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THROUGH THE PHARMACY LENS: UNVEILING STUDENTS' INSIGHTS INTO THE CURRICULUM

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Abstract

In order to enhance pharmacy education and training, it is essential to gather feedback from students currently pursuing the course. Universities offering pharmacy programs need to ensure that their curriculum remains relevant and aligned with the evolving job market for pharmacists. This study contributes to the ongoing efforts to enhance pharmacy education by assessing students' perspectives on the pharmacy curriculum. Employing a cross-sectional survey design, data were gathered from 90 Diploma of Pharmacy students at Universiti Teknologi MARA Cawangan Pulau Pinang, utilizing convenient sampling. SPSS was employed for data analysis. Results indicated a predominant satisfaction among students with various facets of their pharmacy education. Key positive sentiments included contentment with course distribution for knowledge and skills acquisition, access to diverse study tools enhancing the learning experience, acquired knowledge for future professional training, and appreciation for diverse assessment methods. However, satisfaction levels were lower for course loads with 76.7% expressing the need for curriculum changes. These findings reflect students' pride in their course selection and dedication to the profession's ideals. In conclusion, the study highlights the pharmacy course's success in meeting student expectations and providing a positive learning environment. The results underscore the necessity of continuous evaluation and enhancement of the pharmacy curriculum to ensure its efficacy in preparing students for their future careers.

Keywords*: Curriculum; Diploma; Perception; Pharmacy; Student*

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INTRODUCTION

In recent years, there has been a growing demand for pharmacists, underscoring the importance of aligning education and training with the evolving needs of the profession (Olsen et al., 2020). The landscape of pharmacy education is dynamic, necessitating a continuous evaluation of students' perspectives on the curriculum for ongoing improvement and relevance (Onuoha et al., 2021; Papadopoulos et al., 2021). The pharmacy curriculum serves as a pivotal preparation ground for aspiring pharmacists, aiming to equip them with the requisite knowledge, skills, and competencies for delivering safe and effective patient care (Lebovitz and Eddington, 2019). Recognizing the perpetual changes in the healthcare system, regular assessments of students' perceptions of the pharmacy curriculum become crucial (Maharaj et al., 2020; Choi et al., 2021). This ensures that educational approaches stay abreast of industry dynamics, fostering the optimal development of future pharmacy professionals.

Hence, this study endeavours to enhance pharmacy education by assessing students' perspectives on the pharmacy curriculum. The primary objectives include gauging student satisfaction with various facets of the curriculum, understanding their views on crucial courses, and evaluating the overall curriculum. The outcomes will provide profound insights into the experiences and perceptions of pharmacy students, guiding the refinement of educational programs. Additionally, these findings hold significance for universities, healthcare entities, and policymakers aiming to enhance the quality and accessibility of pharmacy education and healthcare services. This knowledge lays the groundwork for institutions and policymakers to formulate targeted strategies that resonate with students' needs, ensuring a more effective and fulfilling pharmacy education experience.

LITERATURE REVIEW

Students’ Perceptions of Pharmacy Education

Pharmacy education plays a vital role in shaping students' perceptions and attitudes towards the field. Several studies have explored students' perceptions of pharmacy education, shedding light on their experiences, motivations, and overall satisfaction with the curriculum. Alshehri et al. (2021) found that the decision-making process for students opting for pharmacy as their course of study is notable. Their research underscores that pharmacy students typically possess a forward-looking perspective, selecting pharmacy primarily due to its perceived potential for professional, financial, and intellectual growth. Likewise, the study suggests that providing high school students with information about the characteristics of pharmacy could serve to attract more promising individuals to pursue a career in pharmacy.

Studies conducted by Choi et al., (2021) and Alnahar et al., (2022) found that while pharmacy was not the first choice of study for a majority of the respondents when they initially applied to pursue higher education, they exhibited optimistic aspirations for their future career in pharmacy. This positive image of the field highlights the importance of understanding students' evolving perceptions throughout their educational journey (Mukhalalati et al., 2022; Yeoh et al., 2023,).

Likewise, Choi et al. (2021) identified poor motivation among pharmacy students and the low social status attributed to pharmacists as significant factors that require attention in order to improve pharmacy education. The findings suggest the need for interventions and strategies aimed at enhancing motivation levels and elevating the social standing of pharmacists within the profession.

Students' Perspectives on the Pharmacy Curriculum

The pharmacy curriculum plays a crucial role in students' educational experience and their preparedness for future pharmacy practice. Studies have examined students' perspectives on the pharmacy curriculum, providing insights into their satisfaction, concerns, and suggestions for improvement. Alefan et al. (2009) conducted a study at the International Islamic University Malaysia (IIUM) to assess students' satisfaction with the pharmacy curriculum. The study found that the majority of students expressed satisfaction with the overall structure of the curriculum and the courses offered by the pharmacy practice department. However, some concerns were raised regarding the overlapping of certain courses, indicating the need for potential revisions to enhance the curriculum's effectiveness.

In addition, Hudhra et al. (2014) explored students' satisfaction with the knowledge gained through the pharmacy curriculum. The study revealed that a significant number of students expressed satisfaction with the knowledge acquired to practice their future profession as pharmacists. However, they also acknowledged the need for changes in the current pharmacy curriculum, suggesting areas for improvement and potential modifications. In a study conducted by Yao et al. (2022), it was found that the participants acknowledged the importance of an internship program in terms of personal development and practical application of theoretical knowledge. The respondents recognized that the internship provided them with valuable opportunities to enhance their skills and apply their theoretical learning in real-world settings.

Challenges and Opportunities in Pharmacy Education

Pharmacy education faces various challenges and opportunities that impact students' experiences and the overall quality of education. Several studies have highlighted these challenges and opportunities, providing insights into potential areas of improvement and growth. Al-Arifi (2021) and Abdu-Aguye et al. (2022) both found that heavy workload and negative work environments were significant concerns for students. However, Gustafsson & Mattsson (2019) and Choi et al. (2021) noted that students' perceptions and expectations of their education and future profession could change over time, suggesting a dynamic nature to their experiences. Moreover, Ibrahim et al. (2022) highlighted the need to increase students' exposure to pharmaceutical industry careers that involve patient contact and the application of clinical knowledge. The study suggested that enhancing students' attitudes towards pursuing a career in pharmacy requires providing opportunities for them to experience and understand these aspects of the profession.

METHODOLOGY

Study Design and Samples

This study employed a cross-sectional survey design (Othman et al., 2022a) to investigate the students' perspectives on the perceptions of final year pharmacy students towards the current pharmacy curriculum. The target population of this study was the final year students enrolled in the Diploma in Pharmacy program at Universiti Teknologi MARA Cawangan Pulau Pinang, Kampus Bertam. A purposive sampling method was employed to select participants for the study. The sample size was calculated using Raosoft with a confidence level of 95% and a margin of error of 5% (Othman et al., 2023a). The minimum required sample size was determined to be 81 participants. This sample size was deemed appropriate to achieve sufficient representation and to provide meaningful insights into the students' perceptions of the pharmacy curriculum. This study was conducted from March until May 2023.

Data Collection

The data for this study were collected through a self-administered questionnaire designed in Google Form (Ismail et al., 2023; Othman et al., 2023b). The questionnaire was adopted and adapted from Hudhra et al. (2014) and James et al., (2018). The questionnaire was distributed to the participants through WhatsApp application (Othman et al., 2022b; Najib et al., 2023; Sulaiman et al., 2023), with a total of 90 participants responded. The questionnaire was developed based on the objectives of the study and consisted of two sections. The first section collected demographic information whilst the second section used a 5-point Likert scale to measure the students' perceptions of the pharmacy curriculum. Student's opinions and suggestions about the current pharmacy curriculum were also collected.

Data Analysis

The data collected in this study were analysed using SPSS version 22. Descriptive statistics, such as frequencies and percentages, were utilised to summarise the demographic information of the participants. For assessing students' perceptions of the pharmacy curriculum, the responses on the 5-point Likert scale were tabulated into frequencies and percentages. To delve deeper into the analysis, inferential statistics, specifically Chi-Square tests, were employed to determine if there were any significant differences in the responses based on demographic variables such as Cumulative Grade Point Average (CGPA) and overall satisfaction scores on various aspects of the pharmacy curriculum. Additionally, the mean score for each item or statement was calculated to provide a measure of central tendency. The interpretation of the calculated mean scores was based on the guidelines provided in Table 1 from Othman et al. (2024), allowing for a comprehensive understanding of the students' perceptions and satisfaction levels regarding the pharmacy curriculum.

Table 1: Interpretation of the Calculated Mean Score

Mean range	Interpretation
1.00 - 1.80	Strongly disagree / Very unsatisfied
1.81 - 2.60	Disagree / Unsatisfied
2.61 - 3.40	Neutral
3.41 - 4.20	Agree / Satisfied
4.21 - 5.00	Strongly agree / Very satisfied

Ethical Considerations

This study obtained ethical approval from Universiti Teknologi MARA Cawangan Pulau Pinang Research Ethics Committee (BERC) – BERC/4/2023 (UG/MR/169). The participants were informed about the purpose of the study, and their consent was obtained before data collection. The participants were also assured of their anonymity and confidentiality throughout the study, and they were free to withdraw from the study at any time.

RESULTS AND DISCUSSION

Demographics

Table 2 presents the demographics of the respondents. The study surveyed a total of 90 final year students enrolled in the Diploma in Pharmacy program at Universiti Teknologi MARA Cawangan Pulau Pinang, Kampus Bertam.

Most respondents were females (68.9%, 62) while 31.1% (28) were males. In terms of age, most respondents were 21 years old (82.2%), followed by 20 years old (13.4%) and 22 years old (4.4%). Concerning the current Cumulative Grade Point Average (CGPA), 36.7% of respondents had a CGPA of 3.50, while 57.8% had a CGPA between 3.00 to 3.49. Only 5.5% of respondents had a CGPA between 2.49 to 3.00. These demographic characteristics provide an overview of the sample population that participated in the study.

Table 2: Demographic of Respondents

Item		Frequency (n)	Percentage (%)
Gender	Male	28	31.1
	Female	62	68.9
Age (years old)	20	12	13.4
	21	74	82.2
	22	4	4.4
Current CGPA	3.50	33	36.7
	3.00 – 3.49	52	57.8
	2.49 – 3.00	5	5.5

Students' Satisfaction on Different Aspects of Pharmacy Curriculum

Our study evaluates students' satisfaction with various aspects of their pharmacy program. The findings offer valuable insights into students' satisfaction levels including the distribution of courses, knowledge acquisition, course loads, opportunities for active learning, and methods of assessment as depicted in Table 3.

Regarding the distribution of courses over the three-year program, the majority of students (64.4% satisfied and 14.5% very satisfied) expressed satisfaction with the appropriateness of the course distribution for acquiring the necessary knowledge and skills. This indicates that students perceive the curriculum as well-structured and designed to meet their educational needs. The satisfaction levels suggest that the course distribution adequately covers the required content and contributes to students' overall learning experience. Roshanisefat et al. (2021) found a positive correlation between students' perceptions of course load, their ability to manage time, and their levels of test anxiety.

In terms of acquisition of knowledge for further professional training, a considerable proportion of students (64.4% satisfied and 25.6% very satisfied) indicated that the program has adequately prepared them for their future professional endeavors. This finding suggests that students perceive the program as effectively equipping them with the necessary knowledge and competencies to pursue further professional development. It reflects positively on the curriculum's ability to provide students with a strong foundation for their future careers. In a study conducted by Tran et al. (2023) on the satisfaction of college pharmacy alumni in Vietnam, several factors were identified as influencing their satisfaction with training quality. These factors included the competence of the training personnel, the adequacy of facilities and environmental conditions, the effectiveness of the training programs, and the management practices and encouragement activities. The findings of this study align with our own, providing suggestions to enhance student satisfaction by improving faculty teaching methods, incorporating active teaching approaches to develop essential skills, and organizing training sessions and practical visits to enhance knowledge and practical experience.

In contrast, a study by Moura et al. (2022) assessing the clinical skills of undergraduate pharmacy students revealed that final-year students demonstrated poor performance in tasks involving clinical problem detection, clinical calculation, and issue identification and solving. While they excelled in patient counselling stations, their struggles in these other areas suggest a lack of clinical exposure and limited ability to handle real-life clinical problem-solving situations. These findings differ from our own study results, which indicate a positive perception of students towards the pharmacy curriculum and their readiness for a career in pharmacy.

The survey also evaluated course loads, with the majority of students (45.6% satisfied and 12.2% very satisfied) expressing contentment with the reasonable workload. This suggests that students perceive the workload as manageable and balanced, allowing them to effectively engage with their studies while maintaining a reasonable work-life balance. A reasonable course load is crucial for students' well-being and academic success, and these findings indicate that the program is designed with students' needs in mind. In a study by Gnjidic et al. (2023) on factors affecting academic performance among pharmacy students, it was found that the majority of students were able to effectively manage their course load and comprehend the study material. The study highlighted the importance of assessing academic competency, test competence, strategic studying, time management, and test anxiety in determining academic achievement. Additionally, the students expressed enjoyment in their pharmacy curriculum sessions, which aligns with our own research findings.

Our study also assessed students' satisfaction with opportunities for active learning activities, such as laboratory work and class activities. A significant percentage of students (50.0% satisfied and 40.0% very satisfied) reported being provided with ample opportunities to engage in active learning. This finding indicates that the program incorporates practical and hands-on learning experiences, allowing students to apply their knowledge in real-world contexts. Active learning opportunities are highly beneficial for enhancing students' understanding and retention of course material, and these findings suggest that the program effectively integrates such activities. Yu et al. (2022) emphasized the importance of implementing online active learning for students' success. Student-centred teaching design, a well-structured curriculum, and support are key factors that encourage students to engage in online active learning. Regular and comprehensive implementation of active learning is crucial for enhancing the curriculum and improving students' understanding and mastery of important knowledge points. Regarding assessment methods, the majority of students (65.6% satisfied and 22.2% very satisfied) found the methods used for student assessment to be suitable for testing their knowledge and acquired skills. This suggests that the assessment methods align with the learning objectives and adequately measure students' understanding and competency in the subject matter. Effective assessment strategies ensure fair and accurate evaluation, providing valuable feedback for students' growth and development. According to Jimenez-Rosado et al. (2022), students' opinions on continuous assessment and examinations play a crucial role in motivating them. Students perceive continuous assessment as fair and capable of measuring a wide range of skills (Faremi & Thwala, 2023). The findings suggest that continuous assessment should not comprise more than half of the grade measurement. Therefore, integrating continuous assessment in the assessment strategy is important for fairness and measuring various capabilities, leading to student growth and development.

Table 3: Students' Responses on Different Aspects of Pharmacy Curriculum

Item/Statement	**Very Dissatisfied (1) N (%)**	**Dissatisfied (2) N (%)**	**Neutral (3) N (%)**	**Satisfied (4) N (%)**	**Very Satisfied (5) N (%)**	**Mean**	**Interpretation**
The distribution of courses (subjects) over the 3 years was appropriate to acquire the necessary knowledge and skills.	1 (1.1)	2 (2.2)	16 (17.8)	58 (64.4)	13 (14.5)	3.89	Satisfied
I have gained knowledge that prepare me for my further professional training during this 3-year program.	0 (0.0)	1 (1.1)	8 (8.9)	58 (64.4)	23 (25.6)	4.14	Satisfied
Course loads were reasonable.	1 (1.1)	7 (7.8)	30 (33.3)	41 (45.6)	11 (12.2)	3.60	Satisfied
I was provided with opportunities to engage in active learning activities (e.g. laboratories, class activities etc.).	1 (1.1)	2 (2.2)	6 (6.7)	45 (50.0)	36 (40.0)	4.26	Very Satisfied
The methods used for students´ assessment (written examination, individual/group assignment etc.) were suitable for testing the gained knowledge and acquired skills.	1 (1.1)	2 (2.2)	8 (8.9)	59 (65.6)	20 (22.2)	4.06	Satisfied
Overall score						3.99	Satisfied

Overall, the current results indicate a high level of satisfaction among students with their pharmacy program. The overall satisfaction score (3.99 mean score) reflects students' contentment with various aspects of their education. These findings suggest that the program is successful in meeting students' expectations and providing a positive learning experience.

It is important for educational institutions to take into account students' satisfaction levels and feedback to continuously improve the program's quality and meet students' evolving needs. The findings of this survey can serve as a valuable resource for program evaluation and enhancement, ensuring that the pharmacy program continues to provide a rewarding educational experience for its students.

Relationship between Students' Satisfaction and CGPA

We also examined the relationship between students' satisfaction on different aspects of pharmacy curriculum and their CGPA. We calculated the Mean Total Satisfaction scores by summing and averaging the satisfaction scores for all aspects of the pharmacy curriculum for each student. We then conducted a cross-tabulation analysis to explore the association between Mean Total Satisfaction and CGPA.

The results of the analysis are presented in Table 4. The table shows the frequency distribution of students across different CGPA ranges and Mean Total Satisfaction scores. Upon analysis, we observed that students with CGPA in the range of 2.50 - 2.99 exhibited varying levels of Mean Total Satisfaction scores. Among these students, the majority had Mean Total Satisfaction scores between 3.6 and 4.2. Similarly, students with CGPA in the range of 3.00 - 3.49 showed a range of Mean Total Satisfaction scores, with the highest concentration of students having scores between 3.8 and 4.2. Students with CGPA above 3.50 also showed variation in Mean Total Satisfaction scores, with the highest number of students falling within the range of 3.4 to 4.0.

Table 4: Crosstabulation between CGPA and Mean Total of Satisfaction on Different Aspects of Pharmacy Curriculum

CGPA	Mean Total of Satisfaction on Different Aspect of Pharmacy Curriculum												Total
	2.6	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	
2.50 - 2.99	0	0	0	0	1	1	1	2	0	0	0	0	5
3.00 - 3.49	1	1	4	3	5	9	14	6	4	2	1	2	52
> 3.50	0	0	1	1	5	4	7	2	5	4	1	3	33
Total	1	1	5	4	11	14	22	10	9	6	2	5	90

To determine if there was a significant relationship between CGPA and Mean Total Satisfaction, we conducted chi-square tests (Table 5). The Pearson Chi-Square test yielded a chi-square value of 14.742 with 22 degrees of freedom, resulting in a p-value of 0.873 ($p>0.05$). Similarly, the Likelihood Ratio test produced a chi-square value of 15.471 with 22 degrees of freedom (df), and a p-value of 0.841. These p-values indicate that there is no significant association between CGPA and Mean Total Satisfaction.

Table 5: Chi-Square Tests – CGPA vs Mean Total of Satisfaction on Different Aspects of Pharmacy Curriculum

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.742	22	0.873
Likelihood Ratio	15.471	22	0.841
N of Valid Cases	90		

Additionally, suggestions and opinions on different aspects of pharmacy curriculum collected from the participants were analysed using thematic analysis. The following is a summary of the themes based on the thematic analysis for students' opinions and suggestions on different aspects of the current pharmacy curriculum, providing valuable insights into their perspectives and experiences. Distribution of courses (subjects) over the 3 years of study: The majority of students expressed satisfaction with the distribution of courses over the three-year program. They found the subject selection appropriate and felt that the curriculum adequately prepared them for their future careers. However, some students mentioned that certain subjects seemed unnecessary or unrelated to pharmacy, suggesting a review of the curriculum to focus on more relevant topics. Knowledge gained: Students generally had a positive opinion about the knowledge gained during the course.

They believed that the courses provided them with valuable and practical knowledge for their pharmacy careers. Some students also mentioned that the internship experience helped them gain a better understanding of real-world pharmacy practice. Course loads: Opinions on course loads were mixed. Many students considered the course loads to be reasonable and manageable. They believed that the tasks and assignments were appropriately balanced, allowing them to achieve good marks and prepare for their hospital training. However, some students felt that certain courses were too heavy or unnecessary, adding to their workload and creating difficulties in managing their studies.

Engagement in active learning: Students highly appreciated engagement in active learning methods, particularly laboratory activities. They found lab sessions and experiments to be enjoyable, interesting, and useful in applying theoretical knowledge. Students also mentioned the importance of exposure to the pharmacy field, as it helped them gain practical experience and prepare for their future careers. Methods of assessment: The students highlighted the benefits of assignments in gaining additional knowledge and conducting research. They appreciated the opportunity to delve deeper into pharmacy-related topics. Some students suggested improving the course by incorporating more hands-on experiences, reducing video presentations, and increasing face-to-face interactions after assignments. Students also expressed diverse opinions on individual and group assignments, with some favouring group assignments for teamwork and others preferring individual assignments.

These themes provide valuable insights into the students' perspectives on various aspects of the course, including curriculum design, knowledge acquisition, workload management, active learning engagement, and assessment methods. Incorporating their feedback and suggestions can help in refining the course structure and enhancing the overall learning experience for pharmacy students.

Students' Perception on the Indispensable Courses of Diploma in Pharmacy Curriculum

Table 6 presents the ranking of pharmacy courses according to the perception of the students who participated in the study. The results show that most students ranked pharmacology/pharmacotherapy as the most indispensable

course. This result agrees with Hudhra et al. (2014) and Prasad and Santhosh (2016), indicating the importance that students placed on the study of drugs and their therapeutic effects in pharmacy education. Hospital pharmacy was ranked as the second most indispensable course, which suggests that students recognize the value of learning about pharmacy practice in hospital settings.

Public health or social pharmacy was ranked third, indicating the perceived significance of understanding the social and public health aspects of pharmacy. The course on pharmaceutics was ranked fourth, indicating the importance that students place on learning about the development and manufacturing of pharmaceuticals. Hospital training and research project were ranked fifth and sixth, respectively, highlighting the importance of practical training and research in pharmacy education. Anatomy and physiology, cell biology, and microbiology were ranked seventh, eighth, and ninth, respectively. These courses are important in understanding the basic biological processes and functions that underlie drug action and metabolism.

Pharmaceutical chemistry was ranked tenth, indicating the perceived importance of understanding the chemical composition of drugs and how they interact with the body. Biostatistics, ICT for pharmacy, pre-calculus/calculus, entrepreneurship, and English language were ranked eleventh to fifteenth, respectively. Finally, humanities courses and co-curriculum were ranked sixteenth and seventeenth, respectively. Although these courses are important in developing the necessary skills and knowledge needed to effectively practice pharmacy in modern healthcare settings, the respondents perceived these courses as less indispensable to pharmacy education. Alsharif (2014) emphasized the importance of establishing a clear connection between non-pharmacy courses and the pharmacy profession to address any perceived irrelevance or lack of necessity among pharmacy students. Additionally, Chen et al. (2023) highlighted the importance of integrating non-pharmacy courses to enhance pharmacy students' professional identity and positive perceptions towards the pharmacy profession.

Table 6: Students' Perception on the Essential of Pharmacy Courses

Course	Rank
Pharmacology/Pharmacotherapy	1
Hospital Pharmacy	2
Public Health/Social Pharmacy	3
Pharmaceutics	4
Hospital Training	5
Research Project	6
Anatomy and Physiology	7
Cell Biology	8
Microbiology	9
Pharmaceutical Chemistry	10
Biostatistics	11
ICT for Pharmacy	12
Pre-Calculus/Calculus	13
Entrepreneurship	14
English Language	15
Humanities	16
Co-curriculum	17

Students' Perception and Opinion on Current Pharmacy Curriculum

In Table 7, it is shown that 69 out of 90 respondents (76.7%) felt that changes are needed in the current curriculum, while 21 respondents (23.3%) believed that the current curriculum should be kept as it is. The following is a summary of the themes based on the thematic analysis for students' opinions and suggestions on the current pharmacy curriculum provide valuable insights into their perspectives and experiences. Subject Exclusion: Some students expressed their opinion that certain subjects or courses in the pharmacy curriculum seemed unnecessary or unrelated to their future profession.

Table 7: Students' Perception on the Essential of Pharmacy Courses

Needs for current curriculum change	Frequency (n)	Percentage (%)
Yes, changes are needed	69	76.7
No, keep the current curriculum as it is	21	23.3

They felt that these subjects added to the overall workload without providing practical benefits for their pharmacy careers. Examples of such subjects mentioned include entrepreneurship and certain elective courses. Students suggested reconsidering the inclusion of these subjects or reducing the workload associated with them. Course Distribution: The majority of students found the distribution of courses over the three years of study to be appropriate and reasonable. They appreciated the organization of subjects into semesters and felt that the curriculum covered essential topics necessary for their future as pharmacists. Students recognized the importance of these courses in preparing them for hospital training and expressed satisfaction with the overall distribution. Pharmacy Field Exposure: Students generally appreciated the opportunities and learning activities that allowed them to gain exposure to the real field of pharmacy. They valued practical experiences, such as internships and laboratory sessions, which provided them with a glimpse of their future roles as pharmacists.

The practical activities were seen as helpful in preparing them to face real-life situations in the pharmacy profession. Lab-Related Obstacles: Some students mentioned encountering obstacles related to laboratory activities. They expressed a desire for more practical sessions in the laboratory before their internships to further enhance their skills and knowledge. Additionally, students pointed out the need for adequate facilities and equipment to support their training and experiments in the lab. While students generally enjoyed and found value in the laboratory sessions, they also suggested reducing the workload associated with marking and finding ways to better manage the scheduling of lab sessions.

CONCLUSION

The findings of this study provide valuable insights into students' attitudes and satisfaction regarding their pharmacy program. Overall, the results indicate a high level of satisfaction among students, with the majority expressing positive sentiments towards various aspects of their education. Students reported a strong sense of pride in their choice of studying pharmacy, indicating a deep commitment to the values and ideals of the profession. These positive attitudes towards pharmacy education reflect the program's success in instilling a sense of purpose and enthusiasm among students. In terms of satisfaction with the program, students reported satisfaction with the distribution of courses over the three-year program, perceiving it as appropriate for acquiring the necessary knowledge and skills. They also indicated that the program effectively prepared them for further professional

training and provided reasonable course loads. The availability of opportunities for active learning activities, such as laboratory work and class activities, was highly valued by students. Furthermore, students expressed satisfaction with the methods used for student assessment, suggesting that the assessments effectively evaluated their knowledge and acquired skills. These findings highlight the strengths of the pharmacy program in meeting students' expectations and providing a positive educational experience. The program's emphasis on a well-structured curriculum, practical learning experiences, and suitable assessment methods contributes to students' satisfaction and supports their professional development.

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