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The Interest of Generation Z Medicine Students in Entrepreneurship: A Cross-Sectional Study

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Dear Editor,

In recent years, the profile of medical students has undergone notable transformations worldwide. These changes are especially evident in Generation Z, which includes individuals born between the mid-1990s and early 2010s. This generation is characterized by its immersion in digital technologies, an emphasis on well-being, and distinct expectations regarding career trajectories and work-life balance^{1,2}.

In Brazil, the medical education landscape has undergone rapid expansion, with over 340 medical schools established by 2020³. While this expansion has improved access, it has also intensified competition in the labor market, fostering new professional strategies among future physicians. In particular, students have increasingly expressed interest in non-traditional career pathways, including entrepreneurship and health technology, which contrast with the historically linear trajectory of medical residency and specialization.

The literature suggests that Generation Z learners are less willing to accept the excessive workload and hierarchical structures traditionally associated with medical practice. Instead, they tend to prioritize autonomy, flexibility, and quality of life, often seeking professional opportunities that allow them to reconcile medical practice with personal values and broader interests⁴⁻⁶. These shifts pose significant challenges to medical educators and institutions, demanding curricular adaptations that incorporate themes such as innovation, digital health, and leadership⁸.

Despite this growing interest, few Brazilian studies have examined the entrepreneurial intentions of medical students, particularly within private institutions, which comprise a significant portion of the national medical education system. This article presents findings from a cross-sectional study conducted with medical students at a private university in Minas Gerais, Brazil. The aim was to explore their professional interests—particularly regarding entrepreneurship and specialization—while also assessing their expectations around quality of life and financial success. These findings aim to contribute to the ongoing discussion on how medical schools should prepare future physicians for a rapidly evolving and pluralistic healthcare landscape.

The study was conducted between October 2022 and April 2023 using an electronic questionnaire distributed via Google Forms. The questionnaire primarily included closed-ended questions about professional intentions after graduation, with some open-ended items for students to share additional opinions. All students enrolled in the medical program - regardless of year - who were 18 years or older were invited to participate. The sample size was estimated at a 95% confidence level and 80% power. Based on the total number of medical students at the institution ($N \approx 900$), the minimum required sample size was 270 participants. The study was approved by the Ethics Committee, and informed consent was obtained from all participants.

A total of 272 responses were collected, representing students across all years of the medical program. The largest group (19%) was in the fifth year, while only 0.2% were in the tenth year. Among respondents, 92.3% were aged between 18 and 25 years, 73.9% were female, and 81.6% self-identified as white, with 2.6% identifying as Black. These demographics are consistent with national data on Brazilian medical students^{3,10}. Regarding professional goals, 97% reported plans to pursue medical residency, 43% intended to specialize in a specific area, and 35% expressed interest in entrepreneurship after graduation.

Students were also asked about their perceptions related to quality of life and career expectations: 76.5% reported a desire to balance professional work with quality of life; 73% believed they would achieve financial success through their medical careers; and 29% ex-

plicitly prioritized quality of life, with a strong emphasis on mental and emotional health^{5,6,9}.

This study provides insight into the professional expectations and motivations of Generation Z medical students enrolled at a private institution in Brazil. The findings align with the broader literature, which characterizes this generation as highly engaged with personal well-being, innovation, and non-linear career trajectories^{1,4}.

As expected, most participants expressed a strong intent to pursue medical residency (97%) and specialization (43%) - choices that remain foundational in the professional pathway of Brazilian physicians³. These preferences likely reflect the high competitiveness and saturation of the medical labor market, where specialization is perceived as a strategic advantage for securing stable employment, higher income, and professional recognition. This trend mirrors findings from other countries, where early-career physicians view postgraduate training as essential to navigating increasingly complex healthcare systems^{1,4,6}.

At the same time, the data reveal a notable proportion of students' interest in entrepreneurship (35%), suggesting a shift in how young physicians perceive the structure and possibilities of medical practice. This interest aligns with emerging global discussions about the role of entrepreneurial thinking in medicine, which promotes autonomy, innovation, and new models of care delivery^{7,8}. Entrepreneurship also provides opportunities to design flexible work arrangements and develop niche services - appealing features for a generation that seeks to balance professional achievement with mental and emotional health^{5,9}.

Importantly, 76.5% of respondents indicated a desire to balance work with quality of life, and nearly one-third (29%) explicitly prioritized quality of life in their career plans. These data resonate with a growing body of evidence pointing to high rates of burnout, emotional distress, and dissatisfaction among medical students and early-career physicians^{5,6}. Generation Z has demonstrated a lower tolerance for rigid, high-pressure environments, favoring contexts that promote personal fulfillment and holistic well-being².

While the emphasis on residency suggests that traditional career routes remain central, the parallel interest in entrepreneurship and well-being signals a pluralization of professional aspirations. These results underscore the need for medical education institutions to reassess their curricula and support systems. Educational strategies must evolve to accommodate these changes by integrating elective courses on innovation, entrepreneurship, and digital health, as well as strengthening content on leadership, management, and self-care^{11,12}.

Additionally, the data suggest the relevance of offering interdisciplinary learning environments that connect clinical knowledge with broader societal and technological contexts. International literature has highlighted the importance of exposing students early to health systems innovation, startup ecosystems, and applied problem-solving methodologies, such as design thinking and lean startup models^{7,8}. These frameworks can help prepare students not only for clinical excellence but also for leadership in transforming healthcare delivery.

Beyond curricular change, the emphasis on quality of life and emotional well-being must be met with institutional strategies that foster supportive learning environments and promote mental health. This includes revision of pedagogical approaches, assessment systems, and the structure of academic counseling and mentorship programs. Students' aspirations for autonomy and emotional balance must be met with responsive policies and educational cultures that affirm their values and prepare them for diverse career paths.

This study is limited by its cross-sectional design and reliance on self-reported data, which may introduce social desirability bias. Additionally, the results reflect the context of a single private institution, which may limit broader generalizability. Future research should explore these themes using larger, multicenter samples and validated instruments, enabling more robust comparisons across contexts and subgroups. Qualitative methods may also enrich the understanding of students' motivations, identities, and career decision-making processes.

By embracing the complexity of Generation Z's professional interests, medical education may benefit from evolving toward more inclusive, flexible, and future-oriented training models - ones that align with the aspirations of the new generation of physicians and the demands of contemporary healthcare.

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