Original Article

Dropout thought among medical students at Faculty of Medicine Prince of Songkla University Running Head: dropout thought among medical students

Jarurin Pitanupong, Jaturaporn Sangkool, Pakawat Wiwattanaworaset, Suchawadee Pongthanawisut, Teerapat Teetharathul, Aimorn Jiraphan

Abstract

Objective: To explore a dropout thought as well as to identify the predictors or associated factors of a dropout thought among medical students at the pre-clinical and clinical level.

Methods: This cross-sectional study surveyed 3rd and 6th year medical students at the end of the 2018 academic year. The questionnaire comprised 2 parts: 1) The demographic characteristics questionnaire. 2) The questionnaire of dropout thought. The results were presented as percentage, frequency, mean, and standard deviation. The factors associated with dropout thought were analyzed using the chi-square test.

Results: The total number of participants who completed the questionnaires was 259, 140 female (54.1%), and 119 male (45.9%) participants. The prevalence of dropout thought among pre-clinical and clinical medical students was 33 (22.9%) and 26 (22.6%), respectively. The majority of them reported their frequency of dropout thought as being infrequent. The majority of the factors that caused dropout thought were; study being too hard, dislike of their learning environment and medical courses did not match up with their interests. The positive factors that maintained their continuous studying within the medical program were; making their parents proud, an inner passion of being a doctor and studying with close friends.

Conclusion: About one-fifth of medical students have ever had dropout thought. The majority causes of dropout thought are; study being too hard, dislike of their learning environment and medical courses not matching up to their interests, whereas the family factor and their passion are positive factors to maintain a course of medical study.

Keywords: Dropout thought, Study leave, Medical student.

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Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Diploma of the Thai Board of Psychiatry (Dip., Thai Board of Psychiatry)

Coresponding author: Jarurin Pitanupong,M.D, Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, 90110 Tel. +6674451351-2, +66869974285 E-mail: pjarurin@medicine.psu.ac.th

Introduction

Dropout from medical schools is a concerning issues worldwide.[1] The prevalence of dropout rate from medical school varies between 3.0% to 27.0%.[2-8] Nowadays the dropout rate tends to be higher in countries where students have direct entry from high school to medical school, than that in countries that have no such entry.[9]

A recent literature reviewed about associated factors of dropout from medical schools found that; having a previous high degree of education or A-level in sciences coupled with high admission test scores were protective factors against dropout among medical students.[10-12] In addition, struggling academically in medical school might be strongly associated with dropout, but demographic variables such as age, gender and ethnicity were not identified as important factors.[9] However, some studies found age and gender exerted significant influences on dropout behavior, with males and more mature students being more likely to withdraw than females or younger students respectively. In addition, family social class or background might also be associated with dropout. Medical students whose parents were medical doctors were significantly less likely to transfer out of a medical program.1Additionally, non-academic reasons, socio-economic and psychological factors were important educational variables that should be well investigated.[3,13-14]

Whereas the high grade point average (GPA) of medical students protected against dropout, some previous studies found most medical students dropped out during their first year, for various reasons. Medical school characteristics such as smaller medical schools or medical schools with a high proportion of post-graduates on a medical program had lower dropout rate of medical students than medical schools that had no such characteristics.[1] According to many reports, in concerns to factors of dropout, a pre-admission and a post-admission supporting system should be taken into consideration. The type of admission examination as well as academic preparedness of medical schools are worth pursuing, especially for those with very low admission test scores or low grade groups during the first and second years of study. These medical students may serve as 'red warning flags' to their supervisors or mentors.[9]

In Thailand, a comparative study on the undergraduate students from 14 Faculties at Prince of Songkla University in academic years 2011-2013 reported 4 medical students dropped from the faculty of medicine. Almost of them dropped out during their first year, only one medical student dropped out during the second year. Two top reasons of dropout were; needed to enroll in another university and the medical courses did not fit their interests.[15] Even though the dropout rate seems to be very low, if the faculty of medicine can identify early predictors for dropout and has good pre-admission and a post-admission caring program based on the student's characteristics, interests, opportunities and career goals, the medical students may not drop out from the medical program. Then, the study exploring the dropout thought and associated factors, would be useful as well as beneficial to both the student's life and the Faculty.

Object

1. To explore the dropout thought in medical students.

2. To identify the associated factors of dropout thought among pre-clinical and clinical medical students.

Definition

Dropout is defined as withdrawal from the medical degree program for any reasons.

Study leave is defined as taking a break during the medical degree program for any reasons.

Methods

This cross-sectional study was approved by The Ethics Committee of the Faculty of Medicine, Prince of Songkla University (REC; 62-060-3-1).

All 3nd and 6th year medical students (181 and 180, respectively) that were studying in the Faculty of Medicine, Prince of Songkla University, Yala Hospital Medical Education Center and Hat Yai Hospital Medical Education Center at the end of the 2018 academic year comprised the study population of this survey. The inclusion criterion was being a medical student who could complete the questionnaire.

In class, the medical students were reached out to by the research assistant, and were received the rationale along with an overview of the research. After each medical student got the information sheet and self-reporting questionnaires, they were permitted to take a few minutes to consider whether to participate in the study or not. After that, the research assistant distributed documentation that ensured the volunteers' identities would be confidential. Adhering to a policy of strict confidentiality, the signatures of the participants were not required, and all of the participants retained the right to withdraw from the research at any time. Not all the questionnaires were collected at the time, as the participants were allowed to finish and return the questionnaires later by one of 2 options; submitting them in the box provided at the front of the classroom, or drop them in the box located at the Psychiatry Department. Thus, participant confidentiality was protected.

Instruments

The questionnaire is comprised of 2 parts:

1) The demographic characteristics questionnaire collected data regarding age, religion, cumulative GPA, hometown, income, type of admission, parent's occupation and any underlying disease.

2) The questionnaire of factors related to dropout thoughts was edited by 6 psychiatrists. The question such as "Have you ever think about dropout form this faculty in the three year ago?" is an example of dropout thought. The response categories were "never", "once or twice", "a few times", "several times", and "numerous times".

Statistical analysis

The results are presented as percentage, frequency, mean, and standard deviation. The factors associated with dropout thought were analyzed using the chi-square test.

Results

Demographic data

The total number of medical students who completed the questionnaires was 259; with the response rate of pre-clinical and clinical medical students were 79.6% and 63.9%, respectively. The sex proportion and demographic data of the responders were not different from demographic data of the whole population. Of the participants, 140 were female (54.1%). (Table 1) The mean age of pre-clinical and clinical medical students were 21.0±0.7 and 24.0±0.7, respectively. The mean cumulative grade point average (GPA) before admission and during study within the medical program were 3.7±0.3 (2.58-4.00) and 3.3±0.3 (2.00-3.92), respectively. The median income (IQR) was 9,000 (6,500-10,000) Baht per month.

Table 1 Demographic characteristics (n=259)

Demographic characteristics	Pre-clinical (n=144)	Clinical (n=115)	Total (n=259)
Gender			
Male	67 (46.5)	52 (45.2)	119 (45.9)
Female	77 (53.5)	63 (54.8)	140 (54.1)
Admission group			
Direct admission	86 (59.7)	66 (57.4)	152 (58.7)
Lack of opportunity	47 (32.6)	30 (26.1)	77 (29.7)
A-level	11 (7.6)	10 (8.7)	21 (8.1)
Unreported	0 (0.0)	9 (7.8)	9 (3.5)
Religion			
Buddhism	129 (89.6)	108 (93.9)	237 (91.5)
Islam	10 (6.9)	5 (4.3)	15 (5.8)
Christianity	2 (1.4)	0 (0.0)	2 (0.8)
Other	1 (0.7)	0 (0.0)	1 (0.4)
Unreported	2 (1.4)	2 (1.7)	4 (1.5)
Home province			
Songkhla	52 (36.1)	42 (36.5)	94 (36.3)
3 southern border provinces	28 (19.4)	20 (17.4)	48 (18.5)
Other	58 (40.3)	47 (40.9)	105 (40.5)
Unreported	6 (4.2)	6 (5.2)	12 (4.6)
Parental marriage status			
Couple	123 (85.4)	91 (79.1)	214 (82.6)
Divorce	8 (5.6)	8 (7.0)	16 (6.2)
Pass away	12 (8.3)	14 (12.2)	26 (10.0)
Unreported	1 (0.7)	2 (1.7)	3 (1.2)
Father's career			
Public health (doctor, dentist, pharmacist, veterinary)	19 (13.2)	8 (7.0)	27 (10.4)
Official (soldier, police, teacher, professor), state enterprise	43 (29.9)	38 (33.0)	81 (31.3)
Private business, farmer, gardener	61 (42.4)	47 (40.9)	108 (41.7)
Other	6 (4.2)	3 (2.6)	9 (3.5)
Unreported	15 (10.4)	19 (16.5)	34 (13.1)
Mother's career			
Public health (doctor, dentist, nurse, pharmacist, veterinary)	30 (20.8)	12 (10.4)	42 (16.2)
Official (soldier, police, teacher, professor), state enterprise	37 (25.7)	34 (29.6)	71 (27.4)
Private business, farmer, gardener	45 (31.2)	36 (31.3)	81 (31.3)
Other	19 (13.2)	14 (12.2)	33 (12.7)
Unreported	13 (9.0)	19 (16.5)	32 (12.4)
Underlying disease Medical illness			
No	126 (87.5)	100 (87.0)	226 (87.3)
Yes	17 (11.8)	14 (12.2)	31 (12.0)
Unreported	1 (0.7)	1 (0.9)	2 (0.8)
psychiatric illness			
No	140 (97.2)	109 (94.8)	249 (96.1)
Yes	3 (2.1)	5 (4.3)	8 (3.1)
Unreported	1 (0.7)	1 (0.9)	2 (0.8)

Dropout thought and associated factors

The prevalence of dropout thought among pre-clinical and clinical medical students was 33 (22.9%) and 26 (22.6%), respectively. (Figure 1) The gender proportion of dropout thought was 21.0% of males and 24.3% of females. According to the frequency of dropout thought, the majority reported once or twice times per year. In addition, among pre-clinical group, the frequency of dropout thought increased in the 2nd year (24.7% several times, 3.9% numerous times) and 3rd year (22.1% several times, 9.1% numerous times). And among clinical group, the frequency of dropout thought increased in the 4th and 6th year (22.0% several times, 2.0% numerous times). (Figure 2) Whilst the majority factors that cause dropout thought among pre-clinical and clinical medical students were; study being too hard, dislike of the learning environment including instructor or professor and medical courses that did not fit their interests. (Table 2)

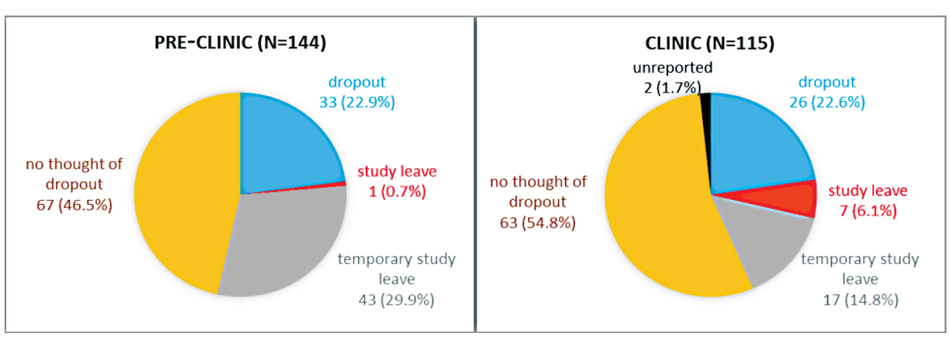

Figure 1 The prevalence of dropout thought among pre-clinical and clinical medical students

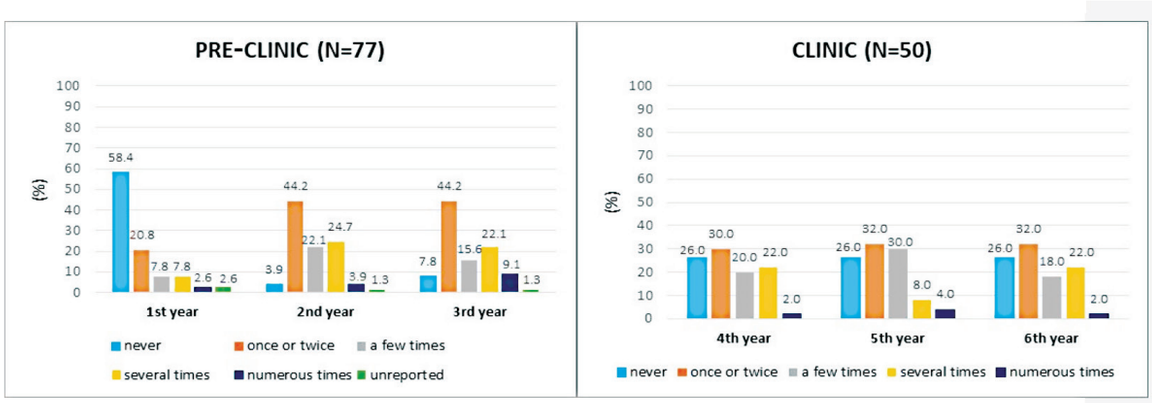

Figure 2 The frequency of dropout thought among pre-clinical and clinical medical students

Table 2 Related factors of recall dropout thought among pre-clinical and clinical medical students within 3 years ago

	Factors relate to dropout thought (can choose more than one answer)							
Year having dropout thought	Study being too hard	Dislike of learning environment or instructor	Medical courses did not match up with the interests	Peer or group Problem	Economic problem	Social Problem	Having illness	other
For pre-clinical group (n=144), having the idea of dropout while studying in :								
1st year	13 (9.0)	12 (8.3)	14 (9.7)	1 (0.7)	2 (1.4)	3 (2.1)	3 (2.1)	1 (0.7)
2nd year	44 (30.6)	22 (15.3)	22 (15.3)	2 (1.4)	2 (1.4)	1 (0.7)	7 (4.9)	4 (2.8)
3rd year	36 (25.0)	21 (14.6)	21 (14.6)	1 (0.7)	3 (2.1)	2 (1.4)	6 (4.2)	6 (4.2)
For clinical group (n=115), having the idea of dropout while studying in :								
4th year	29 (25.2)	14 (12.2)	9 (7.8)	2 (1.7)	0 (0.0)	2 (1.7)	2 (1.7)	2 (1.7)
5th year	28 (24.3)	11 (9.6)	9 (7.8)	4 (3.5)	0 (0.0)	1 (0.9)	1 (0.9)	2 (1.7)
6th year	23 (20.0)	11 (9.6)	5 (4.3)	1 (0.9)	0 (0.0)	1 (0.9)	6 (5.2)	6 (5.2)

However, the positive factors that maintained their continuous study in the medical program were; family factors; such as wanting to make their parents proud, inner motivation or passion to be a doctor, getting happiness from caring for patients and wish to study with close friends. (Figure 3) According to the association between general characteristics and dropout thought no significant correlation was found. (Table 3)

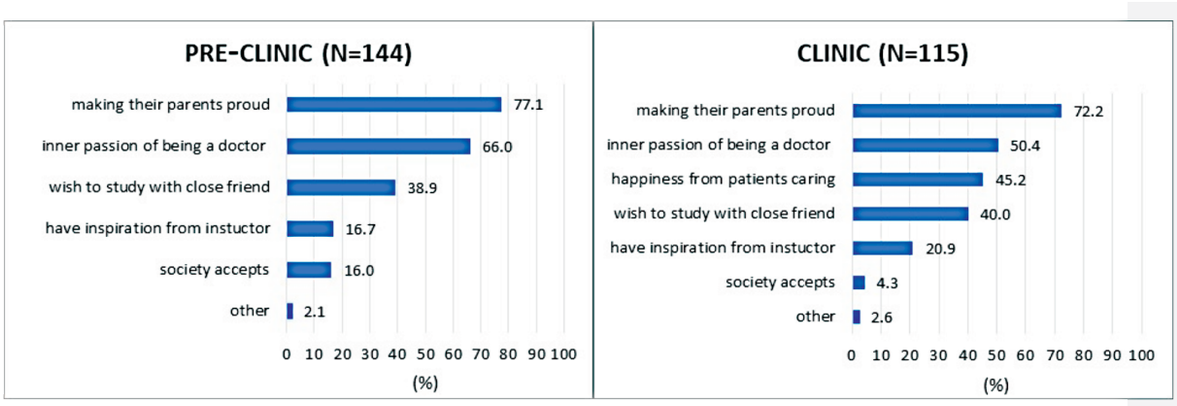

Figure 3 The factors that maintain medical studying program among pre-clinical and clinical medical students

Table 3 The association between general characteristics and dropout thought

General characteristics	Outcome			Chi2
	Dropout	Study leave	Never thought	*P*-value
	N=59	N=68	N=130	
Gender				0.39
Male	25 (42.4)	36 (52.9)	57 (43.8)	
Female	34 (57.6)	32 (47.1)	73 (56.2)	
Admission group				0.65
Direct admission	32 (55.2)	41 (61.2)	78 (63.4)	
Lack of opportunity	21 (36.2)	22 (32.8)	33 (26.8)	
A-level	5 (8.6)	4 (6.0)	12 (9.8)	
Home province				0.41
Songkhla	19 (33.9)	26 (39.4)	48 (38.7)	
3 southern border provinces	16 (28.6)	12 (18.2)	20 (16.1)	
Other	21 (37.5)	28 (42.4)	56 (45.2)	
Father's career				0.19
Public health (doctor, dentist, pharmacist, veterinary)	10 (16.9)	5 (7.4)	12 (9.2)	
Official (soldier, police, teacher, professor), state enterprise	12 (20.3)	24 (35.3)	44 (33.8)	
Private business, farmer, gardener	31 (52.5)	29 (42.6)	48 (36.9)	
Other	1 (1.7)	2 (2.9)	6 (4.6)	
Unreported	5 (8.5)	8 (11.8)	20 (15.4)	
Mother's career				0.94
Public health (doctor, dentist, nurse, pharmacist, veterinary)	8 (13.6)	13 (19.1)	21 (16.2)	
Official (soldier, police, teacher, professor), state enterprise	14 (2.7)	21 (30.9)	35 (26.9)	
Private business, farmer, gardener	9 (15.3)	9 (13.2)	15 (11.5)	
Other	21 (35.6)	17 (25.0)	43 (33.1)	
Unreported	7 (11.9)	8 (11.8)	16 (12.3)	

Discussion

This study has found the prevalence of dropout thought among pre-clinical and clinical medical students were 22.9% and 22.6%. That means one-fifth of medical students think about dropping out from the medical program, this rate is higher than the previous study in Thailand.[15] In addition, one third of medical students needs to take leave from their medical studies. The cause of this outcome may come from the process of admission. In Thailand the students have direct entry from high school to respective medical schools, unlike other countries that have no such entry. Hence, the younger students may have less maturity. Nowadays Thai university entrance is widely open, not only for A-level students but for the students who lack opportunities. Policy for reduction of disparity and increased opportunity distribution as well as expansion are beneficial but in the meantime these students may struggle academically, especially in medical school, and this may very well be associated with dropout.[9] Therefore, it is absolutely necessary to create academic preparedness before admission, and post-admission supporting systems should be of concern and considered to prevent such resignation.

However, the thought of dropping out does not occur to more than a half of medical students. The reason may be the majority group of medical students are A-level and direct admission, wherein the high grade point is one of the protective factor against dropout.[1] In addition the admission process; gathering the students who have inner passion in being doctors and have inspiration to make their parents proud, may be otherwise protective points. In which case, the happiness from patient care and the wish to study with close friends are two important factors that should not be overlooked as well. Thus, in the student care process, these data should be taken into consideration.

In addition, the one majority factor that causes dropout thought among medical students was dislike of the learning environment including instructor or professor. As a finding may be associated to being mistreated from attending physicians or residents and burnout.[16] Therefore concerning the negative impact and consequences of mistreatment among medical students should be realized by all medical educators.

Limitations

This study had a cross-sectional design and employed self-reporting for individual perception assessment that recall back to memory of 3 years ago. Moreover, its response rate was 71.7%, which might have led to both recall memory and information bias. In addition, the sample size was limited to only medical students in the Faculty of Medicine, Prince of Songkla University. Hence, it is too early to generalize our findings to a nation-wide setting.

Implications and future recommendations.

Further studies should employ a more quantitative method and cover more medical schools within Thailand. For this, a multi-center study is recommended and the recall period should be shorter than that used in this study.

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References

1. Arulampalam W, Naylor RA, Smith JP. A hazard model of the probability of medical school drop-out in the UK. J.R.Statist. Soc.A 2004;167:157-178.
2. Arulampalam W, Naylor RA, Smith JP. Dropping out of medical school in the UK: explaining the changes over ten years. Med Educ 2007;41:385-394.
3. Christensen J, Juul S. Admission qualifications and the medical education in Denmark. Ugeskr Laeger 1999;161:257-262.
4. Cohen-Schotanus J, Muijtjens AMM, Reinders JJ, Agsteribbe J, van Rossum HJM, van der Vleuten CPM. The predictive validity of grade point average scores in a partial lottery medical school admission system. Med Educ 2006;40:1012-1019.
5. Stetto JE, Gackstetter GD, Cruess DF, Hooper TI. Variables associated with attrition from Uniformed Services University of the Health Sciences Medical School. Mil Med 2004;169:102-107.
6. Strayhorn G. Participation in a premedical summer program for underrepresented-minority students as a predictor of academic performance in the first three years of medical school: two studies. Acad Med 1999;74:435-447.
7. Urlings-Stop LC, Stijnen T, Themmen APN, Splinter TAW. Selection of medical students: a controlled experiment. Med Educ 2009;43:175-183.
8. Ward AM, Kamien M, Lopez DG. Medical career choice and practice location: early factors predicting course completion, career choice and practice location. Med Educ 2004;38:239-248.
9. Morcke AM, O'Neill LD, Kjeldsen IT, Eika B. Selected determinants may account for dropout risks among medical students. Dan Med J 2012;59:4493-4497.
10. O'Neill LD, Wallstedt B, Eika B, Hartvigsen J. Factors associated with dropout in medical education: a literature review. Med Educ 2011;45:400-454.
11. Andrioli DA, Jeffe DB. Prematriculation variables associated with suboptimal outcomes for the 1994-1999 cohort of U.S. medical-school matriculants. JAMA 2010;304:1212-1219.
12. Reibnegger G, Caluba HC, Ithaler D, Manhal S, Neges HM, Smolle J. Dropout rates in medical students at one school before and after the installation of admission tests in Austria. Acad Med 2011;86:1040-1048.
13. Mcmanus IC. Drop-out rate in medical school seems reasonable. BMJ 1996;313:173.
14. Parkhouse J. Intake, output and drop out in United Kingdom medical schools. BMJ 1996;312:885.
15. Loiwirat T, Kaewnoo C, Kongchan K. Study on the undergraduate students dropped out from the Prince of Songkla University. https://www.kb.psu.ac.th/psukb/bitseam/2016/10653/1/414326.pdf. Accessed January 30, 2019.
16. Pitanupong J, Sathaporn K. The prevalence and factors associated with mistreatment perception among Thai medical students in a southern medical school. Siriraj Med J 2019;71:310-317.

บทคัดย่อ

ความคิดลาออกในนักศึกษาแพทย์ คณะแพทยศาสตร์ มหาวิทยาลัยสงขลานครินทร์

จารุรินทร์ ปิตานุพงศ์, จตุรพร แสงกูล, ภควัต วิวัฒนวรเศรษฐ์, สุชาวดี พงศ์ธนวิสุทธิ์, ธีรภัทร์ ธีธารัตน์กุล, เอมอร จิระพันธุ์

ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยสงขลานครินทร์ อ.หาดใหญ่ จ.สงขลา 90110

วัตถุประสงค์: ศึกษาความคิดลาออกและปัจจัยที่สัมพันธ์ในนักศึกษาแพทย์ชั้นปรีคลินิกและคลินิก

วิธีการศึกษา: เป็นการศึกษาภาคตัดขวาง ศึกษาในนักศึกษาแพทย์ชั้นปีที่ 3 และ 6 ในช่วงสิ้นสุดปีการศึกษา 2561 โดยใช้แบบสอบถามที่ประกอบด้วย 1) ข้อมูลทั่วไป 2) ความคิดเกี่ยวกับการลาออกและปัจจัยที่เกี่ยวข้อง วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา รายงานผลในรูปแบบ ร้อยละ ความถี่ ค่าเฉลี่ย และส่วนเบี่ยงเบนมาตรฐาน และใช้สถิติ chi-square test เพื่อศึกษาปัจจัยที่มีความสัมพันธ์

ผลการศึกษา: นักศึกษาแพทย์ร่วมมือในการตอบแบบสอบถามมีจำนวน 259 คน เป็นเพศหญิง 140 คน (ร้อยละ 54.1) ชาย 119 คน (ร้อยละ 45.9) พบอัตราความชุกของความคิดลาออกในนักศึกษาแพทย์ชั้นปรีคลินิก และคลินิกคือ 33 คน (ร้อยละ 22.9) และ 26 คน (ร้อยละ 22.6) ตามลำดับ ส่วนใหญ่มีความถี่ของการคิดลาออกคือ 1-2 ครั้งต่อปี โดยมีปัจจัยที่สัมพันธ์คือ การศึกษาที่หนัก ไม่ชอบสิ่งแวดล้อมทางการศึกษา และเนื้อหาวิชา ส่วนปัจจัยด้านบวกที่ทำให้นักศึกษาแพทย์ยังคงศึกษาต่อคือ ความต้องการทำให้บิดามารดารู้สึกภูมิใจในตัวเอง มีแรงบันดาลใจต่อการเป็นแพทย์ และต้องการศึกษาอยู่ร่วมกับเพื่อนสนิท

สรุป: หนึ่งในห้าของนักศึกษาแพทย์มีความคิดอยากลาออกจากการศึกษา โดยปัจจัยที่สัมพันธ์คือ การศึกษาที่หนัก ไม่ชอบสิ่งแวดล้อมทางการศึกษา และเนื้อหาวิชา ส่วนความคิดอยากทำให้บิดามารดารู้สึกภูมิใจในตนเองเป็นปัจจัยที่ทำให้นักศึกษาแพทย์ยังคงการศึกษาต่อ

คำสำคัญ: ความคิดลาออก, ลาพักการศึกษา, นักศึกษาแพทย์