

STUDY ON COVID-19 IMPACT ON 3A'S of TELE-ONCOLOGY

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in Hospital and Health Management

by

Swati Kharbanda

Under the Supervision and Guidance of

Dr. Alok Kumar Mathur

2021

STUDY ON COVID-19 IMPACT ON 3A'S of TELE-ONCOLOGY

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in Hospital and Health Management

by

Swati Kharbanda

Under the Supervision and Guidance of

Dr. Alok Kumar Mathur

2021

DECLARATION BY STUDENT

I hereby declare that this dissertation titled study on COVID-19 impact on 3A'S of Tele-Oncology is the Bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



(Signature)

SWATI KHARBANDA

Date: 30/6/2021

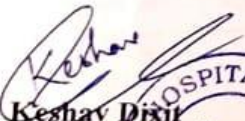
INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Dr. Swati Kharbanda** in partial fulfillment of the requirements for the award of the degree of MBA Hospital and Health Management from the IIHMR University, Jaipur has successfully completed her internship at Apex Hospitals Malviya Nagar, Jaipur during 1st April 2021 to 30th June 2021.

She has done a study on “COVID-19 Impact on 3A's of Tele Oncology” in the department of Oncology.

We wish her all the best for her future endeavor.

For Apex Hospitals Pvt. Ltd.


Keshav Dixit
Assistant Manager-HR



APEX HOSPITALS PRIVATE LIMITED

Regd. Office: SP-6, Malviya Industrial Area, Malviya Nagar, Jaipur (Raj.) 302017
Ph: +91 141 410 1111/2751871 Mail: contactus@apexhospitals.com Web: www.apexhospitals.com
CIN: U85110RJ1987PTC004214 GSTIN: 08AABCA5663M1ZD

CERTIFICATE

This is to certify that dissertation titled **study on COVID-19 Impact on 3A'S of Tele-Oncology** is a record of the research work undertaken by **SWATI KHARBANDA** in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

School Dean

IIHMR University, Jaipur

IIHMR University, Jaipur

Date:

Date:

AKNOWLEDGEMENT

I started of my dissertation work with a dream in my mind to find out about the parts of health services conveyance framework, Hereby I acknowledge this open way to convey my significant sentiment of gratefulness to every single one of the people who have been instrumental in effective consummation of my dissertation work.

Foremost, I would like to acknowledge with much appreciation my genuine thanks and respects to my organization mentor **Dr Shailesh Jhawar** (Director Critical Care, Apex Hospitals, Jaipur), To give me a chance to work and addition the learnings.

and for his understanding, inspiration, and enormous information, his directions helped me in all the hour of examination and forming report.

Words are inadequate to thank my faculty guide **Dr Alok Kumar Mathur** (Associate Professor), for being constant support and guidance throughout the time.

I likewise want to thank **respondents** for their support.

Lastly want to thank my parents and friends for their constant source of inspiration.

Dr Swati Kharbanda

LIST OF FIGURES AND TABLES

Figure 1-----	Page 15
Figure 2-----	Page 16
Figure 3-----	Page 17
Figure 3.1-----	Page 18
Figure 3.2-----	Page 18
Figure 4-----	Page 19
Figure 4.1-----	Page 19
Figure 4.2-----	Page 20
Figure 5-----	Page 20
Figure 5.1-----	Page 21
Figure 5.2-----	Page 21
Figure 6-----	Page 22
Figure 6.1-----	Page 23
Figure 6.2-----	Page 23
Figure 7-----	Page 30
Figure 7.1-----	Page 30
Figure 7.2-----	Page 31
Figure 8-----	Page 31
Figure 8.1-----	Page 32
Figure 8.2-----	Page 32
Figure 9-----	Page 33
Figure 9.1-----	Page 33
Figure 9.2-----	Page 34
Figure 10-----	Page 34
Figure 10.1-----	Page 35
Figure 10.2-----	Page 35
Figure 11-----	Page 36
Figure 12-----	Page 37

Table 1-----	Page 15
Table 2-----	Page 24
Table 3-----	Page 26
Table 4-----	Page 27
Table 5-----	Page 27
Table 6-----	Page 28
Table 7-----	Page 29

TABLE OF CONTENTS

NO	CONTENTS	PAGE NO.
1	KEY ABBREVIATION	8
2	TOPIC- STUDY ON COVID-19 IMPACT ON 3A'S of TELE-ONCOLOGY	
	2.1 INTRODUCTION	9
	2.2 RATIONALE	11
	2.3 LITERATURE REVIEW	12
	2.4 RESEARCH QUESTION	13
	2.5 RESEARCH OBJECTIVE	13
	2.6 METHODOLOGY	13
	2.7 RESULT	15
	2.8 DISCUSSION	38
	2.9 RECOMMENDATION	41
	2.10 CONCLUSION	41
3	REFERENCE	42
4	ANNEXURE	43

KEY ABBREVIATIONS

SARS- severe acute respiratory syndrome

COVID- Coronavirus Disease

IRDAI- Insurance Regulatory and Development Authority

NCRP-The National Cancer Registry Program

CHAPTER 1

INTRODUCTION

A recent profound impact which is being confronted through everyone globally is ongoing pandemic. Coronavirus lockdown confined movement all through the world. Severe Acute Respiratory Syndrome Virus (SARS-CoV-2) infection bringing about Coronavirus Disease in 2019 (COVID-19) has caused a worldwide pandemic driving a massive burden on medical care globally. The entire world was isolated and countless population faced distressing circumstances in day-to-day life like surprising economic decline, the higher load on non-transmittable diseases, changes in lifestyle, different psychological well-being issues, and so on. There was a requirement for inventive and novel answers for help and address the basic lack of medical care not just for the individuals who were tainted with COVID-19, the impact is likewise profoundly evident in oncology as cancer growth patients are potentially at higher risk of disease due to compromise immune system.⁷ Yet additionally for the individuals who may require clinical consideration during the pandemic, because of this enormous strain on health services structures, patients have been not able to visit emergency clinics for their ongoing oncology treatment¹, Subsequently as a result where we are seeing patients deferring their treatment and on occasion not ready to undergo current treatment plans⁷. As per the recent National Cancer Registry Programmed (NCRP) report 2020, cancer burden in India was 1.26 million cases in 2016, 1.39 million in 2020 and expected to increase to 1.57 million cases by 2025². During this basic circumstance, telemedicine administrations reemerged and turn into a resource, with more noteworthy significance to the oncology services conveyance range to keep in touch with the regular patient's checkups to limit their dangers of direct contact, due to the flood in the teleconsultations the ministry of health and family welfare (MoHFW), in partnership with NITI Aayog and the Board of Governors (BoG) of the Medical Council of India (MCI), issued long-awaited telemedicine guidelines on March 25, 2020³.

The concept of access to medical services is the vital indicator for the execution of any health care framework globally. The application of telemedicine in various fields of medicine has been

examined at length in previous studies ⁴. Telemedicine services are being implemented so rapidly around the world that organizations need to understand the needs of the people who choose such services. The pace of adoption of this innovation among oncology patients until now is uncertain, especially in developing nations like India. Three dimensions to access healthcare are, Affordability, Availability Accessibility, reflect the relationship between the characteristics and expectations of customers using the service ⁵. In assessing the healthcare service's needs, all these factors play a vital role and are link together. The strength of this relationship and the suitability between the provider and the client affect how the client uses health care ⁶. The mere existence of full use of health care cannot be determined simply by the existence of the health care facility. To determine efficacy and quality of such services, they must be tested using a specific framework of such services. This study will focus on the COVID-19 pandemic impact has had on cancer patients, how tele-oncology has improved their care, risks of tele-oncology and how the future of cancer care looks like with telemedicine.

The selection can be estimated with assistance of 3 factors for example Affordability, Availability, Accessibility,

Affordability- Relationship between health service rates and provider insurance or deposit requirements with income of clients, and available health insurance. For affordability of healthcare

Availability- is relationship between the presence of the health service provider and resources at a facility to the customers need.

Accessibility- relationship between provider location and patient location considering travel time, costs, and transportation costs.

RATIONALE

The purpose of this study is to examine the impact of the coronavirus pandemic on tele remote oncology services for cancer patients during COVID-19 pandemic. as abundance of information exists regarding the advantages and capability of telehealth, yet most information is from the viewpoint of the provider. unfortunately, there is little data regarding the patient's point of view and satisfaction; and surprisingly less with respect to accessibility issues related to technology innovation and social perception of telehealth. Therefore, this study aims to evaluate these changes with the help of 3 dimensions towards the healthcare delivery namely Affordability, Availability, Accessibility.

CHAPTER 2

LITERATURE REVIEW

- As per Wainstein L. 2018 Telemedicine can give clinical information as well as allow for consultation and discussion between doctors and patients. It can cut travel costs, save time, minimize medical costs, and make it easier for ordinary people, regardless of where the patient is. They can see a doctor without disrupting their everyday routine responsibility.
- With regarding in view of Portnoy J 2020 Telemedicine has been shown to be a safe and effective substitute for physical help. A Cochrane review looked at the impact of telemedicine paired with remote monitoring or video conferencing, as well as face-to-face or phone interviews, on chronic illnesses such as diabetes and congestive heart failure and found that the health results in both circumstances were equal.
- According to Ateriya N. 2018 In India, where access to affordable health care is a problem, telemedicine will be of great benefit to the public. Telemedicine enables a new form of interaction between doctor and patient, which requires mutual trust and acceptance.
- Following on with Penchansky R The five dimensions of health services: The relationship between the qualities and expectations of the patients who use the health service is reflected in affordability, availability, accommodation, accessibility, and acceptance. All these criteria are interconnected and have a crucial role in determining access to medical treatments.

CHAPTER 3

RESEARCH QUESTION

how the telemedicine administrations have been being used to give distant oncology care to the patients deprived during this critical time.?

OBJECTIVE

- To evaluate how the Tele-oncology service has been used to provide remote care for cancer patients who need it during the crisis.
- To illustrate the perception of oncology patients towards tele-oncology services use during the era of COVID-19.

METHODOLOGY AND METHODS

STUDY AREA: Apex hospitals

STUDY PERIOD: 1st April 2021- 30th June 2021

STUDY TYPE- cross sectional descriptive study.

SAMPLE SIZE- 100 respondents were taken above age group 18 years.

SAMPLING METHOD- Convenient sampling

INCLUSION CRITERIA

- Patients who previously or currently had a cancer.
- Cancer Patients who had experienced tele oncology service at least once during the covid-19 era.
- Both COVID-19 patients and non-COVID-19 patients are included.

EXCLUSION CRITERIA

- Physicians, Consultants, and healthcare workers were excluded from the study.

DATA COLLECTION

Study was a questionnaire-based survey, Primary data was collected using self-structured questionnaire which contain questions developed in English and Hindi languages. Self-structured Questionnaire was prepared with demographic questions and 5-point Likert scale was used to score each parameter: strongly agree, agree, neutral, disagree, strongly disagree. Finally, questionnaire was circulated electronically to sample population. 100 responses were received. Data was exported, analyzed, and interpreted.

DATA ANALYSIS

Data collected using online google form was further export to the MS Excel and interpretations of the data collected was done using graphs and tables.

CHAPTER 4

RESULT

Total of (n=100) responses were received, Male study participants were 59%(n=59) whereas female participants count for 41% (n=41). (Table 1)

TABLE 1 Socio Demographic Characteristics of respondents

CHARACTERISTICS	RESPONDENTS n=100
GENDER (%)	
MALE	59(59%)
FEMALE	41(41%)
RESIDENCE (%)	
URBAN	42(42%)
RURAL	58(58%)
AGE	
18-30 YEARS	10(10%)
31-50 YEARS	47(47%)
50 YEARS ABOVE	43(43%)

1. MODALITY USED

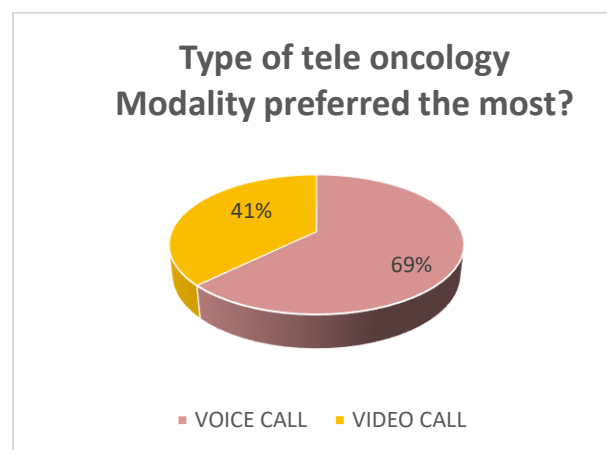


FIG 1: Response to Question type of tele oncology Modality you preferred the most during COVID-19. (n-100)

The above data in FIG 1 interpret that most of respondents 69% preferred using voice call modality during the pandemic, whereas 41% used video aid during COVID -19 as a mode of communication to seek healthcare.

1. TELE-ONCOLOGY SERVICE PREFERRED

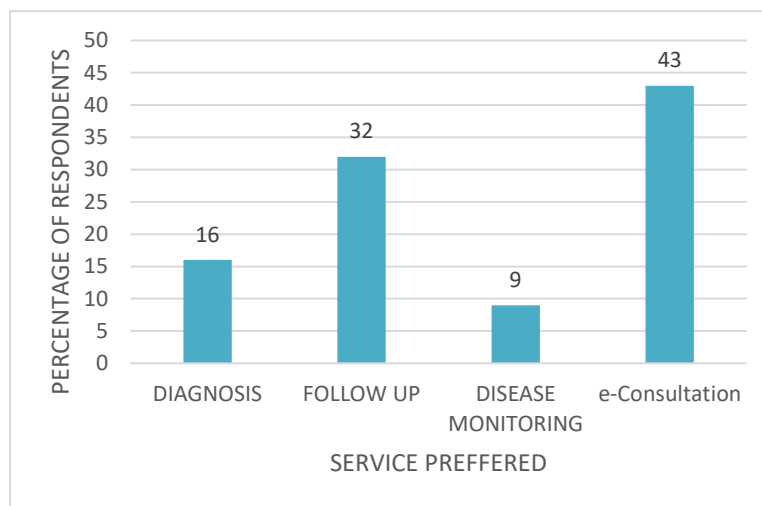


Fig 2; For what, tele oncology services you have been using?

Fig 2 illustrates that respondent have used e-consultation (43%) service followed by follow up 32%, diagnosis 16% and disease monitoring 9% for the e-interaction with the health professionals for the prevention and treatment aspect.

AFFORDABILITY OF TELE ONCOLOGY SERVICE

QUES 1 Price or charge of tele-oncology service was reasonable with respect to financial gain attained amid COVID-19.

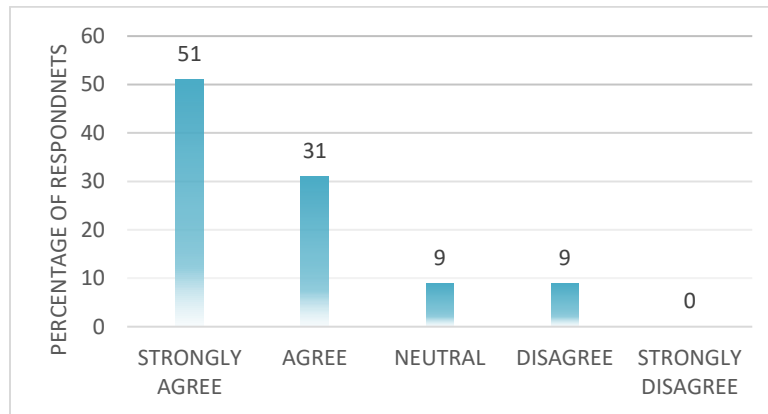


FIG 3; Price or charge of tele-oncology service was reasonable with respect to financial gain attained amid COVID-19.

Ques 1; Fig 3 shows affordability of tele oncology regarding income earned which shows 51% of the response strongly agree and 9% of the response denotes neutral and disagree that users were able to manage the price or charge of tele oncology service during pandemic, 31% agree that remote tele oncology services were cheap, which lead to the conclusion that telemedicine is affordable during the period of infection.

PERCEPTION OF GENDER AND AREA OF RESIDENCE TO PRICE OR CHARGE OF TELE ONCOLOGY SERVICES WAS REASONABLE WITH RESPECT TO FINANCIAL GAIN ATTAINED DURING COVID-19 .

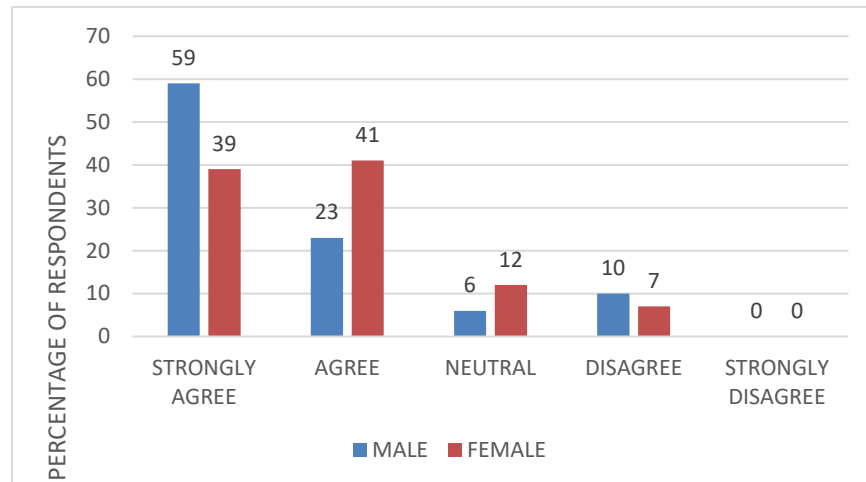


FIG 3.1 Perception of male and female to Price or charge of tele-oncology service was reasonable with respect to financial gain attained amid COVID-19.

FIG 3.1 Males 59 percent and female's 39 percent strongly agree, however more ladies 41 percent think that the price of the tele oncology service was reasonable, and generally, both genders have the same outlook on strong disagreement.

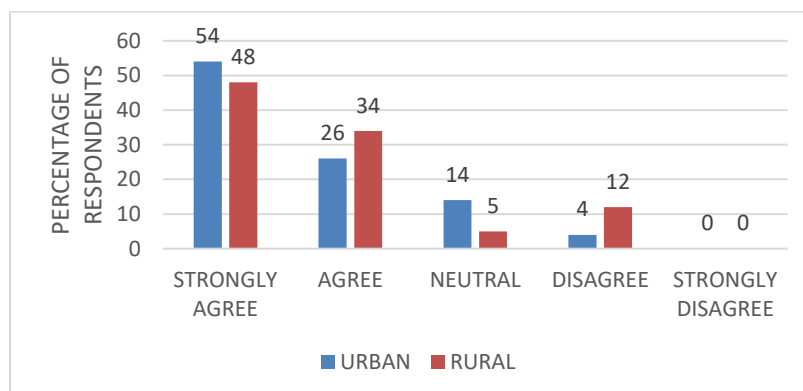


Fig 3.2 Perception of urban and rural people to Price or charge of tele-oncology service was reasonable with respect to financial gain attained amid COVID-19.

In Fig 3.2, 54 percent of urban people and 26 percent of rural people agreed with the statement, while 12 percent of rural people disagreed, indicating that rural people found the cost of tele oncology service to be expensive during pandemic.

QUES 2 The use of tele oncology service is worth my time, and it saves my expenses like OPD, transportation, treatment cost, toll charge, fuel, travel distance and reduce exposure to virus.

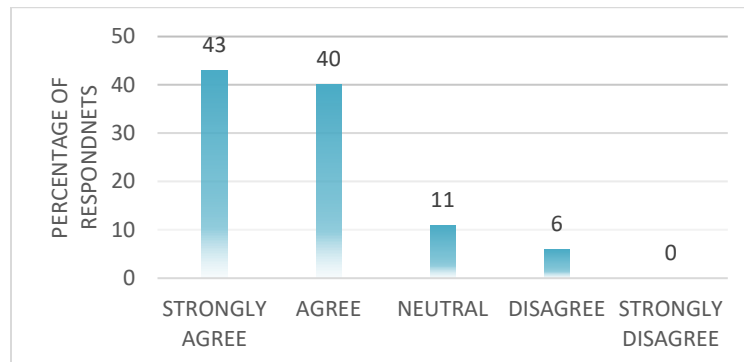


FIG 4 The use of tele oncology service is worth my time, and it saves my expenses like OPD, treatment cost, and reduce exposure to virus.

In Q2, FIG 4, Many respondents (43%) strongly agree that tele oncology saves expenses on transportation, fuel, tolls, OPD cost, escort cost and other costs, while 11% are neutral, and 6% of the Answered disagreement in terms of savings costs. It shows that most people find it cheap during the COVID-19.

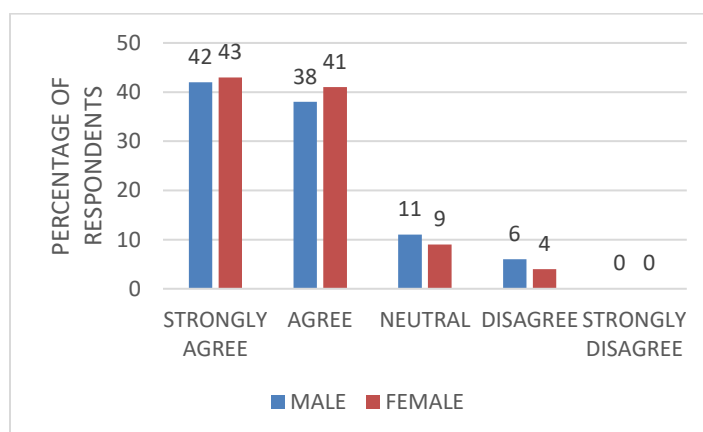


FIG 4.1 perception of gender towards use of tele oncology service is worth my time, and it saves my expenses like OPD, treatment cost, and reduce exposure to virus.

Fig 4.1 Both genders have a positive view on saving money, with 42 percent of males and 43 percent of females strongly agreeing, and none strongly disagreeing, indicating that gender has no bearing on saving money with tele oncology.

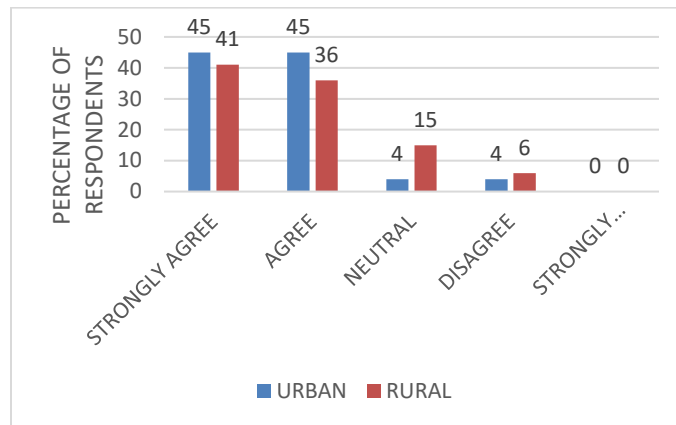


Fig 4.2 perception of area towards use of tele oncology service is worth my time, and it saves my expenses like OPD, treatment cost, and reduce exposure to virus.

Fig 4.2 According to the findings, approximately 45 percent of urban and 41 percent of rural people strongly agree, while 36 percent of rural people agree and 34% rural people are neutral with the statement, indicating that rural people find it difficult to afford service.

QUES 3 After COVID-19 onset, I purchased new device to get Tele Oncology service.

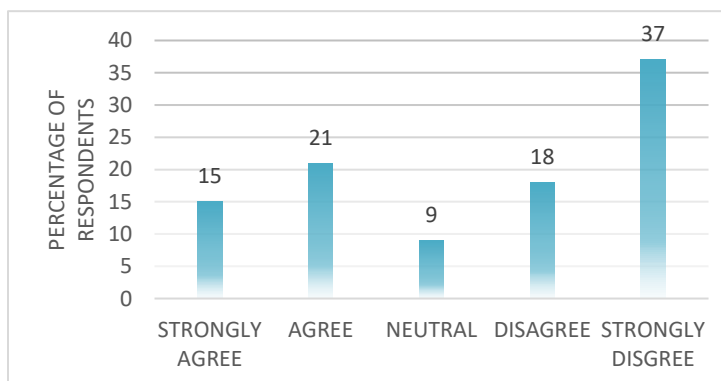


FIG 5: After COVID-19 onset, I purchased new device like smart phones, Tabs, Laptop etc. to avail Tele Oncology service.

FIG 5, For Q3, there are 37% of people strongly opposed of not purchasing a new device to receive tele-oncology services and 15% strongly agree that they have purchased a new device to receive tele-oncology service.

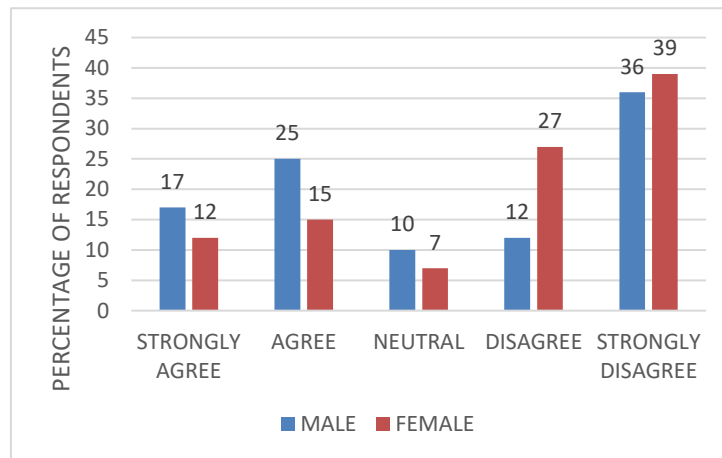


Fig 5.1 Perception of gender to purchased new device like smart phones, Tabs, Laptop etc. to avail Tele Oncology service.

Fig 5.1 shows that a higher percentage of males (17%) and (25%), respectively, purchased new devices, while a large proportion of females (27%) disagreed and did not purchase any new device to access tele oncology services, indicating that gender has different perspectives on purchasing new devices.

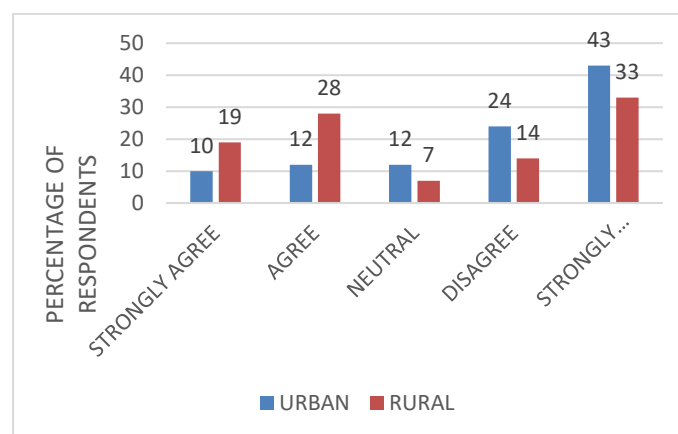


FIG 5.2 Perception of area to purchased new device like smart phones, Tabs, Laptop etc. to avail Tele Oncology service.

IN FIG 5.2 According to the data, a higher percentage of rural residents purchased a new equipment in order to receive tele oncology services.

Ques 4 New schemes were introduced by insurance companies to provide reimbursement for the services.

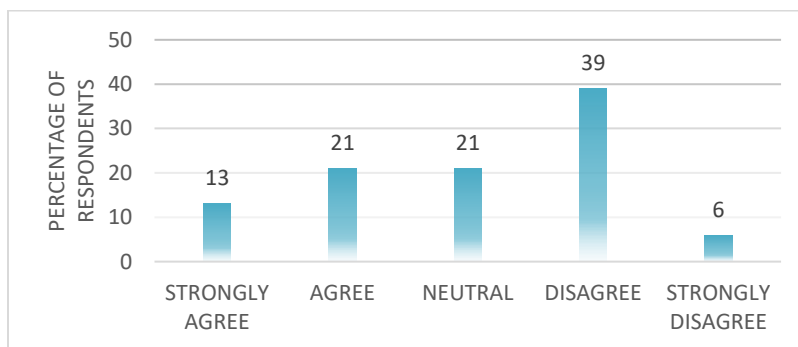


FIG 6 New schemes were introduced by insurance companies to provide reimbursement for the services.

Ques 4, Fig 6 34% of people agreed that there are new insurance plans and reimbursement available for the expenses of tele oncology, whereas 45% disagree to the statement that no new insurance schemes and reimbursements introduce for tele health service by the companies and 21% are neutral which shows they are not aware about if any insurance scheme or policy being introduced during pandemic.

Perception of gender to new schemes were introduced by insurance companies to provide reimbursement for the services.

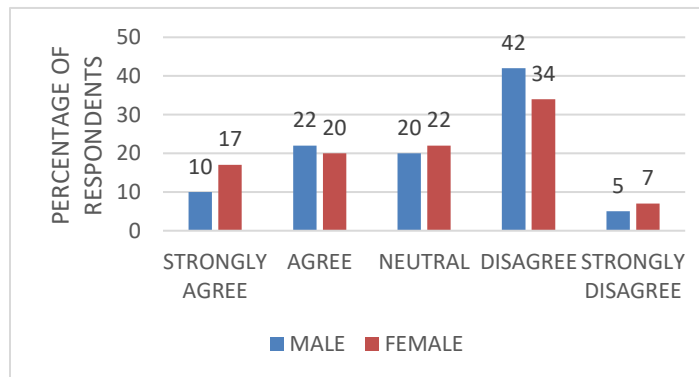


Fig 6.1 Perception of gender to new schemes were introduced by insurance companies to provide reimbursement for the services.

Fig 6.1 Both genders have a neutral attitude about the implementation of insurance schemes and policies, however 42% of males disagree and are unaware of the availability of payment facilities for tele oncology.

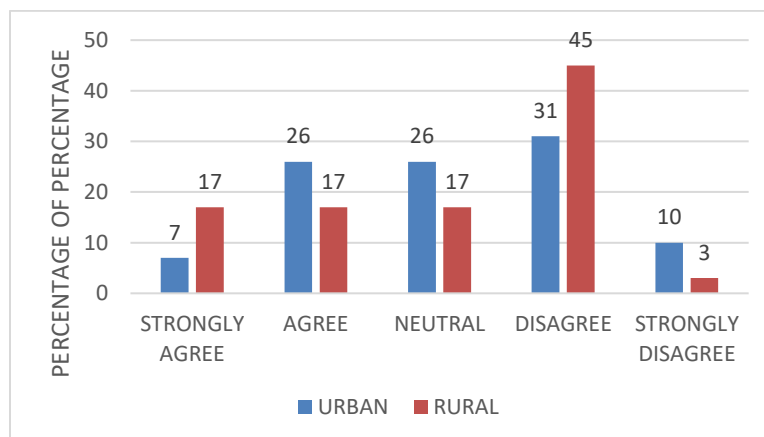


Fig 6.2 Perception of residence to new schemes were introduced by insurance companies to provide reimbursement for the services.

Fig 6.2 45 percent of rural residents disagree that any insurance scheme policy for tele oncology services exists, whereas 17 percent say that they are aware of the service.

TABLE 2 : AVAILABILITY OF TELE ONCOLOGY SERVICE:

AVAILABILITY	STRONGLY Y AGREE %	AGREE %	NEUTRAL %	DISAGREE EE %	STRONGLY DISAGREE %
Q5 Have used telemedicine approach not just for oncology care but also for other diseases such as COVID-19, diabetes, general consultations etc.	25	47	8	13	7
Q6 With availability of Tele oncology approach my hospital waiting time is saved.	52	36	6	4	2
Q7 Post COVID-19 onset Tele oncology services were feasible even with less staff and support.	15	38	13	23	11
Q8 Tele oncology service was feasible and available 24*7 for patients post COVID-19 onset.	12	26	14	27	21
Q9 Specialist Doctor was available and was able to access pain, symptoms and discuss treatment plan with tele oncology service.	34	42	5	9	10

Table 2 represents the availability of tele oncology services, wherein **Q5** was about usability of telemedicine not just for oncology care but also for COVID-19 and other ailments, most (25%) of respondents strongly agreed (47%) and agreed. This demonstrates that telemedicine approaches can have been used for oncology as well as for other diseases. In **Q6**, users were asked

about telemedicine reduces hospital waiting times, 52% of respondents strongly agree with the statement while only 4% of disagree, it shows that when people arrive at the hospital, they had to wait in long lines. for their scheduled appointments and that scenario changed during the time of the pandemic with availability of healing from a distance. **Q7** on the feasibility of telemedicine with fewer support staff, 38% of those surveyed agreed with the statement, while only 11% disagreed with the statement, showing COVID-19 does not affect the viability of telemedicine. When asked about the availability of doctors for tele oncology services in **Q8**, 26% of respondents agree, whereas 27% disagree and 21% strongly disagree which means people were finding difficult to access medical care with tele oncology service as service and doctor was not available 24*7. In **Q9** most respondents agree with the statement that specialists are available for oncology telemedicine services and Only 9% of respondents in this study disagreed with the affirmation, which means in India there are not only GPs assigned to remote oncology, but also the specialists in remote oncology facilities.

Table 3 Perception of gender and area of residence to have used telemedicine approach not just for oncology care but also for other diseases such as COVID-19, diabetes, general consultations etc.

QUES 5		STRONGLY AGREE %	AGREE %	NEUTRAL %	DSIAGREE %	STRONGLY DISAGREE %
Have used telemedicine approach not just for oncology care but also for other diseases such as COVID-19, diabetes, general consultations etc.	MALE	27	44	8	12	8
	FEMALE	22	51	7	15	5
	URBAN	31	43	4	17	5
	RURAL	21	50	10	10	9

Table 3 According to the survey, approximately 44 percent of males and 51 percent of females agreed and have utilized the telemedicine service for additional medical treatment, with approximately 50 percent of rural people agreeing and 17 percent of urban people disagreeing.

Table 4 Perception of gender and area of residence with availability of Tele oncology approach my hospital waiting time is saved.

QUES 6		STRONGLY AGREE %	AGREE %	NEUTRAL %	DSAGREE %	STRONGLY DISAGREE %
With availability of Tele oncology approach my hospital waiting time is saved.	MALE	46	39	8	5	2
	FEMALE	61	32	2	2	2
	URBAN	58	24	12	2	5
	RURAL	48	45	2	5	0

Table 4 Approximately all male and female respondents agreed that telemedicine helps to reduce hospital waiting times and improve patient care quality, with 58 percent strongly agreeing urban people and 45 percent of rural respondents agreeing, indicating that telemedicine services are beneficial in both areas.

Table 5 Perception of gender and area of residence with Post COVID-19 onset Tele oncology services were feasible even with less staff and support.

QUES 7		STRONGLY AGREE %	AGREE %	NEUTRAL %	DSIAGREE %	STRONGLY DISAGREE %
Post COVID-19 onset Tele oncology services were feasible even with less staff and support.	MALE	19	41	14	19	8
	FEMALE	8	34	12	29	15
	URBAN	21	48	7	14	10
	RURAL	10	31	17	29	12

Table 5 When asked about the feasibility of using telemedicine, approximately 8 percent and 34per cent of females strongly agreed and agreed, respectively, which is less than males, and 29

percent and 15 percent disagree and strongly disagree more, indicating that females found it less feasible. Even rural respondents agreed less, and 17 percent stated neutral.

Table 6 perception of gender and area of residence with Tele oncology service was feasible and available 24*7 for patients post COVID-19 onset.

QUES 8		STRONGLY AGREE %	AGREE %	NEUTRAL %	DSIAGREE %	STRONGLY DISAGREE %
Tele oncology service was feasible and available 24*7 for patients post COVID-19 onset.	MALE	17	29	14	27	14
	FEMALE	5	22	15	27	32
	URBAN	14	33	17	24	12
	RURAL	10	20	13	29	28

Table 6 denotes that out of both genders interviewed, approximately 46 percent of males found tele oncology service more feasible, whereas approximately 47 percent of urban people found themselves comfortable while using tele oncology service, which is the polar opposite for rural people, with more people disagreeing because there was no availability of service 24 hours a day, seven days a week in rural areas.

Table 7 perception of gender and area of residence with Specialist Doctor was available and was able to access pain, symptoms and discuss treatment plan with tele oncology service.

QUES 9		STRONGLY AGREE %	AGREE %	NEUTRAL %	DSIAGREE %	STRONGLY DISAGREE %
Specialist Doctor was available and was able to access pain, symptoms and discuss treatment plan with tele oncology service.	MALE	37	44	3	8	7
	FEMALE	29	39	7	10	15
	URBAN	36	38	7	12	7
	RURAL	33	8	3	7	12

Table 7 Approx. 37 percent of males strongly agree, and 44 percent agree on the availability of a specialized doctor, whereas women agree less and strongly disagree 15 percent of the time. Only 8% of rural residents agree.

ACCESSIBILITY OF TELE ONCOLOGY SERVICE

Q10 Apps available like WhatsApp, Google meet, Skype etc. are reliable for the interaction with the doctor.

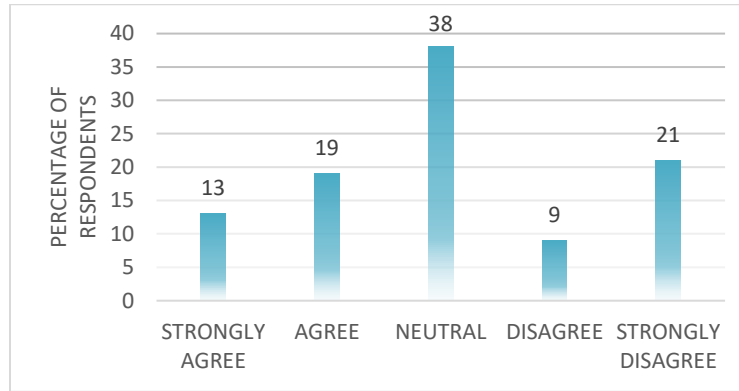


FIG 7 User-friendly Apps are reliable for the interactions with the doctor.

In **Q10**, **FIG 7** 13% strongly agree that the commonly used apps are reliable for communicating with physicians. However, about 9% of people disagree and 38% of people favor neutrality on whether these easy-to-use apps are trustworthy, which shows that people are skeptical and do fear of data leakage.

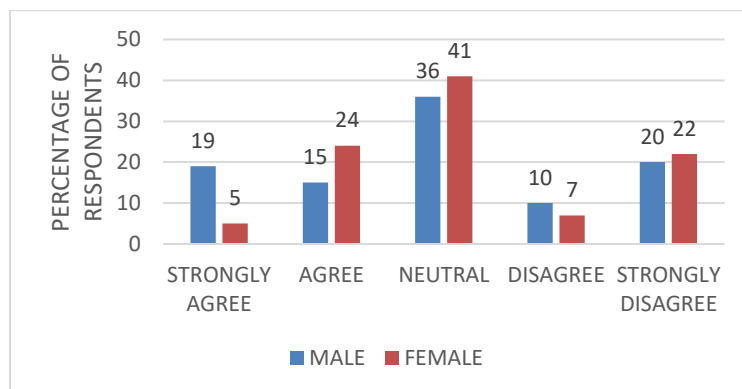


Fig 7.1 Perception of gender to User-friendly Apps are reliable for the interactions with the doctor.

Fig 7.1 Both genders demonstrate neutrality in that they are concerned about data security and were perplexed while using the Apps.

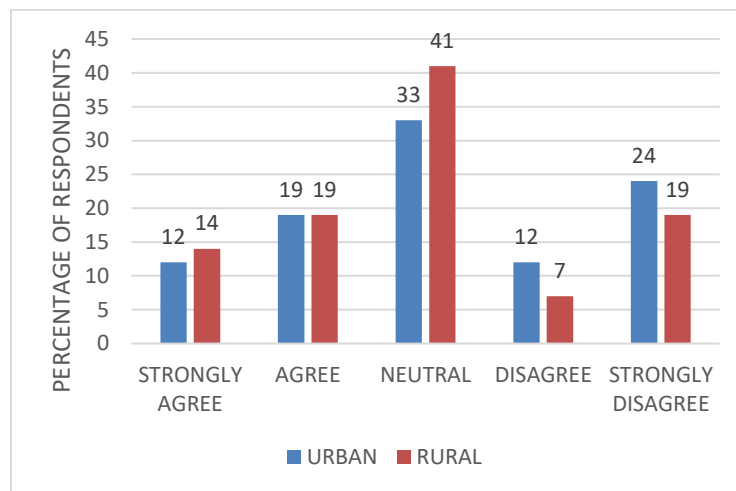
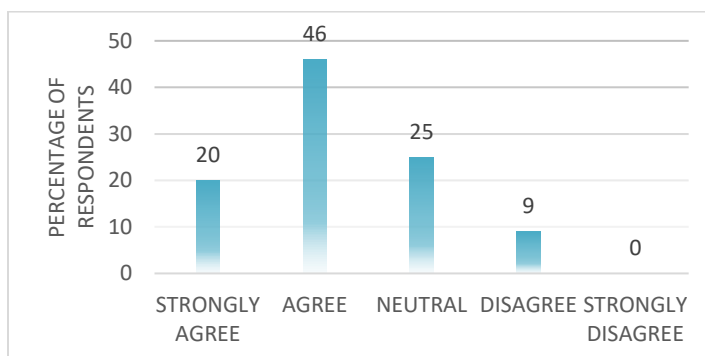


Fig 7.2 Perception of area of residence to User-friendly Apps are reliable for the interactions with the doctor.

Fig 7.2 According to the study, 41% of rural individuals have difficulties when utilizing mobile apps. And while both area people agreed that these applications are trustworthy, approximately 36% of urban residents disagree with this assertion and believe that these apps are less trustworthy.

Q11 Technology and training is required to access such services and for better interaction with the doctors.



Ques 11, FIG 8: Technology and training is required to access such services and for better interaction with the doctors.

When asked about in FIG 8 (Q11) Better interaction with doctors and to access tele oncology services, requires training and technology and 46% agree with this. Nearly 9% of people disagree with this statement.

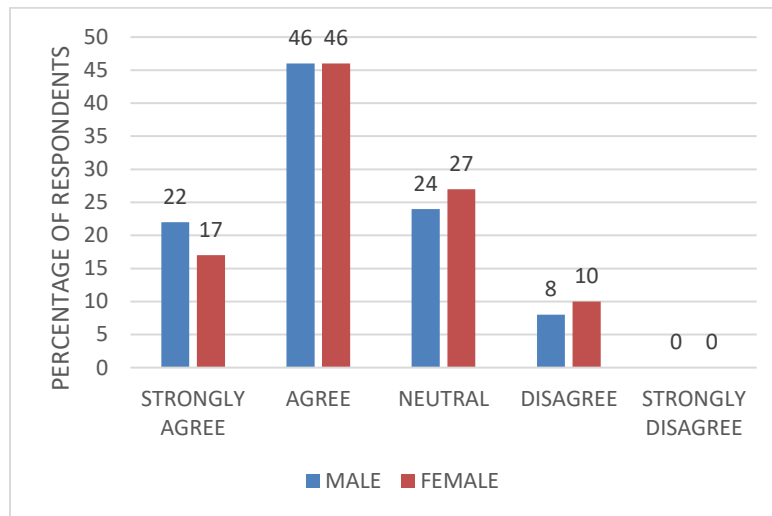


FIG 8.1 Perception of gender with Technology and training is required to access such services and for better interaction with the doctors.

In Fig 8.1 Both male and female respondent's 46 percent think that they lack the necessary skills and technology to use these services.

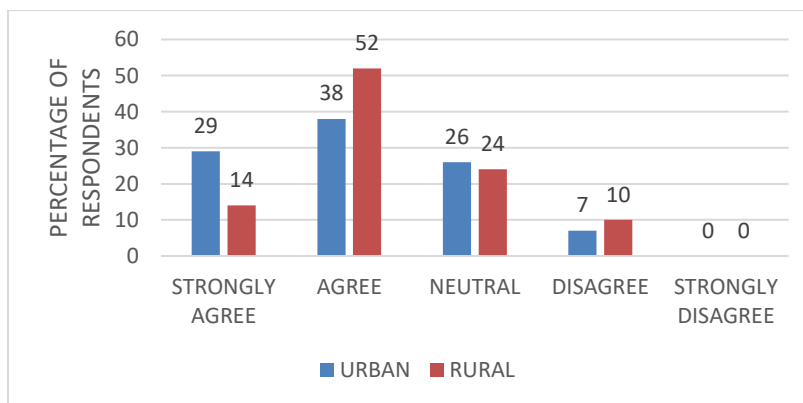


Fig 8.2 Perception of residence with Technology and training is required to access such services and for better interaction with the doctors.

Fig 8.2 illustrates Rural people agree 52 percent of the time, whereas urban people strongly agree 29 percent of the time, implying that people in all areas of the country require training to access these services.

Q 12 Heath records were easily shared with the doctors through tele oncology Service.

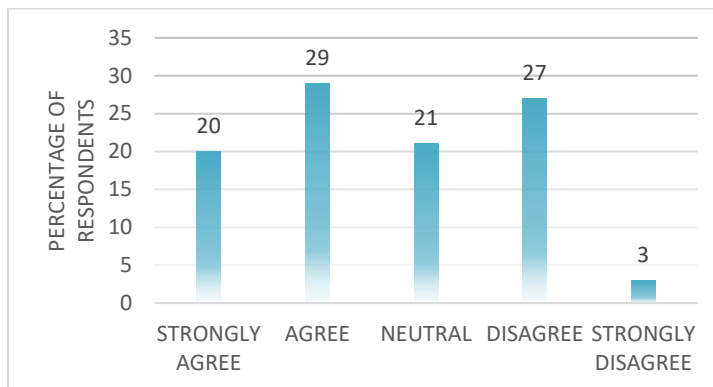


FIG 9; Heath records were easily shared with the doctors through tele oncology Service.

In Q12 **Fig.9** responses shows that 29% of respondents agree that health records were easily shared with the concerned doctor, whereas 27% respondents disagree to it.

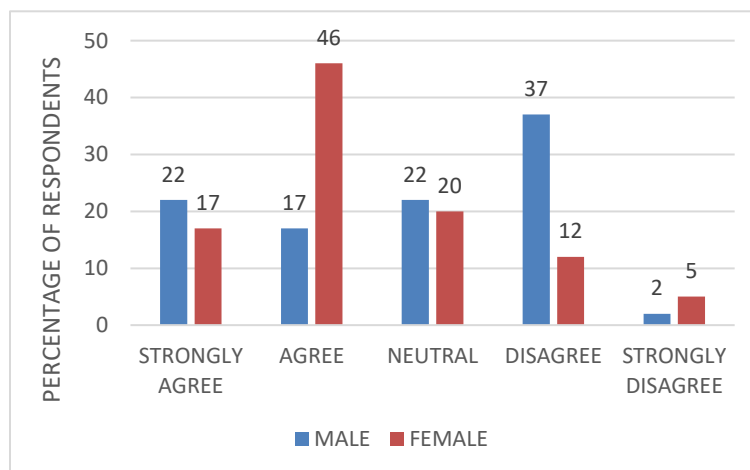


FIG 9.1 Perception of gender with Heath records were easily shared with the doctors through tele oncology Service.

In Fig 9.1 According to the study, 46 percent of women had no trouble sharing health records with doctors, however 37 percent of men had trouble accessing the tele oncology service.

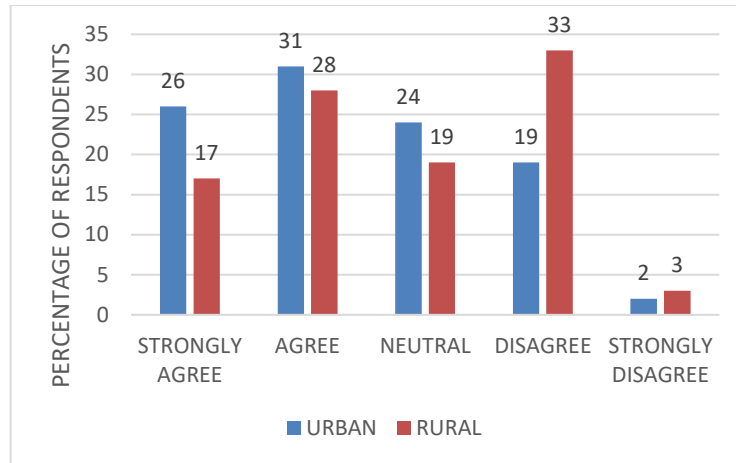


FIG 9.2 Perception of residence with Heath records were easily shared with the doctors through tele oncology Service.

Fig 9.2 According to the study, 33% of rural people have had difficulty exchanging health records with doctors, but 31% of urban people find it easy to access applications and share health details.

Q13 During COVID-19 period, while interacting with the consultant strong and steady internet connection was there.

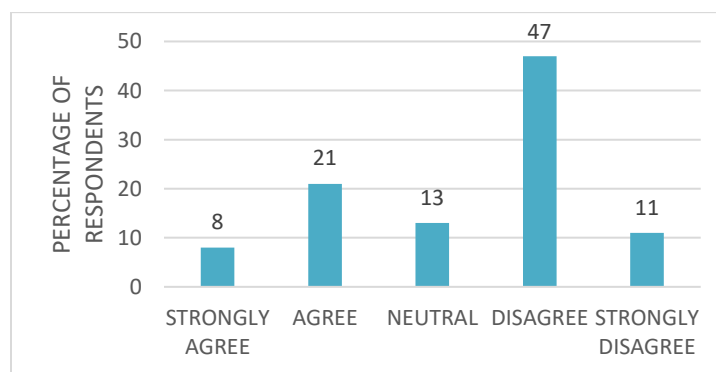


FIG 10; strong and steady internet connection was present while interacting with the doctors.

Then, when asked in **Q13,FIG 10** majority of them, i.e., 47% of people disagreed with having a strong and stable internet connection to provide audio and video to interact with doctors, and

about 21% agreed with having a good internet connection. This shows that most of them had trouble contacting the doctor.

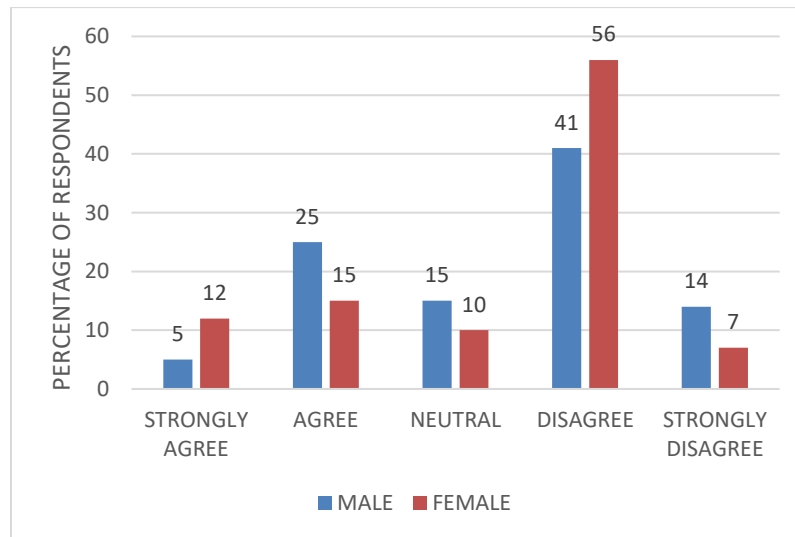


Fig 10.1 Perception of gender with strong and steady internet connection was present while interacting with the doctors.

FIG 10.1 About 56% of women have trouble connecting to the internet while seeking telehealth care, while 25% of men think that they have a decent network connection, indicating that perceptions differ by gender while engaging with doctors.

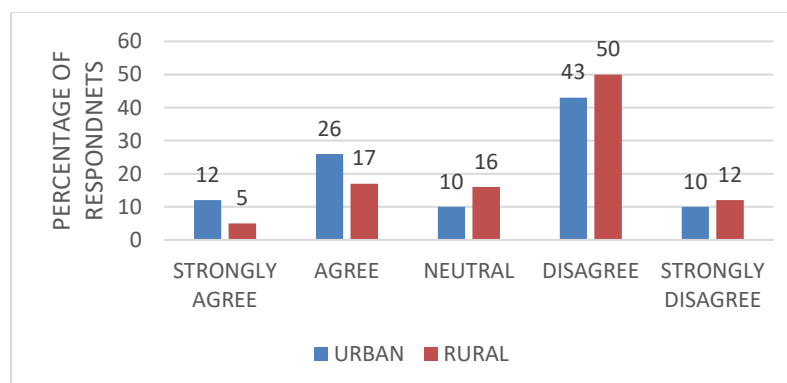


Fig 10.2 Perception of area of residence with strong and steady internet connection was present while interacting with the doctors.

Fig 10.2 Approximately 38 percent of urban people have a positive outlook when their network is stable and they have good accessibility while interacting, whereas 62 percent of rural people

struggle to get network and infrastructure stability while interacting, demonstrating that network stability varies between urban and rural areas.

QUES 14: PERCEPTION TOWARDS USE OF TELEMEDICINE DURING COVID 19 PERIOD

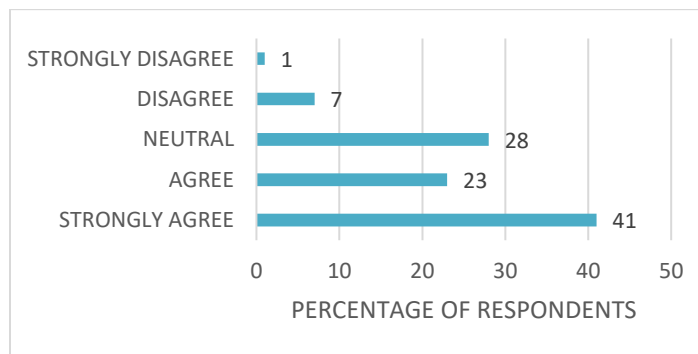


FIG 11; As a result of social distance and a lack of appropriate treatment, Telemedicine has emerged as the safest and most engaging approach between patient and doctor.

In **Q14, FIG 11**, 41% of respondents strongly agreed that telemedicine can help a lot in maintaining social distancing. and during lockdown and utilizing tele health as a safest mode during COVID-19; on the other hand, only 1% respondents strongly disagree to it.

Q15 Once normality is restored would you still prefer to use telemedicine services for the treatment of the disease.

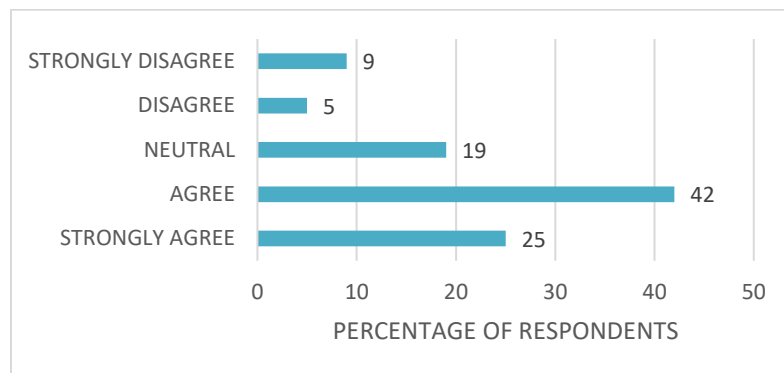


FIG 12; Use of telemedicine services even after COVID-19 subsides.

When asked about their views on the usage of telemedicine even after pandemic. (Q15,FIG 12), most of them admitted that even after the pandemic, they would be using these services, therefore this shows people's tendency to use and adapt to telemedicine services.

CHAPTER 5

DISCUSSION

AFFORDABILITY

Telemedicine in a way of tele oncology is intriguing because it helps overcome barriers to critical care, such as patients travelling long distances to cancer clinics, and it can reduce disruptions to patients' daily lives. Many people appreciate being able to contact with their doctors via digital tools and applications, which makes getting professional advice easier⁸.

- While reviewing the research on the affordability of telemedicine in oncology, numerous factors were included. These factors included are saving from saving money on transportation to hospitals, patients, and their escorts, total income earned.
- This telemedicine affordability study is underway to find out if there are variation in telemedicine spending, related to income earned during COVID-19.
- Affordability varies or there are changes based on various aspects. Income, occupation bracket. Geographical location, etc. play a significant role in the decision to use telemedicine or to continue with the routine in-person visit to the hospitals.
- Explain the need for telemedicine and encourage a telemedicine approach, all health plans and big companies cover medical services in some way, Telemedicine is extremely useful for saving travel time and money Portnoy J et al in 2020.⁹ Navjit W et al. 2017¹⁰ According to the study, telemedicine saved 5,345,602 miles of journey distance, 4,708,891 minutes of time, or 8.96 years of travel time, and the total travel cost was US\$2,882,056.
- In our study, 38% of people disagree on the reimbursement offer for telemedicine services, indicating that they are unaware of the telemedicine schemes and policies, whereas IRDAI has set new rules for compliance with telemedicine guidelines during COVID-19, ensuring uniformity and a hassle-free process. Anyone who receives a telemedicine consultation from a doctor, for example, will be able to recover the charges.¹⁵

- Telemedicine is very affordable, including technological advances and schemes and benefits, and most of the respondents agree that telemedicine is cost-effective .

AVAILABILITY

- Irrespective of cancer disease management ,Telemedicine is widely used for other disease care. Ghosh et al¹¹ did a study in 2020 and mentioned the use of telemedicine for diabetic management, whereas in this study Q5, 47% of respondents were agreed to the statement that they have use telemedicine not just for oncology but for other disease as well and can consult their concerned doctors with telemedicine.
- Yildiz F et al 2020¹² has stated in their research that in Turkey The medical oncologist conducted the evaluation through telemedicine., so 23% of patients avoid the waiting time required for face-to-face care at the medical oncology clinic in routine practice. Therefore, the risk of these patients contracting COVID-19 in the crowded outpatient waiting room has been minimized and can directly contact their doctor's vis tele oncology approach whereas with the responses we received in our study In India, people can also consult their specialists through telemedicine, which, according to people, also reduces travel time and waiting time in hospital.
- Our study shows that Telemedicine does not depend on the presence of personnel as 38% of the respondents agreed that the availability of a small number of staff can make telemedicine or tele oncology service available for patients. Due to fear and the COVID - 19 lockdown, and due to downsizing many people left and lost their jobs. In rural areas, there are very few staff available and sometimes no doctors.

ACCESSIBILITY

When we study the accessibility of people in COVID-19 to tele oncology, several factors will be included. These factors are related to network connections, easy-to-use applications to interact with doctors, training, and technology.

- to interact with patient user-friendly applications such as WhatsApp, Skype, Microsoft Team, etc. are required easily access tele oncology services and to facilitate smooth interaction between patients and physicians. In our study very few 13% people strongly

agreed to it and 38% favors neutral that is they are facing issues while using the Apps. Also, they should be made aware regarding the use of Apps.

- Also, the net connectivity is a crucial factor to consider Diagnostic imaging, treatment and consultation can only be carried out under a good network connection, and many people (47%) strongly disagreed to have a good and secure network connection while interacting with the consultant, 27% have faced issue while sending health records to the doctors. Therefore, Bagchi S mentioned in 2006¹³ that ISRO has set up the Health SAT satellite, which can help people contact doctors without any network problems and help to send the patient's diagnosis details more easily to the doctor.
- From the response to the acceptability of telemedicine in India, after the pandemic started, the mindset of people to use telemedicine services has improved. The government lockdown measures restricted the movement of people, leading to the gospel of primary care telemedicine. Few respondents fully agree that they are willing to continue using the services after the pandemic, because this facility strengthen doctor patient relationship and give ease of care to people.
- The cost of cancer therapy is high. Traveling for follow-up appointments or to pursue referrals for specialized treatments incurs additional costs. As a result, many cancer patients, particularly in rural areas, go untreated, abandon therapy, or switch to less expensive or unproven methods, shortening their lives. Tele oncology allows cancer patients in rural areas to communicate with specialists who are located far away and has increased the likelihood of early detection.¹⁴ In our study it is shown that perception towards use of telemedicine service after pandemic ends is high among rural people 16% which shows a positive sign on using telemedicine service.

RECOMMENDATION

- To guarantee data security, strong standard guidelines for sufficient oncology monitoring by phone or video in various subspecialties must be issued.
- Training on telemedicine tools to be require at both sides of the delivery.
- Recommendation for contractual doctors for 24*7 availability.
- Using triage methods to classify patients before arrival will make telemedicine services more accessible.
- Making people aware of the insurance that is available for teleconsultation in the face of COVID-19.

CHAPTER 7

CONCLUSION

Obviously, in today's unprecedented era, telemedicine is more popular than face-to-face consultation. Social distancing and mass confinement has made it difficult for patients with chronic diseases, especially cancer patients, to go to the hospital where remote oncology can help to assess them. During this pandemic, tele-oncology has played a significant role in the treatment and care of cancer patients to lessen the potentially fatal risk of COVID-19 for cancer patients, it has begun to be widely used by the healthcare system. It is a terrific way to keep track of patients over time, especially those who live in rural locations, which further improves access to health care providers, reduce healthcare costs, readmissions and reduce geographical health disparities. Telehealth can help cancer patients live longer lives. According to a study presented at the 2017 Annual Meeting of the American Society of Clinical Oncology, patients with advanced cancer who utilized an online application to report symptoms between appointment sessions had a 5-month increase in survival rate, also improvement in their quality of life is also seen⁸ Healthcare professionals, especially doctors, nurses and senior managers are not tech-savvy and lack virtual awareness, expertise, and exposure to medical technology. And at last, any telehealth solution must ensure that patient data is kept private, secure, and confidential.

LIMITATION

- Study was done during covid 19 pandemic.

REFERENCE

1. Harky A, Chiu CM, Yau THL, Lai SHD. Cancer Patient Care during COVID-19 [published online ahead of print, 2020 May 14] *Cancer Cell*. 2020 10.1016/j.ccell.2020.05.006.
2. <https://www.ncdirindia.org/ncrp/ca/about.aspx>
3. <https://www.mohfw.gov.in/pdf/Telemedicine.pdf>
4. Flodgren G, Rachas A, Farmer A, Inzitari M, Shepperd S. Interactive telemedicine: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*. 2015.
5. Penchansky R, Thomas WJ: The concept of access: definition and relationship to consumer satisfaction. *Med Care*. 1981, 19: 127-140.10.1097/00005650-198102000- 00001.
6. Xu KT. Usual source of care in preventive service use: a regular doctor versus a regular site. *Health Serv Res*. 2002 Dec;37(6):1509-29. doi: 10.1111/1475- 6773.10524. PMID: 12546284; PMCID:PMC1464041.
7. <https://health.economictimes.indiatimes.com/news/health-it/how-tele-oncology-can-help-manage-cancer-care-during-a-pandemic/78550050>
8. <https://www.cancer.net/blog/2017-08/can-telehealth-make-patient-care-better>
9. Portnoy J, Waller M, Elliott T. Telemedicine in the Era of COVID-19. *J Allergy Clin Immunol Pract*. 2020 May;8(5):1489-1491. doi: 10.1016/j.jaip.2020.03.008. Epub 2020 Mar 24. PMID: 32220575; PMCID: PMC7104202
10. Navjit W. Dullet, Estella M. Geraghty, Taylor Kaufman, Jamie L. Kisse, Jesse King, Madan Dharmar, Anthony C. Smith, James ,P. Marcin, Impact of a University-Based Outpatient Telemedicine Program on Time Savings, Travel Costs, and Environmental Pollutants. *Value in Health*. Volume 20, Issue 4,2017, Pages 542- 546, ,ISSN1098-3015
11. Ghosh, A., Gupta, R., & Misra, A. (2020). Telemedicine for diabetes care in India during COVID19 pandemic and national lockdown period: Guidelines for physicians. Elsevier Public Health Emergency Collection. 14(4), 273–276. <https://doi.org/10.1016/j.dsx.2020.04.001>
12. Yildiz, F., & Oksuzoglu, B. (2020). Teleoncology or telemedicine for oncology patients during the COVID-19 pandemic: the new normal for breast cancer survivors?. *Future oncology (London, England)*, 16(28), 2191–2195. <https://doi.org/10.2217/fon-2020-0714>
13. Bagchi S. (2006). Telemedicine in rural India. *PLoS (Public Library of Science) medicine*, 3(3), e82. <https://doi.org/10.1371/journal.pmed.0030082>
14. <https://www.peoplelinkvc.com/blog/how-has-teleoncology-benefited-the-rural-cancer-patients/>
- 15 <https://www.thehindubusinessline.com/money-and-banking/irdai-asks-insures-to-include-telemedicine-in-health-cover/article31804744.ece>

ANNEXURE

GENDER MALE FEMALE RESIDENCE URBAN RURAL AGE 18-30 YEARS 31-50 YEARS 50 YEARS ABOVE	QUESTIONNAIRE Q1 Type of tele oncology Modality preferred the most? VIDEO CALL AUDIO CALL Q2 For what, tele oncology services you have been using? DIAGNOSIS FOLLOWUPS DISEASE MONITORING e-CONSULTATIONS <u>AFFORDABILITY</u> Q3 Price or charge of tele-oncology service was reasonable with respect to financial gain attained amid COVID-19. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 4 The use of tele oncology service is worth my time, and it saves my expenses like OPD, transportation, treatment cost, toll charge, fuel, travel distance and reduce exposure to virus. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q5 After COVID-19 onset, I purchased new device to get Tele Oncology service. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE	Q 6 New schemes were introduced by insurance companies to provide Q7 Have used telemedicine approach not just for oncology care but also for other diseases such as COVID-19, diabetes, general consultations etc. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 8 With availability of Tele oncology approach my hospital waiting time is saved. reimbursement for the services. <u>AVAILABILITY</u> STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 9 Post COVID-19 onset Tele oncology services were feasible even with less staff and support. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 10 Tele oncology service was feasible and available 24*7 for patients post COVID-19 onset. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q11 Specialist Doctor was available and was able to access pain, symptoms and discuss treatment plan with tele oncology service. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE <u>ACCESSIBILITY</u> Q 12 Apps available like WhatsApp, Google meet, Skype etc. are reliable for the interaction with the doctor. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 13 Technology and training is required to access such services and for better interaction with the doctors.
---	---	---

Q 12 Health records were easily shared with the doctors through tele oncology Service. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q13 During COVID-19 period, while interacting with the consultant strong and steady internet connection was there. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 14 PERCEPTION TOWARDS USE OF TELEMEDICINE DURING COVID 19 PERIOD STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q15 Once normality is restored would you still prefer to use telemedicine services for the treatment of the disease. STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE	STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE
---	--

Q 16 PERCEPTION TOWARDS USE OF TELEMEDICINE EVEN AFTER COVID SUBSIDES TO AREA OF RESIDENCE STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE Q 17 PERCEPTION OF GENDER TOWARDS USE OF TELEMEDICINE DURING COVID -19 STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE	STRONGLY AGREE AGREE NEUTRAL DISAGREE STRONGLY DISAGREE
---	--