

Relation of Examination Performance and Class Attendance of MBBS Students in Pharmacology – A Retrospective Study

Dr. Supriya Sanke¹, Dr. Sujatha P MD², Dr. Saran Rapaka³, Dr. Dhivya⁴, Dr. Priyadharsni⁵

1. Final year Postgraduate, Department of Pharmacology, Andhra Medical College, Visakhapatnam.

2. Professor, Department of Pharmacology, Andhra Medical College, Visakhapatnam.

3. Final year Postgraduate, Department of Pharmacology, Andhra Medical College, Visakhapatnam.

4. Second year Postgraduate, Department of Pharmacology, Andhra Medical College, Visakhapatnam.

5. Second year Postgraduate, Department of Pharmacology, Andhra Medical College, Visakhapatnam.

Aim: To study the relationship between student attendance and examination performance in theory.

Study design: A retrospective observational study. The students who appeared for 2nd year MBBS were included in the study. Their attendance was compared with the marks they secured in the final examination.

Materials and method: The students who appeared for 2nd year MBBS were included in the study. 197 students were included in the study, their attendance was compared with the marks they secured in the final examination. Data was collected from Department of Pharmacology, Andhra Medical College, Visakhapatnam. Statistical analysis was performed using independent t-test.

Results: Higher the percentage of attendance lesser is the chance of failure in final examination (P value is 0.009). It shows attending the lectures is significant to pass the examinations.

Keywords: Attendance; Academic performance; Pharmacology

Date of Submission: 30-01-2020

Date of Acceptance: 15-02-2020

I. Introduction

An increasing number of students seek a high level of education to secure their future and improve their economic possibilities. The Medical school expects students to attend the regular classes, as the syllabus module is vast and students are exposed to different concepts for the first time. To enhance their knowledge later in their professional life, attendance during their undergraduate days count. The non-attendance in class affects their assessment which is found to be directly related. Studies have proven a positive correlation between the two^[1].

Most learning occurs during classes and clinical postings. This is mandatory for their academic assessment which throws light as to where they have reached in the present state of knowledge. It provides insight into their learning methods or practices and change to more focused reading. Timely assessment of students is needed to keep them in track and to check that they have not deviated from their goal^[2].

Student involvement appears to be an observable manifestation of positive study habits, study skills and attitudes, which had also been related to academic success in undergraduates. Absenteeism is a way to escape from the routine activities which the curriculum demands. The Medical profession needs young and dynamic graduates who have adequate knowledge about health and diseases, clinical skills that will provide quality care to patients. Students' absence in class is a misfortune in shaping medical professionals who benefit society at large. These students do not achieve their aim and seem to place themselves at risk of harm^[3].

The impact of absenteeism on medical students' grade has not been evaluated adequately, and the causes for the same were explored very less^[4]. It is observed that the students who are low performers had a lousy record as far as their attendance is concerned. The students' absence in learning activities loses learning and the instructional time leading to low academic load^[5].

Different researches on class attendance established that on average, the student with high attendance achieves higher academic performance in both regular activity and examination than a student with poor attendance^[6]^[7]^[8]. Going to classes helps the students to acquire information that is not present in the textbooks. This also helps the student to get materials like the review of notes, demonstrations, and lectures. Steady class attendance represents a method of distributed practice. This is increasing the retention of information and imparts the possibility of overlearning^[9]. Both regular practice and overlearning have been connected to higher academic performance and long-term preservation of material.

Although several other factors affect the academic performance of the student, class attendance has a consistent relationship with factors such as achievement motivation and cognitive ability. The cognitive ability

helps a student to anticipate the long-term consequences, and it is weak in students with less attendance. The individual difference factors such as intelligence and inspiration motivate the student to attend the class, and the class attendance, in turn, reflects in the students' grade. This would anticipate that class attendance is a behavioural manifestation of student's motivation, traits, and abilities^[10].

On surveying the relative effectiveness of different methods of teaching, class attendance appears to be beneficial for learning, irrespective of specific teaching method used by the instructor. The universities have initiated mandatory attendance policies during lectures and practical sessions. Student attendance is a fundamental part of professional development, and it is measured as evidence of professionalism^[11]. These issues are fundamental difficulties for medical colleges in terms of materialising attendance strategies.

Pharmacology is a fundamental subject in medical education that plays a significant role in imparting knowledge for prevention and treatment of disease. It helps the student to practice the sensible use of drugs in their professional life later on. Meticulous understanding of Pharmacology is mandatory for safe and effective treatment of patients. The lectures in the classroom and practical sessions are the primary teaching methods in undergraduate pharmacology. The lecture-based learning enhances the cognitive, affective, and psychomotor skills of the students^[12]. The lectures are advantageous for the student in learning despite its academic nature and poor feedback. The practical classes also being the most effective tool for improving student's knowledge, goes hand in hand with theory classes for better concept building and understanding^[13]. If the student misses these classes; it will affect student learning resulting in low academic performance.

The bibliography review suggests that there is a positive relationship between student's attendance and test score in undergraduate medical education. However, the studies show a relationship between individual theory and practical attendance and their comparison with academic assessment are limited. Thus, this study is done to know whether, in our setting, class attendance had any contribution to the student's academic performance.

II. Material And Methods

This study determines the effect of class attendance on academic performance in the examination of second professional MBBS students who have passed the examination in the Pharmacology Department of Andhra Medical College, Visakhapatnam. The study was designed as an observational retrospective study with a duration of 1 year. The study was approved by the Institutional Ethics Committee. A total of 197 students who appeared for pharmacology examination held in February 2019 were included.

Based on the attendance percentage students are categorised into two groups, group I with attendance less than 75% and group II with attendance more than 75%. The attendance and performance of students in both groups were compared. The data of attendance and their performance at the time examination were obtained from the Department of Pharmacology and compared to know whether there is any association.

The data were entered in Microsoft Excel as an attendance percentage and marks obtained by the students. The quantitative data were analysed using unpaired or independent t-test using SPSS. Results were tabulated, and significance was expressed according to the $P < 0.05$ (significant) and < 0.001 (highly significant).

III. Results

A total of 197 students were taken for this study, of which 49 students were having $< 75\%$ attendance (Group I) while 148 students were having more than 75% attendance (Group II). Attendance of the study group is in Figure 1.

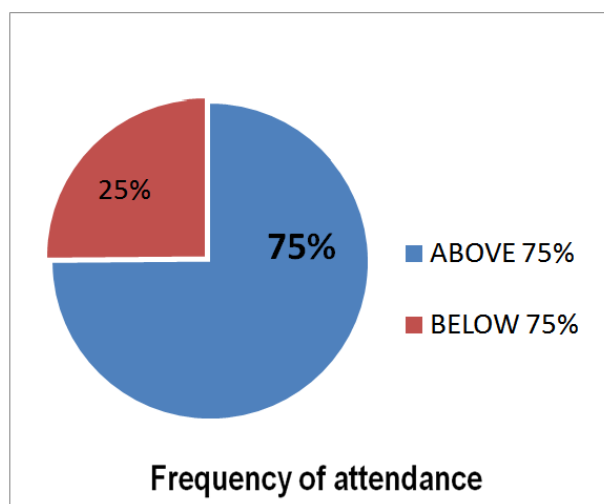


Figure 1: Pie diagram showing frequency of student attendance above and below 75%

The pass percentage in Group I students is found to be 57.1% while in Group II was 70.3% (Figure 2). There was a significant difference ($P < 0.05$) in performance between the two groups analysed by independent t-test and the P-value is found to be 0.009.

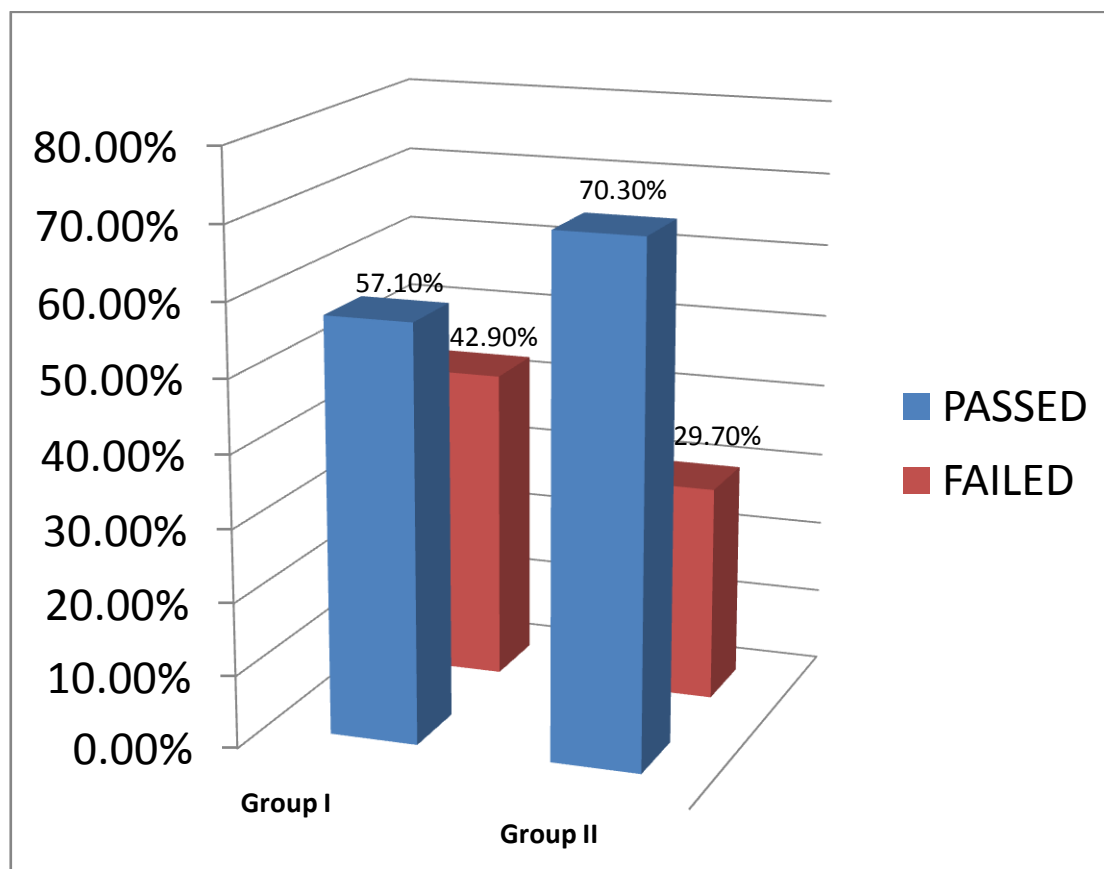


Figure 2: Performance of students in exam both the groups (Group I - Attendance<75% ,Group II - Attendance>75%)

| Attendance vs Marks Cross tabulation | | | | | |
|--------------------------------------|---------------|-------|--------|--------|--------|
| | | | Marks | | Total |
| | | | failed | passed | |
| Attendance | <75% Group I | Count | 21 | 28 | 49 |
| | | % | 42.9% | 57.1% | 100.0% |
| | >75% Group II | Count | 44 | 104 | 148 |
| | | % | 29.7% | 70.3% | 100.0% |
| Total | | Count | 65 | 132 | 197 |
| | | % | 33.0% | 67.0% | 100.0% |

Figure 3: Cross tabulation Attendance vs Marks

IV. Discussion

Student's absenteeism is a recurrent problem in medical education despite compulsory attendance policies introduced by the universities. Professional courses like medical education require better attendance in theory and practical classes for greater understanding of the subject and for acquiring necessary skills for better performance in their later professional life. Literature review suggests that absence in class affect their academic performance which is found to be directly related. In this background, this study was undertaken to know the impact of attendance on academic performance in our setting.

This study found that high pass percentage in the examination was seen in students with high attendance in theory and practical classes. We have also found that those who have less attendance have less marks percentage in the examination. These results are comparable to the study by Varul et al. which reported a significant positive correlation between attendance and academic performance in both theory and practical examination. [14] Our study results were also supported by another study by Chilwant and Hundekari, which concluded a positive correlation between attendance and test score in theory examination. However, they have

not found a correlation between attendance and test score in practical examination. ^[1] Our study findings are in line with various studies like those carried out by Hamdi and Daud and Javaid, in which absenteeism had a significant effect on the level of achievement in medical education ^{[15][16]}. Most of these studies concluded that the impact of class attendance on examination performance was more critical in lecture-based medical education. Here, we have only analysed attendance and academic performance. Several confounding factors also affect academic performance. Even though class attendance is a behavioural manifestation of student characteristics, analysis of other variables such as class size, study habits, teacher's absenteeism, communication skills, cultural and social factors also required to fully understand the impact of attendance on academic performance.

V. Conclusion

This study found a significant difference in academic performance in both groups. Future studies are analysing the reasons for student's absenteeism and measures to overcome these factors are required for improving the quality of medical education. Medical Colleges should give more attention to this issue because this may result in poor academic performances.

Acknowledgment

We extend our sincere gratitude to the Head of Department and other staff members of the Department of Pharmacology for their help and valuable suggestions.

References

- [1]. Chilwant KS, Hundekari JC. Effect of class attendance on performance in 2nd year medical students. *IOSR J Res Method Educ.* 2013;3(3):31-3.
- [2]. Jain V, Agrawal V, Biswas S, Varshney A. Impact of attendance in lectures and formative assessments on students' performance in summative assessment. *Natl J Med Dent Res.* 2013;1(4):24-8.
- [3]. Dashputra A, Kulkarni M, Chari S, Date A. Medical student's absenteeism in class: Reasons and remedies. *J Educ Res Stud.* 2015;3(1):24-9.
- [4]. Saeed AA, Al-Otaibi MS, Al-Ziyadib HG, Babsail AA, Shaik SA. Association between student absenteeism at a medical college and their academic grades. *JIAMSE.* 2009;19(4):155-9.
- [5]. Yusoff MS. Association of academic performance and absenteeism among medical students. *Educ Med J.* 2014;6(1):40-4.
- [6]. Romer D. Do students go to class. Should they. *J Econ Perspect.* 1993;7(3):167-74.
- [7]. Van Blerkom ML. Class attendance in undergraduate course. *J Psychol.* 1992;126(5):487-94.
- [8]. Gunn KP. A correlation between attendance and grade in 1st year psychology class. *Can Psychol.* 1993;34(2):201-2.
- [9]. Donovan JJ, Radosovich DJ. A meta analytic review of the distribution of practice effect. Now you see it, now you don't. *J Appl Psychol.* 1999;84(5):795-805.
- [10]. Crede M, Roch SG, Kieszczynka UM. Class attendance in college: A meta-analytic review of the relationship of class attendance with grades and student characteristics. *Rev Educ Res.* 2010;80(2):272-95.
- [11]. Hamdy H, Prasad K, Anderson MB, Scherpbier A, William R, Zwierstra R, et al. BEME systematic review. Predictive values of measurements obtained in medical schools and future performance in medical practice. *Med Teach.* 2006;28(2):103-16.
- [12]. Arthur W Jr, Bennett W Jr, Edens PS, Bell ST. Effectiveness of training in organizations: A meta-analysis of design and evaluation features. *J Appl Psychol.* 2003;88(2):234-45.
- [13]. Naeem SS, Rizvi W, Kumar A. Revisiting undergraduate practical pharmacology. *J Pharmacol Pharmacother.* 2012;3(1):76-9.
- [14]. Varul M, Vegad A, Shah C, Mehta H, Kacha Y. Attendance, attitudes and academic performance: A study on first year MBBS students attending physiology classes. *Int J MedSciEduc.* 2016;3(1):31-7.
- [15]. Hamdi A. Effect of lecture absenteeism on pharmacology course performance in medical students. *J Int Assoc Med Sci Educ.* 2006;16(1):27-30.
- [16]. Daud S, Javaid F. Effect of class attendance of medical students' test performance. *Pak J Med Health Sci.* 2012;6(2):295-7.

Dr. Supriya Sanke, et al. "Relation of Examination Performance and Class Attendance of MBBS Students in Pharmacology – A Retrospective Study". *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(2), 2020, pp. 15-18.