

## Factors Influencing Assistant Medical Officers' Decision to Pursue Further Study

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### Abstract

*Study habits among assistant medical officers continue to fall below the standards provided in The AMO Profession Development Plan. This study investigates the factors influencing assistant medical officers decision to pursue the Bachelor of Medical and Health Sciences programme at Open University Malaysia. This is a cross-sectional descriptive study using a questionnaire consisting of four parts: demographic data, items on factors influencing assistant medical officers' decision to pursue the Bachelor of Medical and Health Sciences programme, Perceived Stress Scale, and perception of further study. The questionnaire was distributed to 457 Bachelor of Medical and Health Sciences learners at six Open University Malaysia learning centres in Malaysia using Google Forms. The data was computed, cleaned, and analysed using the Statistical Package for Social Sciences version 21, and presented in terms of the measurements of mean and standard deviation. 184 people responded to the questionnaire, and the most influential factor for enrolling in the programme was "Increasing knowledge through education", with a mean of 4.74. The majority of respondents reported moderate stress levels (77.7%). The correlation between the stress scale with the most significant factors that influence the AMOs' decision to pursue the programme was also analysed. No significant correlation between them was found, as Spearman's rho correlations coefficient scores were between .047 to 1.000 with a significance value of  $p = .577$ . Responses given on perception, suggests that respondents have a good perception of continuing studies to a higher level. Six out of ten items received "very high" scores, and the remaining four items received "high" scores.*

**Keywords:** *assistant medical officer, decision making, further study, open and distance learning, perception.*

### 1. Introduction

The medical profession now held by Assistant Medical Officers (AMOs) was introduced in the north-western state of Penang in 1786. This profession has been evolving in Malaysia for many years. In 2016, the AMO Service Branch (or *Cawangan Perkhidmatan Penolong Pegawai Perubatan*, CPPPP) under the Malaysian Ministry of Health introduced The AMO Profession Development Plan 2016-2030 (*Pelan Pembangunan Profesion Penolong Pegawai Perubatan*, also known as *Pelan 6P*) as a comprehensive plan for the development of the AMO profession from 2016 to 2030 (Cawangan Perkhidmatan Penolong Pegawai Perubatan [CPPPP], 2018). The plan was designed in compliance with the Malaysian Ministry of Health's 2016-2020 Strategic Plan and 2016-2020 Transformation Plan, and outlines six primary objectives:

education development, organisational restructuring, role enhancement, career progression, human resource planning, and international partnership (CPPPP, 2018).

Under the objective of education development, CPPPP aimed for at least 30% of AMOs to have a bachelor's degree qualification by 2020, and this target is increased to 75% by 2030. However, according to a 2021 CPPPP report, only 867 AMOs equivalent to 3.1% of total registered AMOs in Malaysia gained at least bachelor's degree and beyond (CPPPP, 2022). This shows that the actual current percentage of AMOs with a bachelor's degree qualification is much lower than the actual target of 30% by 2020. This also shows that awareness of the importance of further study among AMOs is still lacking. Hence, there is a need to examine the factors influencing AMOs decision to pursue further study, help increase the numbers of AMOs with higher qualifications, and ensure the successful implementation of *Pelan 6P* to improve best practices in medical services in Malaysia.

## 2. Literature Review

### 2.1. AMOs in Malaysia

In 2021, there were 28,130 AMOs registered under Act 180 (Medical Assistant Act (Registration) 1977). Of these, only 867 (3.1%) have graduated with at least a bachelor's degree qualification (CPPPP, 2022). This number is much lower than the CPPPP target of up to 30% of AMOs with at least a bachelor's degree qualification by 2020. To close this gap, the CPPPP through its *Pelan 6P* aimed to introduce a bachelor's degree programme that can encourage full-time working AMOs to obtain the necessary higher qualification. For this purpose and in line with the requirements of *Pelan 6P*, the CPPPP and Open University Malaysia (OUM) began collaborating in September 2018 to introduce the Bachelor of Medical and Health Sciences (BMHS) programme. After two years, the number of AMOs enrolled in BMHS improved to 736 at seven OUM learning centres in Malaysia (CPPPP, 2021). However, this number still needs to be increased to achieve the targets outlined in *Pelan 6P*.

This literature review examines factors that influence AMOs to pursue further study in higher education institutions (HEIs) and is thus important to provide insight necessary to develop a questionnaire to study the abovementioned factors.

### 2.2. Factors Influencing Continuation of Study at HEIs

Despite supporting the aim of increasing the number of AMOs with at least a bachelor's degree qualification, AMOs work full-time and cannot avoid the responsibility of paying bills and attending to other life commitments. According to Wagner and Fard (2009), the economic model concepts include providing scholarships and discounts to encourage people to pursue studies at HEIs. This finding is supported by Jalaluddin et al. (2019), Chew et al. (2014), and Siew et al. (2011), who listed financial support as one of the factors that influences the decision to commit to further studies.

Self-awareness to achieve recognition, curiosity about specific topics or courses, and self-awareness to improve one's education level for better prospects would also increase an individual's motivation to pursue higher studies (Chew et al., 2014; Naemat et al., 2017; Tuah & Kamin, 2013). In addition, support from families and employers would encourage individuals to pursue their academic dreams (Siew et al., 2011).

Focusing on international students, the study by Dora et al. (2009) found that their educational pursuits were influenced by the academic quality offered by HEIs. This is supported by Siew et al. (2011), who reported that experience and knowledge in specific courses with good programme structures would motivate individuals to enrol in specific university courses. A programme's recognition status by the authoritative body, for example, the Malaysian Qualifications Agency (MQA) (the statutory accreditation body in Malaysia), would help individuals choose a particular institution to enrol in (Tuah & Kamin, 2013).

It has also been found that the mode of study would influence an individual's decision to pursue further study. A flexible mode would help full-time workers focus on work and family while they simultaneously pursue their educational dreams. A part-time mode, flexible fee payment method, and weekend classes would also influence individuals who are working full-time to choose HEIs that can offer such a mode of study (Naemat et al., 2017; Tuah & Kamin, 2013).

However, studying while working simultaneously would cause stress among full-time workers. They must possess the physical, mental, and emotional stability to work and study simultaneously (Razab & Othman, 2011). Razab and Othman (2011) showed that studying while working full-time would increase job, workload, and time management pressures.

### 2.3. Perception

Various perceptions are at play in the discussion surrounding studying while working full-time. According to Naemat et al. (2017), a majority of study respondents agreed that upgrading their educational qualification and position in their organisation would improve their economic status. However, the negative feedback from an organisation's top management in supporting their employees' pursuit of higher studies would leave it to the individuals themselves to make the hard decisions concerning their educational dreams. This includes, for example, the difficulty involved in applying for study leave (Tuah & Kamin, 2013). A study by Mahmud (2018) listed several factors that determine AMOs from pursuing further study, such as financial constraints and lack of suitable programmes. However, more than half of the AMOs involved in the study expressed their interest in higher studies even if they do not obtain financial sponsorship (Mahmud, 2018).

From a previous study on factors that influence individuals to further their study, as well as public perception of further studies, and after analysing the low numbers of AMOs who have obtained at least a bachelor's degree, there is a need to identify factors that might influence the latter's decision to pursue further study. This could inspire the relevant management and stakeholders to determine and match the factors with the relevant curricula that could contribute to the achievements of targets in *Pelan 6P*, increase the number of AMOs with at least a bachelor's degree qualification, and fulfil the aims outlined by CPPPP.

The specific objectives of this study are as follows:

- i. To investigate factors influencing AMOs' decision to pursue BMHS.
- ii. To determine the association between factors influencing AMOs' decision to pursue BMHS with psychological factors.
- iii. To assess AMOs' perception of further study.

## 3. Research Method

### 3.1 Study Design

This is a cross-sectional descriptive study involving AMOs enrolled in BMHS at OUM's learning centres Malaysia-wide.

### 3.2 Instrument

A questionnaire consisting of four parts was developed. Part A focused on demographic data, part B on factors influencing AMOs' decision to pursue BMHS using a five-point Likert Scale, part C on stress factors, which was adapted the Perceived Stress Scale by Cohen (1988), and finally, part D on perception of further study among AMOs using a five-point Likert Scale. Cronbach's Alpha values were 0.77, 0.75, and 0.76 for parts B, C, and D, respectively. These values were derived after the completion of the pilot study.

### 3.3 Sampling method

The purposive random sampling method was used in this study. The questionnaire was distributed to all 457 BMHS learners who were actively studying in 2021. Having enrolled between September 2018 to January 2020, these learners were registered at six OUM learning centres throughout Malaysia. To avoid bias, based on Isaac and Michael's population-based sample size determination schedule, the required sample size was determined to be at least 171 individuals (Darusalam & Hussin, 2016).

### 3.4 Data analysis

The questionnaire was electronically distributed to learners through a Google Forms link. All data was computed, cleaned and analysed using Statistical Package for Social Sciences (SPSS) version 21. The results were then described under Findings.

## 4. Findings

### 4.1. Part A: Demographic data

The study was conducted from 28 March 2021 to 11 April 2021. Out of 457 learners who received the questionnaire, 184 responded. From the data, 79.3% of respondents were male, and 20.7% were female. A majority of the respondents (54.9%) were from the 20-29 years age group, followed by 41.8 % from the 30-39 years age group, 2.2 % from the 40-49 years age group, and 1.1 % from 50-59 years age group.

A majority of the respondents were Malay (67.4 %), followed by Bumiputera Sabah or Sarawak (22.8%), Indian (6.0%), Chinese (2.7%) and others (1.1%). More than half of respondents have been in service between 0-9 years (74.5%), followed by 10-19 years (23.4%), and 20-29 years (2.2%). Up to 91.3% of respondents currently work in the government sector. The remaining 4.9% work in the private sector, while 3.8% are employed in statutory bodies. More than half of respondents have no post-basic certification (62.5%), and 98.4 % are optimistic about pursuing a master's degree and higher studies.

Details of the respondents' demographic data are shown in Table 1.

**Table 1:** Demographic data (n = 184)

Data	Item	N	%
Sex	Male	146	79.3
	Female	38	20.7
Age	20-29 years old	101	54.9
	30-39 years old	77	41.8
	40-49 years old	4	2.2
	50-59 years old	2	1.1
Race	Malay	124	67.4
	Bumiputera (Sabah/Sarawak)	42	22.8
	Chinese	5	2.7
	Indian	11	6.0
	Others	2	1.1
Service period	0-9 years	137	74.5
	10-19 years	43	23.4
	20-29 years	4	2.2
Employment sector	Government	168	91.3
	Private sector	9	4.9
	Statutory bodies	7	3.8
Post-basic certification	Yes	69	37.5
	No	115	62.5
Interested to pursue a Master's degree and higher studies?	Yes	181	98.4
	No	3	1.6

#### 4.2. Part B: Factors influencing AMOs' decision to pursue BMHS

This part comprised 20 items concerning factors influencing AMOs' decision to pursue BMHS. Each question is derived from four factors identified from the literature review, as shown in Table 2.

**Table 2:** Items and factors identified

Items	Factors identified
B1-B5	Higher education institution factors
B6-B10	Family/employer support factors
B11-B15	Self-awareness factors
B16-B20	Financial factors

After data cleaning and analysis using SPSS version 21, the results and interpretation using mean, standard deviation, and interpretation of each factor influencing AMOs' decision to pursue BMHS were derived. These are shown in Table 3.

**Table 3:** Findings on factors influencing AMOs' decision to pursue BMHS

No	Item	Mean	SD	Interpretation
B1	Fees (discounts, rebates, and affordability).	3.62	1.065	High
B2	Certificate/course recognised by MQA/government.	4.35	.819	Very high
B3	Flexibility in payment of tuition fees.	4.10	.902	High
B4	Ranking of the university in Malaysia/world.	4.18	.829	High
B5	Learning method (weekend mode/part-time mode).	4.45	.752	Very high
B6	Study leave.	4.40	.900	Very high
B7	Some family members are pursuing studies.	4.10	1.048	High
B8	Employer's support to pursue study.	4.29	.941	Very high
B9	Future prospects and encouragement from the CPPPP to pursue further study.	4.33	.896	Very high
B10	Pursue studies for better prospects for family.	4.68	.590	Very high
B11	Motivated to pursue higher education.	4.65	.608	Very high
B12	Feeling lack of knowledge.	4.39	.911	Very high
B13	Curiosity about a field/skill.	4.60	.670	Very high
B14	Increase knowledge through education.	4.74	.551	Very high
B15	Motivated for promotion/position.	4.39	.880	Very high
B16	Educational scholarships are offered to continue their studies.	3.95	1.305	High
B17	There is a fully paid/half-salary offered to pursue the study.	4.27	1.067	Very high
B18	Banks and education fund provide financial loans.	3.71	1.145	High
B19	Adequate financial resources to pursue studies and support family.	3.91	1.065	High
B20	Family assistance (parents, guardians, family members) to further study.	3.40	1.322	High

The mean values generated from the above items explain the interpretation of high and low factors that influence AMOs' decision to pursue further study. This is shown in Table 4.

**Table 4:** Five-point Likert scale of mean interpretation (Darusalam & Hussin, 2016)

Mean value	Interpretation
1.00-1.80	Very low
1.81-2.60	Low
2.61-3.40	Moderate
3.41-4.20	High
4.21-5.00	Very high

Based on the results, out of 20 items concerning factors influencing AMOs' decision to pursue further study, 12 received a 'very high' response, and eight received a 'high' response. The most influential factor in the AMOs' decision to pursue further study was "Increasing knowledge through education" (mean = 4.74, SD = .551), followed by "Pursue studies for better prospects for family" (mean = 4.68, SD = .590), "Motivated to pursue higher education" (mean = 4.65, SD = .608), "Curiosity about a field/skill" (mean = 4.60, SD = .670), and "Learning method (weekend mode/part-time mode)" (mean = 4.45, SD = .752).

**4.3. Part C: Stress factors**

The Perceived Stress Scale (Cohen, 1988) was used to study the stress scale of respondents enrolled in BMHS. The summary of the respondents' stress levels are shown in Table 5.

**Table 5:** Summary of the respondents' stress levels

Marks	Interpretation	N	Percentage
0 – 13	Low-impact stress	9	4.9%
14 – 26	Medium-impact stress	143	77.7%
27 – 40	High-impact stress	32	17.4%

A majority of the respondents (77.7%) reported moderate stress conditions. Meanwhile, 17.4% reported high stress levels, and 4.9% of respondents reported low stress levels. Therefore, this could be concluded that stress is not a primary factor influencing AMOs' decision to pursue further education.

**4.4. Part D: Perception of further study among AMOs**

This part comprised ten items regarding perception of further study among AMOs. The results are shown in Table 6.

**Table 6:** Perception and interpretation

No	Item	Mean	SD	Interpretation
D1	I found that my colleague had an interest in pursuing higher study.	4.29	.856	Very high
D2	The difficulty of obtaining study leave among AMOs hinders their interest in studying.	3.92	1.133	High
D3	I am optimistic about the development of the profession in the future through education.	4.46	.802	Very high
D4	My friends always ask about the course I am enrolled in, such as the requirements needed to register.	4.27	.782	Very high
D5	I found that courses offered at HEIs to AMOs today are outside of an AMO's daily task/scope.	3.07	1.257	High
D6	I continue to study for promotional purposes.	3.99	1.066	High
D7	I further my study to generate new knowledge.	4.62	.675	Very high
D8	I continue to study for opportunities in the future (career changes, professional development, continuously studying at higher levels).	4.72	.540	Very high
D9	I continue my study for better income for my family and self.	4.64	.646	Very high
D10	I am often entrusted to hold or carry out responsibilities by my superior based on the fact that I am pursuing higher study.	3.99	.994	High

The results show that six out of 10 items received 'very high' responses from AMOs, and the remaining item received 'high' responses. The item rated most highly was "I continue to study for opportunities in the future (career changes, professional development, continuously studying at higher levels)" (mean = 4.72), followed by "I continue my study for better income for my family and self" (mean = 4.64), and "I further my study to generate new knowledge" (mean = 4.62). Based on the responses, it could be suggested that respondents' have a good perception of pursuing studies at a higher level.

## 5. Discussion

This study found that the most important factor influencing AMOs to pursue further study is their self-awareness to achieve their educational dreams. This was followed by family and employer support. These findings are consistent with findings from previous studies that have shown the following to be influential in motivating individuals to pursue their academic dreams: self-awareness to gain recognition, personal curiosity on specific courses, improving their education level for better future prospects, and support from families and employers (Chew et al., 2014; Mahmud, 2018; Naemat et al., 2017; Siew et al., 2011; Tuah & Kamin, 2013).

In examining a potential correlation between the most influential factor influencing AMOs' decision to pursue further study through BMHS, which is "I continue to study for opportunities in the future (career changes, professional development, continuously studying at higher levels)", with stress levels using Spearman's Rho, it was found that there is no correlative value between the two, with Spearman's rho correlations coefficient between .047 to 1.000, and the significance value of  $p = .577$ .

This study found positive perception of further study, with six out of 10 questions receiving 'very high' responses on perception regarding the needs, future aims and purpose of further study among AMOs. This finding matches those of Naemat et al. (2017) and Mahmud (2018), who showed that the majority of their respondents were encouraged to consider further study to improve their educational qualification and position in their organisation, thus improving their economic status.

Overall, in terms of factors that influence AMOs to pursue BMHS, several factors need to be highlighted and considered when developing new curricula to support the AMOs' educational needs, and achieve the numbers of AMOs with at least a bachelor's degree qualification. For example, the mode of study, particularly if it is made flexible through part-time or open and distance learning mode, can encourage AMOs who are working full-time to enrol in the programme. Furthermore, AMOs should be provided with the relevant accommodations, such as study leave, half-paid or fully paid salary (if they choose to enrol in a full-time programme), and the necessary support, including provision of more suitable positions to acknowledge their academic achievement upon completing their study.

This study did not carry any conflict of interest, although the study was limited in that it only involved AMOs enrolled in BMHS at OUM. The responses might be different had the study involved AMOs who are enrolled in other programmes. Additionally, the number of AMOs involved in this study is small relative to the total number of AMOs currently in service in Malaysia. However, the researcher managed to engage a sufficient number of BMHS learners to achieve the minimal number of respondents needed to avoid bias.

The researcher suggests additional studies are conducted to further examine factors influencing AMOs' decision to pursue further study, involving more AMOs, including those enrolled in other programmes. This can provide important data to yield better results that would be useful to the management of CPPPP and other medical service stakeholders.

## 6. Conclusion

This study attempted to identify factors that influence AMOs' decision to pursue BMHS, relate these factors with stress levels, and examine their perception of further study. The questionnaire was developed based on previous literature review to achieve the objectives of this study. The findings showed that the most significant factors are those involving self-awareness. The majority of AMOs believe they could improve their knowledge through education by enrolling in BMHS. There is also no significant correlation between the most influential factors influencing AMOs to pursue BMHS with stress factors. Moreover, the AMOs appear to have an excellent perception of further study, with six out of 10 items receiving a 'very high' response regarding the needs, purpose, and future of pursuing a bachelor's degree qualification and higher studies. The findings of this study could benefit the management and support AMOs' desire to achieve goals outlined in *Pelan 6P*. AMOs should be provided with the relevant

accommodations, such as half-paid or fully paid salary (especially AMOs who want to pursue further study in full-time mode). It is also advisable for the management to consider providing study leave and positions that can suitably acknowledge their academic achievement upon completion of their study. The stakeholders, such as education providers, HEIs, and curriculum developers, should consider the mode of study that would be optimal for AMOs to enrol into their programmes. For example, a flexible mode involving part-time study, flexible fee payment, and open and distance learning mode would be suitable for AMOs who are located far from educational institutions.

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