# The Prevalence and Factors Associated with Mistreatment Perception among Thai Medical Students in a Southern Medical School

**Jarurin Pitanupong, M.D., Katti Sathaporn, M.D.**

*Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.*

## ABSTRACT

**Objective:** To assess the prevalence of mistreatment perception among medical students as well as to identify the types of mistreatment and their associated factors.

**Methods:** This cross-sectional study surveyed all of the 4th to 6th year medical students at the Faculty of Medicine, Prince of Songkla University, from January to April 2017. Three questionnaires were employed: 1) Demographic data 2) Mistreatment perception, and 3) the Patient Health Questionnaire (PHQ)-9 Thai version. The data were analyzed using descriptive statistics. The results were presented as frequency, percentage, average and standard deviation. The factors associated with mistreatment perception were analyzed by means of the chi-square test and logistic regression.

**Results:** Two hundred and ninety-eight medical students (55.0%) completed the questionnaires, 66.1% of them were female. Their mean age was 22.5+1.1 years. As to the medical students' perception, the majority (63.4%) reported experiencing at least one incidence of mistreatment by attending physicians (53.7%), residents (36.2%) and nurses (16.4%) within the previous year. The majority of mistreatment types were verbal criticism (59.7%) and discriminative behavior (51.4%). The mistreated medical students reported consequences such as experiencing unpleasant feelings (41.3%) and burnout (35.6%). According to the PHQ-9 Thai version findings, 11.1% of all of our students had depression; however, depression did not correlate with the mistreatment perception. The significant factor that correlated with mistreatment perception was the academic year.

**Conclusion:** More than a half of the surveyed medical students perceived being mistreated and reported experiencing unpleasant feelings as a consequence.

**Keywords:** Perception; mistreatment; prevalence; medical students (Siriraj Med J 2019; 71: 310-317)

## INTRODUCTION

Medical student mistreatment has been recognized for decades; it was initially described in 1982 by Henry Silver, who highlighted its similarities to child abuse.[1] Examples of such mistreatment include inappropriate physical contact, verbal abuse, sexual harassment and power abuse.[2] In 1990, the first document regarding incidence, severity, and significance of medical student mistreatment were conducted, by a major medical school. At same time while enrolled in medical school, 46.4% of all medical students had been abused, and 80.6% of seniors reported being abused by the senior year.[3] The medical student mistreatment is known to adversely impact students both personally and professionally. Similarly,

*Corresponding author: Jarurin Pitanupong*
*E-mail: pjarurin@medicine.psu.ac.th*
*Received 16 November 2018 Revised 17 May 2019 Accepted 31 May 2019*
*ORCID ID: http://orcid.org/0000-0001-9312-9775*
*http://dx.doi.org/10.33192/Smj.2019.47*

burnout has been shown to negatively impact students[4]; 69.1% of those abused reported that at least one of the episodes they experienced was of "major importance and very upsetting" and 49.6% of them indicated that the most serious episode of mistreatment affected them adversely for a month or more, whereas 16.2% of them said that it would "always affect them".[3-6] Concerning discrimination, some studies reported that females were significantly more likely than males to report gender discrimination, exclusion from informal settings and discomfort from sexual humor. Typically, males low in masculinity and females low in femininity were most likely to report abuse.[7] Furthermore, the previous studies have reported that abused medical students develop increased levels of cynicism about medicine; a lack of confidence in performing certain skills; a low opinion of the physician profession, an increase desire to drop out of school; feelings of depression, suicide, anxiety, burnout, anger, and hostility; a drinking problem;[4-6,7-13] a lower career satisfaction;[5,6,12] and become less likely to pursue careers in academic medicine.[14]

In 2011, the Association of American Medical Colleges (AAMC) found that most medical students (57.4% - 88.7%) in the United States were aware of mistreatment at their school.[2] One study reported at least one incident of medical student mistreatment by faculty (64.0%) and residents (75.5%).[4] The mistreatment rates were the lowest for family medicine and the highest for obstetrics-gynecology and surgery specialties. However, the perception of mistreatment in different departments varied significantly by gender and race.[15]

The purpose of this study was to assess the prevalence of mistreatment perception among medical students, as well as identify various types of mistreatment and the association between student perception and teaching behavior. The ensuing data of this study will provide preliminary useful evidence that will hopefully encourage reforms in medical education in order to prevent and manage mistreatment in medical schools appropriately.

### Definition

Medical student mistreatment consists of inappropriate physical contact (hitting, pinching, and throwing objects at the student), verbal criticism or humiliation, discriminative behavior, and power abuse or being forced to work outside of one's duty, which the medical students perceived to be significant causes of stress.

Major departments include internal medicine, surgery, obstetrics and gynecology, orthopedic surgery and physical medicine, and pediatrics.

Minor departments include anesthesiology, emergency, otolaryngology head and neck surgery, ophthalmology, radiology, family medicine and preventive medicine, and psychiatry.

## MATERIALS AND METHODS

This cross-sectional study was approved by The Ethics Committee of the Faculty of Medicine, Prince of Songkla University (REC: 60-472-03-4).

The study surveyed medical students from the 4$^{th}$ to 6$^{th}$ year that studying in the Faculty of Medicine, Prince of Songkla University, Hat Yai Hospital Medical Education Center, and Yala Hospital Medical Education Center at the end (January to April) of the 2017 academic year. The inclusion criterion was being a medical student who could complete the questionnaire.

A medical students were contacted by the research assistant in class, and were provided with the rationale along with an overview of the research. After the self-reporting questionnaires and information sheet were distributed, medical student, they took 5-10 minutes to consider whether to participate in the study or not. After that, the research assistant handed out documentation that assured the volunteers that their identities would be protected. 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. The participants were permitted to finish and return the questionnaires later by 2 options; submitting them in the box 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 comprised 3 parts:

1) The demographic characteristics questionnaire collected data regarding age, year of medical school, religion, cumulative GPA, hometown, income, and underlying disease.

2) The mistreatment perception and its consequences questionnaire was edited by 5 psychiatrists. It employed 6 questions like, "Since the beginning of your clinical rotations, how many times have you been mistreated in the past year" The response categories were "never", "once or twice", "a few times", "several times", and "numerous times". For the analysis, we classified mistreatment as never, infrequent, or recurrent. Mistreatment was categorized as infrequent if it occurred "once or twice" or "a few times" and recurrent if it occurred "several times" or "numerous times".[4]

3) The patient health questionnaire-9 Thai version

(PHQ-9), consisted of 9 questions and employed a 4-point rating Likert Scale to evaluate depression. The scores for each question were between 0 and 4. The cut-off score was > 9. The sensitivity and specificity were 84.0% and 77.0%, respectively. The positive and negative predictive value were 21.0% and 99.0%, respectively. The internal consistency reliability was assessed with a Cronbach's alpha coefficient of 0.79-0.87. When the score was higher than 9, it indicated depression.[16]

### Statistical analysis

The results are presented as percentage, frequency, mean, and standard deviation. The factors associated with mistreatment perception were analyzed using the chi-square test for the univariate analysis and presented using odds ratios.

## RESULTS

### Demographic data

The total number of medical students who completed the questionnaires was 298; the response rate was 55.0%. The sex proportion and demographic data of the responders were not different from demographic data of the whole population. Of the participants, 197 were female (66.1%) (Table 1). The mean age was 22.5±1.1 years, whereas the mean cumulative grade point average (GPA) was 3.3±0.3, and the median income (IQR) was 8,000 (7,000-10,000) Baht per month.

### Perception of mistreatment

In the past year, the prevalence of mistreatment perception among medical students was 63.4%, or 189 of 298 respondents. The gender proportion of mistreatment perception was 58.4% of males and 66.0% of females. According to the medical students' perception, the majority reported experiencing mistreatment by attending physicians, residents and nurses (53.7%, 36.2% and 16.4% respectively) (Fig 1). Most of the departments reporting mistreatment were major departments. Meanwhile, the mistreatment perception in the minor departments was of a lower rate. The most frequently reported types of mistreatment were verbal criticism (59.7%) and discriminative behavior (51.4%) (Fig 2). The mistreated medical students reported experiencing consequences such as unpleasant feelings (41.3%), boredom and burnout (35.6%), anxiety (28.2%) and anger (20.1%) (Table 2).

The medical student's perception of positive teaching behaviors were the giving of encouragement, being praised, and giving advice on how to improve, whereas the unpleasant teaching behaviors were blaming or criticizing, devaluation, looking down or insult, and ignorance (Fig 3).

The internal consistency reliability of our study was 0.62 for perception of mistreatment.

### Depression screening

According to the PHQ-9 Thai version results, 11.1% of our medical students had PHQ-9 > 9, that indicated depression (Table 1). The internal consistency reliability of our study was 0.87 for depression screening.

### Factors associated with perception of mistreatment

The variables whose p-values from the univariate analysis were lower than 0.2 were included in the initial model; only one variable, academic year, met this criterion (p=0.002) (Table 3). An analysis using odds ratios revealed that, the 5$^{th}$ year medical students had a 2.5 times greater risk for mistreatment perception when compared with 4$^{th}$ year medical students (95% CI = 1.5, 4.3) (Table 4). Moreover, we found that the 5$^{th}$ year medical students had a 2.8 times greater risk for mistreatment perception compared with 6$^{th}$ year medical students (95% CI = 1.2, 6.5). However, the level of depression did not associate with the medical students' mistreatment perception.

## DISCUSSION

This study revealed that the prevalence of mistreatment perception among medical students in southern Thailand within 1 year was of the same rate as the data reported from other medical schools. We discovered that the prevalence of medical student mistreatment perception in our population was 63.4% whereas the prevalence of mistreatment among medical students in other countries has been reported at 64.0% by faculty and 75.5% by residents, respectively.[4] The most commonly reported types of mistreatment were verbal criticism (59.7%) and discriminative behavior (51.4%). Our findings concurred with those reported by a 2011 study of 24 difference medical schools in the United States of America.[4] Even though these data may not provide any new information as it regards the worldwide body of knowledge, they constitute the first useful concrete evidence from Thailand on this topic.

Concerning the consequences of mistreatment among medical students, a previous study identified a relationship between verbal mistreatment and confidence in clinical abilities.[17] Moreover, recurrent mistreatment has been associated with a high rate of burnout (57.0%)[4] whereas in this study, the mistreated medical students reported experiencing unpleasant feelings (41.3%) and burnout

**TABLE 1.** Demographic characteristics (n=298).

| Demographic characteristics | Number (%) |
|---|---|
| Sex | |
| Male | 101 (33.9) |
| Female | 197 (66.1) |
| Academic year | |
| 4th year | 157 (52.7) |
| 5th year | 113 (37.9) |
| 6th year | 28 (9.4) |
| Religion | |
| Buddhism | 265 (88.9) |
| Islam | 16 (5.4) |
| Christianity | 7 (2.3) |
| Other | 4 (1.3) |
| Unreported | 6 (2.0) |
| Home province | |
| Songkhla | 115 (38.6) |
| Other | 178 (59.7) |
| Unreported | 5 (1.7) |
| Underlying disease | |
| No | 250 (83.9) |
| Yes | 46 (15.4) |
| Medical illness e.g. allergic rhinitis | 31 (10.4) |
| Psychiatric illness e.g. dysthymia | 15 (5.0) |
| Unreported | 2 (0.7) |
| Depression by PHQ-9 | |
| No depression | 238 (79.9) |
| Depression | 33 (11.1) |
| Unreported | 27 (9.1) |
| Depression categorized by academic year | |
| 4th year | 20 (12.7) |
| 5th year | 11 (9.7) |
| 6th year | 2 (7.1) |
| Depression categorized by gender | |
| Male | 9 (27.3) |
| Female | 24 (72.7) |

**Abbreviation:** PHQ-9 = Patient Health Questionnaire-9

**TABLE 2.** Consequence of being mistreated within 1 year (n=298).

| Type | Number (%) |
|---|---|
| Unpleasant feeling but tolerable experience | 123 (41.3) |
| Boredom and burnout | 106 (35.6) |
| Stress and anxiety | 84 (28.2) |
| Anger | 60 (20.1) |
| Sadness and depression | 59 (19.8) |
| Fight or perseverance | 34 (11.4) |
| Escape/ try to terminate study program | 33 (11.1) |
| Low self-esteem and has suicide ideation | 11 (3.7) |
| Need for psychological therapy | 5 (1.7) |
| Felt shame | 6 (2.0) |

**TABLE 3.** Crude association between general characteristics and mistreatment perception.

| General characteristics | Experience of mistreatment | | $Chi^2$ |
|---|---|---|---|
| | Yes (n=189) | No (n=109) | P-value |
| Sex | | | 0.247 |
| Male | 59 (31.2) | 42 (38.5) | |
| Female | 130 (68.8) | 67 (61.5) | |
| Academic year | | | 0.002 |
| $4^{th}$ year | 88 (46.6) | 69 (63.3) | |
| $5^{th}$ year | 86 (45.5) | 27 (24.8) | |
| $6^{th}$ year | 15 (7.9) | 13 (11.9) | |
| Cumulative GPA | | | 0.528 |
| <3.00 | 33 (23.6) | 23 (30.7) | |
| 3.01-3.50 | 70 (50.0) | 34 (45.3) | |
| 3.51-4.00 | 37 (26.4) | 18 (24.0) | |
| Home province | | | 0.637 |
| Songkhla | 71 (38.0) | 44 (41.5) | |
| Other | 116 (62.0) | 62 (58.5) | |
| Underlying disease | | | 0.447 |
| No | 156 (83.0) | 94 (87.0) | |
| Yes | 32 (17.0) | 14 (13.0) | |
| Depression (PHQ-9) | | | 0.611 |
| No | 151 (86.8) | 87 (89.7) | |
| Yes | 23 (13.2) | 10 (10.3) | |

**Note:** There were missing values for some variables

**TABLE 4.** Factors related to mistreatment perception.

| Factor | Crude OR (95% CI) | P-value Wald's test |
|---|---|---|
| Academic year | | |
| 4th year | Reference | |
| 5th year | 2.5 (1.5, 4.3) | < 0.001 |
| 6th year | 0.9 (0.4, 2.0) | 0.808 |

**Abbreviation:** OR = odds ratio, CI = confidence interval

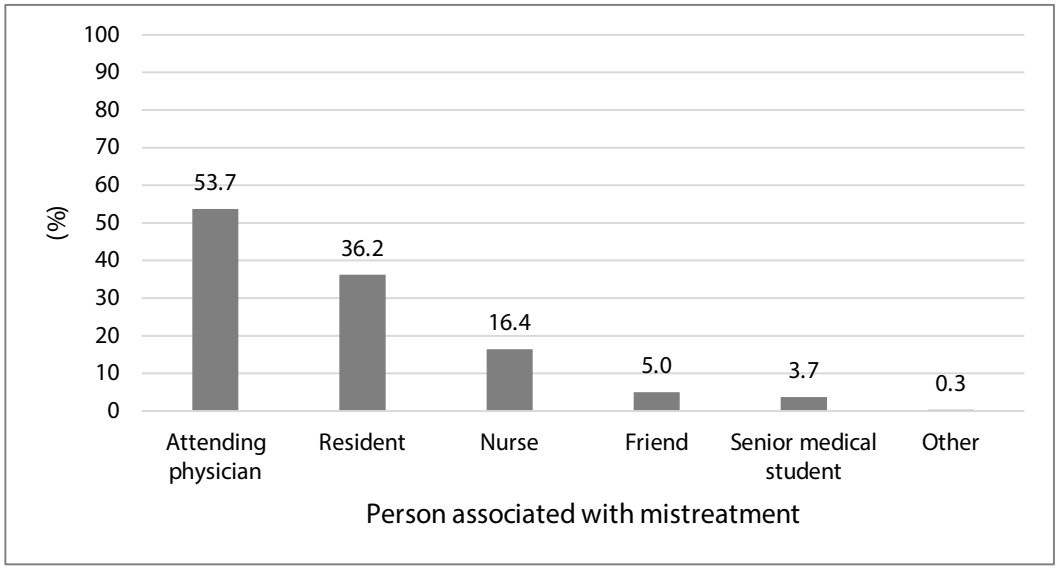


**Fig 1.** Person associated with mistreatment (can be more than one type)

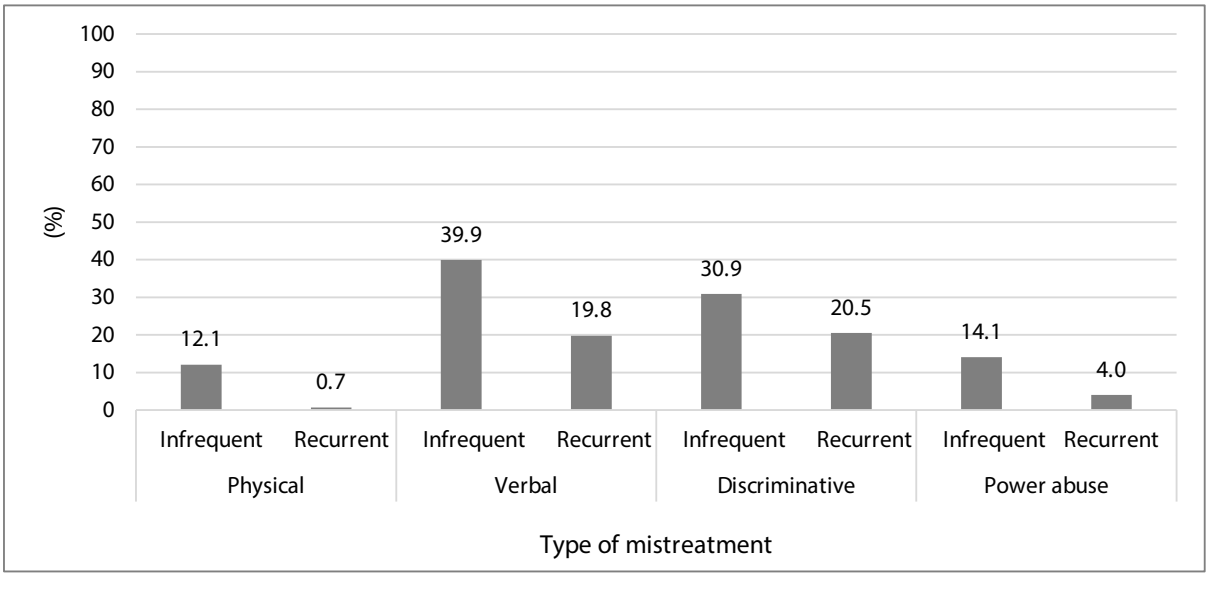


**Fig 2.** Type of mistreatment (can be more than one type)

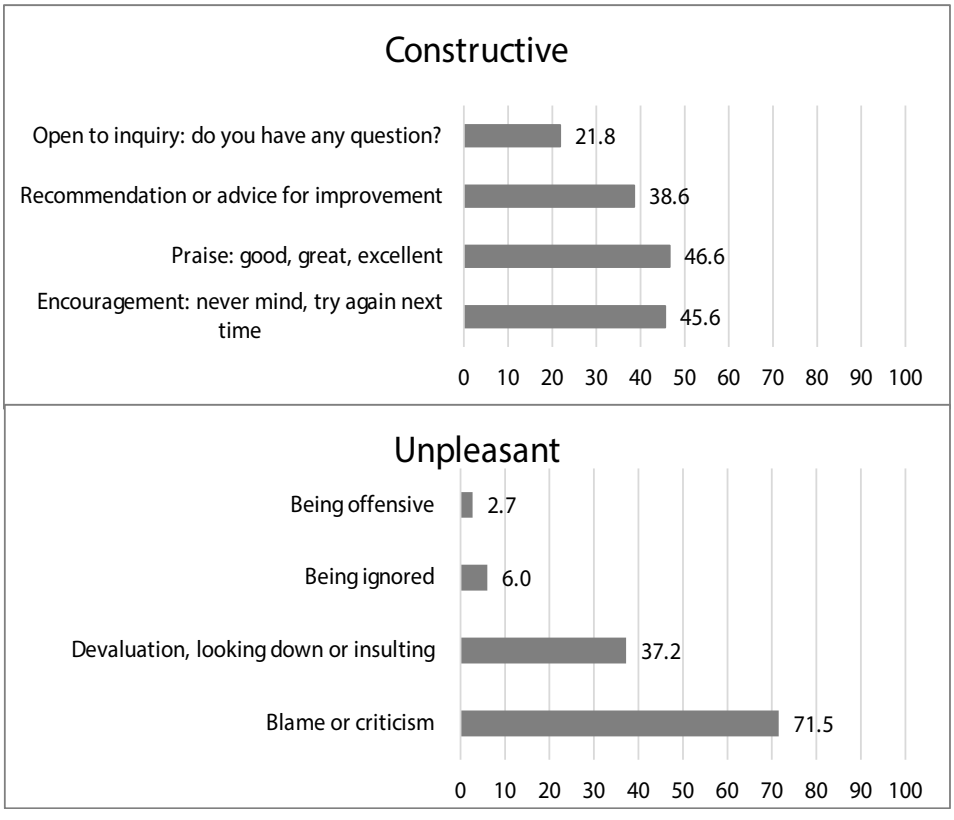


**Fig 3** Medical students' perception of positive/constructive and unpleasant teaching behavior (can be more than one type)

(35.6%) as the two most common consequences of mistreatment. This indicates that mistreatment impacts medical students negatively both personally and professionally. Regarding the factor associated with mistreatment perception, this study identified an association between academic year and risk of mistreatment perception. Since no previous study has reported such correlation, future in-depth analyses should be undertaken in order to explain this phenomenon.

Moreover, this study identified positive and unpleasant teaching behaviors on the part of the instructing medical personnel that may be useful for reforming our medical educational system. They suggested that the teaching behaviors they appreciated were receiving encouragement, praise, and recommendations or advice whereas the unpleasant teaching behaviors were blaming, criticizing, devaluation and ignorance. Therefore, we need to ask ourselves the question, "What is the teacher's role?". This study might have reflected the current teacher role in the Thai medical education. Consequently, the reformation of our medical education should be further enhanced. In other words, well-designed curriculum reforms or the adoption of sound concepts regarding the role and conduct of teachers that reflect the highest philosophy and values need to be considered by faculty.

As it is well-known, the processes of teaching for effective learning such as team-based learning, idea sharing and interaction need safe environments. Such environments require the teacher to understand the students, and build strong rapport with them by effective listening and communication. Furthermore, additional necessary skills of teachers include being intentional about constructive interpersonal interaction by offering positive reinforcement and feedback.

An example of an appropriate teacher role is found in preclinical education, where the medical students are educated via the problem-based learning (PBL) process, which requires the teacher to act as a coach. Additionally, even in the clinical-teaching process, our study, revealed that the medical students want the teacher to act like a coach. They suggested that the teacher should be encouraging and offer positive feedback. Therefore, our values and philosophy of teaching should be about the creation of a climate of trust and respect, being open and responsive, and evaluating the needs of medical students.

**Limitations**

This study had a cross-sectional design and employed self-reporting for individual perception assessment.

Moreover, its response rate was 55.0%, which might have led to information bias. In addition, the sample size was limited to only medical students in the Faculty of Medicine, Prince of Songkla University. Thus, it is too soon to generalize our findings to the nation-wide setting.

**Implications and future recommendations**

Further studies should employ a more quantitative method and cover more medical schools within Thailand. In so saying, a multi-center study is recommended.

## CONCLUSION

More than a half of our medical students perceived having been mistreated and reported experiencing unpleasant feelings. A new philosophy and values regarding teaching and the role of the teacher in the learning process should be adopted in education.

## ACKNOWLEDGMENTS

This research was fully funded by the Faculty of Medicine, Prince of Songkla University, Thailand. The authors are very grateful for the data analysis conducted by Mrs. Nisan Werachattawan and Ms. Kruewan Jongborwanwiwat. Moreover, we would like show our appreciation to every medical students who participated in this study.

## REFERENCES

1. Silver HK. Medical students and medical school. JAMA 1982;247:309-10.
2. Bursch B, Fried JM, Wimmer PF, Cook IA, Baillie S, Zackson H, et al. Relationship between medical student perceptions of mistreatment and mistreatment sensitivity. Med Teach 2013;35:998-1002.
3. Silver HK, Glicken AD. Medical student abuse. Incidence, severity and significance. JAMA 1990;263:527-32.
4. Cook AF, Arora VM, Rasinski KA, Curlin FA, Yoon JD. The prevalence of medical student mistreatment and its association with burnout. Acad Med 2014;89:749-54.
5. Frank E, Carrera JS, Stratton T, Bickel J, Nora LM. Experiences of belittlement and harassment and their correlates among medical students in the United States: longitudinal survey. BMJ 2006;333:682.
6. Stratton TD, McLaughlin MA, Witte FM, Fosson SE, Nora LM. Does students' exposure to gender discrimination and sexual harassment in medical school affect specialty choice and residency program selection? Acad Med 2005;80:400-8.
7. Richman JA, Flaherty JA, Rospenda KM, Christensen ML. Mental health consequences and correlates of reported medical student abuse. JAMA 1992;267:692-4.
8. Heru A, Gagne G, Strong D. Medical student mistreatment results in symptoms of posttraumatic stress. Acad Psychiatry 2009;33:302-6.
9. Dahlin ME, Runeson B. Burnout and psychiatric morbility among medical students entering clinical training: a three year prospective questionnaire and interview-based study. BMC Med Educ 2007;7:6.
10. Schuchert MK. The relationship between verbal abuse of medical students and their confidence in their clinical abilities. Acad Med 1998;73:907-9.
11. Frank E, Brogan D, Schiffman M. Prevalence and correlates of harassment among US women physicians. Arch Intern Med 1998;158:352-8.
12. Sheehan KH, Sheehan DV, White K, Leibwitz A, Baldwin DC. A pilot study of medical student abuse: student perceptions of mistreatment and misconduct in medical school. JAMA 1990;263:533-7.
13. Elnicki DM, Curry RH, Fagan M, Friedman E, Jacobson E, Loftus T, et al. Medical students' perspective on and responses to abuse during the internal medicine clerkship. Teach Learn Med 2002;14:92-7.
14. Haviland MG, Yamagata H, Werner LS, Zhang K, Dial TH, Sonne JL. Student mistreatment in medical School and planning a career in academic medicine. Teach Learn Med 2011;23:231-7.
15. Richardson DA, Becker M, Frank RR, Sokol RJ. Assessing medical students' perceptions of mistreatment in their second and third years. Acad Med 1997;72:728-30.
16. Lotrakul M, Sumrithe S, Saipanish R. Reliability and validity of the Thai version of the PHQ-9. BMC Psychiatry. 2008;8:46.
17. Schuchert MK. The relationship between verbal abuse of medical students and their confidence in their clinical abilities. Acad Med 1998;73:907-9.