

Evaluation of Use of Digital Method In Studying Histology and Pathology among Undergraduate Students of Dentistry

Kiran Kumar¹, Kaveri Hallikeri², Veda Hegde³

Author's Affiliation: ¹Associate professor ²Professor ³Professor and Head, Department of Oral Pathology and Microbiology, SDM College of Dental Sciences & Hospital, Dharwad, Karnataka 580009, India.

Corresponding Author: Kiran Kumar, Associate Professor, Department of Oral Pathology and Microbiology, SDM College of Dental Sciences & Hospital, Dharwad, Karnataka 58000, India.

E-mail: kirankumarop@gmail.com

Abstract

Context: The technological advances have made it possible to turn microscopic slides into digital images which can be viewed on computer screen known as digital microscopy (DM). Recent studies have shown that DM is gaining popularity in multiple academic fields, including dentistry. There are only few studies evaluating the use of DM compared to light microscopy (LM) with reference to dental students. In addition, there is a lack of literature concerning Indian dental students with the use of DM. **Aims:** To compare the DM with LM and assess the usefulness of DM in learning oral histology and pathology among undergraduate dental students. **Setting and analysis used:** A total of 363 students participated in the study. DM method was integrated into practical classes in Oral histology and Oral Pathology. The opinions of the students were collected through questionnaire about the usefulness and compliance to DM compared to LM. **Results:** 80% and above students gave opinion that DM is the best way to study the microscopic slides. However, 91.7% of the students were of the opinion that both LM and DM are required to study the slides and were against totally eliminating the conventional LM method (92%). **Conclusion:** These findings support the implementation of DM as the primary teaching methodology in oral histology and Pathology teaching and at the same time, exposing the students to conventional microscopes and glass slides is also essential to appreciate the concepts of histology and digital images.

Keywords: Digital Microscopy; Light Microscopy; Oral Histology; Oral Pathology; Microscopic Slide.

How to cite this article:

Kiran Kumar, Kaveri Hallikeri, Veda Hegde. Evaluation of Use of Digital Method In Studying Histology and Pathology among Undergraduate Students of Dentistry. Indian J Dent Educ. 2019;12(1):5-10.

Introduction

Light microscopy (LM) has been the conventional method of teaching Histology and Pathology in medical education [1]. Recent advancement in technology has made it possible to convert microscopic glass slides into digital images which can be viewed on a computer screen known as "digital microscopy (DM)" or "virtual microscopy". [2] DM is commonly used in research field but recently it is increasingly gaining popularity in many academic fields including dentistry [3-9]. A number of medical teaching institutions have

already integrated DM into their curriculum [1,10,11]. In most institutions, the response to the introduction of DM has been immensely positive, due to better image quality, ease of navigation while maintaining orientation and better learning through inclusion of digital annotations and legends with additional informational text [3,11,12].

A few studies have described the experiences in introducing DM in dental education [1,2,4,5,8]. However, there are no detailed comparisons between DM and LM with reference to enhancing learning methods among dental students. In addition, there is a lack of literature concerning the