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"A Study to Assess the Impact of Health Technology on Health Promotion Behavior among People in Selected Areas of Pune City."

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Abstract

Introduction:Health technology is defined by the World Health Organization as the "application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures, and systems developed to solve a health problem and improve quality of lives". This covers computer-supported information systems and drugs, equipment, protocols, and organizational methods used in the healthcare sector. These technologies are used in the US to treat and care for patients using both conventional and planned social means and ways and standardized physical things. **The present study title:** "A Study to assess the impact of health technology on health promotion behavior among people in selected areas of Pune city.**Material and Methods:** In present study, researcher adopted descriptive research design. It was carried out on 100 samples. The Non probability purposive sampling technique method was used to data was collected using demographic profile and self-structured questionnaire. Data analysis was done mainly using descriptive statistics. Results: Result revealed that majoity of participants that is 42 % were from age group of 26 to 33 year. According to gender majority of 52% were female. 69 % of participants are graduate. 61% of participants are married. 58% of participants live in urban areas. 50% of participants says yes they have information regarding impact of health technlogy on health promotion behaviour**,**the maximum people that is 60% used electric Blood pressure machine and 40% used glucometer to improve health Quality. 30% people got the information regarding use of Health Technology from doctors and using it since two days. Majority that is 70% of them have started with daily exercise and Yoga and they are satisfied with the health technology and their health status. 70% of people have shared that their experience had good experience while using health technology. **Conclusion**: present researh study concluded that health technologies can facilitate meaningful behavioural changes, such as adopting healthier habits, reducing risky behaviours, and adhering to recommended preventive care measures.

Key words;- Assess,Impact, health technology, promotion, behavior.

Introduction

Health technology is defined by the World Health Organization as the "application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures, and systems developed to solve a health problem and improve quality of lives". This covers computer-supported information systems and drugs, equipment, protocols, and organizational methods used in the healthcare sector. These technologies are used in the US to treat and care for patients using both conventional and planned social means and ways and standardized physical things.[1]

Healthtech has the ability to simplify and streamline the current healthcare landscape. With tech-infused care, issues like exorbitant pricing, excruciating wait times, bottlenecks in medication research, and restricted access to

health insurance and medical providers are all improved—or at least addressed. The insurance technology sector, sometimes known as insurtech, is opening up the process of purchasing healthcare to a larger demographic. Hospital staffing levels are rising thanks to AI and predictive analytics, which also assist cut down on patient wait times. Even medical procedures as well as recuperation times are being shortened by very accurate robots that assist with surgeries as well as render certain treatments less intrusive. While improving hospital operations and making healthcare more accessible are praiseworthy, how exactly are innovators accomplishing these objectives? Healthcare technology companies have greatly increased efficiency by personalizing interactions.

Prior to the digitalization of healthcare, people were more likely to experience injury as a result of defective and ineffective chemical systems and procedures. Undeveloped technology has led to a number of medical blunders, such as alarm fatigue and adverse pharmacological reactions. Alarm fatigue is still a concern. But prior to the advancement of technology, it was worse. It is described as when alarm systems are activated or triggered repeatedly, leading to the responder's desensitization. The integration of algorithmic analysis and physiological indicators has decreased the frequency of false alarms due to technological advancements. More investment in healthcare technology leads to a decrease in medical mistakes.

Even though health technology has advanced, there are still many areas that may need better to aid in precise diagnosis, lower patient risk, enhance patient outcomes, and lengthen life expectancy

Need Of The Study

Technology breakthroughs are changing the way health care is delivered. Examples include telehealth technology that provide virtual interactions between people and their medical specialists, as well as wearables that offer personalized treatment suggestions and early diagnosis. Technology helps public health practitioners collect, evaluate, and better serve their communities by facilitating the flow of information. There are many possibilities for public health professionals to develop and use innovative public medical solutions that may significantly improve patient care. Technologies may be anything from data gathering gadgets to life-saving apparatus, therefore there are several ways in which technology and public health can collaborate.. The following examples show this connection in a variety of ways, but they are all motivated by the same objective—improving community health.

AI is rapidly transforming the Indian healthcare industry by bringing previously unheard-of solutions for handling patients, diagnosis, & treatment. India is expected to invest $11.78 billion on AI by 2025 and increase its GDP by $1 trillion by 2035, owing to a World Economic Forum forecast. Forecasts indicate that the healthcare artificial intelligence industry is expected to grow from a valuation of $14.6 billion in 2023 to $102.7 billion by 2028.

However, it's important to note that the impact of health technology on health promotion behavior can vary from person to person. Factors such as individual motivation, technology usability, and the quality of health information provided can influence how effectively technology promotes healthy behaviors. Additionally, privacy and security concerns should be considered when implementing health technology solutions.Researcher was interested to assess the impact of health technology on health promotion behaviour among people in selected areas of Pune city

Methodology

In this study, the objective was to assess impact of health technology on health promotion behaviour among people and to associate the knowledge findings with selected demographic variables. Researcher adopted quantitative approach with descriptive research design .The study carried out on 100 samples with non-probability convenient sampling technique. Primary data was collected using demographic profile and destricptive questionaries. Reliability done on 10 sample and pilot study done on 10 sample. Reliability done with Pearson’s correlation then Spearman’s brown prophecy formula and result was 0.811, also study was physible to conduct. Data analysis was done mainly using descriptive statistics. Prior permission was taken for study.

Results

SECTION I: DESCRIPTION OF DEMOGRAPHIC PROFILES

Majority of participants that is 42 % were from age group of 26 to 33 years followed by 39% were in age group 18-25 years & 19% from 26-33 years . According to gender ,majority of 52% were female followed by 48% female. 69 % of participants are graduate followed by 21% in primary education & 10% in Higher education . 61% participants are married followed by 39% unmarried. 58% of participants live in rural areas & 42% in urban areas. 50% of participants says yes they have information regarding impct of health technlogy on health promotion behavor, 18% had receivd information from mass media.

SECTION II: Impact of Health Technology on Health Promotion Behavior

Table No:- 01 **n= 100**

SR .NO	ASSESS THE IMPACT OF HEALTH TECHNOLOGY	RESPONSES
1	Which health technology you have used?	40% had used glucometer and 60% had used electric Blood pressure machine.
2	What was the purpose of using Health Technology?	50% had used to improve health quality and 30% had used for monitoring Blood pressure level
3	Who has informed you about the Health Technology?	30% people got information about the health technology from their doctor, 40% got information from their friends and 30% from their family members
4	How did you use the health technology?	100% used health technology as per doctor's order.
5	How long did you use?	The majority of the 50% had used health technology in the last 2 years, 20% had used since 1 year, 10 % used for six months and 20% used for three months.
6	Did you make any change in your daily routine to improve for your health status?	The majority of the 70% started with daily exercise and yoga in their daily routine just to improve the health status. 30% started to take proper healthy diet.
7	Will you continue to follow the health technology?	100% participants will continue to use health technology.
8	Will you give reference of Health Technology to your friends and relatives?	Majority 70% agreed to give reference regarding health technology to friends and 30% are not willing to give reference.
9	How satisfied are you with your Health status?	60% people are satisfied with the health status and 40% are not satisfied.
10	What is your overall experience in the used health technology?	70% participants are had overall good experience and 30% had bad experience with the health technology.

Table No. 1 depicts that Majority of the people that is 60% used electric Blood pressure machine and 40% used glucometer to improve health Quality. 30% people got the information regarding use of Health Technology from

doctors and using it since two days. Majority that is 70% of them have started with daily exercise and Yoga and they are satisfied with the health technology and their health status. 70% of people have shared that their experience had good experience while using health technology.

Discussion

This descriptive research set out to assess the impact of health technology on health promotion behaviors in certain Pune City neighborhoods. Data Shows that the maximum people that is 60% used electric Blood pressure machine and 40% used glucometer to improve health Quality. 30% people got the information regarding use of Health Technology from doctors and using it since two days. Majority that is 70% of them have started with daily exercise and Yoga and they are satisfied with the health technology and their health status. 70% of people have shared that their experience had good experience while using health technology.The main findings of this study are discussed in this section along with the findings of other researchers.

The study can be discussed with a similar descriptive study done by ew of the Literature. 170 papers in all fulfilled the requirements for inclusion and underwent thorough assessment. Overall, 82.9% (141/170) of the research indicated significant improvements in patient involvement, and 88.8% (151/170) of the studies had a beneficial influence on patient behavior. Of the 170 respondents, only 47.1% (80) cited certain behavior theories, and only 33.5% (57) evaluated how user-friendly IT systems were. Indirect methods were utilized to evaluate health outcomes in most studies (65.9%, 112/170). The analysis demonstrated that IT platforms have the potential to increase patient participation and provide better health outcomes overall. The applicability of these treatments was the subject of few research, and it's still unclear why certain behavior theories weren't used.

Similar study conducted on impact of COVID-19 on education and health care delivery has accelerated the adoption of digital technologies. Telemedicine, virtual meetings, and online learning have become essential tools. While barriers to telemedicine are decreasing, regulatory guidance is needed to ensure safe and secure implementation. The future may involve a hybrid approach, blending digital and face-to-face experiences.

Conclusion Majority of participants that is 42 % were from age group of 26 to 33 years followed by 39% were in age group 18-25 years & 19% from 26-33 years . According to gender Majority of 52% were female followed by 48% female. 69 % of participants are graduate followed by 21% in primary education & 10% in Higher education . 61% participants are married followed by 39% unmarried. 58% of participants live in rural areas & 42% in urban areas. 50% of participants says yes they have information regarding impct of health technology on health promotion behavor, 18% had receivd information from mass media.

Impact of Health Technology on Health Promotion Behavior : Majority of the people that is 60% used electric Blood pressure machine and 40% used glucometer to improve health Quality. 30% people got the information regarding use of Health Technology from doctors and using it since two days. Majority that is 70% of them have started with daily exercise and Yoga and they are satisfied with the health technology and their health status. 70% of people have shared that their experience had good experience while using health technology. The present researh study concluded that health technologies can facilitate meaningful behavioural changes, such as adopting healthier habits, reducing risky behaviours, and adhering to recommended preventive care measures.

Conflict of Interest

The authors certify they have no involvement in any organization or entity with any financial or non financial interest in the subject matter or materials discussed in this papar.

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References

[1] *World Health Organization. Health technology. In: Citing Medicine. Patrias K, Wendling D, editors. Bethesda (MD): National Library of Medicine (US); 2007-.* Available from: [1](http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=citmed.TOC&amp)

[2] *Sam daley* , Healthcare Technology 101, Rose Velazquez | Sep. 19, 2022 Healthcare Technology: What It Is and How It's Used | Built In

[3] Merchant R, Szefler SJ, Bender BG, Tuffli M, Barrett MA, Gondalia R, Kaye L, Sickle DV, Stempel DA. Impact of a digital health intervention on asthma resource utilization. *World Allergy Organization Journal*. 2018;11(28) doi: 10.1186/s40413-018-0209-0

[4] Anderson WC, Gondalia R, Hoch HE, Kaye L, Szefler SJ, Stempel DA. Screening for inhalation technique errors with electronic medication monitors. *Journal of Allergy and Clinical immunology: In Practice*. 2019;7(6):2065–2067. doi: 10.1016/j.jaip.2019.02.006.

[5] Bhattacharya S, Pradhan KB, Bashar MA, et al. Artificial intelligence enabled healthcare:a hype, hope or harm. *J Fam Med Prim Care.* 2019;8(11):3461–3464. doi:10.4103/jfmpc.jfmpc_155_19.

[6] Mitchell T. *Machine learning*. McGraw Hill, 1997.

[7] National Strategy For Artificial Intelligence, Aug 21, 2019

[8] Eden R., Burton-Jones A., Scott I., Staib A., Sullivan C. Effects of eHealth on hospital practice: Synthesis of the current literature. *Aust. Health Rev.* 2018;42:568–578. doi: 10.1071/AH17255.

[9] De Santis, Karina Karolina et al. "Digital Technologies for Health Promotion and Disease Prevention in Older People: Scoping Review." *Journal of medical Internet research* vol. 25 e43542. 23 Mar. 2023, doi:10.2196/43542

[10] Stoumpos, A. I., Kitsios, F., & Talias, M. A. (2023). Digital Transformation in Healthcare: Technology Acceptance and Its Applications. *International journal of environmental research and public health*, *20*(4), 3407. https://doi.org/10.3390/ijerph20043407