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Exploring the transition from pre-university education to undergraduate medical school

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I. INTRODUCTION

The transition from pre-university education to medical school marks the first significant change medical professionals face in the medical education continuum, and is deemed as a remarkable stressor (Sá et al., 2021). This paper seeks to explore the experiences of incoming students in further detail, noting that current literature focuses predominantly on the transition from pre-clinical to clinical years instead. These findings may offer valuable insight for medical educators to incite change in the current medical curriculum that would foster a smoother transition.

II. METHODS

This study employed a qualitative approach in obtaining data to capture expressive information. Individual semi-structured interviews were conducted (Appendix 1) with 11 first-year medical students with voluntary sampling. Informed consent was obtained from all participants to gather information surrounding predetermined questions while also allowing for exploration of new topics, in an

individual setting that would allow participants to express themselves freely. Thematic analysis was then used to analyse the transcribed data deductively with the Westerman framework. Other frameworks considered include Tinto's Model of Student Integration and Mezirow's Transformative Learning Theory, but these were ultimately not chosen due to their dated nature and lack of direct applicability to the medical context. Furthermore, the Westerman framework uniquely provides clear guidelines on how to incite future change. Westerman's conceptual framework describes how "novel disruptive elements (first theme) due to the transition from pre-university to undergraduate medical school are perceived and acted on (second theme), and how this directs new medical students' personal development (third theme)" (Westerman et al., 2010).

III. RESULTS

The themes that surfaced from the data are presented in alignment with the transitional context and the related tasks students encountered (Table 1).

Domain	Challenge	New Task/Adaptation
Disruptive novel elements (First Theme)	Adapting to a new pedagogy	Self-directed learning, dealing with increased workload
	Increased number of social activities	Balancing work and social life
Perceptions and coping strategies (Second Theme)	Perceived inadequate preparation	Seeking support/guidance
Personal development and outcomes (Third theme)	Accepting the new reality: gradual process	Building resilience, finding a community

Table 1. Overview of the challenges and adaptations identified by the participants

IV. DISCUSSION

A. Theme One: Disruptive Novel Elements

Firstly, participants described their experiences in adapting to a new pedagogy, from Conventional Didactic Learning (CDL) to Team-Based Learning (TBL). While numerous studies confirm TBL's superior effectiveness and engagement over CDL, participants in this study faced hurdles in adjusting their learning methods.

Participants discovered that a lot of the learning had to be self-directed, with little to no guidance from the school. This left them uncertain about expectations and the 'proper' way to prepare for the TBLs. This feeling is similar to other studies performed in Western societies (Malau-Aduli et al., 2020).

"I also didn't know how to prepare because, the lessons are completely new. It was quite overwhelming."

Male #1

Participants also expressed that the sheer volume of content was quite overwhelming, marking a significant leap from their experience in secondary education.

Secondly, participants discussed how the increased number of social activities influenced their transition experience. Some found it tough to balance their academic commitments and social life, a challenge exacerbated by the lack of structured timetables and the influx of social events.

Naturally, participants felt some apprehension upon entering medical school, aware that each year it attracts the nation's most intelligent. However, they experienced a sense of solidarity when they realised that their peers were not markedly smarter or more skilled than they were. It is natural for individuals to unite and support one another during such challenging times, which is mirrored in studies analysing the transition from pre-clinical to clinical years of training.

B. Theme Two: Perceptions and Coping Strategies

First-year medical students often bring preconceptions shaped by prior life experiences into university (Kang et al., 2021) and this influences both their self-perception and their transition experience. Participants with family members who are doctors, seemed better mentally prepared for the rigours of medical education and career while first-in-family doctors were more surprised by the intensity of the workload.

To navigate these changes, participants began to seek avenues for support and guidance, and found that they were readily able to do so within both the school and the broader medical community. While trust among healthcare workers is a cornerstone of efficient interprofessional collaboration and teamwork there is limited literature on how this can be nurtured.

"If I approach my seniors they are really nice about it, even those who are 3 years into being a doctor... it's cool."

Female #1

C. Theme Three: Personal Development and Outcomes

Despite being in the early stages of their medical journey, participants already feel driven to excel and manage this significant change in their lives. They exhibit a clear endeavour to cultivate resilience, which mirrors the typical profile of students medical school tends to attract: those fuelled by a deep sense of purpose in the profession, and who are thus willing to invest the necessary effort to succeed.

Transitional periods within the medical education continuum invariably come with heightened stress levels as students experience constant evolutions of their professional roles and identities. Considering that stress can hinder learning, educators are advised to better educate and prepare students for these shifts, thereby

facilitating a smoother transition. Even if students do not raise their concerns to the teaching faculty, it might stem from placing trust in the educational system, even within suboptimal learning environments. This can lead to cognitive dissonance, which students might resolve through rationalisation. Recognising that the transition into medical school carries significant mental health implications for students is something educators must consider (Nyquist, 2011).

D. Strengths and Limitations

There is a noticeable lack of research focusing on the transition from pre-university to undergraduate medical education. This report begins to bridge this gap. Additionally, by incorporating the distinct cultural context of Singapore, it offers an Asian perspective in the field of medical education that has been predominantly influenced by Western viewpoints.

The sample size for this study is limited, and the perspectives gathered may not comprehensively represent the broader Year 1 undergraduate medical school population. Further studies may look into gathering data from other local medical schools in Singapore or Southeast Asia or explore clinical educator's perspectives on balancing altering the curriculum to ease the transition period with meeting the demands of the universities in producing competent doctors.

V. CONCLUSION

For most, studying medicine is a cherished dream. Although the transition presents many challenges, it also offers enriching and positive experiences. Students have their own motivations and coping strategies to navigate this phase, but no matter how adeptly they seem to handle the transition, there remains an ever-present role for educators to improve this process.

Notes on Contributors

Prabanjini Rajkumar is a fourth year medical student at the Lee Kong Chian School of Medicine. She carried out the review of literature, conduction of interviews, analysis and coding of transcripts and the writing of the manuscript.

Dr. Lucy Wilding is a Senior Lecturer in Medical Education and serves as the Assistant Dean for Years 1 and 2 at the Lee Kong Chian School of Medicine. Dr. Wilding conceived the topic and nature of this study. She

has provided invaluable expertise and guidance in shaping its direction.

Ethical Approval

The study was approved and IRB number for this paper is IRB-2023-348, with the Review Board being NTU (Nanyang Technological University) Institutional Review Board.

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Declaration of Interest

All authors have no potential conflicts of interest.

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Appendix 1: Interview questions

1. Please tell us a bit about yourself and your background (eg JC, poly, A levels/IB/other)
2. Please share with us how and why you decided you wanted to pursue medicine
3. Please share the journey you took to get here (i.e. medical school)
4. Please share some of the anxieties you experienced prior to starting medical school (are these still present?)
5. Please share some of your experiences so far (eg transitioning from JC/poly to LKCmed, positive and challenging)
6. Please share the most challenging parts of this transition
7. Please share the most positive and enriching parts of this transition
8. Please share your favourite things about medical school thus far
9. Please share how your expectations (what were they?) of medical school have compared to your experience
10. Please share how you have found adapting to a new pedagogy (TBL)
11. Please share how you are coping so far and what is affecting this (if anything)
12. Please share what you feel could be beneficial in easing the transition to medical school
13. Is there anything else you would like us to know?
14. Do you have any questions for us?