Correspondence

Widening the gap: could residential 'simulated altitude prehabilitation' exacerbate health inequalities?

We thank Brown et al. for their study on the physiological feasibility of using simulated altitude for prehabilitation [1]. Their work sheds light on an innovative approach that could potentially be integrated into pre-operative care.

As highlighted in the paper by Brown et al., pre-operative anaemia and poor cardiorespiratory fitness are well-known contributors to increased peri-operative morbidity and mortality [2,3]. The significance of addressing these factors for better surgical outcomes should not be underestimated. However, it is crucial to contextualise these considerations within the broader socio-economic determinants of health. People living with disabilities, those from low-income households and people with caregiving responsibilities face heightened health risks, and, consequently, overall lower life expectancies [4,5]. This illustrates the interplay between health outcomes and socio-economic circumstances.

The proposed intervention of simulated altitude, while promising, raises questions about accessibility. A week-long residential altitude simulation may offer a way to overcome the hurdle of people not engaging with prehabilitation for reasons connected with physical activity, but, given its residential nature and the time commitment, this may prove unattainable for individuals who are time-poor or constrained by caring responsibilities or socio-economic circumstances [6]. This leads us to question the fairness of an intervention that risks stratifying patients based on their ability to engage – rather than their healthcare needs.

The question of how finite healthcare resources are best invested connects with ongoing discussions about addressing systemic barriers to engagement. Allocating resources to broader societal support systems, such as social care, paid leave, income support and childcare is a compelling consideration [7] and may be a pre-requisite for patients' participation in interventions that require prolonged time commitment, such as the one described by Brown et al. [1]. Likewise, it is possible that, if these support measures were implemented, more people would engage with 'traditional' exercise-based prehabilitation without the need for such innovations.

The study illustrates the potential of novel advancements in prehabilitation but also inspires reflection on how these innovations intersect with socio-economic realities and potentially create new inequalities. Physiological impacts demonstrated in the laboratory setting will have limited overall benefits on a system level unless they are delivered in a way that is socially and economically feasible for those who are most in need. Balancing physiological efficacy with accessibility and equity is paramount as we continue to shape peri-operative care in a time of increasing economic hardship.

L. Morris
North West School of Anaesthesia,
Manchester, UK
Email: lottemorris@doctors.org.uk

C. Shelton
Wythenshawe Hospital,
Manchester, UK

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