(RESEARCH ARTICLE)

Knowledge and Attitude of Medical Student about Asthma

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Abstract

Introduction: Asthma is a chronic respiratory disease characterized by breathing difficulties, wheezing, and coughing. Effective asthma management requires adequate knowledge and a positive attitude, especially from future healthcare providers such as medical students. This study aims to evaluate the knowledge and attitudes of medical students in Indonesia regarding bronchial asthma and to analyze the relationship between these factors and variables such as academic level and personal history of asthma.

Methods: This study employed a descriptive cross-sectional design. A total of 146 medical students who had completed the cardiopulmonary block from various institutions across Indonesia participated. Data were collected through an online questionnaire consisting of 13 questions assessing knowledge and 11 questions evaluating attitudes towards asthma. The collected data were analyzed using descriptive statistics and bivariate tests to identify relationships between variables.

Results: A total of 53.43% of respondents had fairly good knowledge and 46.57% had poor knowledge. Meanwhile, 45.27% showed an unfavorable attitude and 53.37% showed a fairly good attitude towards asthma. Higher academic levels were correlated with better knowledge.

Conclusion: The findings indicate that most medical students have adequate knowledge and attitude of asthma. However, there are still deficiencies in knowledge and attitudes among among early-year students. Enhancing curricula and increasing practical exposure to asthma cases could better prepare students for effective asthma management in the future.

Keywords: Asthma; Knowledge; Attitude; Medical Student; Quality of Care

1. Introduction

The global prevalence of asthma has reached 300 million and is predicted to increase to 400 million by 2025. This prevalence varies across countries, with the increase observed primarily in developed nations. In the United States, the prevalence of asthma was 7.3% in 2001 and increased to 8.2% in 2009. [1] Survey data from various provinces in Indonesia are presented on a national scale. Asthma is a chronic disease that affects the human respiratory tract. The underlying pathogenesis of asthma is a chronic inflammatory process in the body. The chronic inflammation that occurs in asthma patients involves a large number of cells. [2]

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Based on the study by Kavya and Joy (2021), nearly 93.3% of students were aware of this disease, 90.5% knew that it is not a contagious disease, but only about half (53.3%) agreed that the disease can be inherited. ^ ([3])

Proper management of bronchial asthma requires adequate knowledge about the disease and its treatment. Healthcare professionals play an important role in educating patients to effectively manage bronchial asthma. As future healthcare providers, medical students must acquire sufficient knowledge about bronchial asthma before graduating from medical school, so they can provide better education about the disease to their patients, thereby influencing patients' knowledge and attitudes regarding asthma treatment.

2. Material and methods

This research is quantitative observational research with a descriptive cross-sectional design. The study was conducted using a questionnaire administered to respondents, who were medical students in Indonesia. The instrument used to collect data was an online questionnaire. The questionnaire was divided into two parts. The first part assessed the respondents' knowledge, consisting of 13 questions that had been validated using a Pearson validity test. The second part assessed the respondents' attitudes toward asthma, consisting of 11 questions designed to measure the respondents' level of agreement with the given statements. The variables in this study were the knowledge and attitude of medical students toward asthma management. The inclusion criteria for this study were male or female students, aged over 18 years, who had completed the cardiopulmonary block, and had agreed to participate in the study by signing informed consent. The exclusion criteria were medical students who were inactive or had withdrawn from their studies. In this study, a total of 160 samples were obtained.

3. Results and discussion

This study employed a descriptive method, utilizing a cross-sectional questionnaire to assess the levels of knowledge and attitudes among medical students in Indonesia. The collected data were subsequently analyzed using descriptive statistical methods and bivariate analysis, aiming to describe the characteristics and fundamental profiles of the data obtained.

Table 1 Respondents Academic Level Distribution

Academic Level	Frequency (n=146)	Percentage (%)
Third semester	2	1.37%
Fifth semester	38	26.03%
Seventh semester	101	69.17%
Ninth semester	1	0.68%
Eleventh semester	9	2.38%

3.1. Knowledge Medical Students about Asthma

From the research, it was found that the majority of medical students' knowledge level was in the fairly good category (53.43%), while the remaining (46.57%) was in the less good category. This knowledge is related to academic background, where senior students tend to have a better understanding compared to junior students. This indicates the significant role of the curriculum and clinical exposure in building an understanding of asthma.

This study aligns with the findings of Kavya and Joy (2021), which revealed that medical students generally demonstrate a high level of knowledge regarding the symptoms and triggers of asthma; however, further enhancement is required in specific domains such as diagnosis and management. The insufficient depth of understanding, particularly among early-semester students, may be attributed to their limited clinical experience and restricted exposure to educational materials pertaining to this condition. ^ ([3])

Table 2 Classification of Respondent Knowledge Score

Score Classification	Frequency (n=146)	Percentage (%)
Fair	78	53.43%
Poor	68	46.57%

3.2. Attitude Medical Students about Asthma

The majority of respondents (53.37%) demonstrated a fairly good attitude, while (46.27) % fell into the less favorable category. A more positive attitude tended to be observed among upper-semester students, reflecting increased confidence in handling asthma cases, which may result from greater clinical experience and theoretical knowledge.

However, among lower-semester students, the less favorable attitudes may indicate the need for more practical learning approaches, such as case simulations or role-playing, to enhance understanding of patient interactions and disease management.

Table 3 Classification of Respondent Attitude Score

Score Classification	Frequency (n=146)	Percentage (%)
Fair	79	53.37%
Poor	67	46.7%

3.3. Difference between Early and Final Semester Students

Table 4 Independent Samples Mann-Whitney Test

	Asthma Knowledge Score	Asthma Attitude Score
Mann-Whitney U	529.000	1873.500
Wilcoxon W	1349.000	2693.500
Z	-7.199	-1.097
Aseem. Sig. (2-tailed)	0.000	0.273

To determine whether there was a significant difference between the asthma knowledge scores and the attitude scores toward asthma among early- and final-semester students, the asymptotic significance (2-sided test) or p-value from the independent sample test must be less than 0.05.

The asthma knowledge score data yielded a p-value of 0.000, indicating a significant difference between the knowledge levels of early- and final-semester students. In contrast, the attitude score data toward asthma produced a p-value of 0.273, suggesting that there was no significant difference between the attitudes of early- and final-semester students.

A study on the attitudes and knowledge of medical students regarding asthma shows variations in the level of understanding across different educational stages. The research found that overall asthma knowledge generally increases as students' progress through their medical training. ^ ([4]) A similar trend was observed among pharmacy students, with fewer than half demonstrating good perceived knowledge, attitudes, and practices toward asthma. Industrial training experience may have a positive impact on students' understanding. ^ ([5])

4. Conclusion

This study examines the knowledge and attitudes of medical students toward asthma. Regarding knowledge, 53.43% of medical students demonstrated an adequate level of knowledge, while 46.57% were categorized as insufficient. In terms of attitude, 53.37% of medical students exhibited an adequate attitude, whereas 45.27% were categorized as less favorable.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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