

A Study On Awareness, Usage And Perception Of Doctors Towards Medical Application In Delhi City

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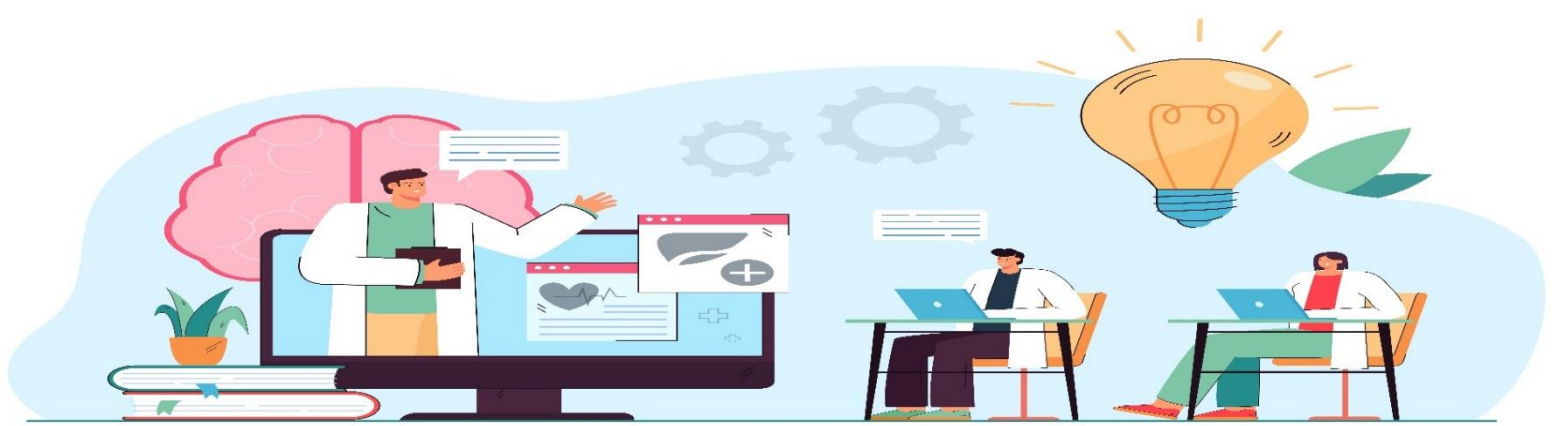
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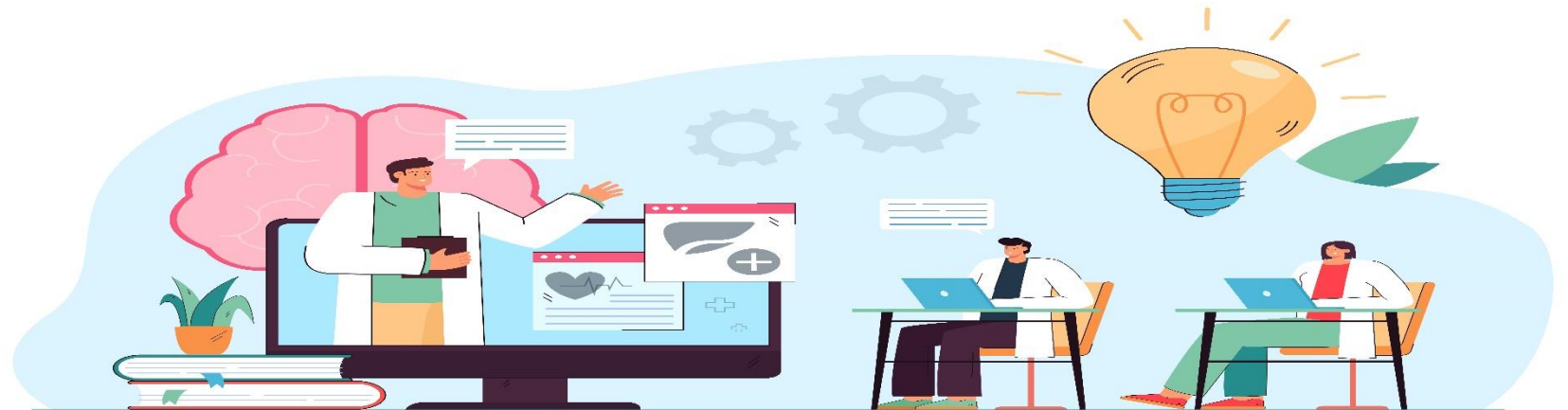
Introduction



- Today the capabilities of smartphone applications are comparable to those of computer programs, Smartphones can perform services such as Web browsing, document processing, video and music playback, task management, and video games that would otherwise require a computer, due to their portability and proximity to the user.
- The employment of smartphone and tablet technology in the health-care setting has sparked considerable attention. This enthusiasm has focused attention on the topic of mobile health (mHealth), which is defined as the delivery of health care and related services via communications devices.
- The necessity for novel diagnostic and therapeutic approaches due to the current coronavirus illness pandemic of 2019 has accelerated the rise in demand for digital medical solutions.
- Medical Health Apps and Medical apps have the potential, especially for chronic conditions, because they can help patients manage their own care in a variety of ways.

Introduction...

- Further, mHealth is another unique approach to provide healthcare services a promising technological integration potential. It provides a platform for improving healthcare quality, productivity, and efficiency, as well as decision-making processes and access to medical care Services. The adoption of mHealth apps by the general public would provide additional information about a patient's medical history, which would aid in the diagnostic process.
- As a potential opportunity, mHealth was stressed as an effective tool for healthcare delivery in underdeveloped nations, as well as an improvement in doctor-to-doctor contact.
- In addition, mobile intervention strategies were also widely employed in healthcare, with SMS reminder being one of the most successful and widely utilized techniques.



mHealth Categorization

Research	Categories
A Systematic Review of Healthcare Applications for Smartphones.	• A database of drugs or medical data • Reference to medical information • Conclusion support • Educational kits • Tracing tools • Calculator for medical purposes
Health workers' perceptions and experiences of using mHealth technologies to deliver primary healthcare services: a qualitative evidence synthesis.	• Education and awareness • Data access • Monitoring and compliance • Disease and emergency tracking • Health information systems • Diagnosis and consultation
Applying surgical apps: Smartphone and tablet apps prove useful in clinical practice.	• Data management • Time organisation • Health history maintenance and access • Communications and conferring • Reference and data congregation • Scientific decision making • Patient supervising • Medical instruction and education

Introduction Contd...

- The healthcare professionals use mHealth apps and devices for different purposes like for:

Information management

Time Management

Patient monitoring

Clinical decision making

Reference and information gathering

With all this, there are certain susceptibilities associated with mHealth and the biggest hurdles in mHealth app adoption were deemed to be technological, psychological, and regulatory limitations, which could ultimately lead to underestimation of mobile technologies.

Cultural, social, and educational constraints also impede the spread of mHealth in poorer nations. The literature revealed that mHealth is still in its infancy.

Above all, there is a demand for dependable and credible apps on the market, as well as solutions to concerns like low battery life and processing delays on mobile devices.

Application and Function



Name of Applications	Function
Epocrates	Provide drug-related information. Checking for drug interactions is one of the most important things you can do. Product releases and medical news feeds, Lookup a journal article
Medscape	Health Calculators, Drug Reference Tool, Drug Interaction Checker, and Current Medical News
Curofy	Cases, publications, and medical guidelines are discussed.
DocPlexus	Doctors' social networking platform
Practo	Practice Management Software
Lybrate	Practice Management Software
1Mg	Purchase medications via the internet. Health and drug information, practice management software
Netmeds	Online pharmacy store
Daily Round	Case studies, a drug reference, and drug calculators
Mediata	Reports, Practice management, and a database of pharmacies, diagnostic labs, hospitals, ambulance services, and blood banks are all available on the cloud platform.

Study Rationale

- Health care in India is rising at a quick pace and currently valued at US\$ 200billion and is likely to touch US\$ 372 Billion by 2022.Digital intervention in India is driving at a CAGR of 23%.
- According to a recent survey, India was placed among the developing countries in terms of mHealth adoption maturity and Nearly 48% of consumers said they expect mHealth will change the way they manage chronic conditions and 48% expect to change their medicine and 49% think their overall health.
- According to a new market intelligence report by Global Market Insights Forecast, titled "**Global Mobile Health Market by platform**", the global mobile medical apps market is forecasted to reach USD >805 billion by 2030 from USD 54 Billion in 2020.
- The global mobile medical apps market is expected to grow at a compound annual growth rate of 30% between the years 2021 and 2030, pushed by the quick launch of 4G and 5G services along with the expanding internet penetration and offering of smartphones at accessible rates are some of the factors which are helping growth to the market.

Contd...

- In recent years, medical applications have had a significant impact on patients' lives by giving them more power over their medical decisions. As of 2020, there are over 400,000 mHealth apps available in the app store. Although the market is still in its infancy, it has the potential to drastically alter the healthcare industry's future.
- trend has alleviated healthcare professionals' problems and made the decision-making process easier. These apps are designed to provide information, manage patient data, access journals, and connect users with other healthcare professionals for case discussion.
- The goal of this study is to examine doctors' digital awareness and perceptions of medical apps, based on current trends in the medical app market and the impact of digitalization in the field of medicine.





Research Outline

- Thesis is a framework based on 600 participant responses that has been analysed and the results were synthesized. The following is how the rest of this work is organized:
- Chapter (introduction) introduces key concepts and background information for this work's motivation, as well as the thesis's research contexts.
- The overall and specific goals of this thesis are detailed in chapter (Research Aims). Chapter (Discussion) discusses the major findings in relation to the research contexts and the work as a whole, while its next chapter study limitations and future perspectives.



Research Aim

- The main purpose of the research study was to study and give analysis on doctor's perception and attitude intention on prescribability of the mHealth applications in Delhi city.
- The aim of this study was to conduct primary research in Delhi among General Practitioners (GPs) in order to ascertain the current ongoing perception towards mHealth usage.

Research Question

“What is the Level of Awareness, Usage and Perception of Doctors towards Medical Application in Delhi City”



Study objective

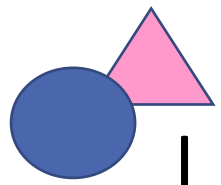
This is the major study that was carried out in Delhi to determine doctors' digital savvy and attitudes regarding medical apps.

- 1. To Determine whether doctors are aware of the various medical apps.
- 2. To discover which medical apps are popular among Mumbai's doctors.
- 3. To learn how doctors feel about medical apps.

Research Methodology



- **Study design:** - Cross sectional survey
- **Sampling method:** - Simple random sampling.
- **Sampling population:** - Doctors.
- **Sample size:** - 600.
- **Sample area:** - Delhi city.
- **Time period:** - 90 days.
- **Data collection:** - The data for the study was gathered using an online questionnaire that was created in Google Forms and divided into three segments. This google form was then disseminated to doctors through email and the responses were acquired from the google account at the time of analysis.
- **Data Analysis:** - The analysis of the retrieved data was done as per objectives through MS. Excel. Data analysis toolkit of add-ins in excel was used for data analysis.



Literature Analysis

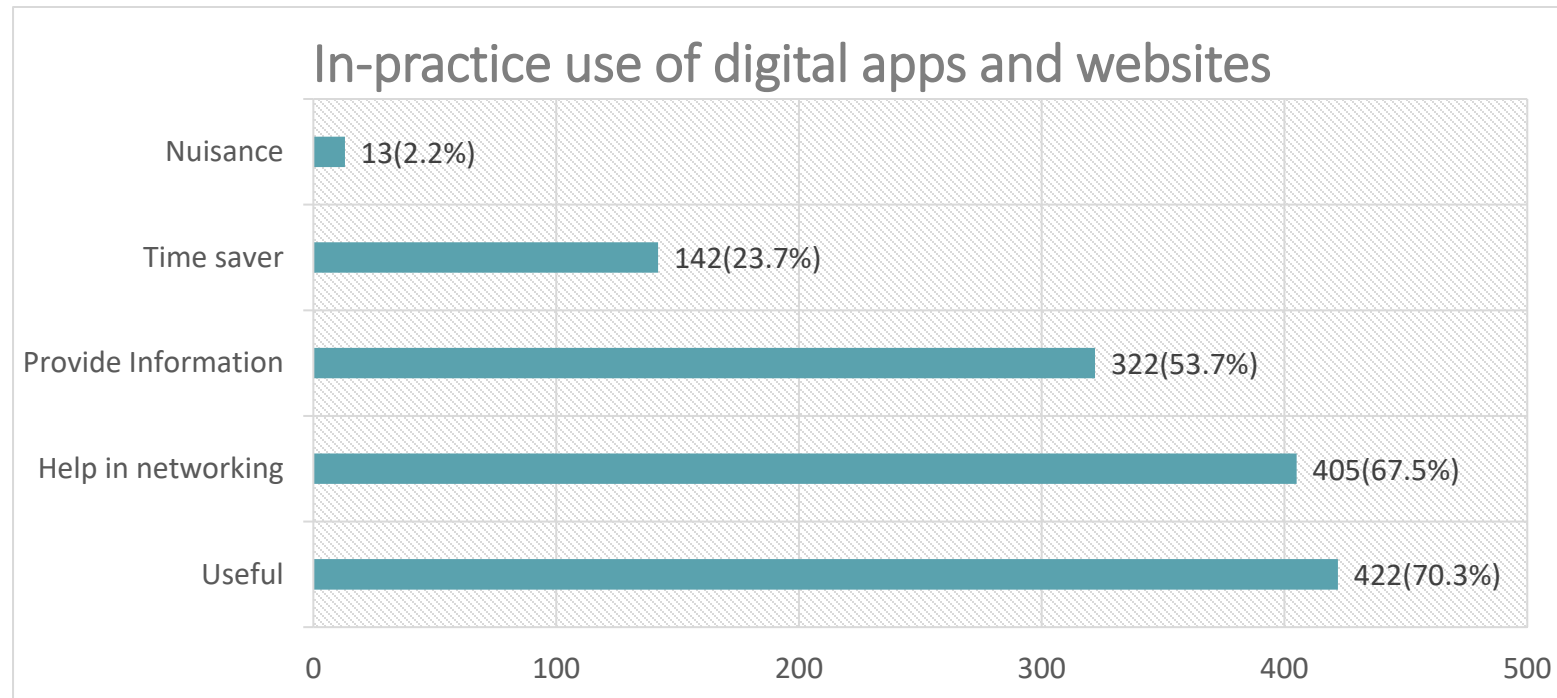
- Most of the study goals were to learn more about physicians' knowledge of mobile health (mHealth) apps and their intentions to employ them in their practise. Further, many studies not only provided non-user physicians' perspectives, but also perspectives of many users. Rebecca Smith *et al*, Maria Desmartis *et al*, and Vikrant Kanwar *et al* argued that At the individual, organisational, and contextual levels, the following were the main perceived adoption factors for m-health: perceived usefulness and ease of use, design and technical concerns, cost, time, privacy and security concerns, familiarity with the technology, risk-benefit assessment, and interaction with others (colleagues, patients, and management).
- Some Studies also focused to assess how different mobile information devices used by doctors at point-of-care circumstances help or hurt components of doctor-patient communication such face-to-face communication, nonverbal communication, and action transparency. It was found that Many of these affordances were lacking in digital information devices.



Result

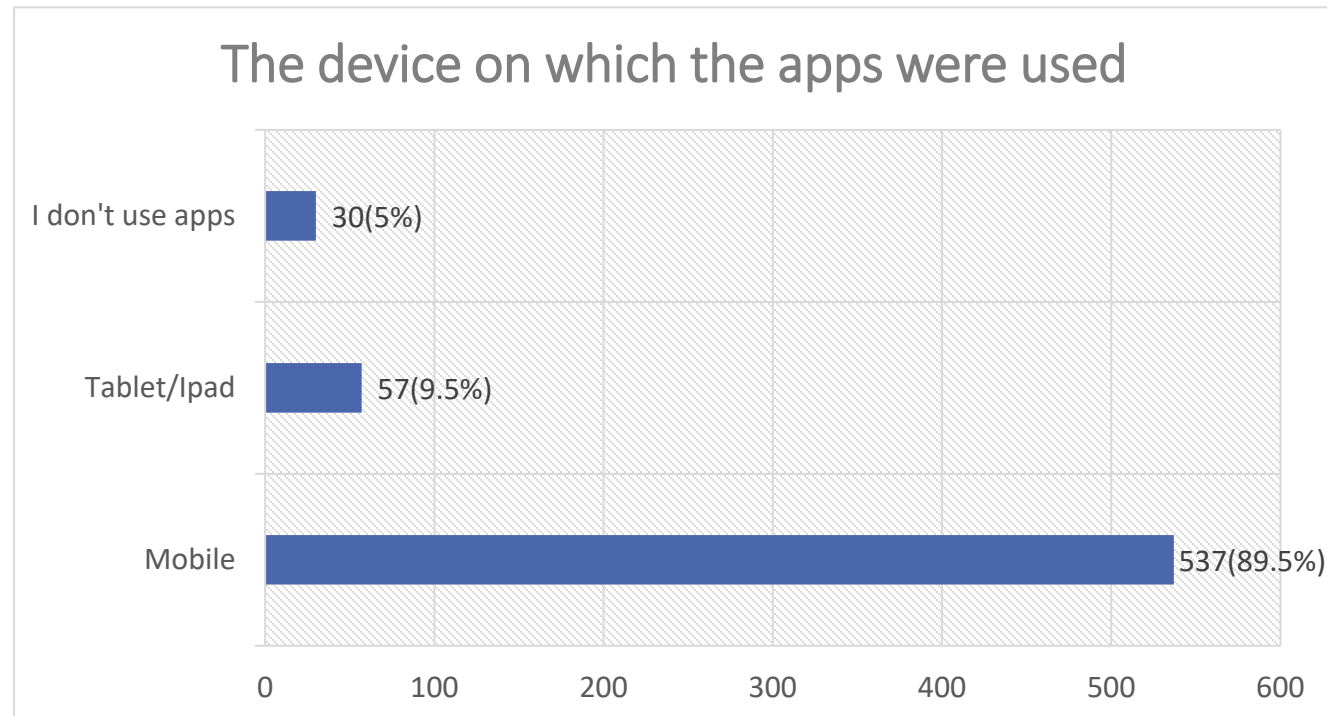


1. Only 13 (2.2 percent) of the 600 doctors polled thought digital apps and websites were annoying. There are 587 people left (97.8 percent) Doctors considered the apps to be effective in networking, saving time, and offering information on how to use digital apps and websites in daily practice.

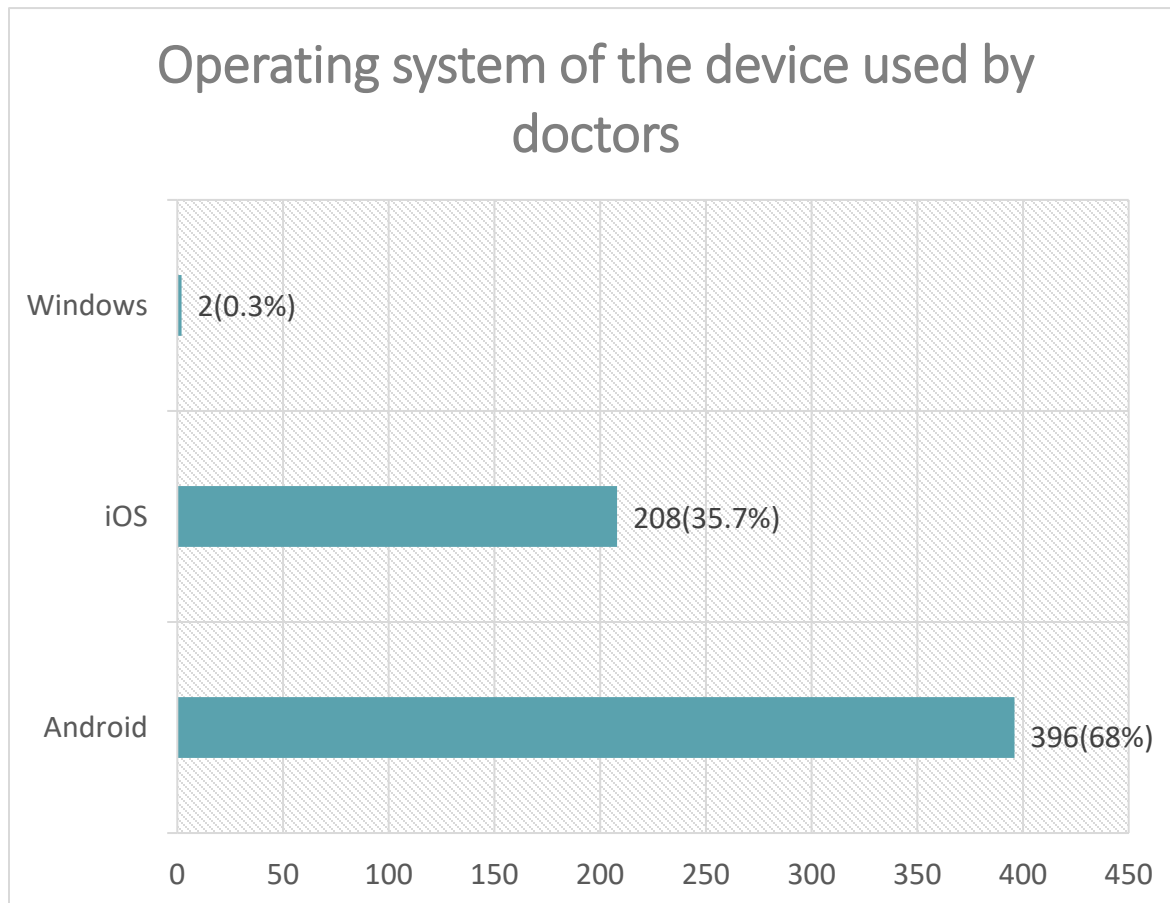




2. Out of 600 doctors, 537 (89.5%) solely used the apps on their phones, while 57 (9.5%) used them on other devices such as tablets and iPads. Doctors utilized no digital apps in 30 percent of cases.

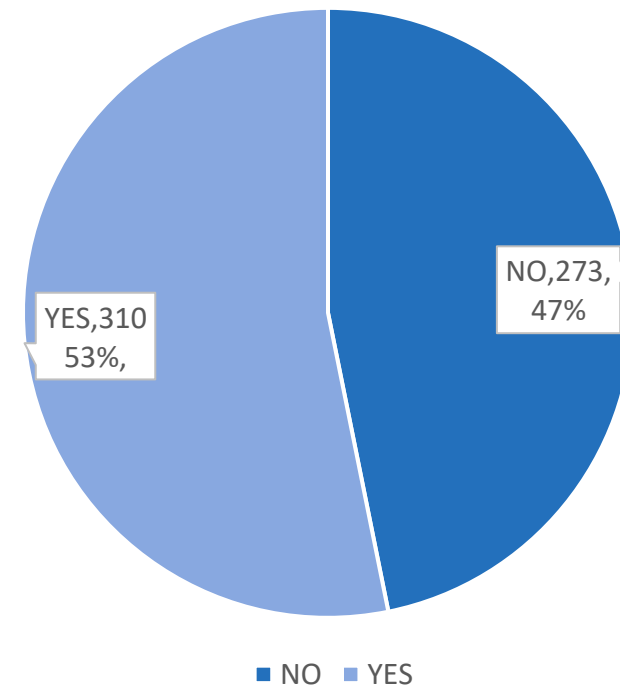


3. Android was found to be the most popular operating system among 396 doctors, whereas Windows was used by only 0.3 percent of them and iOS is used by 208 doctors.

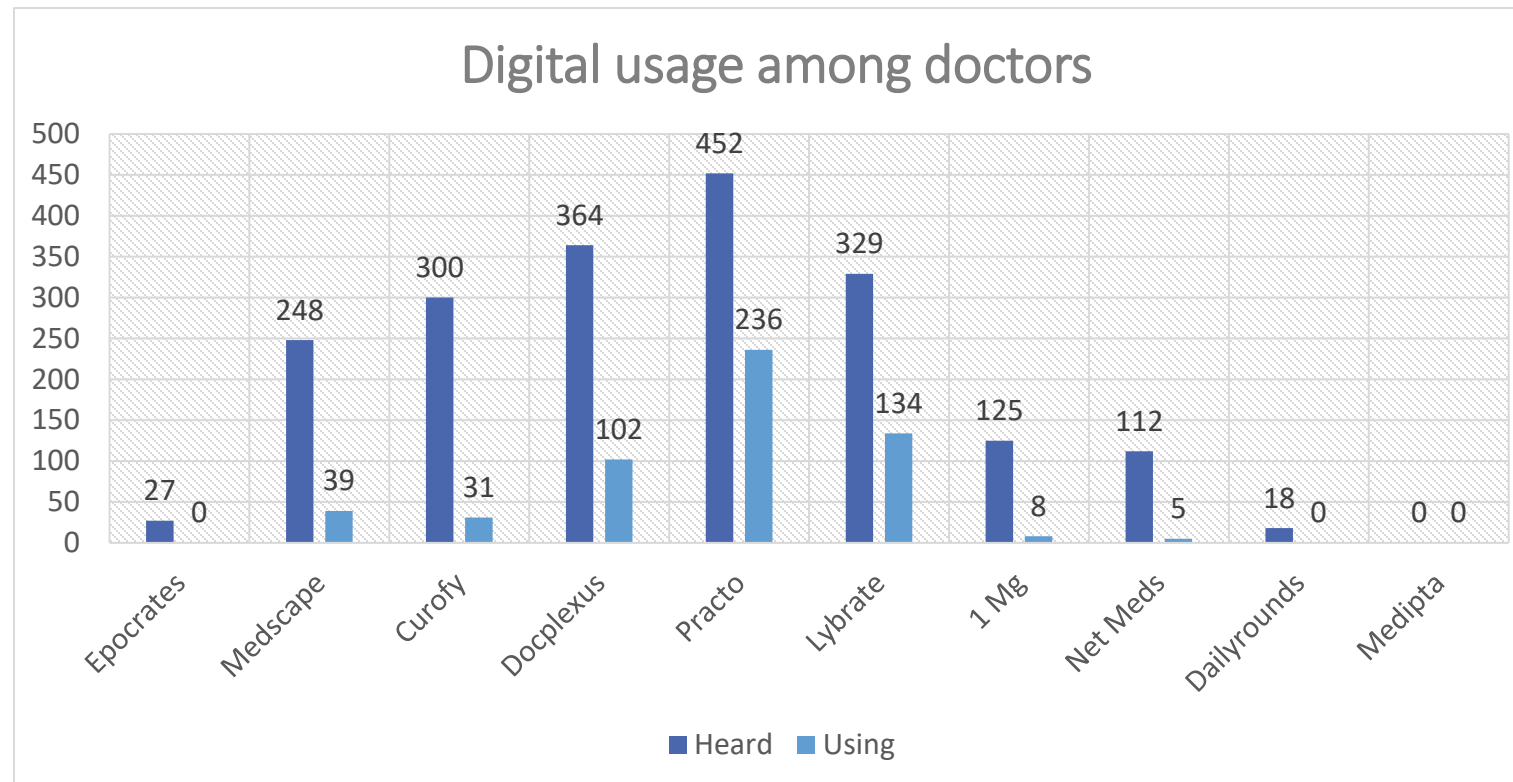


4. Out of 583 responses, more than 53% of doctors use medical applications, while 47% do not.

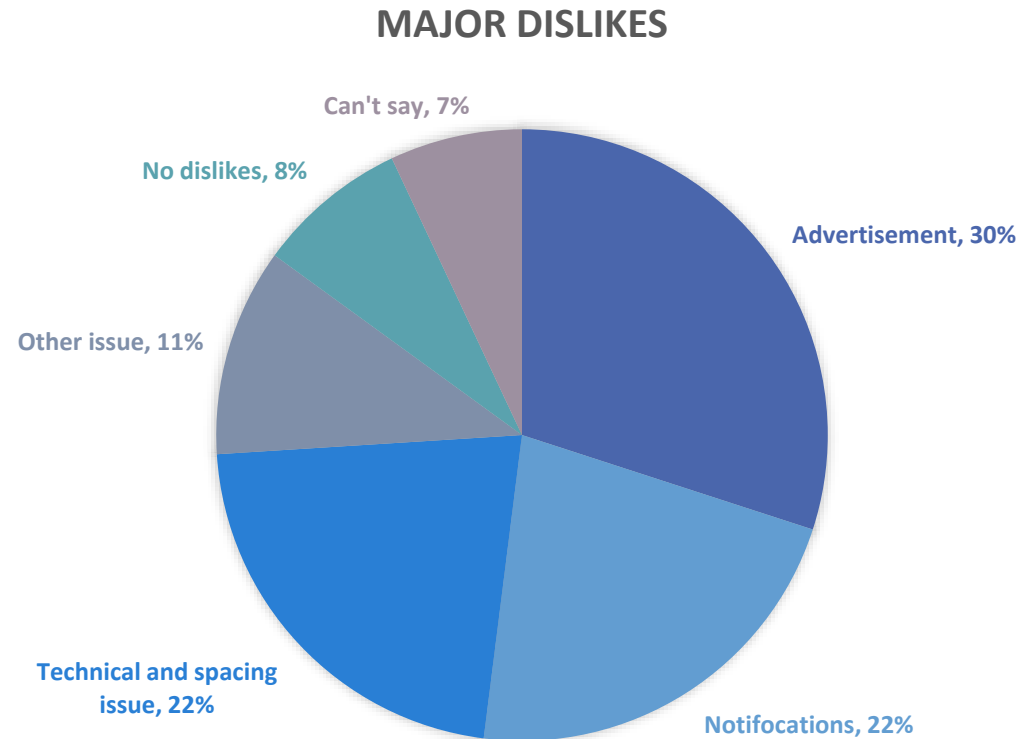
Usage of medical app among the doctors



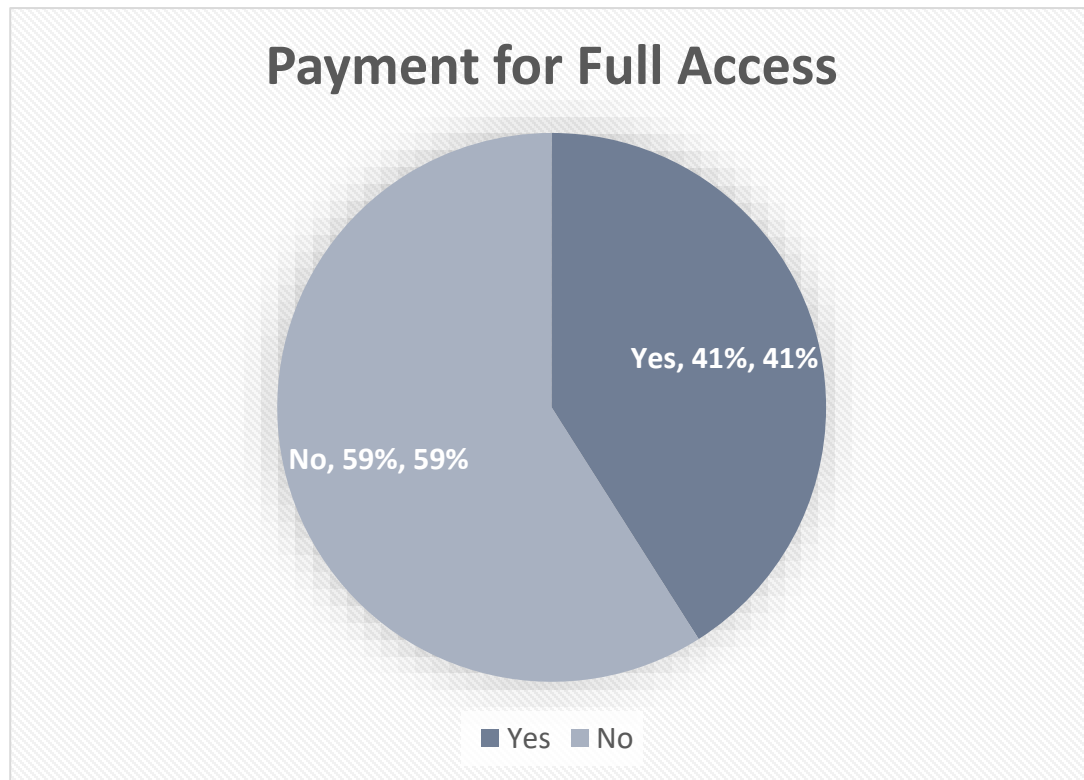
5. Practo had been heard of by 452 doctors, and 236 of them were using it, making it the most well-known and used mobile medical app. DocPlexus was heard by 364 doctors and used by 102, with Lybrate being the second most popular app, with 134 doctors using it and 329 hearing it. 1Mg was heard by 125 doctors and 8 were using it. Netmeds was heard by 112 and 5 were using it. Curofy was heard by 300 and 31 were using it. Medscape was heard by 248 and 39 were using it. Epocrates was heard by 27 and 0 were using it. Dailyrounds was heard by 18 and 0 were using it. Mediata was heard by 0 and 0 were using it.



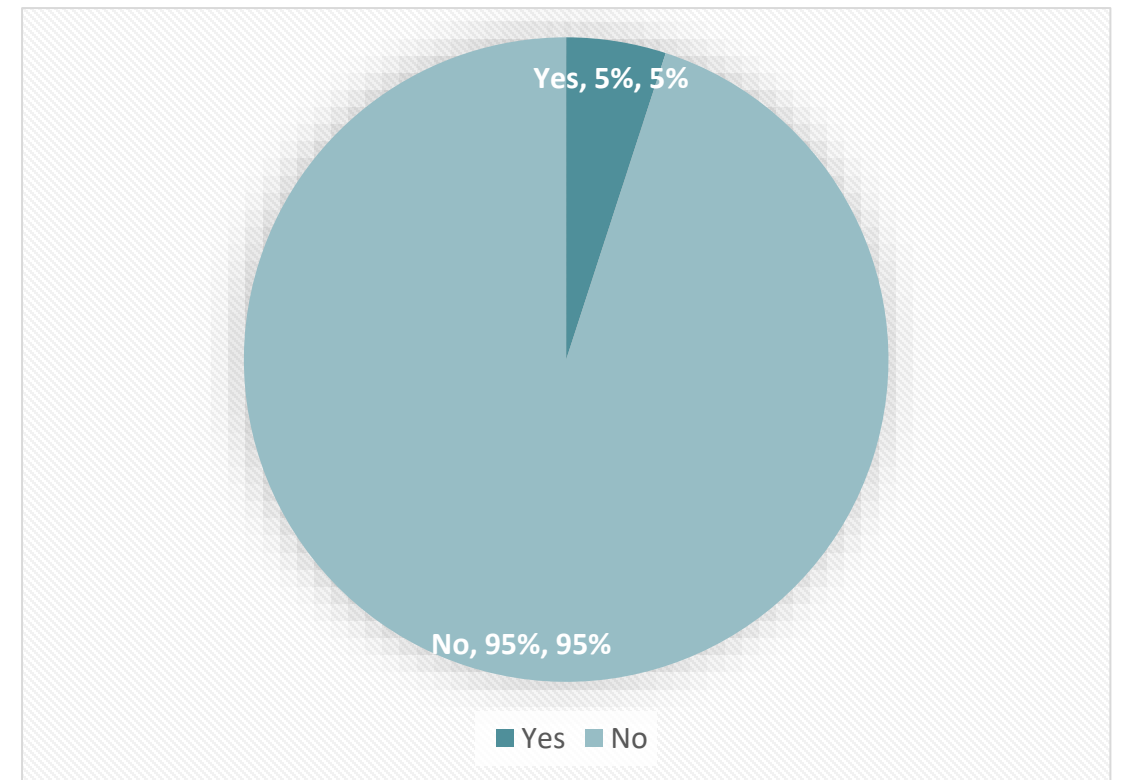
6. Advertising-related issues were the doctors' major big complaint, accounting for 30% of the vote, and included elements like excessive and irrelevant advertising. The app's overabundance of notifications, as well as technical issues such as the app not running properly or interruptions in between, were other big annoyances (22%) While 8% of doctors claimed they had no concerns and 7% said they had no take.



7. 59 percent of doctors said they would not pay to access the app's complete features, which include numerous in-app purchases, while 41 percent said they would pay to access the app's many functions.

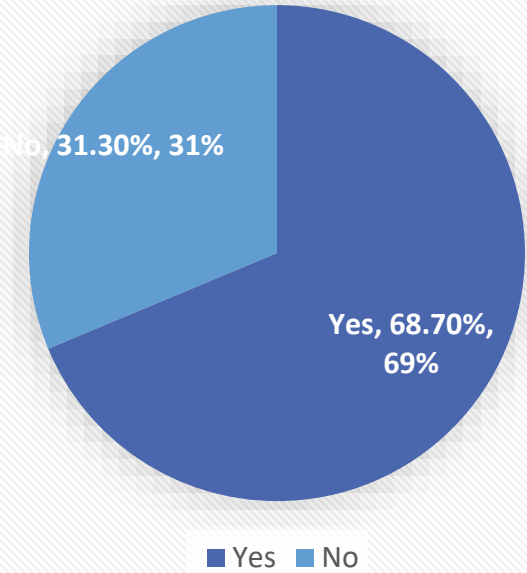


8. It was discovered that 95% of doctors have never used a pharmaceutical company-developed app, and that among the 5% who have, major apps from companies such as Cipla, GSK, and Jansen were discovered.



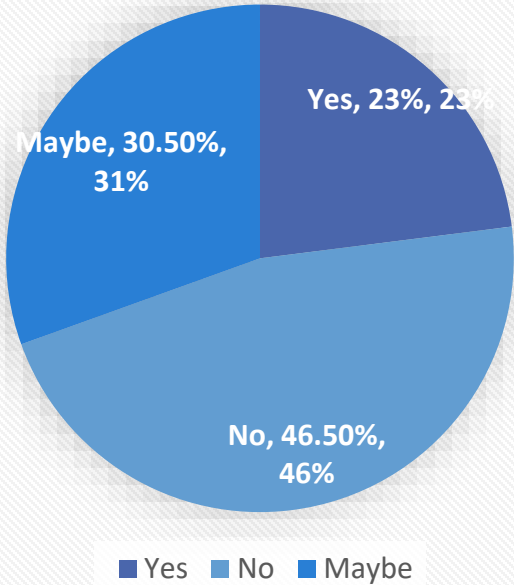
9. According to the preceding research, 68.7% of doctors prefer to see marketing relating to their field of interest, whereas 31.3 percent prefer not to see such advertisements.

Preference for products linked to the doctor's field in ads given to them.



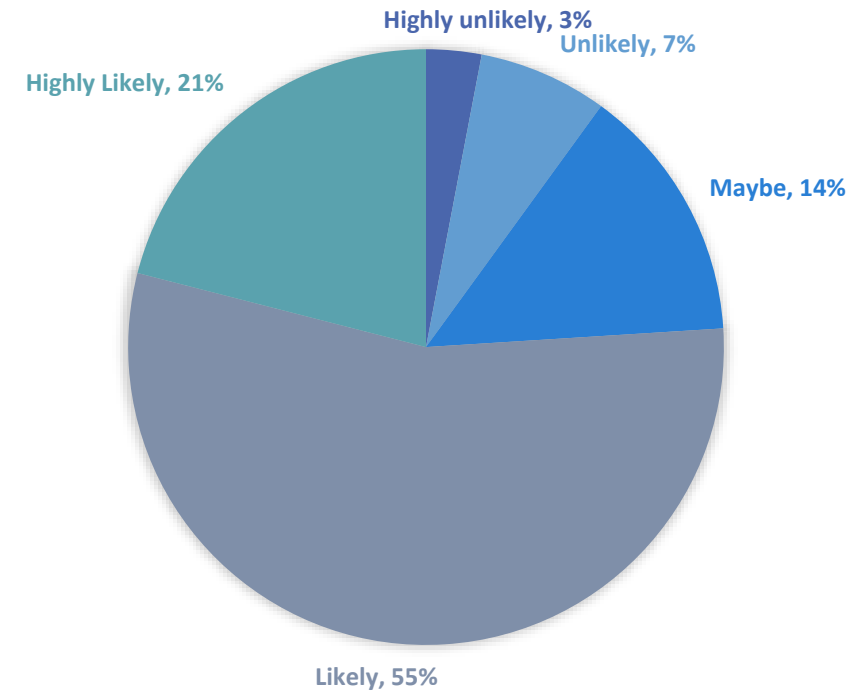
10. According to the data, 46.5 percent of doctors said that advertisements had no impact on their prescribing behaviour, 23 percent said that advertisements had an impact on their prescribing behaviour, and 30.5 percent said they were unsure whether advertisements had an impact on their prescribing behaviour.

The effect of marketing on doctors' prescribing habits



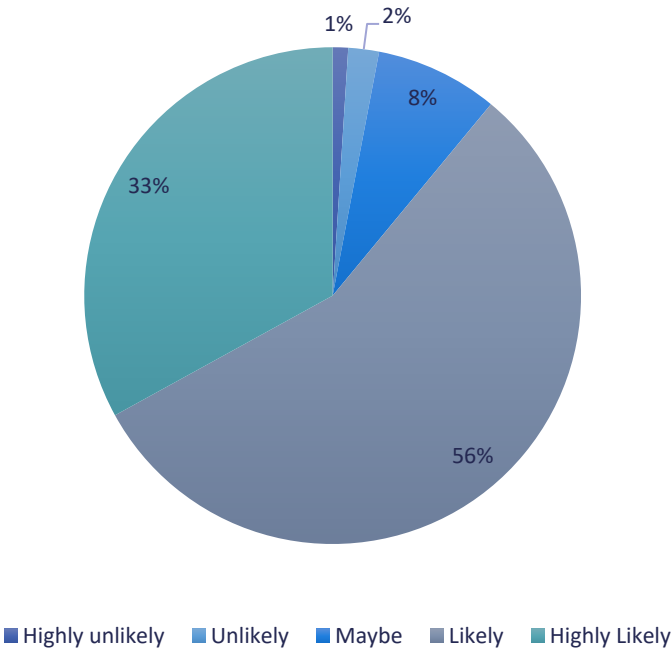
11. 76 percent of doctors are in favour of using apps to promote patient connection, while 14 percent are unsure.

DOCTORS' OPINIONS ON THE USE OF APPS THAT IMPROVE PATIENT INTERACTION



12. 89 percent of doctors were in favour of using apps to increase their interaction with other physicians and doctors, while only 8% were unsure.

Doctors' attitudes toward the use of apps that improve their interaction with other doctors and physicians.



Study Discussion

- There has been a significant observation which was made that there was a lot of variety in the total number of apps that participants recommended. This could be due to variances in their digital proclivity and flexibility in changing prescription behaviour, as well as the level of faith they placed in various mHealth apps, processes, and credibility.
- A list of 10 apps was compiled from the apps with the most downloads on the app store and playstore, including Epocrates, Curofy, Medscape, Docplexus, Practo, Lybrate, Net medicines, 1Mg Medipta, and Dailyround. Practo was discovered to be the most popular app, with features like as online patient appointments and information, and it was also the most heard app among doctors in Delhi. DocPlexus was heard by 364 doctors and used by 102, with Lybrate being the second most popular app, with 134 doctors using it and 329 hearing it. Even though two large online pharmacy (Net Meds, 1Mg) retail apps delivering medicine online were included in the list, they were not widely known or used by doctors, with only 13 doctors using them.



A white computer keyboard is positioned in the upper left corner of the image. A black stethoscope lies diagonally across the center, with its chest piece resting on the keyboard and its earpieces extending towards the bottom right. The background is a light, neutral color.

In conversations with patients and doctors, it was discovered that prescribing mHealth apps is seen as inevitable and feasible. GPs are aware of, and overwhelmed by, the vast number of applications available, and have identified the need for a more reliable source of health apps outside of app stores. Patients regard their doctors as a reliable source of information. However, from the perspective of GPs, the main barriers were;

- (1) generational differences in digital propensity for both GPs and patients
- (2) lack of knowledge towards perception of apps and lack of a reliable source to access apps
- (3) the time commitment required of GPs and patients
- (4) issues surrounding privacy, safety, and trustworthiness of health apps



Overall, the findings include a wide range of topics related to mHealth services in Delhi, including their possibilities and problems. To make the most of the possibility that this technology provides, the possibilities and constraints must be thoroughly recognised in situations comparable to Delhi. Despite the fact that numerous mHealth services have been available for quite some time, there has been a lack of awareness about their presence. This is another element that contributes to the poor use of both private and public sector services. It is essential that the existence of these services be publicly publicised in order to increase their utilisation.

Study Limitations

- The thesis' main strength is its ground-breaking investigation of mHealth app perception, use, and practicability in general practise, as well as the evidence it adds to the body of knowledge in the applied mHealth research field. The selection bias inherent in survey study, as well as the low response rate, are both drawbacks of our survey study. A limited sample size skewed towards generally healthy patients from high socioeconomic areas and GPs from the metropolitan area is one of the study's limitations. Future research should focus on patients with long-term medical issues, those from rural and distant places, and those from low socioeconomic areas.



Recommendations

As we go closer to a digitalized world. Physicians want to discover a whole new world that is simple, convenient, and time-saving. These medical apps are extremely helpful in this regard. As a result, these medical apps play an important role in a doctor's practise.

- **For app developers;**

1. Advertisement boom should be halted
2. User experience must be improved
3. Accurate and valuable data
4. App development in a new segment

- **For Pharmaceuticals Company;**

1. The majority of doctors do not use pharmaceutical company-provided apps, and many doctors even are unaware of their existence. Given current societal trends and the paradigm shift towards a digitalized world, it is highly advised that pharmaceutical businesses establish mobile applications, as they may be a very useful tool for marketing, product promotion, and maintaining relationships with doctors.



Recommendations and Future Perspective

- This study added to the literature by proposing a new model to explain healthcare practitioners' acceptance of mHealth apps. Furthermore, employing a dataset from a developing nation provided a different perspective on the factors that influence the use of mHealth apps. The government should take steps to improve opportunities for doctors to learn about mHealth and apply what they've learned in their clinical settings.
- Patients must currently experiment with applications by trial and error because anyone may make and publish health and medical apps in the app stores without having to test them. Individual app evaluations and literature searches on app evidence, on the other hand, are time-consuming and difficult for clinicians to undertake on their own. As a result, we believe that having an impartial and trustworthy source to conduct app evaluations and provide a collection of trustworthy mHealth apps is critical in delivering prescribable apps to practising clinicians.



Thank You.

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