

## Socioeconomic history: The variable that becomes active after MBBS

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Every year, 3.5%–6.2% of the Indian population, i.e. around 65 million people, are pushed into poverty due to healthcare-related out-of-pocket expenditure (OOPE),<sup>1</sup> adding to the 250 million people who are already below the poverty line.<sup>2</sup> With the Pradhan Mantri Jan Arogya Yojana (PMJAY) health insurance scheme crossing 10 million hospitalizations after two years of implementation,<sup>3</sup> it seems less likely that the government will be able to pay for all the healthcare-related OOPE anytime soon. As doctors who can be and want to be advocates for the poor,<sup>4</sup> the responsibility of reducing OOPE does fall on us too.

As an MBBS student, the only time I actually cared about the socioeconomic history was during examinations where it would look bad in the viva if I had not calculated the modified Kuppuswamy score<sup>5</sup> of the patient. In retrospect, I do not think that I had any reason to care. None of the questions that were asked in the theory or the practical examination would have been affected by a different socioeconomic history. It seemed that this variable was either non-existent or useless, as it would have no effect on the crucial decisions that I was making while treating the patient.

For some weeks, I volunteered at the Jan Swasthya Sahyog, Bilaspur, Chhattisgarh, a non-profit organization that operates in central rural India, and for the first time in my MBBS curriculum, have I paid this close attention to the socioeconomic and travel history of the patients. When I was eliciting the socioeconomic and travel history of a patient, the horrors of the Indian healthcare system started to creep out. Having sold all their land and kept their livestock as collateral for loans, patients make a day's journey through the jungle to see a doctor. It is in such times that the mind is filled with a sense of anger and helplessness. Anger as the illness could have been managed more economically and hopelessness because there is nothing that I can do to fix the situation. What then is the best course of action? Being a doctor, my go-to solution is to look for guidelines that would help me make tough decisions. Sadly, none exist, or none that I was expected to learn from my MBBS curriculum.

Poor people are more vulnerable to corrupt practices and do end up paying a large proportion of their income to cover healthcare costs.<sup>6</sup> Moreover, studies have shown that a patient's socioeconomic status does affect the clinical management decisions made by the physician.<sup>7</sup> If the socioeconomic history is a major component of medical history, which clearly affects the health outcomes, then why do no such guidelines exist to assist physicians in making decisions in the best interests of the patients?

One could argue that since socioeconomic histories are

variable, we do not have enough mathematical expertise to tackle such a sensitive question that is riddled with ethical issues. In one such instance, when a patient presented to me with terminal liver cancer, I offered her the grim prognosis of the disease (that the median life expectancy for liver cancer is 11 months and transarterial chemoembolization increases the life expectancy to just 16 months).<sup>8</sup> When I offered this information to the patient, the feeling of immense grief was further exacerbated as she had had to sell all her land in search of a treatment that just did not exist. I thought who would want to go through such financial turmoil just to gain 5 more months of life. Only later did I realize that it was naive of me to assume that just because a patient had a low socioeconomic status she would not be willing to sell all of her land for the pursuit of a slightly longer life, hence putting me in an ethical dilemma. I understand that it is the patient who needs to make the final decision and as doctors our job is to provide unbiased information; however, it is also our duty to nudge our patients into making better decisions even though we cannot make decisions for them, thus further complicating the ethics. How then to account for such varied patient preferences? How do we personalize science that is engineered to find generalizable inferences from individual samples?

However, it is important to note that doctors have been making these complicated decisions for their patients for a long time and will continue to do so with or without help from science or technology. The field of medicine is so complex that in some cases, physicians are unable to make 'assertive' decisions during the unfortunate incident of a family illness, how then can we expect our patients who are mostly poor and uneducated to make truly informed decisions? There does appear to be a silver lining in this domain; while doing a review of the literature for this article, I came across the concept of artificial intelligence (AI)-powered 'assisted decision-making' algorithms that should theoretically help doctors make more conveyable decisions for their patients. For example, the knowledge generated by these AI-driven models could calculate the cost-effectiveness of generic drugs compared to expensive branded ones or whether a particular procedure could save the patient cost, time and labour. While physicians can make these decisions by themselves, the processing power of AI to sort through multiple available options can accelerate and streamline the process.<sup>9</sup> However, at present, the debate is mostly about the ethical ramifications of a technology that is based on four components: accountability and transparency of AI-driven systems, the potential for group harm, misuse of predictive algorithms by insurance companies to deny coverage to high-risk patients and potential conflicts of interest of clinicians as both users and generators of AI-driven data.<sup>9</sup>

Socioeconomic status is a hidden variable during the MBBS curriculum which suddenly becomes important when one starts

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[To cite: Puntambekar V. Socioeconomic history: The variable that becomes active after MBBS. *Natl Med J India* 2022;35:308–9.]

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treating patients. I believe that by then, it is too late to instil concepts that should drive the decision-making process and many physicians form their own personal ethical models of how to deal with this variable. This is an area of interest that the Committees for Medical Education/Curriculum and deans of different medical colleges can tap into to carefully nudge the graduating physicians into making more appropriate decisions for patients.

*Conflicts of interest.* None declared

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