

## *Full Length Research Paper*

# **Difference in learning style preference of medical, dental and B pharma students**

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**Introduction:** The aim of the study was to analyze the learning styles and the difference if any between medical, dental and B Pharmaceutical students.

**Methods:** 112 medical, 110 dental and 106 B pharma students were studied in each group. Each of the group completed the VARK (visual, auditory, read-write and kinesthetic) questionnaire and their learning style was analyzed. Then the values of each group were compared to get the result. The goal was to identify the preferred learning pattern and to attempt to improve the teaching methods.

**Results:** statistically one way ANOVA was applied to study the data generated. The results reflect that there is predominance of kinesthetic learners individually though not significant. When multimodal group as a whole compared to unimodal groups there was significant difference seen.

**Conclusion:** This study corroborates the findings of previous studies done on this subject. The study also underlines the need to adopt varied pattern of teaching to cater different groups of learner in different as well as different groups.

**Keywords:** Dental, medical, B pharmaceutical, learning style and VARK

## **INTRODUCTION**

Physiology is the foundation for many subjects and there are various students who need to be taught physiology like students of health, nursing, veterinary, dental and medical undergraduates.<sup>1</sup>

There is a lot of variation in the learning style of students. There are several factors which influence the learning style of students like age, gender, academic achievement, creative thinking, brain

processing and culture.<sup>2</sup> The teaching has to be tailored for the students as students rely on different sensory modalities for acquiring knowledge.<sup>3</sup> Fleming described four sensory modalities – visual (V), auditory (A), reading – writing (R) and kinesthetic (K). The learning style of students may be unimodal or multimodal depending on use of single mode or multiple mode of learning respectively. Few of the studies point that the predominant style of learning is multimodal.<sup>3-5</sup> Other study indicate it to be unimodal.<sup>6</sup> To enhance the development of alternate learning styles of students effort has to be made. In order to maximize the outcome, the learning styles of students need to be recognized.<sup>7</sup> When various styles of teaching is used by a teacher there is more probability that he is using style that is preferred by the student.<sup>8,9</sup> The present study was planned keeping in mind that the mode of education is different from the western setup. The study also looks into the fact – is there any difference in learning style between different streams of students i.e., medical, dental and B pharma. Lately many studies have been done in order to analyze the learning pattern through VARK (visual, auditory, read–write, kinesthetic) in the advanced countries of the world.

## METHODS

The study was approved by university review board. The students who participated were drawn from the medical, dental and B Pharma. The VARK questionnaire obtained from internet was distributed to 120 medical, dental and B pharma students as a hard copy. The response rate was 112/120 medical, 110/120 dental and 106/120 B pharma students. The data was analyzed using SPSS 14 and data generated as percentage of students.

## RESULTS

The pattern of distribution of learning style amongst the medical, dental and B pharma students group is depicted in figure 1, 2 and 3 respectively. This study again shows that the predominant mode of learning is kinesthetic though not significantly more than auditory, visual and read write as shown by studies which

mentions that science and engineering are kinesthetic learners in contrast with business students who are read-write learner.<sup>10</sup> The learning style of student is multimodal though marginally more in our study in each of the group.

## DISCUSSION

This article was planned to study the variation in learning style of students in Rohtak, India. Nowadays much emphasis is being given to the way students are being taught. VARK questionnaire is extensively used by researchers to analyze the learning style of students.<sup>5,6,11,12</sup> There are studies which support the finding that when students are taught in their preferred learning styles students learn better.<sup>13,14</sup> Learners with single learning pattern were considered as unimodal and with more than one learning methods were considered multimodal. The multimodal group was divided into bimodal, trimodal and quadrimodal which contributed a significantly small proportion to the total in our study. The result in our study showed the predominant learning pattern was multimodal in line with result of studies by Erica and Lujan.<sup>15</sup> Our results were in contrast to the result obtained in studies of learning style of first year students by Lujan and Dicarlo.<sup>16</sup> In our study kinesthetic is the predominant mode of learning followed by read-write, auditory and visual. The proportions of kinesthetic students in B Pharma batch are significantly higher than in medical and dental groups while in rest of the groups were not significant.

The results of several studies recently should encourage the teachers to adopt different methods of teaching in order to reach most of the students. The passive lecture format should be avoided as it contributes only a small proportion to the total and is not the choicest mode of learning by most students. Studies done previously on different professional group showed varied preference of learning style by each group.<sup>17,18</sup>

## LIMITATION

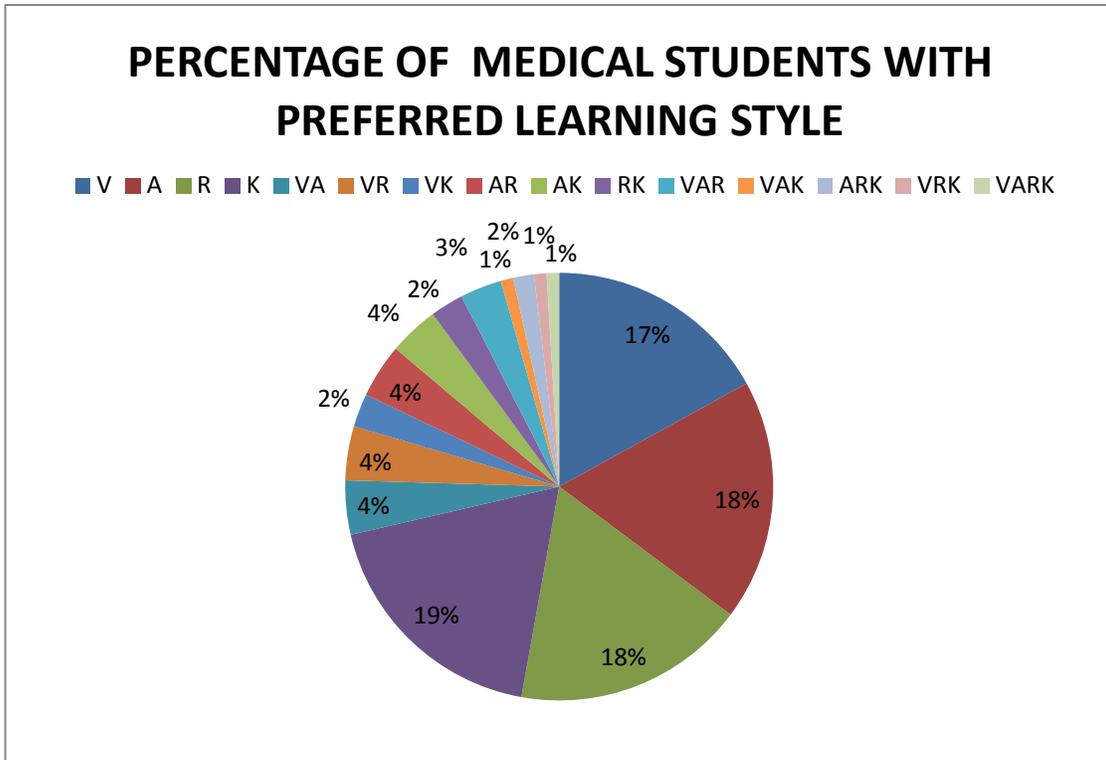


Fig 1.

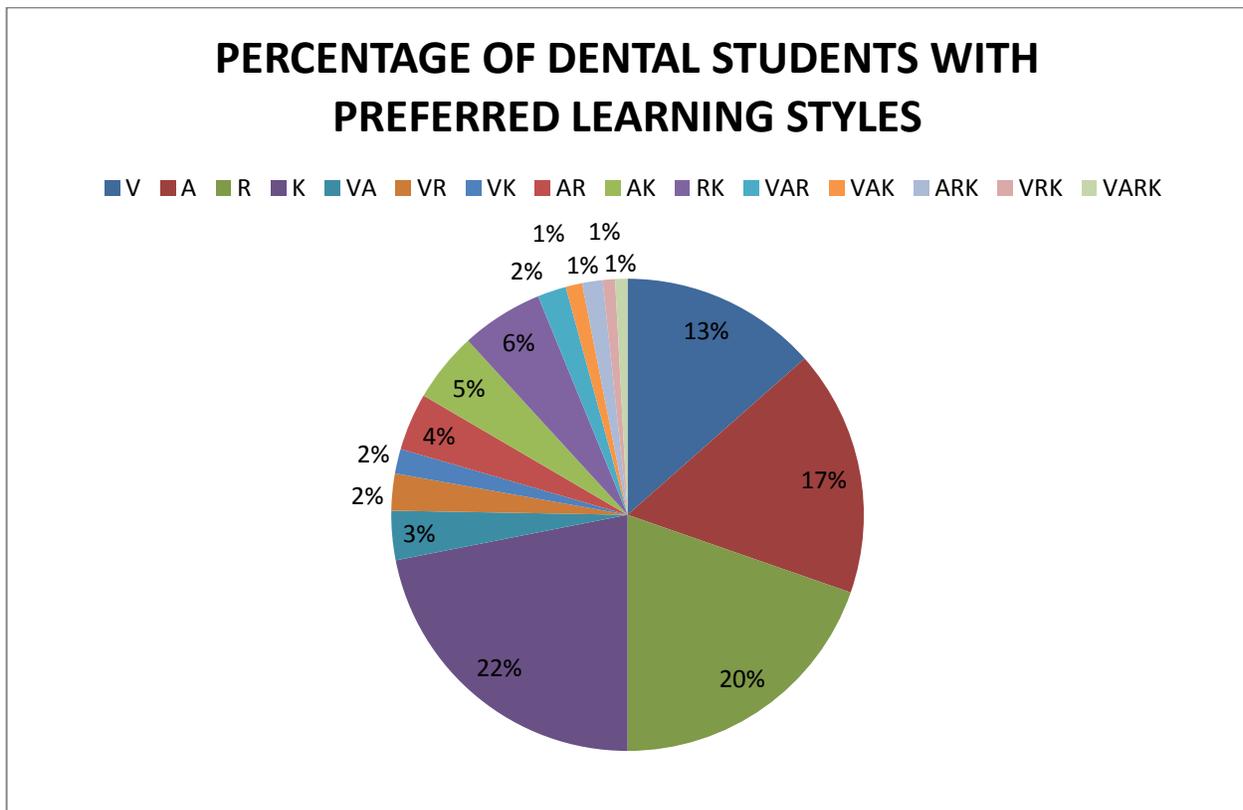


Fig 2.

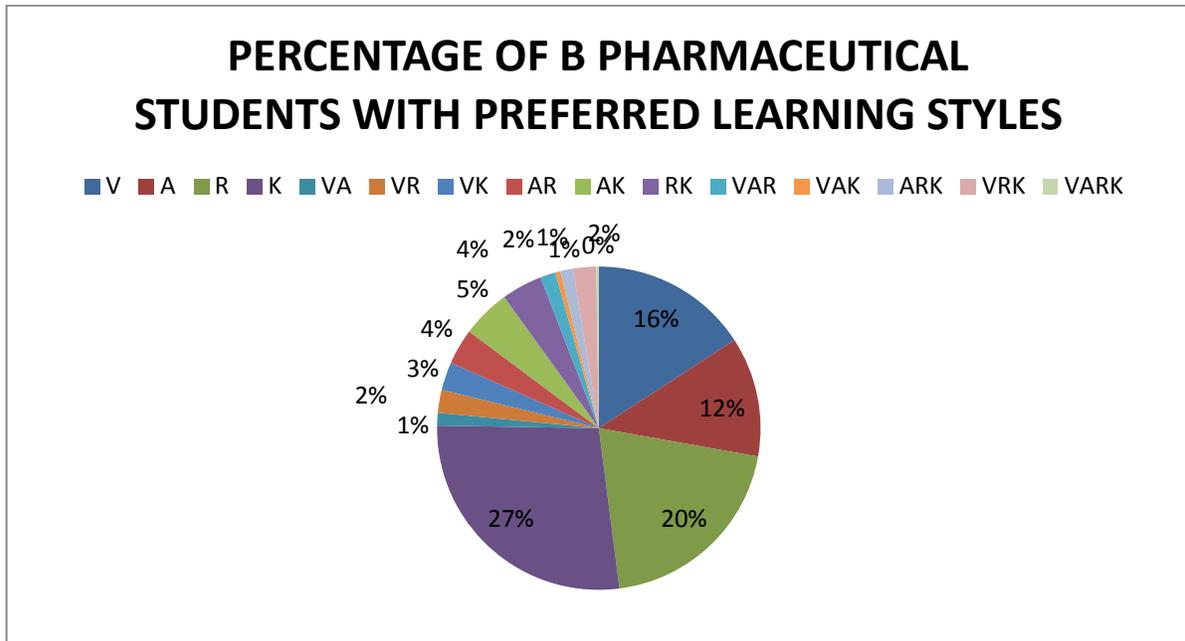


Fig 3.

The VARK analysis is not validated by the statisticians who are yet to find out a method to do so. The second limitation was that sample size could have been larger so as to present a better analysis result. The third limitation was the link between learning pattern and performance in exam was not analyzed as it was a time bound project.

## CONCLUSION

Knowledge about the learning style preference of different profession can help to enhance the teaching method for the students. Our study shows the variation amongst the different groups which can provide information about the way to deliver the subject so that it can be assimilated by most of the students. Lastly few more studies can be undertaken to analyze the finding in a greater sample and implementing the results.

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