	38 (25.3)	112 (74.7)				
Types of University	Government	34 (27.9)	88 (72.1)	2.364	1	-	0.124
	Private	36 (20.2)	142 (79.8)				
Year of Study	Pre-clinical	46 (22.7)	157 (77.3)	0.159	1	-	0.690
	Clinical	24 (24.7)	73 (75.3)				

Table 13. Association between knowledge and perception

Component		Perception		Chi-square value	Degree of freedom	Odd ratio	P-value
		Positive	Negative				
		n (%)	n (%)				
Knowledge	Sufficient	67 (24)	212 (76)	1.033	1	-	0.309
	Insufficient	3 (14.3)	173 (85.7)				

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