

Factors Influencing Assistant Medical Officers' Decision to Further Study

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Abstract

Study habits among Assistant Medical Officers continue to fall below the standards of the Pelan Pembangunan Profesion Penolong Pegawai Perubatan. This study investigates the factors influencing Assistant Medical Officers' decision to pursue a Bachelor of Medical and Health Sciences at Open University Malaysia. This is a cross-sectional descriptive study using a set of questionnaires consisting of four parts; demographic data, items on factors influencing Assistant Medical Officers' decision to pursue a Bachelor of Medical and Health Sciences course, Perceived Stress Scale and perception of a further study among Assistant Medical Officers. The questionnaires were later distributed to 457 Bachelor of Medical and Health Sciences students in 6 learning centres in Malaysia using Google Forms. The data was computed, cleaned and analysed using Statistical Package for Social Sciences version 21 and presented in the form of mean, standard deviation and interpretation. Of 184 who responded to this questionnaire, the most influential factor to enrol Bachelor of Medical and Health Sciences among Assistant Medical Officers is 'Increasing knowledge through education' with a mean of 4.74. Most of the respondents responding moderate stress levels (77.7%). This study works to see the correlation between the stress scale with the highest factors that influence decisions among Assistant Medical Officers to pursue a Bachelor of Medical and Health Sciences; it is found that there is no significant value between them, Spearman's rho correlations coefficient between .047 to 1.000 with the significant value of $p = .577$. Based on the response on perception suggests that respondents' perceptions of continuing studies to a higher level are good. Six out of ten items received 'very high' responses, and the rest four item received 'high' responses. Overall, according to this study, the management and stakeholders need to develop a better program that will accommodate Assistant Medical Officers to further their study to achieve the aim of Pelan Pembangunan Profesion Penolong Pegawai Perubatan.

Keywords: *Factor Influence Further Study, Assistant Medical Officer, Open-distance learning, Decision to further study, Bachelor Medical Health Sciences, Open University Malaysia.*

1. Introduction

Assistant Medical Officer (AMO) is a medical professional in Malaysia that has been found since 1786 in Penang, Malaysia. This profession has been evolving for many years. In 2016 *Cawangan Perkhidmatan Penolong Pegawai Perubatan (CPPPP)* – the AMO service branch in the Ministry of Health, Malaysia, established The Assistant Medical Officer Profession Development Strategy (*Pelan Pembangunan Profesion Penolong Pegawai Perubatan - Pelan 6P*) 2016-2025 as a comprehensive plan for the AMO profession's development from 2016 to 2030 (*Cawangan Perkhidmatan Penolong Pegawai Perubatan*, 2018). The

strategy was designed in compliance with the Malaysian Ministry of Health's 2016-2020 Strategic Plan and 2016-2020 Transformation Plan. This strategy has six primary objectives: education development, organisational restructuring, role enhancement, career progression, human resource planning, and international partnership (Cawangan Perkhidmatan Penolong Pegawai Perubatan, 2018)

Under the objective of education development, CPPPP aimed for at least 30% of AMO graduates with bachelor's degrees by 2020, and by 2030, up to 75% of AMO graduates as degree holders. However, according to CPPPP's report in 2019, only 693 out of 26 165 registered AMO under Act 180 (Medical Assistant Act (Registration) 1977), equivalent to 2.7 per cent of AMOs, graduated with a bachelor's degree and beyond (Cawangan Perkhidmatan Penolong Pegawai Perubatan, 2018). Therefore, this showed that the percentage was way further from the actual aim to see up to 30 per cent of AMOs complete their bachelor's degree by 2020. This also shows that the awareness of the importance of further study among AMO is still weak. Hence, there is a need to study the factors influencing AMOs to further their study, to help optimise the numbers of AMOs with higher education qualifications, and to ensure the successful *Pelan 6P* for better contribution in delivering best practices to Malaysians.

2. Literature Review

2.1. The Assistant Medical Officers in Malaysia

In 2019, there were 26 185 registered AMOs under Act 180 (Medical Assistant Act (Registration) 1977). of this number, 716 AMOs graduated with Bachelor's degrees and beyond (Cawangan Perkhidmatan Penolong Pegawai Perubatan, 2020). However, the number of graduated AMOs with at least a bachelor's degree is way further from the CPPPP aimed for up to 30 per cent of AMOs with a bachelor's degree and beyond in 2020. To close this gap, the CPPPP, through the *Pelan 6P*, want to introduce the bachelor's degree that encourages full-time working AMOs to achieve the aim of CPPPP. In September 2018, with the collaboration between CPPPP and Open University Malaysia (OUM), Bachelor's degree in Medical and Health Sciences (BMHS) was introduced in line with the requirements of *Pelan 6P*. After two years, the number of AMO enrolling for BMHS went up to 736 from 7 learning centres in Malaysia (Cawangan Perkhidmatan Penolong Pegawai Perubatan, 2021). However, the number still needs to be increased to achieve the *Pelan 6P* aim.

Hence, the literature review has been made to investigate the factors that might influence students to further their studies in higher education institutions (HEI). This literature review is important to develop a questionnaire that might help to study the factors influencing AMOs to further their study in HEI.

2.2. Factors That Influence Continuation of Study to HEI

Despite reaching and supporting the aim of adding the number of AMOs with bachelor's degrees and beyond, full-time workers such as AMOs could not avoid the obligation to pay bills and commitment. According to Wagner and Fard (2009), the economic model concepts include considering scholarship and discount rates to encourage students to pursue their studies in HEI. This finding is supported by Jalaluddin et al. (2019), Chew et al. (2014), and Siew et al. (2011), that listed financial support as one of the factors that influence students to study further.

Self-awareness to achieve recognition, curiosity on specific topics or courses, and self-awareness to step up the education level for a prospect would increase the individual's motivation to pursue bachelor's degrees and beyond (Chew et al., 2014; Naemat et al., 2017; Tuah & Kamin, 2013). In addition, support from surrounding families and employers would help individuals pursue their academic dreams (Siew et al., 2011).

The study by Dora et al. (2009) focused on international students and found that the academic quality offered by the HEI would influence the individual to pursue their journey in HEI. This is supported by Siew et al. (2011) that experience and knowledge in specific courses with good program structure would influence the individual to proceed with specific university courses. The recognition status of the system

by the eligible body, for example, the Malaysian Qualification Agency, would help the individual to choose the institution to enrol in (Tuah & Kamin, 2013).

It is also found that the mode of study would help an individual's decision to study further. A flexible mode of study would help full-time workers focus on work and family and simultaneously pursue their dreams in education. A part-time mode of study and a flexible payment method for fees and classes on weekends would influence individuals working full-time to choose the HEI that offered 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 continue to work and study simultaneously (Razab & Othman, 2011). Razab and Othman (2011) showed that studying while full-time working will increase job pressure, workload and time management pressure.

2.3. Perception

Various perceptions are received when relating to studying while working full-time. According to Naemat et al. (2017), most of the study respondents responded that increasing their educational background and position in their organisation increases their economic status. However, the negative feedback from top management to support their employee to study further would leave hard decisions to individuals to achieve their dreams—for example, difficulty in applying for study leave (Tuah & Kamin, 2013). A study from Mahmud (2018) listed a few factors that inhibit AMOs from furthering their study, such as financial constrains and no suitable courses. However, more than half of respondents among AMOs are still interested in further study even without sponsorship (Mahmud, 2018).

From the previous study on factors that influence individuals to further their study, perception on a further study among the public, and after analysing the tiny numbers of AMOs pursued their first degree and beyond. There is a study needs to establish the elements that might influence AMOs decision to study further to give the idea to the management and stakeholders to see and match the factors with the curricula that aimed to develop in future according to *Pelan 6P* and to increase the number of AMOs with bachelor's degrees and achieved the aim listed by CPPPP. The specific objectives of this study are as follows:

- i. To investigate the 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 on further study.

3. Research Method

3.1 Study Design

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

3.2 Instrument

A set of questionnaires developed consists of four parts, Part A – demographic data, Part B – Factors influencing AMOs' decision to pursue BMHS using the 5-Likert Scale, Part C – Stress factors, adapting Perceived Stress Scale by Cohen (1988) and Part D – Perception on a further study among AMOs by using 5-Likert Scale with the Cronbach's Alpha 0.77, 0.75 and 0.76 for Part B, Part C and Part D, respectively, after pilot study done.

3.3 Sampling Method

The purposive random sampling method was used in this study. The questionnaire was distributed to all 457 students as per enrolled records in 2021 between September 2018 to January 2020 from 6 OUM Learning Centers all over Malaysia. To avoid bias, based on Isaac and Michael's population-based sample size determination schedule, the required sample size is at least 171 individuals (Darusalam & Hussin, 2016).

3.4 Data Analysis

The questionnaire was distributed to all students by using the Google Form link. All data is computed, cleaned and analysed using SPSS version 21 and described in tables as shown in Findings and Discussion.

4. Findings

4.1. Section A: Demographic data

The study started from 28 March 2021 to 11 April 2021. Of 457 students, there are 184 respondents responded to the questionnaires distributed. From the data, 79.3% of respondents are male, and 20.7% are female. Most of the respondents are from the age group of 20-29 years old (54.9%), followed by 41.8 % from the age group 30-39 years old, 2.2 % from the age group 40-49 years old and 1.1 % from age group 50-59 years old.

Most of the respondents are Malay 67.4 %, followed by Bumiputera Sabah or Sarawak (22.8%), Indian (6%), Chinese (2.7%) and Others (1.1%). More than half of respondents servicing 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 are working in government sectors. Meanwhile, 4.9 % are from the private sector, and 3.8% are from statutory body sectors. More than half of respondents have no post-basic certification (62.5%), and up to 98.4 % are optimistic about pursuing a master's degree and beyond. Details on demographic data as 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	9	4.9
	Statutory body	7	3.8
Post basic	Yes	69	37.5
	No	115	62.5
Interested pursue a Master's degree and beyond?	Yes	181	98.4
	No	3	1.6

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

In this part, there are 20 items regarding factors influencing AMOs' decision to pursue BMHS. Each question is derived from 4 factors identified from the literature review, as shown in Table 2.

Table 2. Items and factors identified

Item	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, Table 3 shows the results and interpretation by using mean, standard deviation and interpretation of each factor influencing AMOs' decision to pursue BMHS.

Table 3. The findings of factors influencing AMOs' decision to pursue BMHS

No	Item	Mean	SD	Interpretation
B1	Fees (discounts, rebates, and affordable)	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 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 the study	4.10	1.048	High
B8	Employer's support to pursue study	4.29	.941	Very high
B9	Prospects of the future and encouragement from the CPPPP to pursue the study	4.33	.896	Very high
B10	Pursue studies for a better prospect of families	4.68	.590	Very high
B11	Motivated to pursue higher education level	4.65	.608	Very high
B12	Feeling self 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 promoting/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 offer to pursue the study.	4.27	1.067	Very high
B18	The Bank and the Education Fund provide financial loans.	3.71	1.145	High
B19	Adequate financial resources to pursue their studies and support families.	3.91	1.065	High
B20	Family Assistance (Parents, Guardians, Family Members) to Connect Learn	3.40	1.322	High

The mean value generated from items shows the interpretation of high and low factors that influence AMOs' decision to study further, as explained in Table 4.

Table 4. 5-Likert's scale means 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

Therefore, according to the result, out of 20 items, 12 received a ‘very high’ response and eight received a ‘high’ response for the factors influencing AMOs’ decision to study further. The most factor that influenced AMOs’ decision to further study was ‘Increasing knowledge through education’ with a mean of 4.74; SD .551 followed by ‘pursue studies for a better prospect of families’ (Mean=4.68; SD .590), ‘motivated to pursue higher education level’ (Mean=4.65; SD .608), ‘curiosity about a field/skill’ (Mean=4.60; SD .670) and ‘study method (weekend mode/lecture’ (Mean=4.45; SD .752).

4.3. Section C: Stress factors

Perceived Stress Scale (Cohen, 1988) was used to study respondents’ stress scale enrolling BMHS. The summary of the respondent and their level of stress is shown in Table 5.

Table 5. Summary of the respondent and their level of stress

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%

Most of the respondents (77.7%) were in moderate stress conditions. Meanwhile, 17.4% were in high-stress levels, and 4.9% of respondents were in a low-stress state. Therefore, this could be concluded that stress is not the primary factor influencing AMOs’ decision to pursue further education.

4.4. Section D: Perception of further study among AMOs

In this section, there are ten items regarding perception on a further study among AMOs. The results as in Table 6.

Table 6. Perception and interpretation

No	Item	Mean	SD	Interpretation
D1	I found that my colleague had an interest in pursuing a higher level.	4.29	.856	Very high
D2	The difficulty of getting study leave among AMOs inhibits 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 enrolled such as the requirement needed to register.	4.27	.782	Very high
D5	I found that courses offered to AMO today at HEI are outside of 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 future 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 purposes for my family and self	4.64	.646	Very high
D10	I am often entrusted to hold or carry out responsibilities by my superior for knowing I am continuing my study.	3.99	.994	High

According to the results, six out of ten items received ‘very high’ responses from AMOs, and the rest four item received ‘high’ responses. The highest mean in perception is ‘I continue to study for future opportunities in the future (career changes, professional development, continuously studying at higher levels)’ has the highest perception among AMO (min = 4.72), followed by ‘I continue my study for better income purposes for my family and self’ (min = 4.64) and ‘I further my study to generate new knowledge’

(min = 4.62). Based on the response, it suggests that respondents' perceptions of continuing studies to a higher level are good.

5. Discussion

This study found that the most important factor influencing AMOs to further their study is the self-awareness to achieve their dreams in education—followed by family and employer support. These findings are consistent with the finding from the previous study that showed self-awareness to gain recognition, personal curiosity on specific courses, to step up the education level for the prospect and support from surrounding families and employers would increase the individual's motivation to pursue their academic dreams (Chew et al., 2014; Mahmud, 2018; Naemat et al., 2017; Siew et al., 2011; Tuah & Kamin, 2013).

The correlation between the highest factor influencing AMOs decision to further in BMHS, which is 'I continue to study for future new opportunities (career changes, professional development, and continued to study at higher levels with stress level by using Spearman's Rho is found that there is no correlation value between them, Spearman's rho correlations coefficient between .047 to 1.000 with the significant value of $p = .577$.

This study found positive perceptions on further study; 6 out of 10 questions received 'very high' responses on perception regarding the needs, future aims and purposes to further study among AMOs. This finding parallels Naemat et al. (2017) and Mahmud (2018); most of their study's respondents are encouraged to look further to increase their educational background and position in their organisation, improving their economic status.

Overall, in terms of factors that influence AMOs to pursue BMHS, a few factors need to be highlighted and considered when developing new curricula to support the AMOs desire and to achieve the numbers of AMOs with bachelor's degrees and beyond. For example, the mode of study, supposedly to be flexible, and part-time mode or open distance learning mode to encourage full-time working AMOs to enrol on the program. Furthermore, part of the management's responsibility is to facilitate the AMOs with accommodations, such as study leave, half-paid salary or full salary if they desire to enrol in a full-time program and to support them by providing more suitable positions for their academic achievement after finishing their study.

There is no conflict of interest while conducting this study. The limitation we found from this study is that the study only involved AMOs enrolled for BMHS. It might differ in response if this study involved AMOs that registered for other courses. The numbers of AMOs in this study are small to compare the total number of AMOs in Malaysia. However, we managed to conclude that all BMHS students achieved the minimal number of respondents needed in this study to avoid bias.

We suggested more studies on factors influencing AMOs' decision to study further, which involves more AMOs from other courses to collect more important data to develop better results for the management of CPPPP and stakeholders.

6. Conclusion

This study expected to find the factors that influence AMOs to pursue BMHS, relate them with stress factors, and see the perception among AMOs in further study. The questionnaires were developed according to the previous literature review to achieve the objectives. Therefore, the findings showed that the most responded factors are self-awareness factors. Most AMOs believe they would increase their knowledge through education after enrolling on BMHS. There is also no significant correlation between the highest factors influencing AMOs to pursue BMHS with stress factors. Moreover, there is also the belief that the AMOs have an excellent perception of further study, with 6 out of 10 items on perception

receiving a 'very high' response regarding the needs, purposes and the future when pursuing bachelor's degrees beyond. This study's findings are expected to benefit the management and support AMOs' desire to make the dreams of *Pelan 6P* come true. The management is expected to keep providing accommodation to AMOs, such as the full-salary or half-salary, to AMOs who want to further study in full-time mode. It is also advisable for the management to consider study leave and provide a position suitable for academic achievement after finishing their study. The stakeholders, such as the education providers, HEI and curricular developer, must think about the mode of study that inviting the AMOs to enrol into their program, for example, the flexible mode including part-time mode of study, flexible fee payment and consider open distance learning method to reach AMOs that posted far from the learning centres.

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References

- Cawangan Perkhidmatan Penolong Pegawai Perubatan. (2018). *Pelan Pembangunan Profesion Penolong Pegawai Perubatan*. Kementerian Kesihatan Malaysia.
https://www.moh.gov.my/moh/resources/Penerbitan/Garis_Panduan/Pen_Peg_Perubatan/PELAN_PEMBANGUNAN_PROFESION.pdf
- Cawangan Perkhidmatan Penolong Pegawai Perubatan. (2020). *Laporan Tahunan Lembaga Pembantu Perubatan 2019*. Kementerian Kesihatan Malaysia.
https://www.moh.gov.my/moh/resources/Penerbitan/Garis_Panduan/Pen_Peg_Perubatan/laporan_tahunan_LPP_2019.pdf
- Cawangan Perkhidmatan Penolong Pegawai Perubatan. (2021). *Laporan Sektor Pembangunan Profesion*.
- Chew, C. C., Leong, W. L., Loh, C. C., Tan, T. C., & Yan, W. Y. (2014). *A study on factors influencing students' intention to pursue higher education* (Issue August). Universiti Tunku Abdul Rahman.
- Cohen, S. (1988). *Perceived Stress Scale*. Minggarden.
<https://www.mindgarden.com/documents/PerceivedStressScale.pdf>
- Darusalam, G., & Hussin, S. (2016). *Metodologi Penyelidikan dalam Pendidikan*. Penerbit Universiti Malaya.
- Mahmud, A. (2018). Enhancing AMO Profession through Higher Education. *Seminar Penolong Pegawai Perubatan Malaysia*.
- Naemat, M. R., Khairil, M. N., Harun, M. R., Ahmad, A., & Osman, L. H. (2017). Faktor Pendorong yang Mempengaruhi Keputusan Melanjutkan Pengajian ke Institusi Pengajian Tinggi di kalangan Staf Kerajaan dan Swasta (The Motivating Factors that Influence the Decision to Further Study at Insitutes of Higher Learning among Company Staff. *Jurnal Personalia Pelajar*, 20(1), 59–65.
- Razab, W. N. W., & Othman, N. (2011). Tahap motivasi dan punca tekanan guru yang melanjutkan pengajian. *Jurnal Kemanusiaan*, 17, 97–114.
- Siew, F. N., Muhd, N. M. N., Rahman, K. A., & Ismail, N. (2011). *Influential factors to pursue doctorate degree in Malaysia*. 15, 2028–2032. <https://doi.org/10.1016/j.sbspro.2011.04.048>
- Tuah, K. H., & Kamin, M. M. (2013). Faktor-faktor Pendorong Pembelajaran Sepanjang Hayat Untuk Kursus Secara Sambilan di Politeknik Kuching Sarawak. *Unit Latihan Dan Pendidikan Lanjutan*.
<https://www.ptonline.com/articles/how-to-get-better-mfi-results>