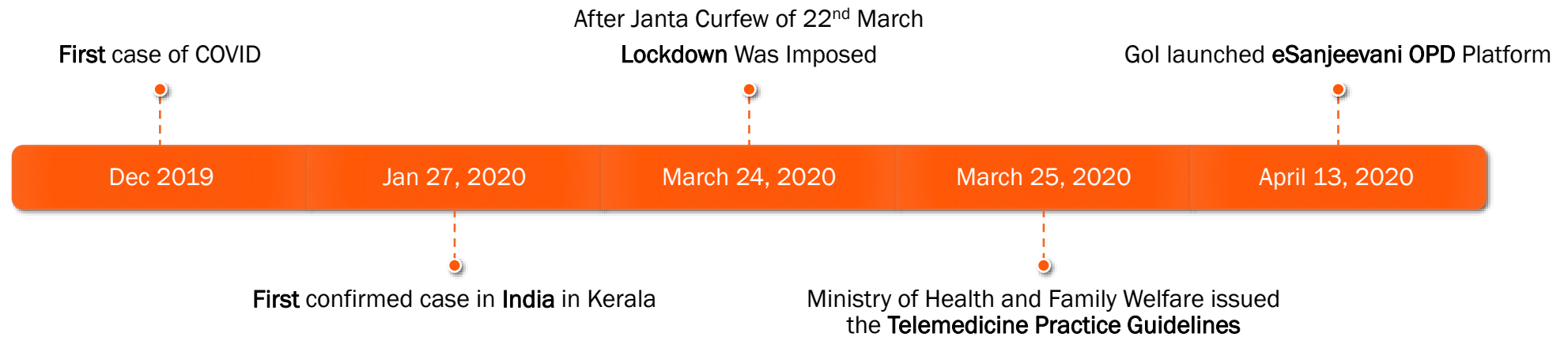


Research and Analysis on a Year of Covid and its Impact on Telemedicine Landscape of India

Ankit Kumar Jha
MBA Health & Hospital Management
Roll No. 1069
Organization: Camomile Healthcare Ventures
Mentor: Dr. Piyusha Majumdar, Assistant Professor



Introduction: Timeline



What is **Telemedicine** and what's its **significance**?

Objectives

1. The main objective is to **discover the current knowledge, perceptions, and practices** of telemedicine in Indian healthcare delivery.
2. The objective is also to identify the **probability of an individual's preference for using these services** in the future, as telemedicine becomes more prevalent.

Methodology

- Type of Research – Descriptive Cross Sectional Study
- Research Instruments – Questionnaire, interview
- Mode of Data Collection – Online
- Target Respondent – General Population (Above 18)
- Sample size – 116 (13 States/UT)
- Analysis Tools – MS Excel & IBM SPSS version 26.0 (2 step cluster analysis)

In 2020

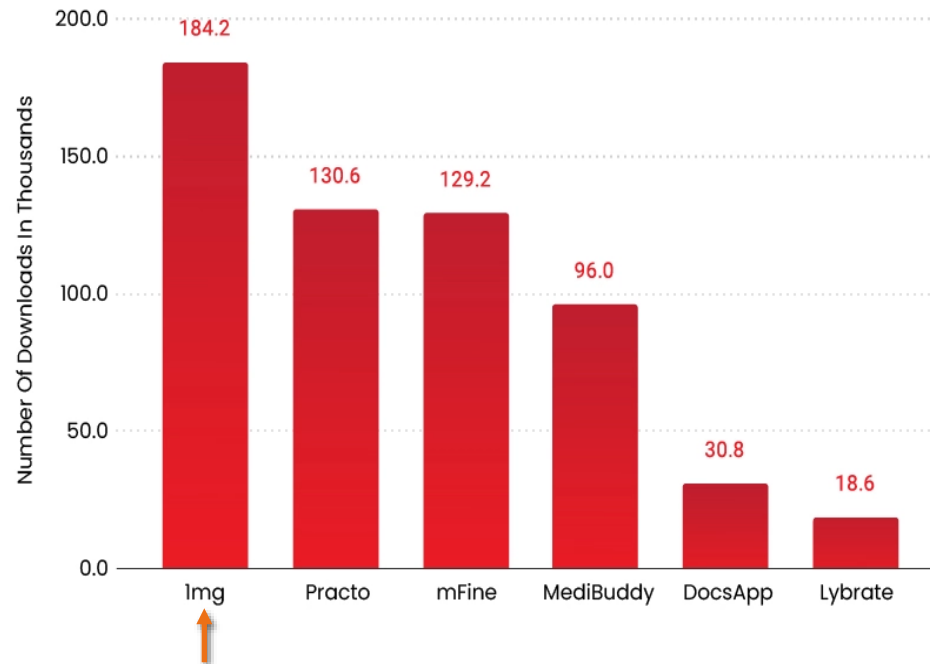
- Dr. H S Chhabra, Chief Coordinator, and Editor, ElearnSCI.org stated, **real boost to teleconsultation** was observed **after the covid pandemic** despite it being available in the public domain since 2017.
- Rajat Garg, CEO, and Co-Founder of myUpchaar admitted that **telemedicine has been existing in the background** for a long period, but the **Corona pandemic has brought the facility to the forefront**.
- Saurabh Arora, Founder & CEO, Lybrate said, “As it is dawning upon people how unsafe it is to step out, **pregnant women are opting to consult doctors online**, resulting in a significant **rise in virtual doctor** visits on Lybrate.”

In 2021

- According to a recent Inc42 Plus report titled India's eHealth Market Opportunity Report, 2021, the telemedicine market is expected to reach \$5.4 Bn by 2025, growing at a compound annual growth rate (CAGR) of 31%.
- According to Kalagato's analysis of millions of smartphone users, E-pharmacies such as **PharmEasy** and **Netmeds** saw a **2X increase** in daily active users in **April 2021. (DAUs)**,. **Practo**, which offers video consultations and digital prescriptions, **nearly tripled its DAUs** from less than 2.5 percent to more than 7 percent.

1mg Had The Highest Number Of Downloads In The Telemedicine Sector Post-Covid-19

Lybrate had the least number of downloads post-Covid-19



Note: Downloads are considered from Jan 1 to Feb 10, 2021
Source: AppTweak

Inc4Plus

Daily active users for India's online pharmacy, diagnostics and doctor consultation apps in India in April 2021

16% of users with the app installed open it at least once a day



Quartz | qz.com | Data: Kalagato

Government Initiative

- Centre for Development of Advanced Computing (C-DAC) in Mohali, to develop a platform to improve access health services and its reachability in the remote areas.
- 13th April 2020, the Ministry of Health and Family Welfare (MoHFW) launched eSanjeevani OPD.
- The platform is available in the following two variations:
 1. Doctor-to-doctor teleconsultations, provided through eSanjeevani Ayushman Bharat–Health and Wellness Centres (AB-HWC)
 2. Doctor-to-patient teleconsultations are provided free of cost through the eSanjeevani OPD platform

Issues:

- Internet connection and do not have
- personal gadgets
- understanding of English, Around 90 percent of new internet users in India are local language speakers (Practo added support for 15 Indian regional languages in early April)

Future Possibilities

- Comparison of eSanjeevani, Practo, and 1mg in India, Ping An Good Doctor (PAGD) in China, and Amwell and Teladoc in the United States.
- Unrealized possibility to **develop eSanjeevani into a world-class teleconsultation platform**.
- Incorporating it into the **wider healthcare ecosystem, which connects hospitals, clinics, pharmacies, labs, diagnostic centers, and doctors** who provide in-person consultations.
- This might be explored through the Government of India's National Digital Health Mission (NDHM).

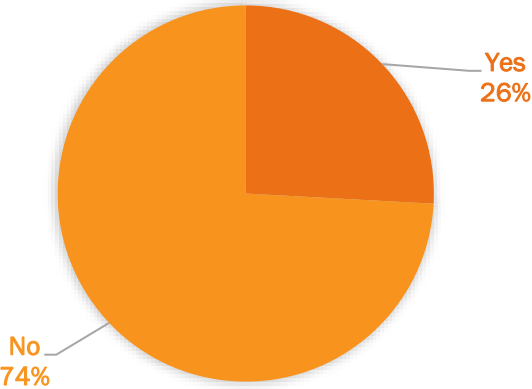
Services	Mode	eSanjeevani	Practo	1mg	PAGD	Teladoc	Amwell
Online consultation	 Online	✓	✓	✓	✓	✓	✓
e-health profile	 Online	✓	✓	✓	✓	✓	✓
Express drug delivery	 Online	✓	✓	✓	✓	✗	✗
Health plans	 Online	✗	✓	✓	✓	✓	✓
Appointment services	 Offline	✗	✓	✗	✓	✓	✗
Health check-up	 Offline	✗	✓	✓	✓	✓	✗
Hospital referral	 Offline	✗	✓	✓	✓	✓	✗
Second opinion	 Offline	✗	✗	✗	✓	✗	✗
Inpatient arrangement	 Offline	✗	✓	✓	✓	✓	✗
Domestic/overseas services	 Offline	✗	✗	✗	✓	✗	✗

Research and Development Areas in Telemedicine:

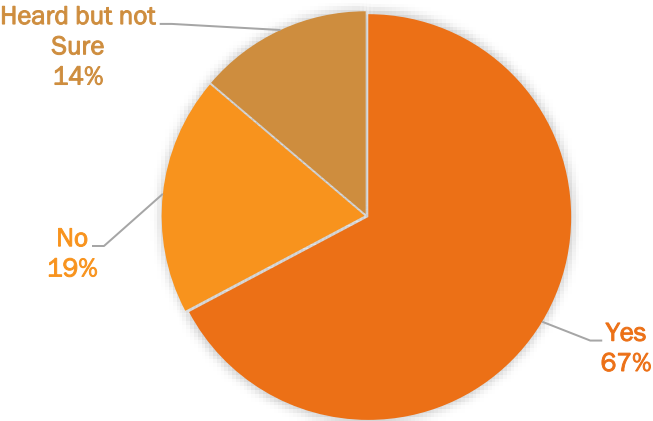
- **Paramedicine Solutions:** Hospital will be using telemedicine solutions connect paramedics with intensivist, cardiologist and neurologist to **deliver care faster** . Paramedics will help to understand whether **lower acuity destination** might be more **appropriate** for the patients need does the use of para telemedicine will also lead to **cost reduction** and help team **avoid unnecessary transportation** .
- **Use of AI-Integrated Software:** Implementing **AI based** software for **detecting** cancer from images. Such software can also be used to **detect** next based step for best set of **questions** that can be asked to a patient use in logic after gathering basic information.
- **Cyber Security** : In order to **prevent** database breach is in another form of **hacking**, fusible security tools rely on AI algorithm which enable in picking up any **suspicious activity** in real time. it also enables system administration not only to **react** to the incident but **proactively prevent** them as well.
- **Insurance Coverage For Remote Health Areas** : Insurance coverage for tele-health services and **remote patient monitoring** is going to be interest to governments looking to **reduce the cost** of healthcare and ensuring that their **population receive care** even in adverse situations.

Awareness and Knowledge about Telemedicine services

Percentage of Respondents used telemedicine services for the first time

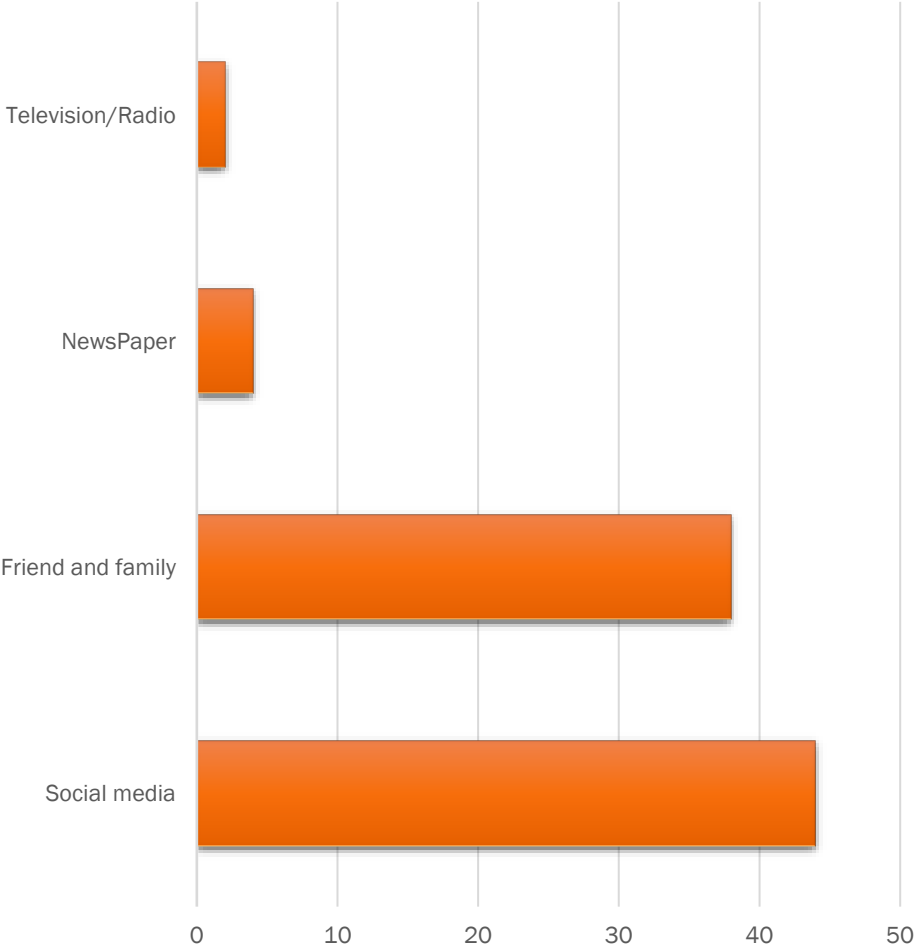


Percentage of People who have heard about telemedicine

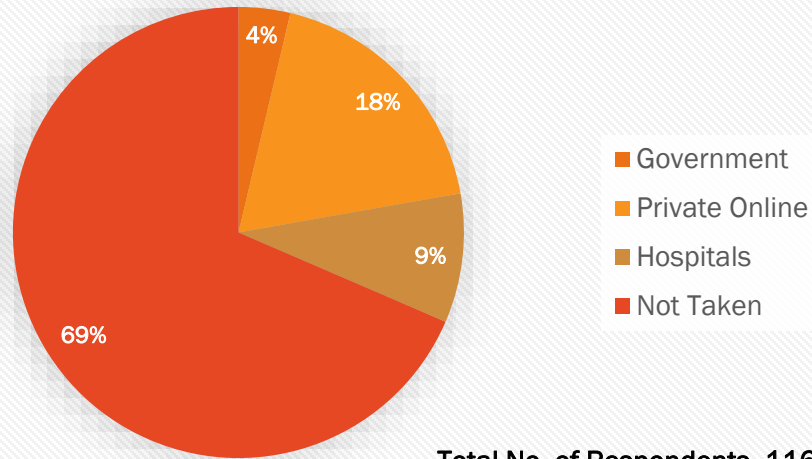


Total Number of Respondents -116

Source of Information

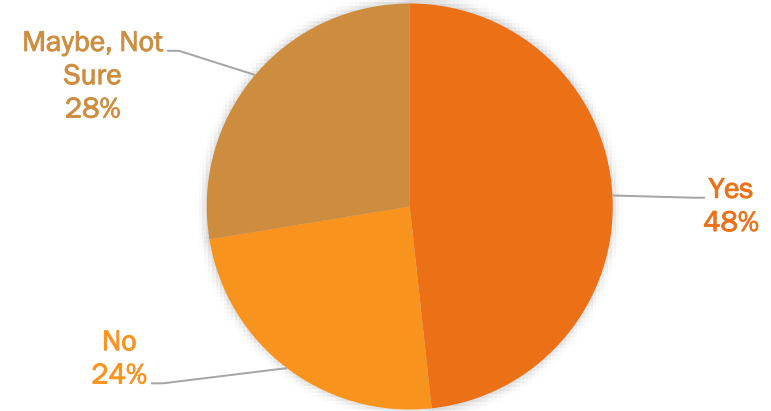


Percentage Share Organisation service



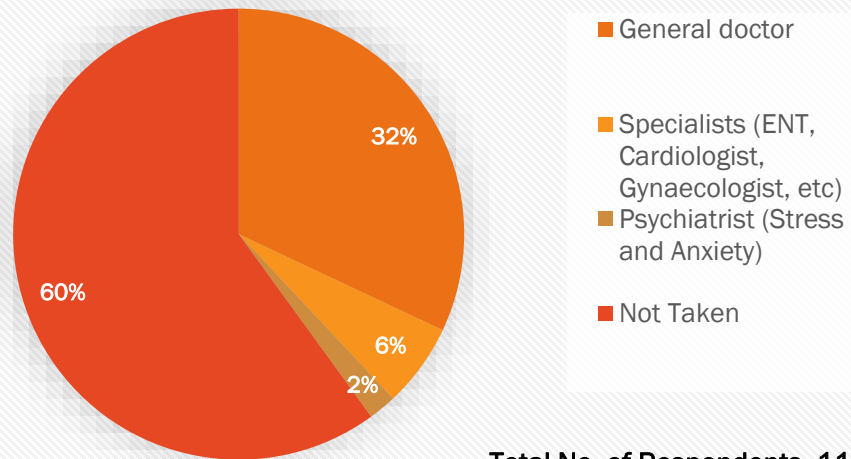
Total No. of Respondents -116

Privacy Concern



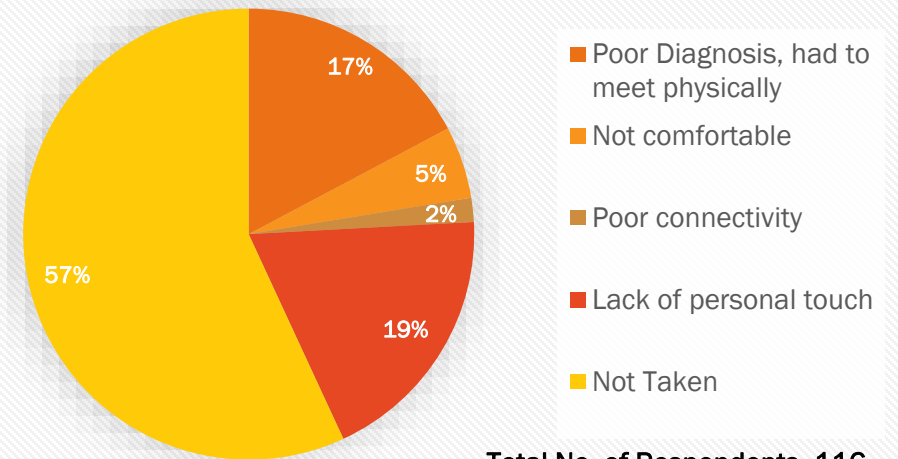
Total No. of Respondents -116

Type Of Consultant For Telemedicine Services



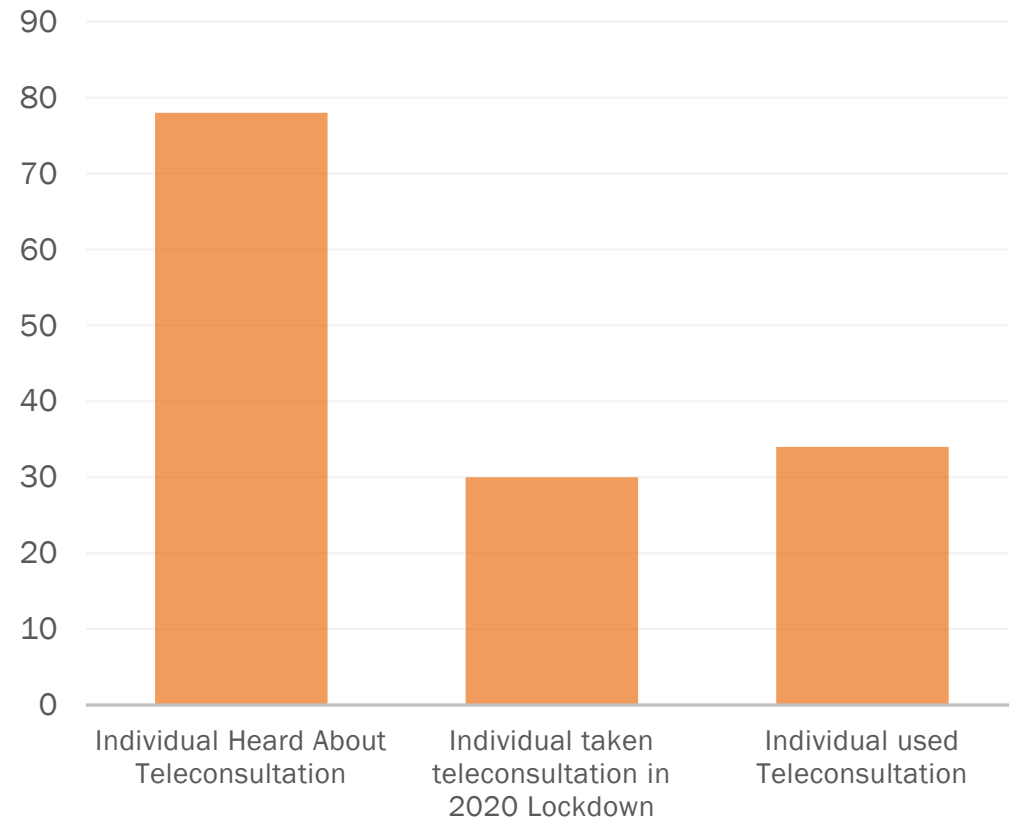
Total No. of Respondents -116

Challenges Faced While Utilizing Services



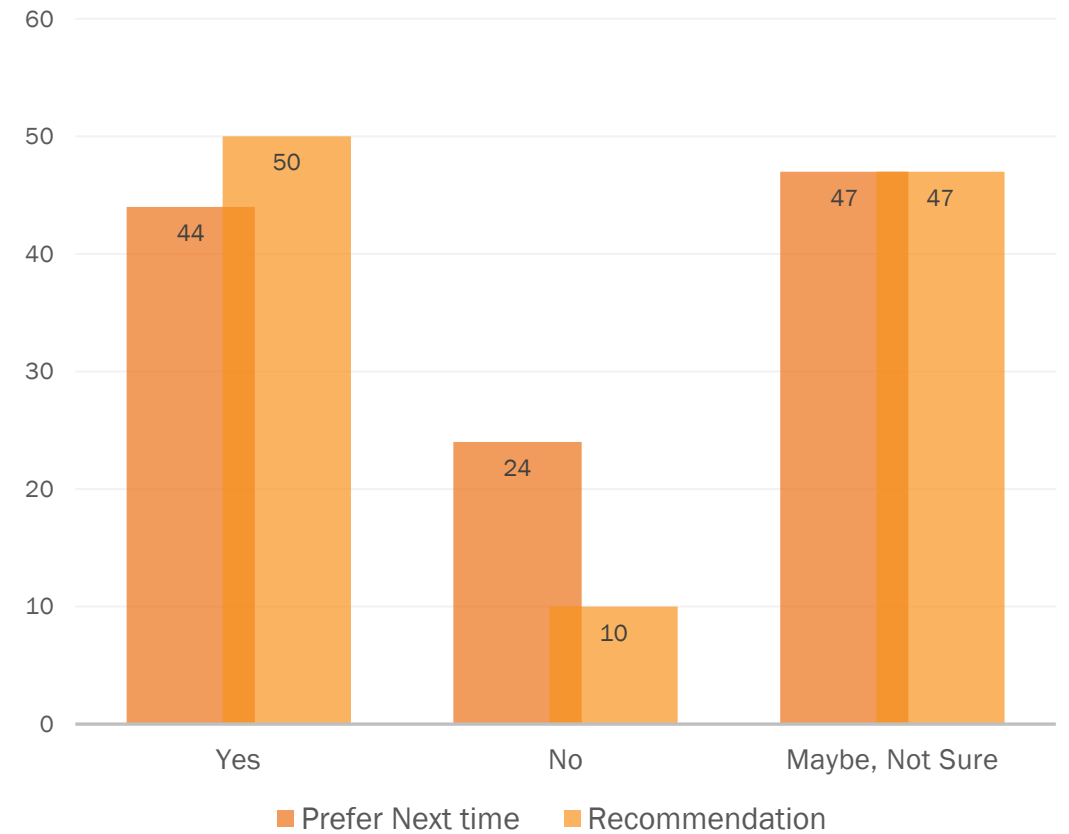
Total No. of Respondents -116

Comparison of Individual aware v/s used



Total Number of Respondents -116

Recommendation v/s Preference



Total Number of Respondents -116

Cluster	1	2
Label		
Description		
Size	 60.3% (70)	 39.7% (46)
Inputs	Recommend 3.37 > Recommend 2.13 Familiarity 2.86 > Familiarity 2.04 OverallRate 3.77 > OverallRate 2.74 CostEffectiveness 3.46 > CostEffectiveness 2.35 FirstTimer 1.43 > FirstTimer 1.00 PreferNextTime 2.29 > PreferNextTime 1.48 Rate 3.51 > Rate 2.74 Education 2.83 > Education 2.35 AnnualIncome 5-10 lakh (62.9%) > AnnualIncome 5-10 lakh (78.3%) Gender Female (74.3%) > Gender Female (52.2%) Area Urban (91.4%) > Area Urban (73.9%) Privacy 2.26 > Privacy 2.13	Recommend 2.13 Familiarity 2.04 OverallRate 2.74 CostEffectiveness 2.35 FirstTimer 1.00 PreferNextTime 1.48 Rate 2.74 Education 2.35 AnnualIncome 5-10 lakh (78.3%) Gender Female (52.2%) Area Urban (73.9%) Privacy 2.13

2-Step Cluster Analysis

- 2 Cluster was Generated

Size of Smaller Cluster – 46 (39.7%)

Size of Larger Cluster – 70 (60.3%)

- 12 Inputs (Parameters) was used in the analysis such as **Education, Annual Income, Knowledge And Utilisation Of Telemedicine, Cost Effectiveness, Experience Of Session And Relevant Demographic Details.**
- Higher level of education was directly proportional higher income, and awareness about telemedicine services and most of them belonged to urban cities.
- Female were more aware.
- Individual with good experience, preferred and recommended taking online teleconsultation.

Total Number of Respondents -116

Recommendations

- OTP verification process
- Aadhar verification and match patients and doctors algorithmically based on gender.
- Feature to record system via text/ voice note can be introduced.
- Create community-based local centers equipped with tablets and mobile (panchayat offices) devices self-help groups.
- Awareness at time of Healthcare centre visits.
- Patient privacy, database management, and confidentiality.

Conclusion

- **Telemedicine** may be observed at the beginning of the twenty-first century, but its **dawn** did not come until this **Covid outbreak**.
- With pandemic, the GoI issued **long-overdue guidelines**, which provided a similar boost to the digital health sector and introduced **eSanjeevni OPD**
- **Private players** like Practo, 1mg, and others are seeing **high demand** for their services.
- Obstacles such as **language barriers, reachability, awareness, and availability**, but the most major concern is **harassment** with female doctors, which must be rectified.
- **Affordability of Internet** and the collaboration of private companies such as Jio and Google, access to devices and the internet will be extended to a larger segment of society, particularly those living **in remote areas**.

All that is needed is to **improve present services** on a policy and execution level, as well as to **raise awareness** and encourage people to utilise them. More such cooperation, good moves in the right direction, and policy execution will enable the **coexistence of telemedicine services with hospital** services and their maximum extensibility.

References

1. Mishra, S.K, Singh, I.P, 2009. Telemedicine in India: Current Scenario and the Future. School of telemedicine and Biomedical Informatics, SGPGIMS, Lucknow, annual report, 568-578.
2. Ganpathy, K, 2014. Telehealth in India: The Apollo contribution and an overview. Available online at www.sciencedirect.com
3. Mathur, P, Srivastava, S, Lalchandani, A, Mehta, J.L. 2017. Evolving role of telemedicine in healthcare delivery in India. *Primary Health Care*, 7-16.
4. Telemedicine practice guidelines. Available from: <https://www.mohfw.gov.in/pdf/Telemedicine.pdf>
5. Ghosh, A, Gupta, R, Misra, A. 2020. Telemedicine for diabetes care in India during COVID19 pandemic and national lockdown period: Guidelines for physicians. Available online at www.sciencedirect.com
6. Ministry of health and family welfare govt of India. available from: <https://www.mohfw.gov.in/>
7. Mishra S, Ganapathy K, Bedi BS. The Current Status of eHealth Initiatives in India. Available from: http://www.ehealth-connection.org/files/conf-materials/Current%20Status%20of%20eHealth%20Initiatives%20in%20India_0.pdf
8. Dasgupta A, Deb S. Telemedicine: A new horizon in public health in India. *Indian J Community Med*. 2008;33:3–8. [PMCID:PMC2782224][PubMed: 19966987]
9. (Chauhan et al., *Novel Coronavirus (COVID-19): Leveraging Telemedicine to Optimize Care While Minimizing Exposures and Viral Transmission*)
10. <https://www.livemint.com/opinion/online-views/lets-reimagine-the-esanjeevani-telemedicine-platform-11612977495721.html>
11. [iomcworld.org](https://www.iomcworld.org/open-access/evolving-role-of-telemedicine-in-health-care-delivery-in-india-2167-1079-1000260.pdf). 2021. [online] Available at: <https://www.iomcworld.org/open-access/evolving-role-of-telemedicine-in-health-care-delivery-in-india-2167-1079-1000260.pdf>
12. [Stbmi.ac.in](http://stbmi.ac.in/). 2021. *Stbmi*. [online] Available at: <http://stbmi.ac.in/>
13. Vivek Chauhan, S., 2021. *Novel Coronavirus (COVID-19): Leveraging Telemedicine to Optimize Care While Minimizing Exposures and Viral Transmission*. [online] PubMed Central (PMC). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7161346/>
14. (Health Ministry's telemedicine service e Sanjeevani completes 9 lakh consultations, 2021) [Pib.gov.in](http://pib.gov.in). 2021. *Health Ministry's telemedicine service e Sanjeevani completes 9 lakh consultations*. [online] Available at: <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1677674>
15. Bhattacharya, A., 2021. *India's crumbling healthcare is pushing many to seek doctors and medicines online*. [online] Quartz. Available at: <https://qz.com/india/2007025/practo-1mg-and-pharomeasy-in-high-demand-amid-covid-crisis/>
16. The Ken. 2021. *eSanjeevani — the dark horse in India's telemedicine race* - The Ken. [online] Available at: <https://the-ken.com/story/esanjeevani-the-government-owned-dark-horse-in-indias-telemedicine-race/>



Thank
You
