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Podcasting as an adjunct learning strategy in paediatric teaching for medical students

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Abstract

Aims
Determine patterns of undergraduate student use and general user experience of a ten-part custom-designed Paediatric podcast series.

Methods
Patterns of use and learning styles were determined by anonymous student survey.

Results
Of 75 students, 66 (88%) completed the survey; 38 (58%) being non-native English speakers. 49 (74%) listened to at least one episode (median 5 episodes). Users reported high levels of satisfaction with audio quality and ease of use. 37 (76%) agreed the podcast helped them to learn core topics. 9 (18%) students listened solely during "dedicated study time", with the majority (n=39; 80%) using a mobile-learning approach. 19 (39%) used closed captioning with 14 (74%) rating it "useful". Time constraint was the most frequently cited reason for non-engagement.

Conclusion
Podcasts are a welcome learning resource for a diverse cohort of medical students.

Introduction

Podcasting is used increasingly as an educational medium in clinical training settings, as learners aim to supplement their education with asynchronous exposure. Although most medical education (ME) podcasts target postgraduate learners, undergraduates represent significant consumers[1]. However, uncertainties remain about widespread integration into curricula[2]. Reported barriers to uptake amongst postgraduate learners include time, navigation difficulties, and credibility[3]; concerns which may be exacerbated in the

undergraduate population. This study aimed to determine patterns of use and user experience of a custom-designed Paediatric podcast series.

Methods

Ten audio-only podcasts were created to complement existing module curriculum. Topics included module orientation, history taking, examination skills and common Paediatric conditions. Mean podcast duration was 15 minutes (range 7-21). Technical set-up consisted of a laptop, basic headset and free open-source audio software (Audacity, Version 3.7. Muse Group, Limassol). Music was sourced from royalty-free platforms. Equipment limitations necessitated a single-speaker format. Medical students and Consultant Paediatricians reviewed podcast scripts and recordings pre-release. Finalised podcasts were accessible via university online learning platform, with optional closed captions (CC). Creators did not have specific media or technology training.

Students who completed their six-week Paediatrics clerkship in May 2023 were invited to complete an anonymous survey recording information on podcast use, English language proficiency and responses to statements using five-point Likert scale.

Results

Student engagement

Of the 74 students, 66 (88%) completed and returned the survey. 49 (74%) students listened to at least one podcast episode (median 5 episodes). 32 (65%) students listened to five or more episodes, with 9 (18%) listening to all ten episodes. 22 (33%) students listened to other ME podcasts.

Impact of English language proficiency

28 (42%) students were native English speakers (NES). 38 (58%) were non-native English speakers (NNES) with 26 (39%) being “fluent”. 23 (82%) NES engaged with the podcasts, compared with 26 (68%) NNES. There was no statistically significant association between listenership and level of English language proficiency (X^2 (1, N = 66) = 1.58, p = 0.21). 19 (39%) students used CC; 14 (74%) agreed they were “useful”. Similar CC usage was reported among native and fluent speakers (39% and 35%, respectively).

Patterns of use and user experience

44 (90%) students agreed that podcast length was appropriate. 45 (92%) students agreed that the audio quality was satisfactory. 39 (80%) students accessed podcasts 'on-the-go' (e.g. while commuting, exercising), with 23 (47%) listening solely during mobile-learning times. 9 (18%) students listened solely during "dedicated study time". 41 (62%) students preferred single-speaker format. 6 (9%) preferred multiple-speaker format, with 16 (24%) opting for a combination of both formats. 37 (76%) students reported the podcasts were "useful" in learning core Paediatric topics. 32 (65%) respondents agreed with the statement: *"The podcasts helped increase my confidence towards Paediatrics as a subject."* 34 (87%) students indicated that following engagement with the podcast series, they were more likely to seek out educational podcasts in the future.

Barriers to podcast use

The most frequently cited reason for lack of engagement was time constraints (94%, n=16); the second most common being lack of interest in ME podcasts (24%, n=4). No students indicated language barrier as a reason for non-engagement.

Discussion

The results of this pilot project contribute up-to-date data and insights into ME podcast use and preferences amongst undergraduates. Reported preference for mobile learning and single-speaker format represents a divergence from previous research[3, 4] and likely reflects modern digital landscapes where short-form rapid-content consumption dominates.[5] Whilst benefit of CC in video material has been reported[6], few data exist on CC use in podcasts. Our study demonstrated similar CC usage rates among both native and non-native English speakers, indicating that demand may extend beyond language considerations.

The two-stage review process revealed interesting insights. Whilst faculty reviewers predictably focused on clinical aspects of podcast content, student-reviewers also commented on technical production aspects (e.g. sound quality, pacing, musical elements), illustrating their high technical literacy and position as valuable collaborators in digital education innovations. Although audio quality is important to listeners[3], high satisfaction rates reported in our study supports the feasibility of low-fidelity podcasting. Apart from small sample size, the most significant limitation in our study is reporting of Kirkpatrick Level 1: Reaction[7] outcomes only.

We have shown how clinician-educators can successfully collaborate with students to create their own podcast project with minimal resources and experience. Continual global growth in

podcast listenership predicts longevity[8] with influential medical journals (e.g. NEJM, BMJ) now adopting the modality. However, the time commitment necessary to create high-quality content makes institutional support in the form of time allocation, funding sources and, formal recognition of digital scholarship, vital for project sustainability and success.

Declarations of Conflicts of Interest:
None declared.

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