

Speaking for Myself

Compulsory training in ophthalmoscopy as part of undergraduate general medicine training: Need of the hour

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For every doctor, the main priority has traditionally been the care of her/his patient. The Declaration of Geneva states: 'The health of my patient will be my first consideration.' Health itself is defined as a state of physical, mental and social well-being; this state of healthiness however is always relative. Health needs of every society have been different at different times in human evolution. While diseases such as smallpox have been conquered owing to the untiring efforts of medical scientists and doctors, other diseases such as tuberculosis have survived ancient times and continue to remain a major public health problem. Modern society, in addition to age-old diseases such as tuberculosis, faces the added dilemma of lifestyle diseases, chief among which are hypertension and diabetes mellitus. Both these diseases together account for much of human morbidity and mortality in the present era.

The purpose of higher education is to impart skills to respond to the changing needs and demands of society. Hence, skills imparted during undergraduate medical education must address the multiple health challenges posed by diabetes mellitus. Increase in incident cases of diabetes mellitus and improved patient survival have added to the current pandemic proportions of morbidity from this disease. Increase in morbidity is a natural byproduct of improved patient survival in chronic diseases such as diabetes mellitus. There are many organ afflictions in this disease such as nephropathy, neuropathy, increased cardiovascular and neurovascular morbidity and retinopathy. The result of delayed or unrecognized retinopathy is blindness, which is the most feared morbidity of all.

However, blindness from diabetes mellitus is entirely preventable. The goal of preventing blindness in people with diabetes necessitates the detection of retinopathy in its early stages and initiation of prompt treatment. Several methods of screening for diabetic retinopathy have been extensively reviewed in the literature. These include direct ophthalmoscopy, fundus photography and teleradiology. The latter two are technology-driven and need huge human resources to implement and succeed. In contrast, direct ophthalmoscopy is a simple and affordable device that can be learnt by individuals over several hours/few days of training. The sensitivity and specificity of these methods have been debated in the literature. Almost all such studies relegate direct ophthalmoscopy to the last spot, making it an unimportant skill. These statistical analyses are skewed because they are undertaken independent of technological and human resource requirements of other methods.

Several advantages and disadvantages of screening modalities

for diabetic retinopathy have been widely published.¹ It has been shown that direct ophthalmoscopy, done by ophthalmologists and/or technicians, reaches a sensitivity of 80% and a specificity that exceeds 90%, in addition to being low cost.² Although digital photography is the gold standard for diabetic retinopathy screening, it requires special equipment and a pool of trained personnel and equipment, meaning high capital set-up costs.

Telemedicine too suffers from the same disadvantage of high capital costs. In addition, a recent report states that using teleradiology, the rate of ungradable images was 3%–11% for diabetic retinopathy and 13%–22% for diabetic macular oedema. Interestingly, these ungradable images prompted traditional eye examinations for 19%–26% of patients.³ It has been emphasized that one of the most important reasons for the use of telemedicine in ophthalmology is the lack of retina specialists, even in developed countries.⁴

Undergraduate medical students are the most motivated human resource available to any country for imparting skills to improve the health of its society. Ophthalmoscopy is one such skill that, if successfully transferred to all undergraduates, would contribute to reducing the burden of diabetes-associated blindness. Why then has this resource not been tapped? There are many reasons.

Globally, the pattern and burden of diseases has changed over the past half century. In most countries, however, the medical education curriculum is not modified in time to address the changing needs in skill development. There also seems to be a time lag and disconnect between health professionals' recommendations and implementation by policy-makers. Besides these, achieving the objective of skill transfer in ophthalmoscopy suffers from other hurdles. While ophthalmoscopy is considered as a skill specific to the domain of ophthalmology, the time for teaching ophthalmology in the undergraduate curriculum has been drastically reduced.⁵ It is believed that this skill needs to be mastered only during postgraduation, by which time the vast undergraduate human resource is lost forever. Ironically, government and blindness control agencies then spend huge amounts of resources to identify and train a small populace of physicians and other vision technicians to fight diabetic retinopathy. Going by the magnitude and threat of blindness from diabetic retinopathy, this approach seems like too little, too late.

Unfortunately, it is also believed that technology (teleradiology and photography) would be a panacea and hence substitute for human skill development. This belief also seems to have become a barrier for imparting simpler and more cost-effective skills. However, it is important to remember that about 1 in 4 to 1 in 5 patients screened using telemedicine alone would need traditional methods of evaluation for accurate detection and grading of retinopathy.⁶ As it has been rightly asked in one of the editorials

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on diabetic retinopathy screening: 'Are patients going blind while we develop technology and seek investments in instruments and organization?''⁷

If we are to achieve success in reducing the burden of blindness from diabetic retinopathy, then ophthalmoscopy must urgently be made a mandatory component of undergraduate general medicine training. It must be given the same importance as imparting the skill of recording blood pressure. The ability to detect diabetic retinopathy during undergraduate training using ophthalmoscopy must become an integral end-point of undergraduate general medicine examination (and not left to the ophthalmology curriculum alone). Only then, it is likely that early diagnosis of diabetic retinopathy would become possible universally, in both developed and technologically advanced countries and those which are not. This method is not only simple but is possible to implement as a policy within the current structure of medical education and training. This would enable early treatment and reduction in blindness of diabetic retinopathy, which is a priority for all countries under the WHO-sponsored Vision 2020 programme for blindness prevention.⁸

Conflicts of interest. None declared

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Obituaries

Many doctors in India practise medicine in difficult areas under trying circumstances and resist the attraction of better prospects in western countries and in the Middle East. They die without their contributions to our country being acknowledged.

The National Medical Journal of India wishes to recognize the efforts of these doctors. We invite short accounts of the life and work of a recently deceased colleague by a friend, student or relative. The account in about 500 to 1000 words should describe his or her education and training and highlight the achievements as well as disappointments. A photograph should accompany the obituary.

—Editor