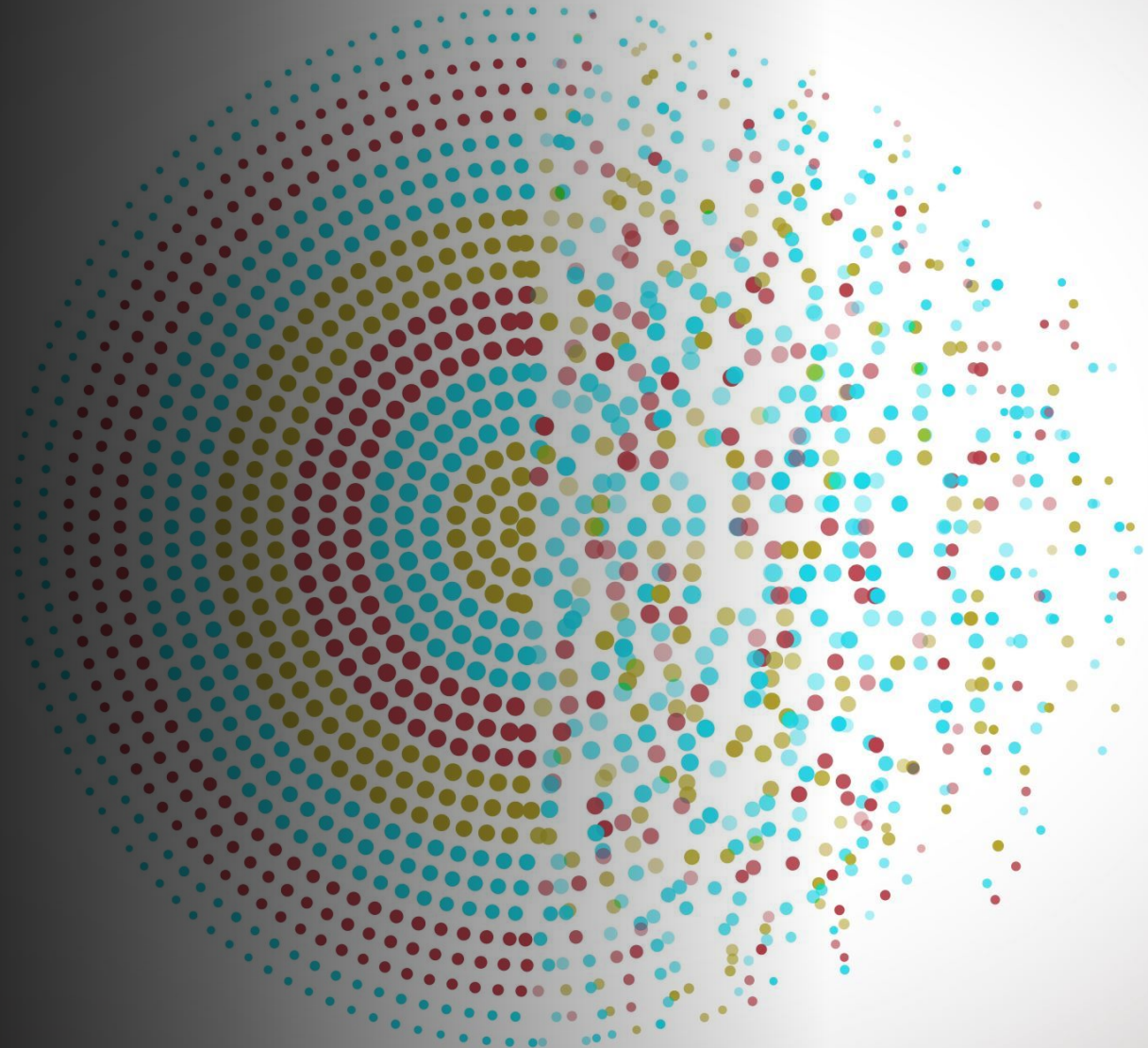# Knowledge, Attitude, and Practice of Digital health among Healthcare Professionals in India: A Cross-Sectional study.

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By- Antra Goswami

MENTOR APPROVAL:

Introduction:

- **"Digital health"?**

It refers to the use of ICT to manage diseases, reduce health risks, and promote wellness by improving the quality, access, & availability of healthcare to all. [1]

- **A better alternative?**

As it can supplement the traditional method of delivery and can increase the availability, accessibility, and acceptability of healthcare service delivery. [2]

- **Challenges in the adoption of digital health technologies?**

  Key challenges affecting are a lack of evidence-based digital health standards and privacy, data governance, and ethical challenges.[3] Lack of specialists and infrastructure, lack of patient-centred services; accessibility (rural areas); and education.[4]

- **To assess the acceptance of digital health.**

1. StatPearls. StatPearls Publishing; 2023
2. https://apps.who.int/iris/bitstream/handle/10665/324998/WHO-RHR-19.7-eng.pdf
3. https://pubmed.ncbi.nlm.nih.gov/35047326/
4. https://www.mdpi.com/1660-4601/19/15/9172

Objective:

- To assess the knowledge, attitude, and practice (KAP) of digital health in healthcare professionals
- To identify various factors associated with particular KAP (Knowledge, Attitude, and Practice).

Methodology:

Study Design: Cross sectional study

Data Collection tool: Google form was used that consisted of pre-defined questionnaire

Sampling method: Snowball sampling

Sample Size: estimated using OpenEpi

Data collection and cleaning: Microsoft excel

Data analysis: IBM SPSS software.

Inclusion criteria- Health care professionals between age group of 23 to 60 years.

Exclusion criteria -administrative staff, office managers –participants who did not consent for the study

Ethical consideration - Informed consent obtained and ethical clearance from SRB

RESULTS

S.No.	Variables	Number
1.	**Total population**	100
	Male	46
	Female	54
2.	**Age group (Years)**	
	20-29	76
	30-39	22
	40-49	02
	>=50	00
	Mean age group of participants	32 ± 5 (Years)
3.	**Education**	
	Physician & Clinician	54
	Allied health professionals	20
	Public health professionals	26

RESULTS

Knowledge regarding digital health was categorized into :

1. Definition of Digital Health
2. Field of application of Digital Health
3. Methods of Using/Application

Participants knowledge about Digital health :

- Participants who knew **the definition** – 71%
- Participants who knew about **field application** – 78%
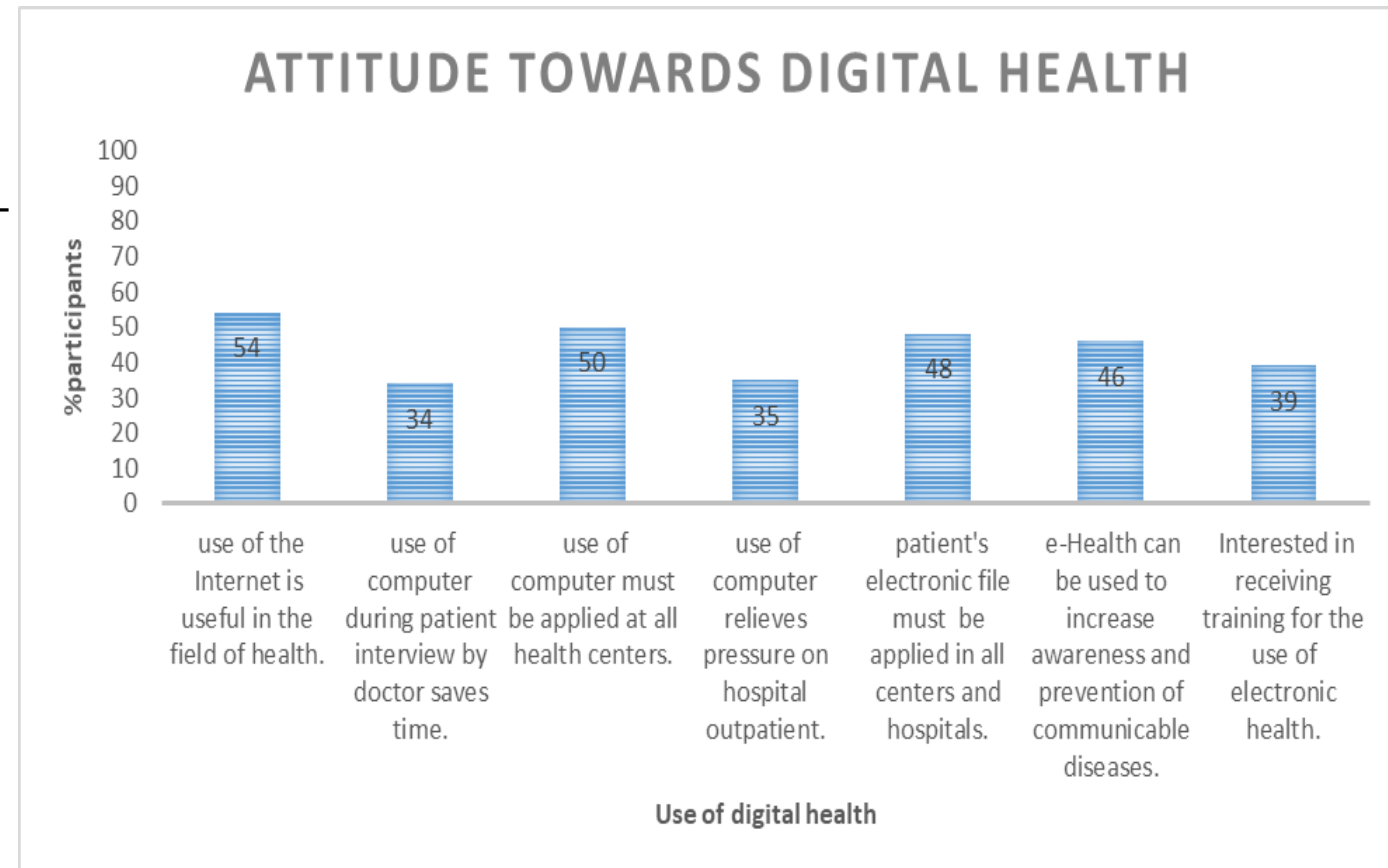- Participants who knew regarding the method of using – 84%

KNOWLEDGE OF DIGITAL HEALTH IN HEALTH PROFESSIONAL (N=100)
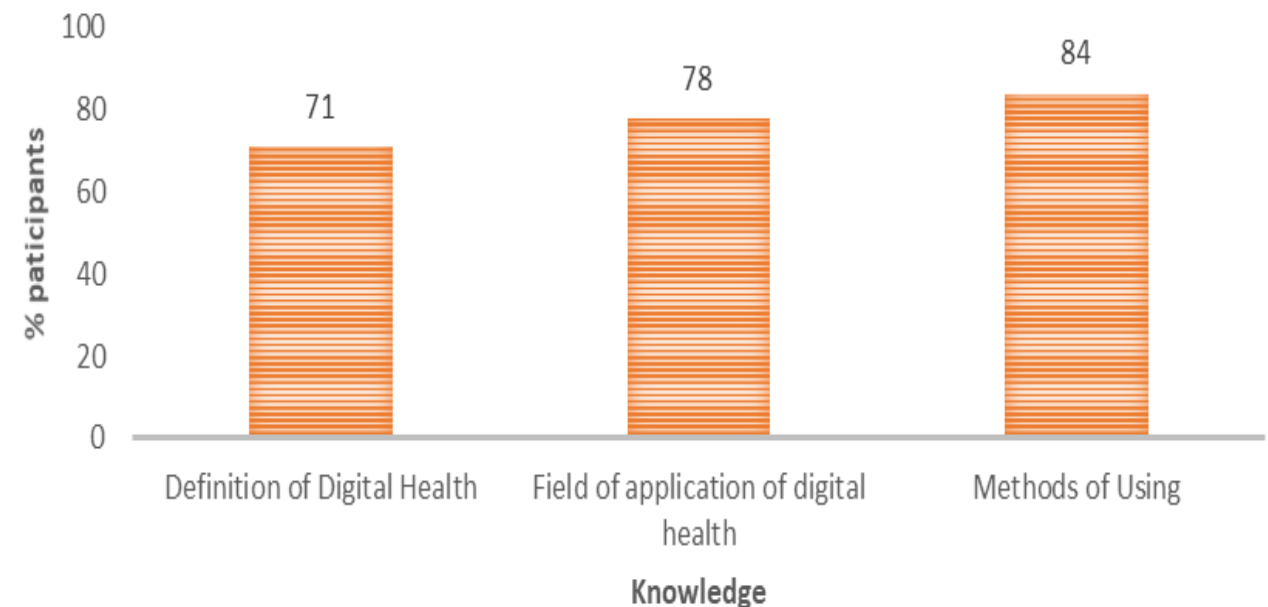
RESULTS

Participants attitude towards Digital Health :

- Use of Internet is useful in Healthcare – 54%
- Use of computer during patient interview is useful – 34%
- Use of computer must be applied on all the health centers – 50%
- Use of computer relives pressure on hospital outpatient – 35%
- Patient's e-records must be applied in all Health centers – 48%
- Use of digital health can increase awareness & help in prevention of communicable disease – 46%
- HCP Interested in receiving training for use of digital health - 39%

ATTITUDE TOWARDS DIGITAL HEALTH

(Bar chart, %participants vs Use of digital health)
- use of the Internet is useful in the field of health. – 54
- use of computer during patient interview by doctor saves time. – 34
- use of computer must be applied at all health centers. – 50
- use of computer relieves pressure on hospital outpatient. – 35
- patient's electronic file must be applied in all centers and hospitals. – 48
- e-Health can be used to increase awareness and prevention of communicable diseases. – 46
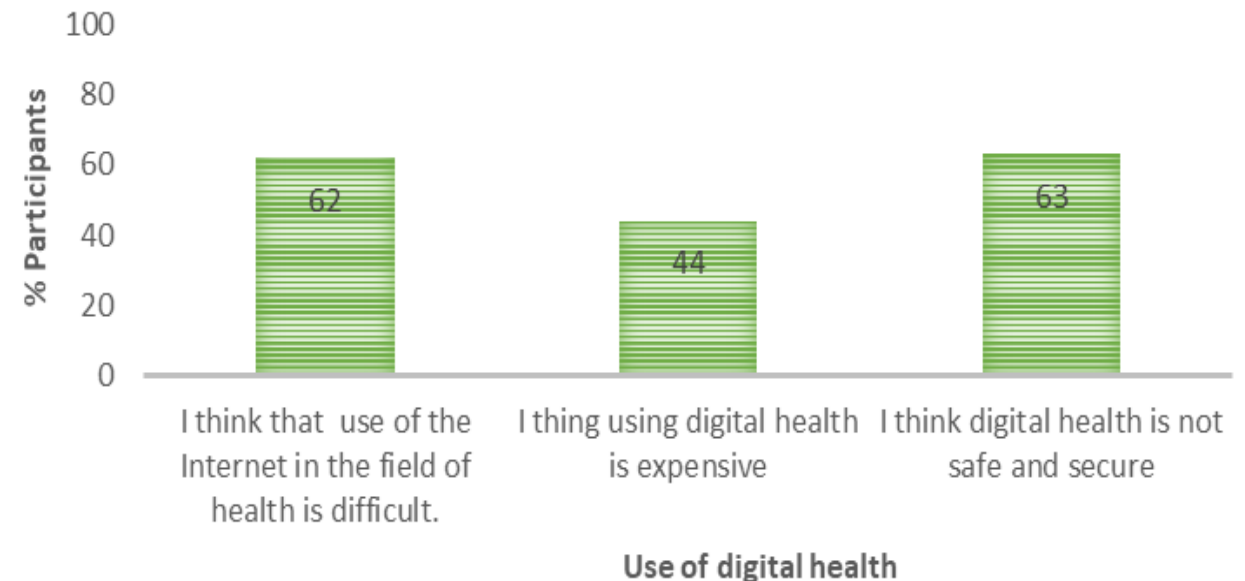- Interested in receiving training for the use of electronic health. – 39

RESULTS

Participants attitude towards Digital Health :

- The participants who thinks digital health is **not difficult to use** – 62%
- The participants who thinks digital health is **not expensive** – 44%
- The participants who thinks digital health is **safe & secure** – 63%
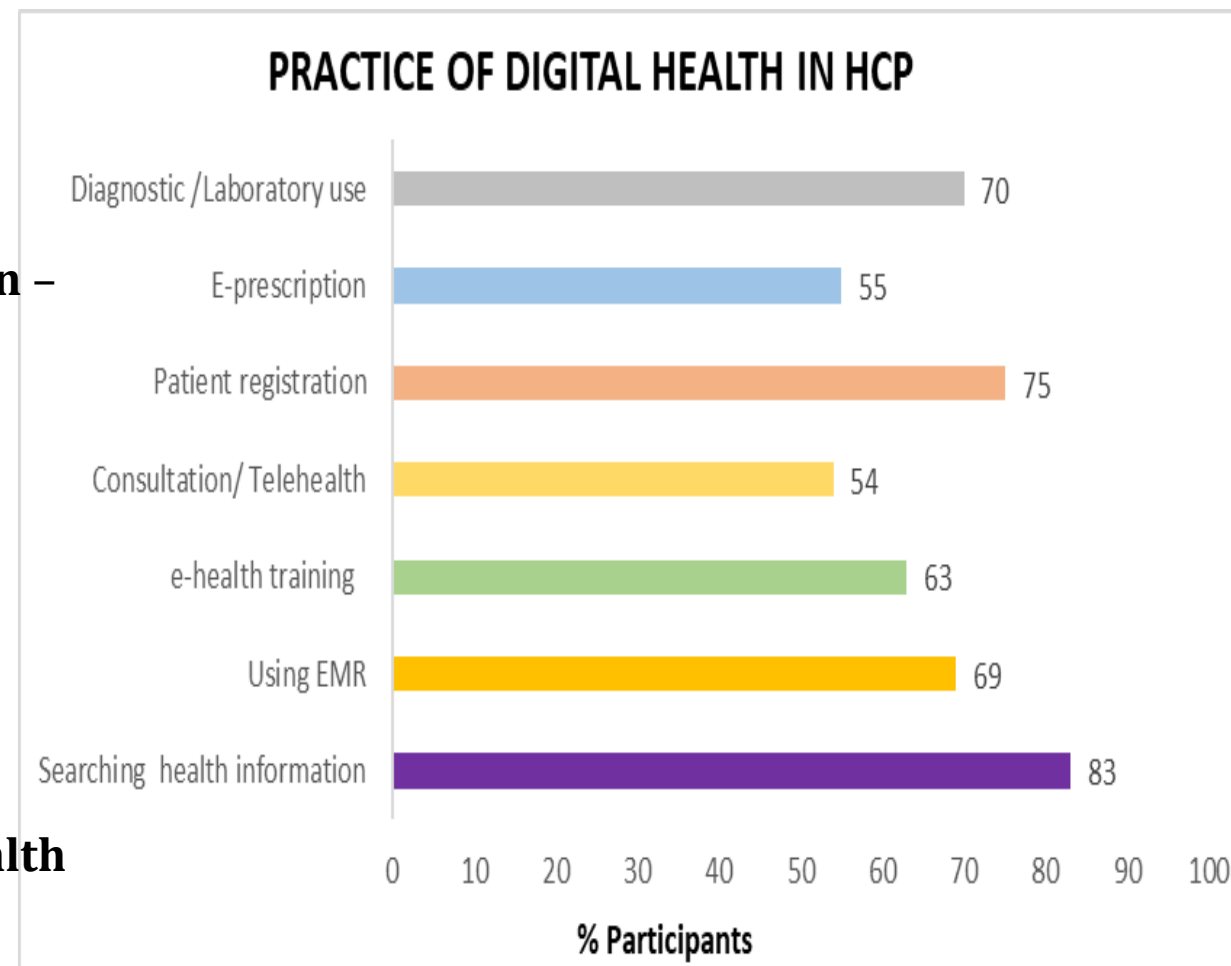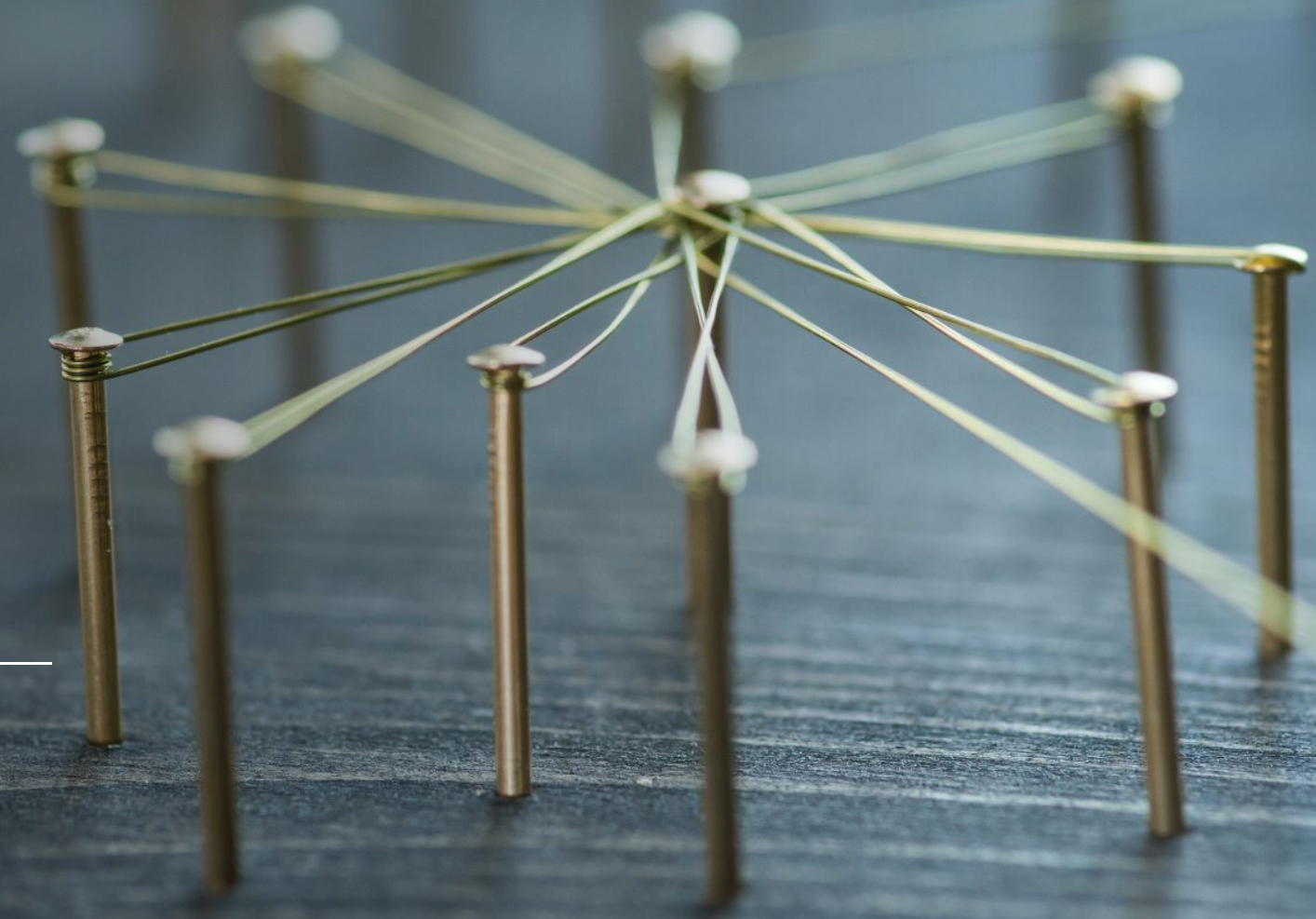

ATTITUDE TOWARDS DIGITAL HEALTH

RESULTS

Participants Practice of Digital Health :

- The participants who use Digital health for **diagnostic/laboratory purposes** – 70%
- The participants who use Digital health for **e-prescription** – 55%
- The participants who use Digital health for **Patient registration** – 75%
- The participants who use Digital health for **Consultation/Telehealth** – 54%
- The participants who use digital health for **e-health training** – 63%
- The participants who use Digital health for **accessing patient records** – 69%
- The participants who use digital health for **searching health information** – 83%

PRACTICE OF DIGITAL HEALTH IN HCP

Category	% Participants
Diagnostic /Laboratory use	70
E-prescription	55
Patient registration	75
Consultation/ Telehealth	54
e-health training	63
Using EMR	69
Searching health information	83

% Participants

Discussion:

The study attempts to obtain a broad picture of the current levels of Knowledge, Attitude and Practice of Digital Health among HCP.

- The overall knowledge among the HCP in India according to our study was 76% which was more than the study done in HCP in Kuwait (58.9 ± 24.2) (1)

- A study done by Research gate to know the knowledge, attitude, and practice towards digital health technology in Kuwait shows that about 58.8% of participants had knowledge, 66.3% of favourable attitude towards digital health while only 50.4% practiced Health Information Technology. (3)

- It is also observed that 84% of participants agreed that the internet, email and visual communication is the correct method of using.

- It was observed in our study that 39% of people were having a positive attitude towards getting training for using digital health. (2)

1. https://www.researchgate.net/publication/320916565_Knowledge_Attitude_and_Practice_of_E-health_among_Health_Care_Providers_in_Kuwait
2. https://www.ajol.info/index.php/ijhr/article/view/55388
3. https://www.researchgate.net/publication/320916565_Knowledge_Attitude_and_Practice_of_E-health_among_Health_Care_Providers_in_Kuwait

- It was observed in our study that the attitudes of HCP are very less toward using computers for patient interviews (34%) and for OPD (35%)

- In practice, we observed that most of the participants (83%) mostly use digital health only for searching health information and do not use for other reasons.

- The reason for participants for not using digital health tools was observed as misconceptions regarding the difficulty of use (38%) and security concerns (37%) among HCP.[2]

- In this study, gender and educational status showed no significant difference on the Knowledge, attitude and practice of individuals.

- **Limitations:**

  - Study sample belonged to age group of 27 to 37 years, hence the effect of age on KAP was not possible to assess.

  - Non-probability method of sampling could have led to bias.

1.https://pubmed.ncbi.nlm.nih.gov/21129832/
2.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7928822/

Conclusion:

- The present study found that healthcare professionals had good knowledge but not a positive attitude toward digital health.

- This shows that that there is a gap between participants' attitude on one side and their knowledge on the other side. So, it is important to identify those gaps.

- Digitalization is the future of health sector

- These gaps needs to be bridged by capacity building, training, improving awareness and addressing the resistance.

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Questions?

Let's talk about it.