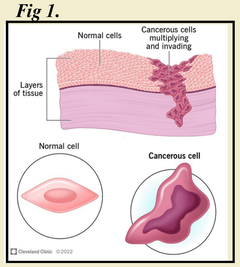
THE STUDY ON USAGE OF MOBILE HEALTH TECHNOLOGY APPLICATION FOR EARLY SCREENING AND DETECTION OF CANCER IN INDIA

SUBMITTED BY: Dr. Laxmi Singh [PG/24/048]

MENTOR: Dr. Rupsa Banerjee

INTRODUCTION

Fig 1.



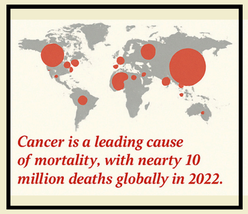


Fig 2.

- **The burden of cancer is rising globally, placing huge physical, psychological, and monetary strain on people, families, communities, and health systems.**[1]
- **Disparities in prevention, early detection, and treatment access worsen outcomes, especially for marginalized groups**.[2]
- **Cancer is a leading cause of death in India, with over 11.5 lakh new cases and nearly 7.8 lakh deaths reported annually. Despite this burden, 75–80% of patients are diagnosed at advanced stages (Stage 3 or 4)**.[3]
- **With high cancer mortality rates and a predicted rise in incidence, there is a pressing need to harness digital tools to improve awareness, facilitate early detection, and reduce the burden on healthcare systems**.[3][4]

OBJECTIVES

- **To understand the knowledge and perception that people have for the mobile health technology for cancer and its early screening methods in the age group of 18-60 years.**

METHODOLOGY

- **<u>Study Design</u>: DESCRIPTIVE CROSS- SECTIONAL STUDY**
- **<u>Tool</u>: Structured, self-administered online questionnaire**
- **<u>Distribution</u>: Google Forms via WhatsApp, Instagram & LinkedIn**
- **<u>Study Population</u>: Indian residents aged 18–60 years**
- **<u>Sample Size</u>: 384 respondents (Cochran formula)**

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{e^2}$$

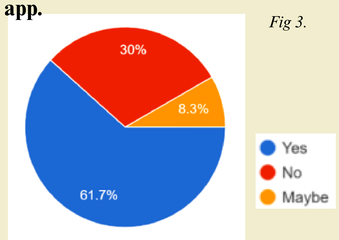
- **<u>Sampling Method:</u> Convenience sampling**
- **<u>Study Duration</u>: May 10 – June 21, 2025**
- **<u>Inclusion Criteria</u>: Indian residents (18–60 years);**
- **Access to smartphone and internet**
- **<u>Exclusion Criteria</u>: Healthcare professionals; Individuals outside the specified age group**

RESULTS

- Our online survey received responses from 392 individuals in total. The analysis was conducted on 388 Indian homes.
- **Age Distribution:** The majority (72%) were between the ages of 18 and 30 years, followed by 11% who were in the 50–60 age group.
- **Gender Distribution:** 45% males and 55% females.
- **Employment Status:** 51% were employed full-time, 26% were students, and approximately 10% were working as freelancers

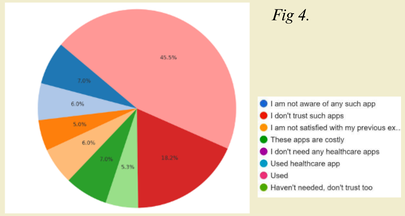
***Awareness of various healthcare apps:** **61.7% of the respondents used the healthcare apps and only 30% are those who have not used any of the healthcare app.**

Fig 3.



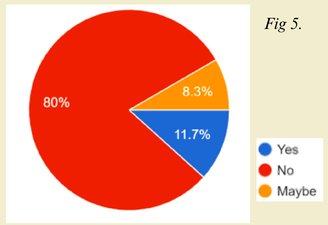
*** Reason for not using healthcare apps:** **Respondents (45.5%) of overall thinks that they don't need any healthcare apps and 18.2% are those people who are not at all aware about the healthcare apps.**

Fig 4.



***Early screening and detection of cancer through apps :** **80% of respondents were unaware of cancer detection apps, while only 11.7% knew such features existed.**

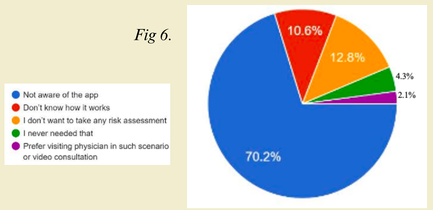
Fig 5.



*** Ever taken the self-test through any mHealth apps:** **Only 18.3% of respondents had ever taken any form of self-assessment through mHealth apps.**

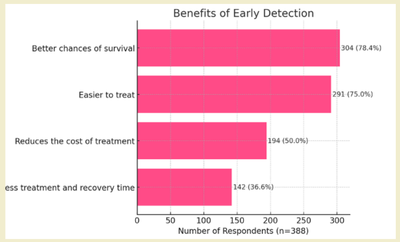
***Reason for not taking self-test (among non-users):** **70.2% didn't take self-tests due to lack of awareness, 12.8% due to unfamiliarity with app functions, and others cited distrust or no perceived need.**

Fig 6.



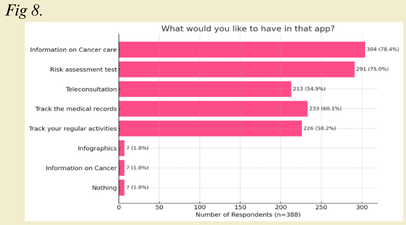
*** Benefits of early detection on the basis of respondent's viewpoint :** **Better survival (78.3%) and easier treatment (75%) were top perceived benefits of early detection, followed by lower costs (50%) and faster recovery (36.5%).**

Fig 7



***Feature the respondents want in App:** **Most desired app features were cancer info (78.4%), risk tests (75%), record tracking (60.1%), activity tracking (58.2%), and teleconsultation (54.9%), with only 1.8% uninterested.**

- *Fig 8.*



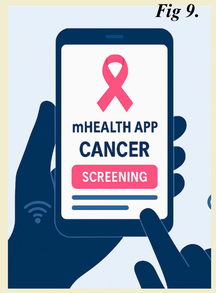
CONCLUSION

- **Cancer is highly treatable if detected early, but awareness and screening rates remain critically low in India.**
- **Mobile health (mHealth) apps offer crucial support in remote and rural areas with limited healthcare infrastructure.**
- **Only 11.7% of respondents were aware of mHealth apps for cancer screening, indicating a major awareness gap.**
- **Nearly 70% of participants showed willingness to use cancer-related mHealth apps, suggesting strong adoption potential.**
- **Early detection strategies like app-based symptom tracking and self-assessments can aid faster diagnosis and reduce delays.**
- **mHealth bridges cancer care gaps by offering education, reminders, and self-screening support—especially in LMICs.**

LIMITATION

- **Digital divide, sample bias, and lack of qualitative depth may limit generalizability of results.**
- **Tech Access Assumption: Assumes all respondents have internet/smartphone access, which may not apply to underserved groups..**

Fig 9.



RECOMMENDATIONS

- **Expand the study population to ensure diverse, representative, and statistically significant insights into mHealth perspectives.**
- **Assess users' knowledge of mHealth technology to guide targeted awareness campaigns.**
- **Focus on optimizing mHealth apps by integrating essential, user-driven features that enhance affordability and accessibility.**
- **mHealth apps should be user-friendly and multilingual to support easy adoption, especially among users with low digital literacy.**[4]

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1. **Indian Council of Medical Research. (2020). National Cancer Registry Programme Report 2020. ICMR.**
2. **World Health Organization. (2019). Recommendations on digital interventions for health system strengthening. WHO. https://www.who.int/publications/i/item/9789241550505**
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