



UTILITY, TRENDS, AND DETERMINANTS OF MOBILE HEALTH APPS AND ACCESSORIES AMONG MEDICAL STUDENTS: A CROSS-SECTIONAL STUDY.

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ABSTRACT **Background:** Digital health offers transformative potential in prevention, diagnosis, and disease management. Mobile health apps and smart accessories are gaining popularity among young populations, especially medical students. This study explored the usage trends, attitudes, and perceptions of medical students towards mobile health apps in Hyderabad. **Methods:** A cross-sectional study was conducted from August to September 2023 among 750 undergraduate medical students selected through simple random sampling. Data were collected using a structured questionnaire via Google Forms and analyzed to determine utility patterns, attitudes, and perceptions. **Results:** The majority were aware of mobile health apps and accessories, primarily using them for physical activity tracking. Most respondents expressed positive attitudes towards health apps, perceiving them as beneficial for general health and well-being. About 4% of students reported chronic illnesses, and 2% reported mental illnesses. **Conclusion:** Mobile health apps and accessories are widely used among medical students, reflecting a growing acceptance and positive outlook towards digital health tools. These findings underscore the potential for incorporating mobile health apps into student wellness and preventive health programs.

KEYWORDS : Mobile health apps, Digital health, Medical students, Perceptions, Wearables

INTRODUCTION

Digital technology offers tremendous potential for improving the prevention, diagnosis and management of disease. Digital health is poised to transform health care and redefine personalised health. The proliferation of smartphones and internet access has resulted in widespread availability of mobile health applications (mHealth apps) and smart accessories. These apps range from fitness trackers to clinical decision support tools and have shown promise in improving self-care, health literacy, and adherence to healthy behaviors.

Medical students, being early adopters of technology, represent a crucial group to study, as their usage patterns and attitudes may influence future adoption of digital health innovations in clinical practice. However, in India, limited research exists on the actual trends, perceptions, and determinants of mobile health app usage among medical students. This study was conducted to explore these aspects among medical students in Hyderabad, Telangana.

Objectives:

1. To study the socio demographic profile of study population.
2. To determine the utility trends , attitudes and perceptions of mobile health apps and accessories in study population.

METHODOLOGY

Study Design: Cross sectional study

Period of Study: Aug-Sep 2023

Place Of Study: Hyderabad, Telangana

Study Population: Undergraduate Medical Students

Study Sample: 750

Data Collection: A self-structured questionnaire was used to assess awareness, perceptions, and utility trends of mobile health apps and accessories. Data were collected online via Google Forms after obtaining informed consent.

Table-1: Demographic Profile Of Participants

	CATEGORY	NO. (n)
Age	18 years	178
	19 years	168
	20 years	174
	21 years	118
	22 years	58
	23 years	34
Gender	Male	306
	Female	426
Monthly family income (in rupees)	>1,85,895	26

	1,85,894 - 92,951	114
	92,950 - 69,535	103
	69,534 - 46,475	115
	46,474 - 27,838	88
	27,837 - 9,308	176
	<9,307	110

Table – 2: Attitudes & Perceptions Towards Mobile Health APPS

Statements	Disagree (%)	Neutral (%)	Agree (%)
mHealth apps are useful for health improvement?	5.8	45.5	48.8
mHealth apps are easy to use?	5.8	35.6	58.5
Easy to track my health	7.4	44.8	47.8
mHealth apps made my routine systematic	11.8	53.4	34.9
Saves lot of medical costs /expenditure	15.2	46.2	38.6
mHealth apps are too costly	30	50.8	19.2
I dont trust mHealth apps on data privacy	15.5	53.5	30.9
I didn't get expected results/ benefits	18.9	61.6	19.5
I dont find the mHealth apps are accurate	15.9	55.1	29

RESULTS

Out of 750 participants, 42 percent were male participants and 58 percent were females. The mean age of the participants was 19.75 ± 1.44 years. 4% reported having chronic illnesses, while 2% reported mental illnesses. The majority of respondents were aware of health apps and accessories, with most using them to track physical activity, monitor diet, or record sleep cycles. Usage of wearables such as fitness bands and smartwatches was also reported. 52% of participants were using any one of the smart wearables. Attitudes towards mobile health apps were predominantly positive, with students acknowledging their usefulness in promoting a healthy lifestyle.

DISCUSSION

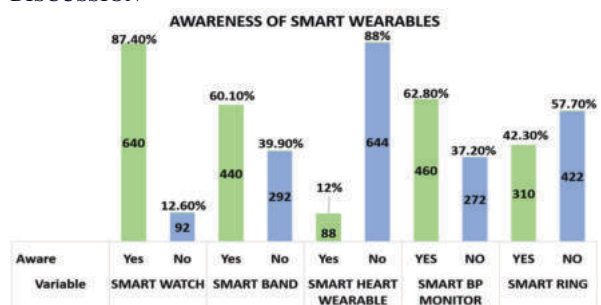


Figure – 1: Column Chart Showing Awareness Of Smart Wearables

This study highlights the growing penetration of mobile health applications and accessories among medical students in Hyderabad. The findings are consistent with studies conducted globally. For instance, Bort-Roig et al. (2014) reported that smartphone technology can effectively influence physical activity patterns, aligning with our finding that most students used apps for activity tracking. Similarly, Cho et al. (2014) demonstrated the utility of smartphone-based applications in disease management, which supports our observation that students recognized the potential of apps in promoting general health.

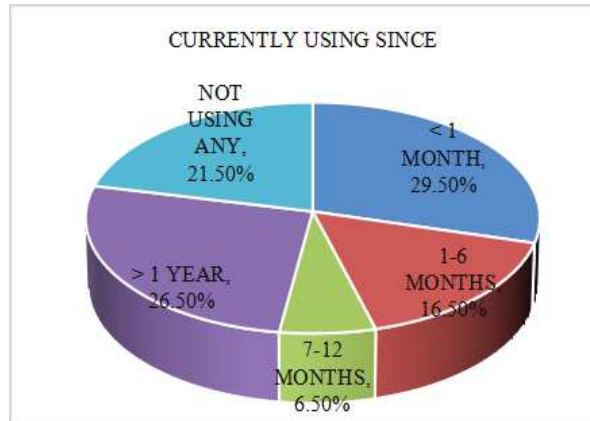


Figure – 2: PIE Chart Showing Current Use Of Smart Wearables Among Participants

In the Indian context, a study from central Karnataka found that more than half of medical students used nutrition-related health apps, typically for 30–60 minutes daily. However, only 19% found these apps genuinely useful, and satisfaction with app information was low. These findings mirror our own observations of high awareness and frequent usage, but they also highlight concerns regarding reliability and quality of app content.

Comparable findings were also reported in Malaysia by Jembai et al. (2022), where the majority of medical students were aware of mobile health apps, demonstrated positive attitudes towards their usage, and used them for health-related purposes. Both our study and theirs emphasize that medical students-being digitally literate and health-conscious-are early adopters of mHealth tools. However, their study also noted barriers such as uncertainty about which apps are most suitable, a theme less pronounced in our cohort.

The Egyptian study during the COVID-19 pandemic further showed how reliance on mobile applications increased during lockdown, especially for learning and remote support. This aligns with the global shift toward mobile learning and health technology adoption during crises.

Overall, our study underscores the positive perceptions and growing role of mobile health technologies among medical students. This represents an opportunity for policymakers and educators to integrate digital health tools into student wellness programs and professional training.

CONCLUSIONS

The regular use of mobile health apps and accessories is common among medical students in Hyderabad. Students displayed high levels of awareness and positive attitudes towards these tools, using them mainly for health tracking and well-being enhancement. These findings suggest that mHealth apps can play a significant role in fostering preventive health behaviors among the future healthcare workforce.

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