IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 10 Ver. XI (October. 2016), PP 59-61
www.iosrjournals.org

Effect of SAB Group Teaching in Pharmacology for Undergraduate Medical Students

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Abstract:
Background*: Pharmacology is an essential subject for medical students for rational use of medicines. Medical education is now focusing on active learning of students rather than conventional lecture based teaching. Small group teaching helps in better understanding of the subject and development of presentation skills. Hence our main aim was to know the effect of student ability based (SAB) group teaching in Pharmacology.*
Method*: 99 MBBS students of 5th semester were divided into three groups after assessing their performance in internal examinations. Special training classes were conducted separately to improve their performance in final university examinations.*
Results*: All 99 students passed in final university examinations with 23 distinctions, 59 first classes and 17 second classes*
Conclusion: *SAB group teaching improved the students' performance in Pharmacology in final university examination with 0% failure rate.*
Keywords*: Group teaching, performance, Pharmacology,*

I. Introduction

Pharmacology is a necessary discipline for medical students which deal with the study of drugs regarding their sources, actions, pharmacokinetics, uses, adverse effects, interactions, and contraindications. The traditional pharmacology teaching mainly takes place through didactic lectures using audio visual aids and is mainly theoretical. There is a growing concern among medical educators that conventional modes of teaching medical students (lecture based curricula) neither encourage the right qualities in students nor imparts a lifelong respect for learning [1]. So, in medical education there is an immense need to move from traditional teacher focused, didactic teaching to more student focused methods that actively engage students in the learning process in order to better promote student successes and produce graduates with transferable skills [2]. In the last two decades a number of educational programs have been developed to improve the teaching and learning of pharmacology and therapeutics [3], [4]. Among this, small group teaching provides opportunities for learning that are difficult to establish in large group setting. It also promotes individual involvement and active participation and increased understanding of the subject. Students grouped with those having same learning capabilities help them to gain a deep learning experience. Ability is determined by the students' demonstrated performance levels of prior knowledge and teacher's initial assessment of students' level of readiness [5], [6]. Hence our main aim was to know the effect of student ability based (SAB) group teaching in Pharmacology.

II. Method

99 MBBS students of 5th semester were divided into groups after assessing their performance in internal examinations. Average of three internals were taken and based on their ability divided into three groups. Students with internal marks percentage below 50% is 'A' group consisting of 38 students, percentage below 65% is 'B' group with 36 students and percentage more than 65% but below 75% is 'C' group with 25 students. There were no distinctions in internal exams. Special training classes were conducted separately for 3 groups for a period of one month to improve their performance in final university examinations.

To avoid bias only theory marks were taken into consideration excluding practical and oral marks in both internal and final examinations. The data obtained was spread on excel sheet and results were analyzed using Microsoft office 2007 version. The data is represented in the form of tables, charts & pie diagrams.

III. Results

Table 1 shows the division of three groups based on the performance of the students in internal examinations. All 99 students passed in final university examinations with 23 distinctions and 59 first classes.
Group A scored below 50% in internals. After one month of SAB teaching, in final examination, out of 38 students, 6 got distinctions (>75%), 19 first classes (>65%) and 13 second classes (.50%). Table 2, fig 1

Group B scored below 65% in internals. After one month of SAB teaching, in final examination, out of 36 students, 7 got distinction (>75%), 25 first class (>65%) and 4 second class (50%) Table 3, fig 2. Group C scored above 65% but below 75% in internals. After one month of SAB teaching, in final examination, out of 25 students, 10 got distinctions (>75%), 15 first class (>65%). Table 4, fig 3. The comparison of performance of students in internals and finals given in table 5, fig 4.

IV. Discussion

Group teaching is an effective basis for learning and for decision making. It encourages students to take responsibility of their learning, deeper understanding of the material and development of presentation skills. Ability based grouping allows teachers to use the best strategies for each group's specific educational needs. The role of the teacher is that of facilitator of learning leading discussions, guiding process and enabling active participation of learners. They can use the time to focus on learners who need more one on one attention. This helps students in better understanding of the subject. They are able to ask questions to clear their difficulties. Students who progress quickly can be appropriately challenged when they are grouped with others in their ability group. Out of 25 'C group' students who got only 65% in internals, 10 were distinctions (>75%). There is an increase in self esteem in other students as they are not competing against bright ones. Hence average performance students of 'B' group got 7 distinctions, 25 first classes and 4 second classes. Students who progress slowly are focused more and instant feedback was given to improve their presentation skills. So, 'A' group students who got <50% in internals, 6 got distinctions, 19 got first class and 13 got second class. When compared with internals, overall improvement was seen in the final university examination with 23 distinctions, 59 first classes and 0% failure.

V. Figures & Tables

Figure 1: Performance of group A in final theory examinations

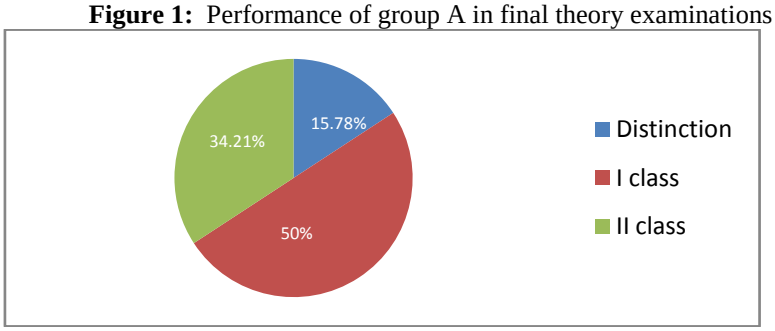

Figure 2: Performance of group B in final theory examinations

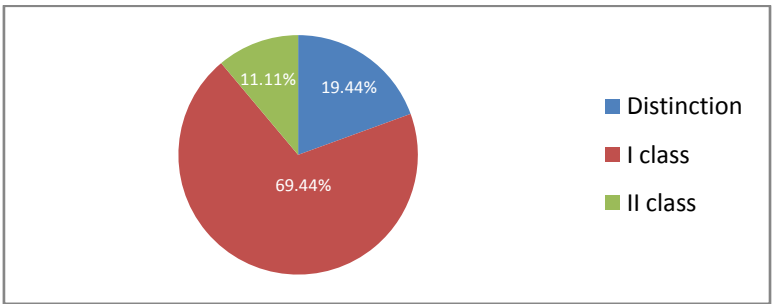

Figure 3: Performance of group C in final theory examinations

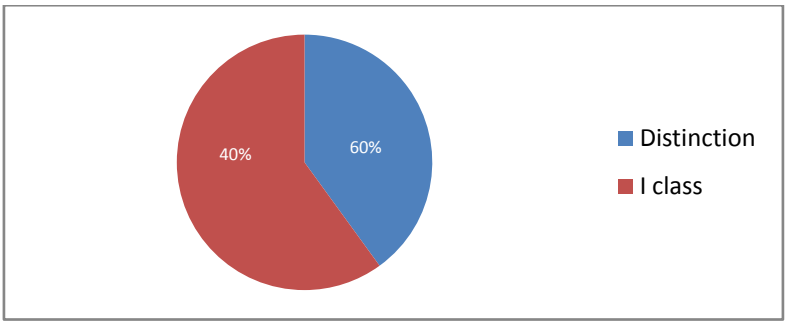

Figure 4: Performance of students in internals and finals

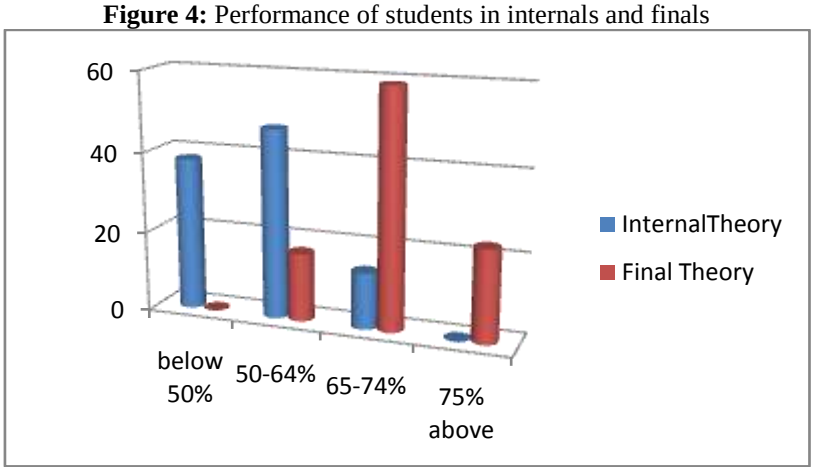

Table 1: showing no of students in each group

A group (below 50%)	B group (<65%)	C group (>65%)
38	36	25

Table 2: Performance of group A in final theory examinations

	No. of students (N=38)	% of students
Distinction (>75%)	6	15.78%
I class (>65%)	19	50%
II class (>50%)	13	34.21%

Table 3: Performance of group B in final theory examinations

	No. of students (N=36)	% of students
Distinction (>75%)	7	19.44%
I class (>65%)	25	69.44%
II class (>50%)	4	11.11%

Table 4: Performance of group C in final theory examinations

	No. of students (N=25)	% of students
Distinction (>75%)	10	40%
I class (>65%)	15	60%

Table 5: shows the comparison of performance of students in internals and finals

Examination	**Below 50%**	**50 – 64%**	**65 – 74%**	**Above 75%**
Internals	38	47	14	0
Finals	0	17	59	23

VI. Conclusion

Student ability based group teaching improved the performance in Pharmacology in the final university examination with 0% failure rate. It increased confidence and self esteem in students.

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