Methods to Improve Knowledge Retention in Medical Students

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I read with interest the article by Timmer, M.C.J., et al., concerning the effect of spaced education on knowledge retention in medical students [1]. Previous study revealed that medical students tend to have poor knowledge retention [2]. It is important for medical educators to adjust the way of teaching and correct this phenomenon.

A recent research in India suggested that spaced education could help medical students in retaining memory [3]. However, Timmer, M.C.J., et al. study showed no improvement in knowledge retention by spaced reinforcement [1]. The outcome differences between the two papers could be mainly attributed to discrepancies in study design, as different styles of spaced education could produce variable results. Smolen, P. et al. had recognized a lack of standardized method to develop spaced education [4]. Systematic review would be useful to summarize the experiments and investigate the best approach in medical education.

We could also consider incorporating clinical medicine contents into basic science courses. Basic science lectures were usually delivered by scholars in biomedical science field. Medical students may find it difficult to integrate them with clinical knowledge [5]. They would only have a short-term memory on the essential parts to pass summative examinations. To deliver a comprehensive image of medical science,

pre-clinical lecture contents should be jointly developed by basic science scholars and clinicians. For example, after teaching the heme degradation pathway, we could introduce the related medical conditions, such as jaundice. Medical students could better relate their memory on basic science topics during clinical years.

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