Does being a myope reduce opportunities in the Indian armed forces?

Dear Editor,

Myopia has become a serious public health concern of the 21st century and it is predicted that approximately one billion of myopes globally will have high myopia (typically defined as spectacle power of at least − 6.00 Diopters) by the year 2050. In countries like India where the myopia prevalence is gradually increasing, cases with high myopia and pathologic myopia are likely to increase drastically.[1] The development of myopia that typically occurs due to excessive axial elongation of the eye is irreversible and impacts individuals with both direct and indirect costs.[2] While the direct costs include expenses for ophthalmic consultations, spectacles, contact lenses and refractive surgery, the indirect costs are linked with vision loss due to myopia-related ocular complications. Although the pathologic myopia lesions tend to occur even in individuals with low myopia, eyes with high myopia are susceptible to greater ocular stretching and have higher odds of suffering serious myopia-related visually debilitating complications.[3]

One of the less discussed and overlooked indirect cost of myopia is that it makes an individual ineligible for most prestigious and respected positions of the country–the Armed Forces. While there are multiple organizations/industries/domains that impose need for minimum vision standards for entry and retention of individuals in specific professions across the globe,[4,5] we highlight refractive error eligibility in the Indian armed forces context. The Indian armed forces include four professional uniformed services, namely, the Indian army, Indian air force, Indian navy, and Indian coast guard. The aspirants of certain category of soldiers in Indian army, aviation in the Indian navy, certain cadres of pilots in the flying branch of Indian air force are deemed ineligible if they have myopia. For the officer cadres, acceptable range of myopia was considered to be till −5.50 D. Information on requirements related to visual acuity, refractive error, and axial length for various Indian armed forces gathered from different sources is given in Table 1. The best-corrected visual acuity cut-off is kept at 6/6 in Snellen notation for entry into most of the cadres. While the refractive surgeries are permitted

Table 1: Requirements related to visual acuity, refractive error, and axial length for various Indian armed forces

Services	Category	Best-Corrected Visual Acuity	Limits of Myopia (Acceptable - range)	Refractive Surgery and Axial Length Limit	Source
Indian Army	Soldier General Duty, Gunner, Driver and Equivalent Abbreviations as indicated in corresponding source	6/6	Should not have myopia	Not permitted	https://bit.ly/3QXjG5F Date last accessed: 17th AUG 2022
	Army Aviation	6/6	Until−1.00 D Sph and Cylindrical <±1 D	Permitted* AL: <26 mm	
	Officer Entry: Judge Advocate General's/Remount Veterinary Corps/Military Nursing Service/aide-de-camp/Army Medical Corps/Territorial Army	6/6	Until ≤−5.5 D Sph and cylindrical<±2 D	Permitted* AL: <26 mm	
Indian Navy	Officer Entry: Aviation	6/6	Should not have myopia	Permitted* AL: <26 mm	https://bit.ly/3dKcmfr Date last accessed: 17th AUG 2022
	Officer Entry: NDA (Navy)/ NDA (NA)/10+2 (B Tech)/ Commission-Worthy	6/6	Until−0.75 D Sph and Cylindrical <±0.75 D	Not permitted	
	Graduate Entry - Technical/ Branches and Naval Armament Inspection Cadre/ Naval Constructor/Architect/ Law/Logistics/Education/IT/ Musician	6/6	Until−3.5 D Sph and cylindrical <±2.5 D	Permitted* AL: <26 mm	
Indian Airforce	Flying Branch: Fighter (Pilot) including weapon systems officer	6/6 (better eye) and 6/9 (worst eye)	Should not have manifest myopia Retinoscopic myopia: −0.5D	Permitted* AL: <25.5 mm	https://bit.ly/3pvJPwE Date last accessed: 17th AUG 2022
	Ground Duty (Technical and (Non- technical): Aeronautical Engineering (Mechanical)/ (Electronics) and Administration/Administration branch (Air Traffic Controller)/ Fighter Controller)/ Meteorology	6/9	Until−3.50 D Sph and cylindrical <±2.5 D	Permitted* AL: <25.5 mm	
	Ground Duty (Non- technical): Accounts/Logistics/Education Branch	6/6 (better eye) and 6/18 (worst eye)	Until−3.50 D Sph and cylindrical <±2.5 D	Permitted* AL: <25.5 mm.	
Indian Coast Guard	Officer: General Duty/General Duty women-SSA/Pilot Navigator Entry/Commercial Pilot Licence (Short Service)/ Technical Entry	6/6	Not mentioned	Not mentioned	https://bit.ly/3K3Dxh2 Date last accessed: 17th AUG 2022
	Sailor Entry: YANTRIK	6/9 (better eye) and 6/12 (worst eye)	Not mentioned	Not mentioned	
	Sailor Entry: NAVIK (General Duty)	6/6 (better eye) and 6/19 (worst eye)	Not mentioned	Not mentioned	

*Specific clause applicable in relation to type of refractive surgery and magnitude of myopia before surgery

in a few cadres, it is indicated that the axial length should be under 26 mm.

It is sensible to understand that individuals working in the armed forces need to stay fit to survive in toughest conditions and any sudden health-related issues can jeopardize the mission. Therefore, candidates are expected to demonstrate medical fitness that includes meeting the required visual standards that vary depending on the type of position they apply for. It is worth mentioning that a similar eligibility criterion (visual acuity: 6-/6 and myopia of not more than − 1.25 D spherical) is also set in a few schools and colleges (https://164.100.158.23/medical-examination.htm). For the Indian civil services, while the criterion does not strictly include axial length or refractive error limit, it is indicated that high myopes are referred for examination of retinal degenerative changes and the candidates are declared fit in absence of any macular lesion.

Points for consideration

- Given that many young children aspire/dream to join the armed forces, it is important that the stake holders (eye care professionals, children, and parents) are aware of such vision requirements and discuss with the concerned wherever required.
- Now that myopia control strategies are available in the form of environmental (recommendation related to near-work, light, and time outdoors), optical (various new designs of spectacles or contact lenses), or pharmacological interventions (various concentrations of low dose atropine eye drops), it is worth noting that management of myopia progression with appropriate myopia control treatment at an early age can avoid high myopia in adulthood and, additionally, might make them eligible for the Indian armed forces.
- As a few military/sainik schools also indicate an eligibility criterion based on spectacle power, it is important that vision screening and refractive error assessment plans are laid out well and the myopia management is inbuilt into the regular health examination keeping in view of the latest advancements in myopia control.

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Conflicts of interest

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