

**A STUDY TO UNDERSTAND THE UTILIZATION PATTERN OF
TELEMEDICINE IN UROLOGY PRACTICE ACROSS INDIA**

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

Dr. Sanaa Bhadwal

Under the Supervision and Guidance of

Dr. Deepti Sharma

2021

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **A Study to Understand the Utilization Pattern of Telemedicine in Urology Practice Across India** 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Dr. Sanaa Bhadwal

02-07-2021

CERTIFICATE

This is to certify that dissertation titled **A Study to Understand the Utilization Pattern of Telemedicine in Urology Practice Across India** is a record of the research work undertaken by **Dr. Sanaa Bhadwal** 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

IIHMR University, Jaipur

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Date

ABSTRACT

Objective: The objective of this study is to understand the pattern of usage of telemedicine in urology practice, urologist's perception of telemedicine and perceived barriers in its adoption and to explore the current state of information regarding telemedicine among urologists and the need of training for the same. As a result of COVID-19, several medical practices adopted telemedicine for safe delivery of healthcare. However, there is a certain lack of abundance evidence to support the adoption of telemedicine in urology practice both pre covid and post covid in India. This study is being conducted to contribute to this pool of evidence to support the adoption of telemedicine.

Methodology: The study is a cross sectional descriptive study, conducted jointly by Telemedicine Society of India and Urological Society of India to study the practice of telemedicine in urology. The data is collected through a questionnaire, which is circulated and filled online. The results of the survey are collected and analyzed using Microsoft Excel.

Results: Total 90 study participants took part in the survey out of which maximum were male in the age group of 31-40 years. Approximately 60% of urologists participating in the survey recorded no current usage of telemedicine. Out of a list of possible barriers to implementation of telemedicine, highest votes were in the favour fear of malpractice and legal responsibility followed by time taken for tele consult and the uncertainty in the remuneration for virtual consultations. While accessing the knowledge of the urologists regarding guidelines for telemedicine it was seen that 70 % of the urologists were aware that the Govt. of India has brought out a framework to practice telemedicine in India and the rest 30% had no information regarding the same. Similarly, more than 70 % of the study participant admitted having never undergone any training workshop/read/attended any webinar related to the Telemedicine practice.

Conclusion: Telemedicine has the capacity to make healthcare more affordable and accessible for all. It can help facilitate the delivery of healthcare irrespective of location of the recipient and provider using real time technology.

Key words: Telemedicine, Urology, Usage , Barriers , Training ,India

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This report would not have been possible without the guidance of **Dr. Sunil Shroff, Managing Trustee, MOHAN Foundation** who through his extensive support brought this survey into light. I am greatly indebted to **Dr. Sanjay Sinha** for his painstaking efforts in guiding me through the development of the survey. I also thank **Prof Rajesh Chandwani** and **Mr. Vimal Kumar** for their help in laying down the groundwork for the survey.

Any attempt at any level cannot be completed without the support and guidance of my parents and friends (**Sukhsimran, Surbhi, Madhubala**) I am indebted to them.

Lastly, I would like to extend my thanks to all the members of the IIHMR library team for their kind help at all the stages of my project work.

SANAA BHADWAL

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ABBREVIATIONS

- ECG Electrocardiography
- GOI Government of India
- HER Electronic health records.
- ISRO Indian Space Research Organization
- MITAC Medical Informatics and Technology Applications Consortium
- MoHFW Ministry of health and family welfare
- NASA National Aeronautics and space Administration
- NITI Aayog National Institution for Transforming India
- PCa Prostate cancer
- RMP Registered Medical practioneers
- UTI Urinary tract infection
- WHO World Health organization

CHAPTER 1

INTRODUCTION

Telemedicine as described by WHO is “The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities” (16). Telemedicine involves the use of electronic communication and software platforms to provide healthcare services to patients thereby eliminating the need for in-person consultation. Telemedicine can be used for follow-up visits, chronic disease management, patient education and counselling.

The earliest instance of telemedicine use in medicine can be traced back to 20th century when telephone was used to transmit ECG. Another notable use of telemedicine was made by NASA for disaster management during the 1985 earthquake in Mexico. This was followed by establishment of MITAC i.e., Medical Informatics and Technology Applications Consortium in 1997 by NASA at Yale University (5).

1.1 Telemedicine in India

India has long struggled with the problem of access and equitable distribution of healthcare especially for the rural population. This in large part is due to the inconsistency in the doctor to patient ratio which is less than 1 per 1000 population when compared with the WHO recommendation of 1:1000. Telemedicine can prove to be instrumental in closing this gap. The first steps toward telemedicine in India were taken by ISRO (Indian Space Research Organization) in 2001. Private sector has always been ahead in the adoption of telemedicine, few noted examples are Aravind Eye Care and Apollo Telemedicine. In the

public sector, the telemedicine division of MoHFW has designed a National Telemedicine portal and has also developed certain standards for Electronic Health Records (EHR).

The Telemedicine Practice Guidelines were released on 25th March 2020 by the Board of Governors, Medical Council of India, in partnership with the National Institution for Transforming India (NITI Aayog). These guidelines establish the protocols for several aspects of telemedicine like the type of technology used, liabilities for doctors and third-party platforms in tele consultations, patient identification and consent, responsibilities of RMPs and patients, liabilities of the RMP etc.

CHAPTER 2

CONCEPTUAL FRAMEWORK

As a result of COVID-19, several medical practices adopted telemedicine for safe delivery of healthcare. However, there is a certain of lack of abundance evidence to support the adoption of telemedicine in urology practice both pre covid and post covid in India. This study is being conducted to contribute to this pool of evidence to support the adoption of telemedicine.

CHAPTER 3

REVIEW OF LIERATURE

The literature review for telemedicine use in urology throws light on the way telemedicine can be used to scale up the communication between physicians and their patients. The study of the current use and scope of telemedicine shows that it can positively impact the quality of patient care by increasing access to healthcare for all and improving patient satisfaction. There are currently several barriers that stop the practioneers as well as patients from readily adopting telemedicine as an alternative and adjunct line of treatment.

AUTHOR	SALIENT FEATURES
Agarwal, Neema et al.	• The recently released telemedicine guidelines will assist the RMP in pursuing a safe and effective telemedicine based medical care. • The care provided through telemedicine will be based on patient needs and will ensure patient and provider safety.
Almannie, R et al.	• A research in Saudi Arabia shows an increase in the use of telemedicine among urologists during the pandemic, whereas before the pandemic, 53.9% of the participants did not use telemedicine. • However, during the pandemic, 72.4% of urologists began using telemedicine in their practice who in the past had no history of using telemedicine.
Bansal, Devanshu et al.	• Telemedicine requires an initially high investment by the healthcare provider. • It can augment patient education and cooperation. • Platforms such as WhatsApp, Skype etc. can be used in

	teleconsultations
Castaneda, Peris, and Chad Ellimoottil	• The most common application of telehealth was a video consult for patient assessment or follow-up. • The study established the effectiveness of the telemedicine in attaining high level patient and provider satisfaction. • Telemedicine is documented to be safe and effective for patients and providers both. • However, it was seen that telemedicine was sparingly used in urology. Some of the barriers to its implementation were lack of technological knowledge, reimbursement uncertainty etc..
Chellaiyan, Vinoth G et al.	• Lack of awareness and low level of acceptance of technology by the healthcare provider and recipient are responsible for the lack in boom of telemedicine in practice. • In the current times government seems keen to develop telemedicine practice on a larger scale resulting in a steady increase in its utilization in practice
Dubin, Justin M et al.	• The three most used platforms were Zoom, Doxy.me, and Epic. • The most significant barriers to implementing telemedicine were lack of technological know-how, lack of access to technology, and reimbursement concerns
Gerttman, Matthew et al.	• Telemedicine maybe helpful in addressing shortage of urologists in the future. • It is important to focus on underserved populations and ensure equal access of healthcare irrespective of mode of

	delivery
Miller, A et al.	• Many formats of telemedicine can be used in surgical and nonsurgical practices. • Barriers currently exist in the form of reimbursement etc.
Neil H Baum	• Patient-driven care along with use of telemedicine will be the future. • Patients now demand access to their providers via telemedicine. • It is the appropriate time to make the leap to including telemedicine into clinical practices.
Novara, Giacomo et al	• Telemedicine was implemented in the decision-making process after a diagnosis of nonmetastatic PCa, diagnosis of hematuria, management of treatment and follow-up care of uncomplicated urinary stones and UTIs.
Rajesh Taneja	• Over the last few months, there has been a forced and rapid increase in the use of tele-consultations in urology practice. • During COVID functional urology has taken a back seat. Telemedicine can be used in such cases for the patients until they require surgery.
Shiv Charan Navriya et al.	• Owing to COVID-19 it is now advisable to resume routine urological services with the help of telemedicine to avoid accumulation of cases which require timely intervention.

CHAPTER 4

METHODOLOGY

4.1. Study design

The study is a cross sectional descriptive study. This is the Official Joint Survey of the Telemedicine Society of India and Urological Society of India on “Practice of Telemedicine in Urology”. The data is collected through a questionnaire, which is circulated and filled online.

4.2. Study population

All the Urologists who are members of the “Urological Society of India “will be considered for this survey.

Inclusion criteria - All urologists practicing in India irrespective of age, gender, experience was considered for this survey.

Exclusion criteria – Any practioneers other than urologists were excluded from the survey.

Sampling method – Convenience sampling

Sample Size - A total of 90 urologists were included in the sample.

4.3 Study duration

2 months.

RESEARCH GAP

In light of the recent release of telemedicine practice guidelines for registered medical practitioners as well as the current healthcare delivery systems seriously impacted by COVID 19 pandemic, telemedicine has come to the forefront as an additional mode of healthcare delivery. This study aims to investigate the feasibility of telemedicine in urology practice, urologist's perception of telemedicine and perceived barriers in its adoption. There is a certain lack of abundance of evidence to support the adoption of telemedicine in urology practice. This study is being conducted to contribute to this pool of evidence to support the adoption of telemedicine.

RESEARCH QUESTION

What is the perception of urologists regarding telemedicine, what are the barriers in its adoption and what can be done to teach the practice of telemedicine?

RESEARCH OBJECTIVE

General objective: To understand the utilization pattern of Telemedicine in Urology practice across India.

Specific objectives

- To understand the pattern of usage of telemedicine in urology practice, urologist's perception of telemedicine and perceived barriers in its adoption.
- To explore the current state of information regarding telemedicine among urologists and the need of training for the same.

CHAPTER 5

RESULTS OF THE SURVEY

5.1 Respondent Characteristics

Socio-demographic characteristics of the respondents are represented in Table 5.1. Out of the total 90 study participants nearly 97.8 % were male and the maximum participants were in the age group of 31-40 years. Almost 38.9% of the respondents described their primary work setting as a public teaching hospital, whereas rest of the respondent's primary work setting was a public teaching hospital and private non-teaching hospital (including single or multispecialty nursing home). 56.7% of the urologists participating in the survey practiced multi-subspecialty urology (high end work in multiple sub-specialty areas with or without general urology) and 30 % of the respondent urologists practiced general urology.

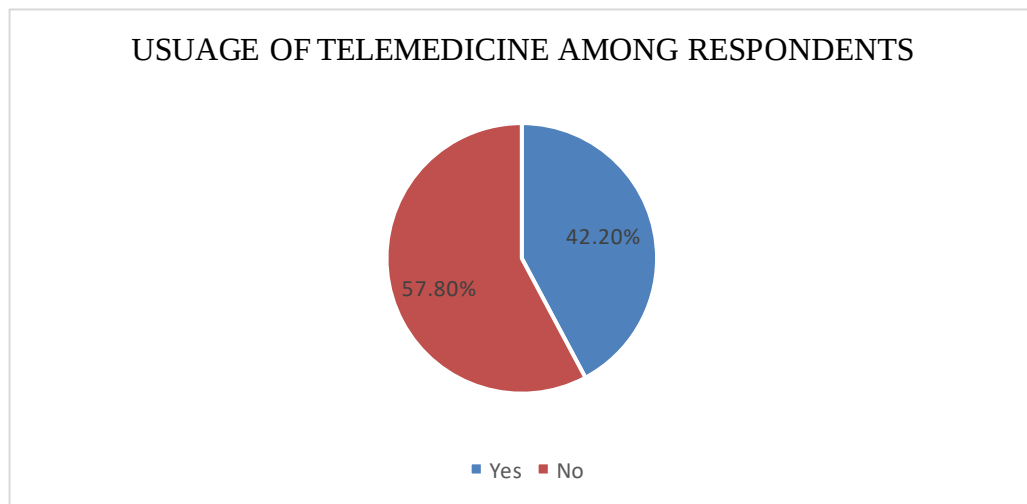
Table 5.1: Demographic characteristics of study participants (N = 90)

VARIABLES	FREQUENCY (n)	PERCENT (%)
Gender - Male - Female - Other	88 2 -	97.8% 2.2% -
Age Group - Less than 30 years 31 - 40 years 41- 50 years 51 - 60 years 61 years and above	4 40 22 13 11	4.4% 44.4% 24.4% 14.4% 12.2%
Primary work setting - Public Teaching Hospital - Private Teaching Hospital - Public non-Teaching Hospital - Private non-Teaching Hospital (including single or multispecialty nursing home) - Day-care Urology	35 27 1 27 -	38.9% 30% 1.1% 30% -
Type of Urology practice - General Urology only - Multi-subspecialty Urology (High end work in multiple sub-specialty areas with or without general urology) - Single subspecialty Urology (High end work in single sub-specialty areas with or without general urology)	27 51 12	30% 56.7% 13.3%

5.2 Current use of Telemedicine

As seen in Table 5.2, 57.8 % of urologists participating in the survey recorded no current usage of telemedicine and 42.2% of the respondents reported use of telemedicine in their practice.

Table 5.2 – Telemedicine use among respondents



On crosstabulation (Table 5.3)of the current use of telemedicine by urologists with other variables for the sample taken, it was found that telemedicine use was highest in the age groups of 31-40 years and 41-50 years , it was seen that the use of telemedicine was highest in the urologists practicing multispecialty urology .Private non-teaching hospitals recorded highest use of telemedicine within the sample also urologists catering to the patient population belonging to cities had the highest use of telemedicine in the sample population.

Table 5.3 – Telemedicine usage among participants according to their characteristics

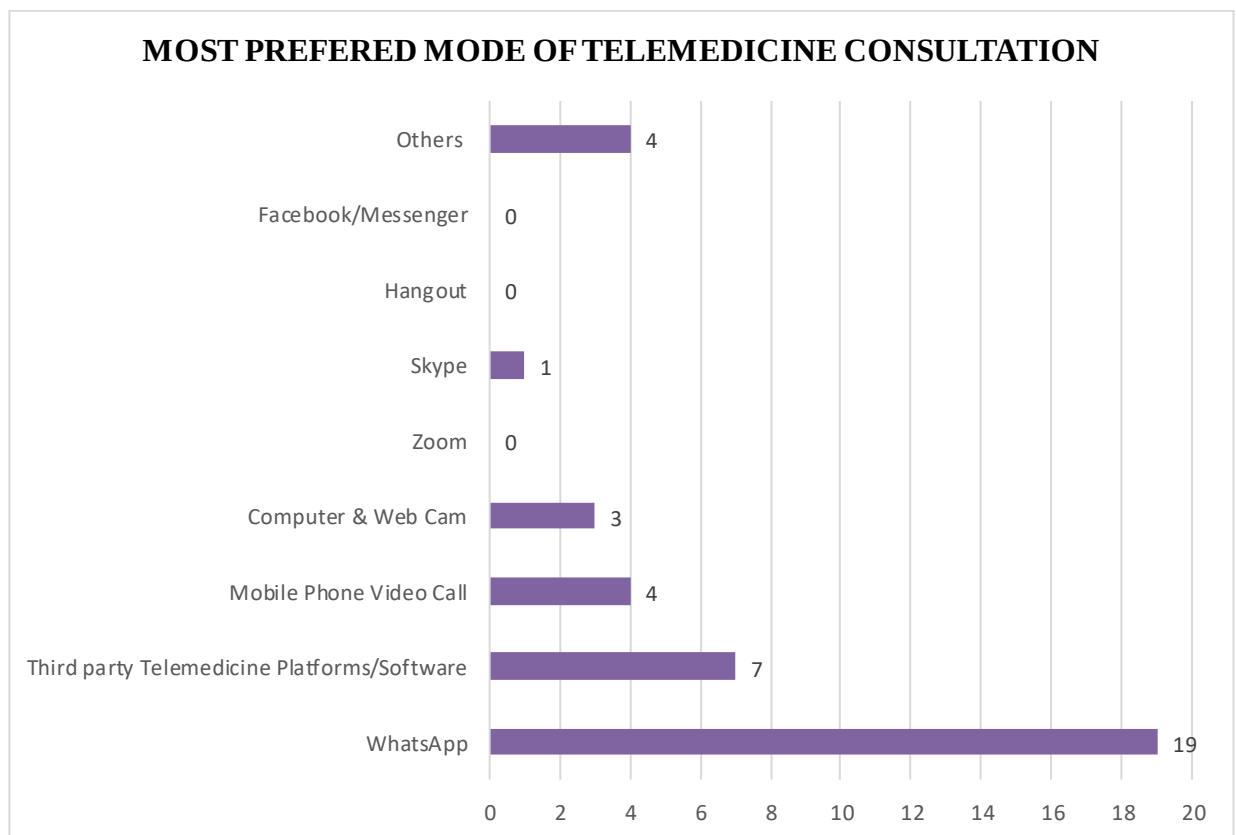
VARIABLE	TELEMEDICINE USAGE	
	YES (n)	NO (n)
Age		
• Less than 30 years	-	4
• 31 - 40 years	13	27
• 41- 50 years	13	9
• 51 - 60 years	8	5
• 61 years and above	5	7
Type of Urology practice		
• General Urology only	8	19
• Multi-subspecialty Urology (High end work in multiple sub-specialty areas with or without general urology)	24	27
• Single subspecialty Urology (High end work in single sub-specialty areas with or without	6	6

general urology)		
Primary work setting		
• Public Teaching Hospital	6	29
• Private Teaching Hospital	14	13
• Public non-Teaching Hospital	-	1
• Private non-Teaching Hospital (including single or multispecialty nursing home)	18	9
• Daycare Urology	-	-
Patient population catered to		
• Metropolis	14	8
• City	16	24
• Town	7	10
• Village	1	10

5.3 Trends in telemedicine practice (for urologists practicing telemedicine N=38)

The table 5.4 shows the most preferred mode of teleconsultation used by urologists in the survey was WhatsApp (n= 19 ,50%), followed by third party telemedicine platforms(n=7,18.4%). Some of additional platforms recorded were telegram, Jitsi, self-made google forms and mobile phone calls, hospital video consultation.

Table 5.4 – Mode of telemedicine consultation



For the use of telemedicine in aspects of office urology (Table 5.5), maximum respondents felt that counselling and patient education was the most feasible aspect of office urology that could be carried out via telemedicine consultation, on the other hand most respondents believed post treatment complication management in office urology was not feasible to carry using telemedicine consultation.

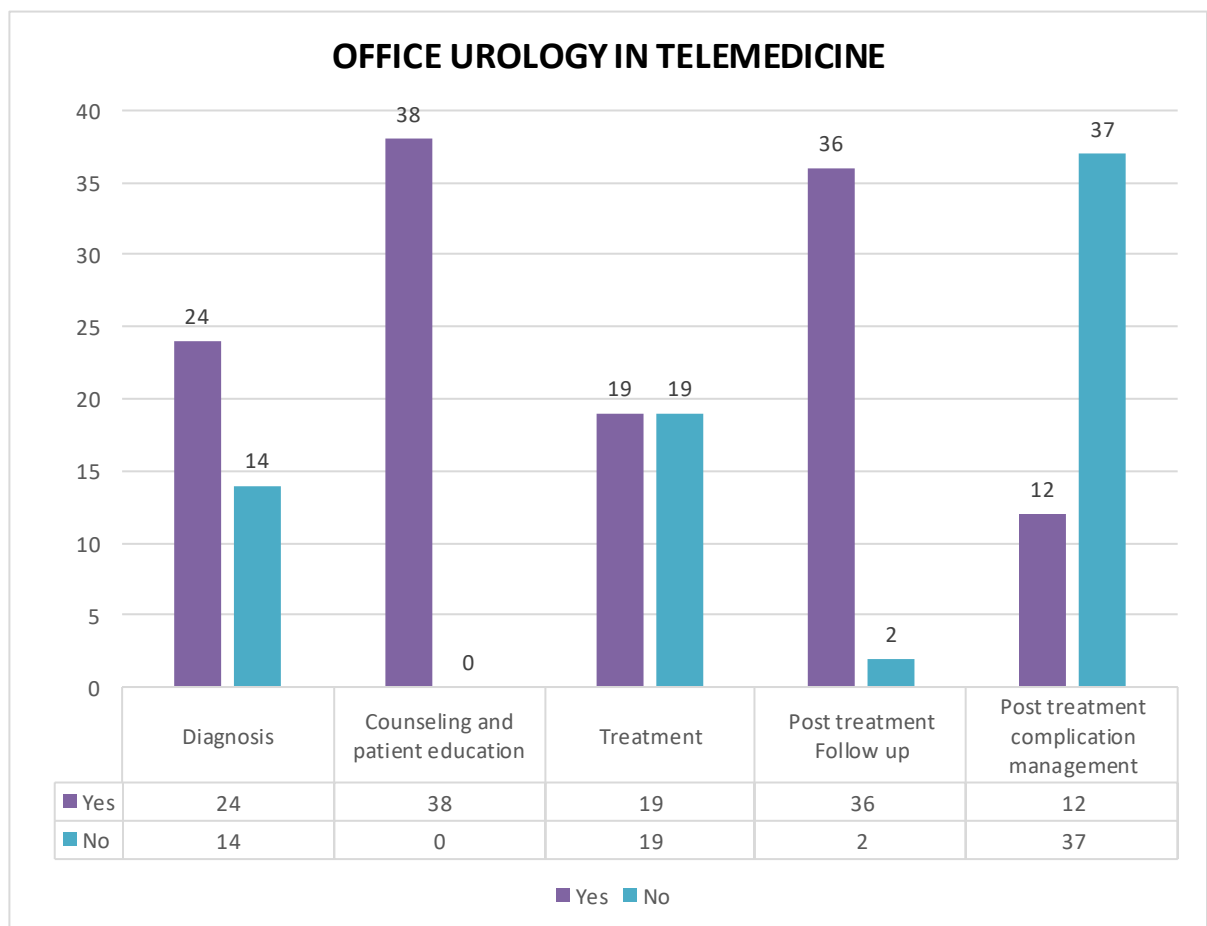


Table 5.5 – Telemedicine use in office urology

For the use of telemedicine in aspects of surgical urology (Table 5.6), maximum respondents felt that counselling and patient education was the most feasible aspect of surgical urology that could be carried out via telemedicine consultation, on the other hand most respondents believed post op complication management in surgical urology was not feasible to carry using telemedicine consultation.

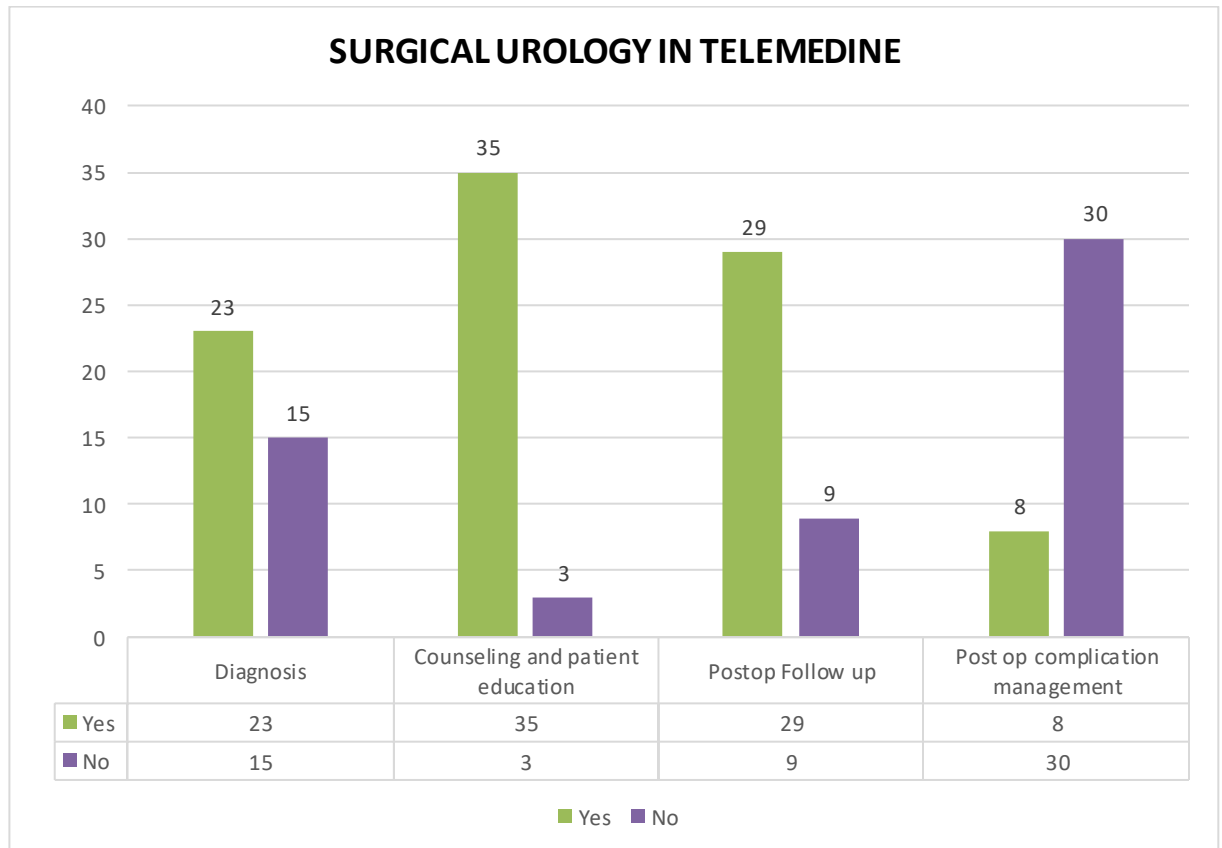


Table 5.6 – Telemedicine use in surgical urology

As seen in table 5.7, almost 55.2% of the respondents practicing telemedicine in their urology practice felt that the amount of effort involved in telemedicine was the same as in regular in-person consultation and 36.9% of the urologists felt that the effort involved in telemedicine was more than in in-person consultation.

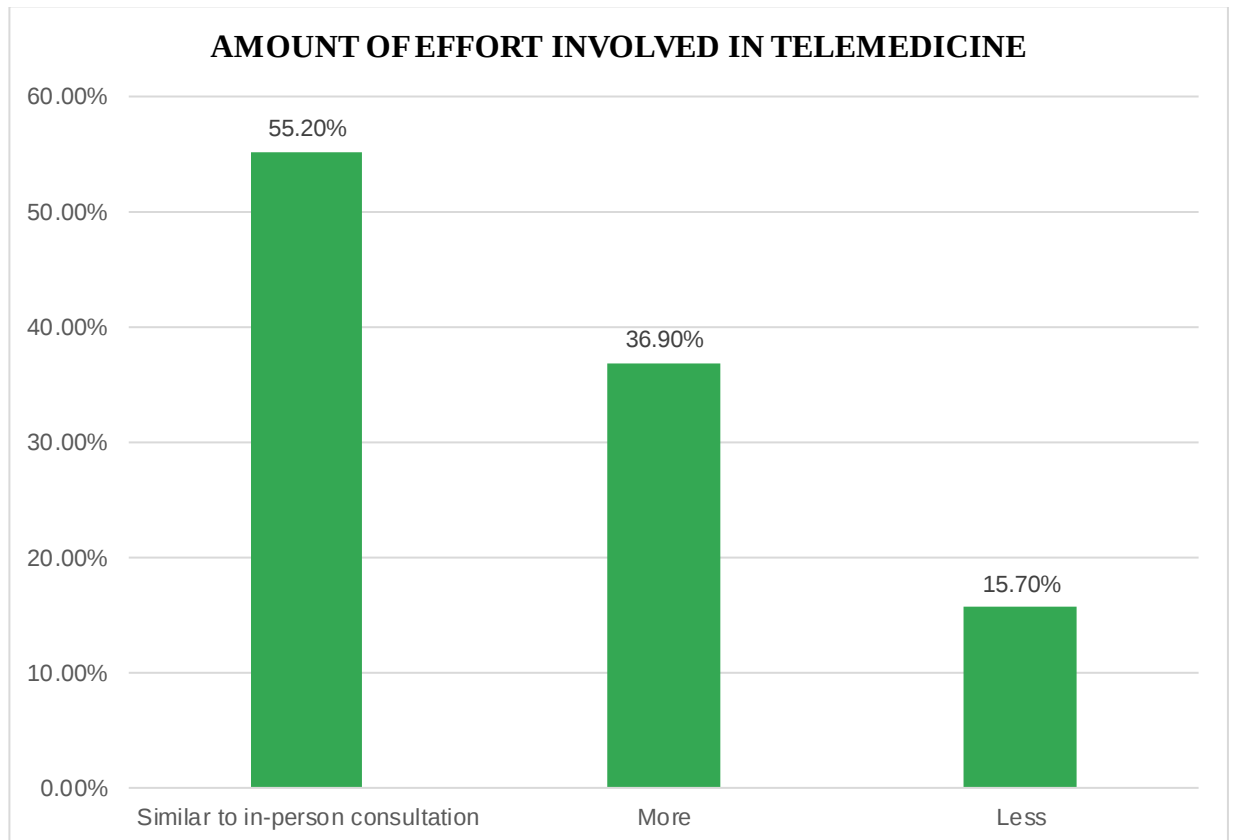


Table 5.7 – Amount of effort involved in telemedicine.

5.4 Barriers in its implementation

The respondents were asked to choose multiple options from list of possible barriers to implementation of telemedicine. Maximum of the respondents rated the fear of malpractice and legal responsibility as the biggest barrier in the widespread implementation and adoption of telemedicine in daily practice. This is represented in table 5.8.

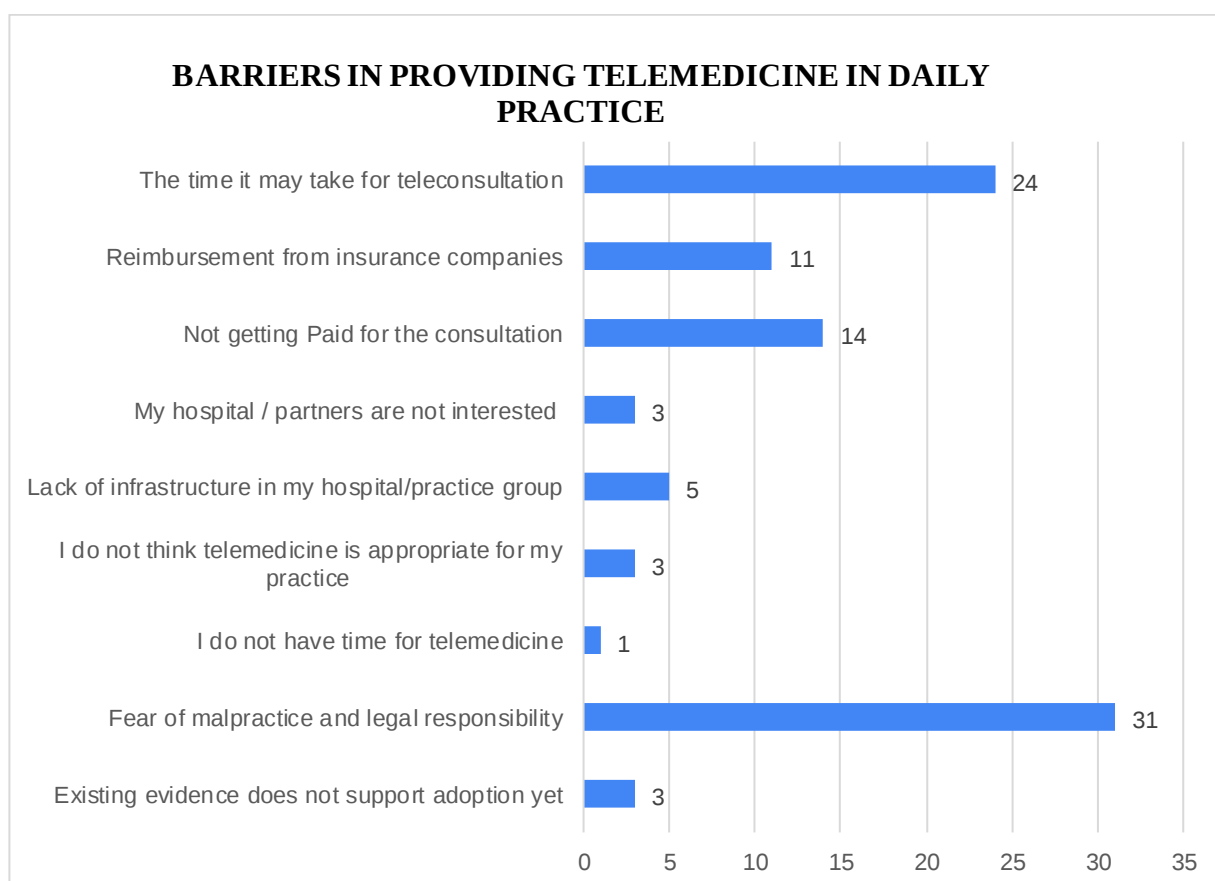


Table 5.8 – Barriers in applying telemedicine in daily practice.

5.5 Knowledge and training for telemedicine

As per table 5.9, Of the 90 urologists that participated in the survey, 70 % of the urologists were aware that the GOI has brought out a framework to practice telemedicine in India and 30% of the urologists had no awareness of any such guidelines.

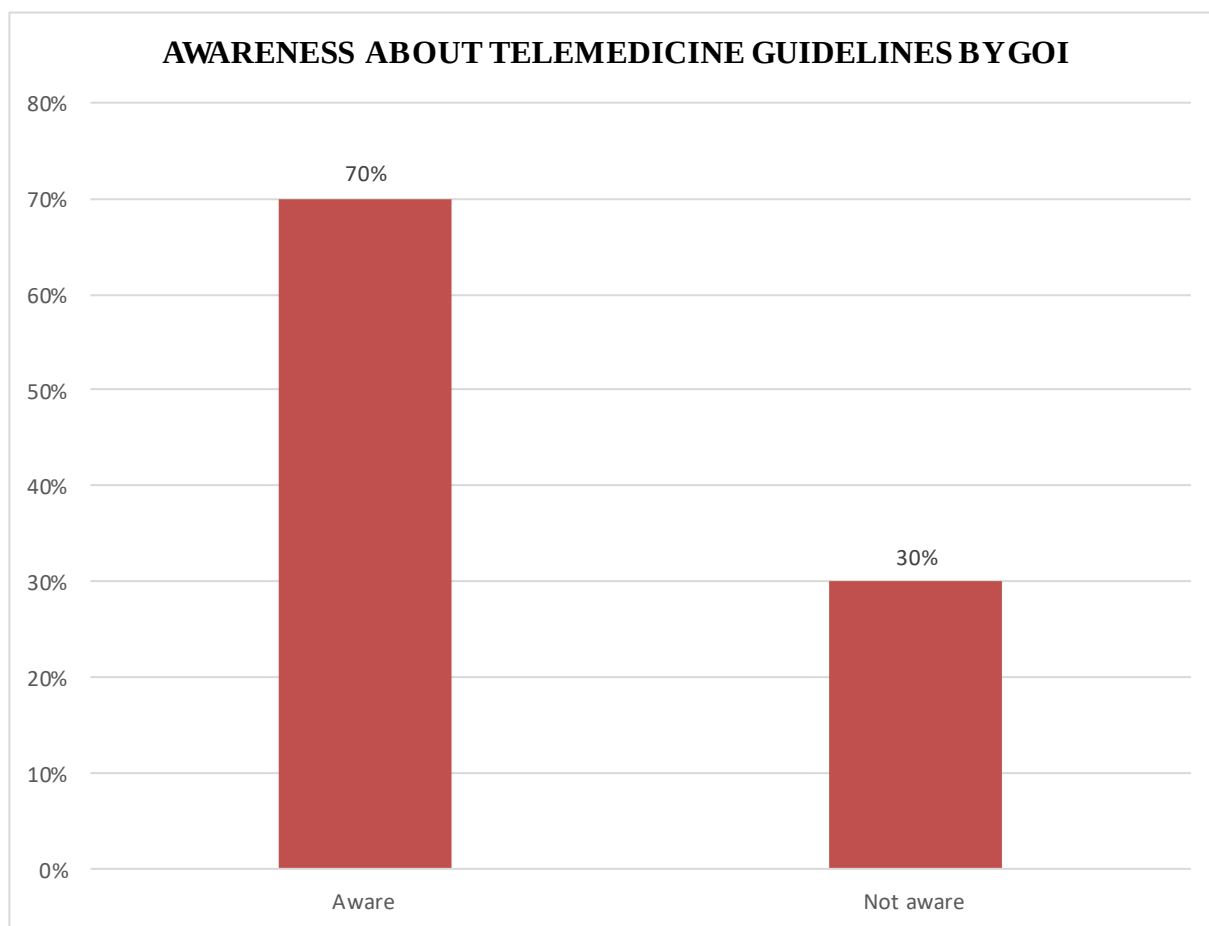


Table 5.9 – Awareness about guidelines

Maximum of the study participants i.e., 73.3% of them reported to have never undergone any training workshop/read/attended any webinar related to the Telemedicine practice as shown in table 5.10.

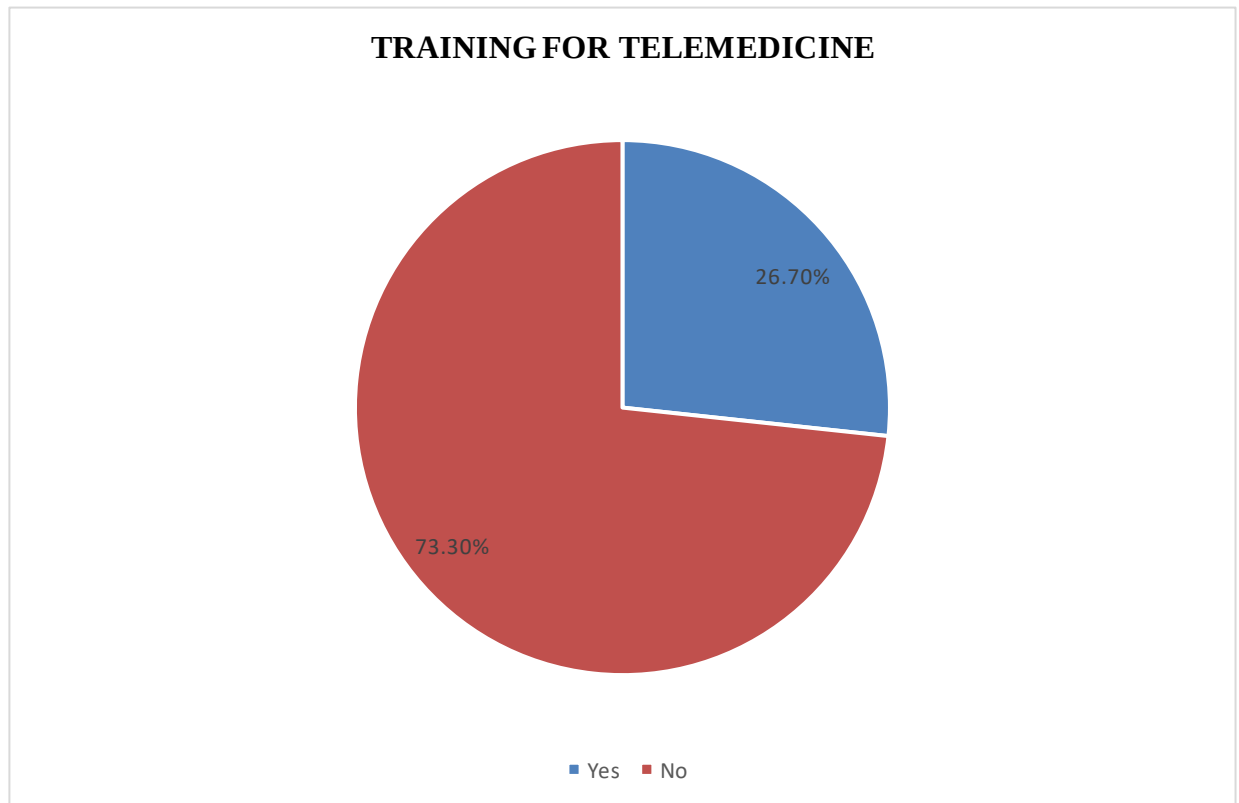


Table 5.10 – Training for telemedicine

The respondents were asked to give their opinion about the best format to teach about the practice of telemedicine, maximum respondents felt that live online sessions with leadership in the field was the best format to learn about telemedicine, followed by a structured learning platform. This is depicted in table 5.11.

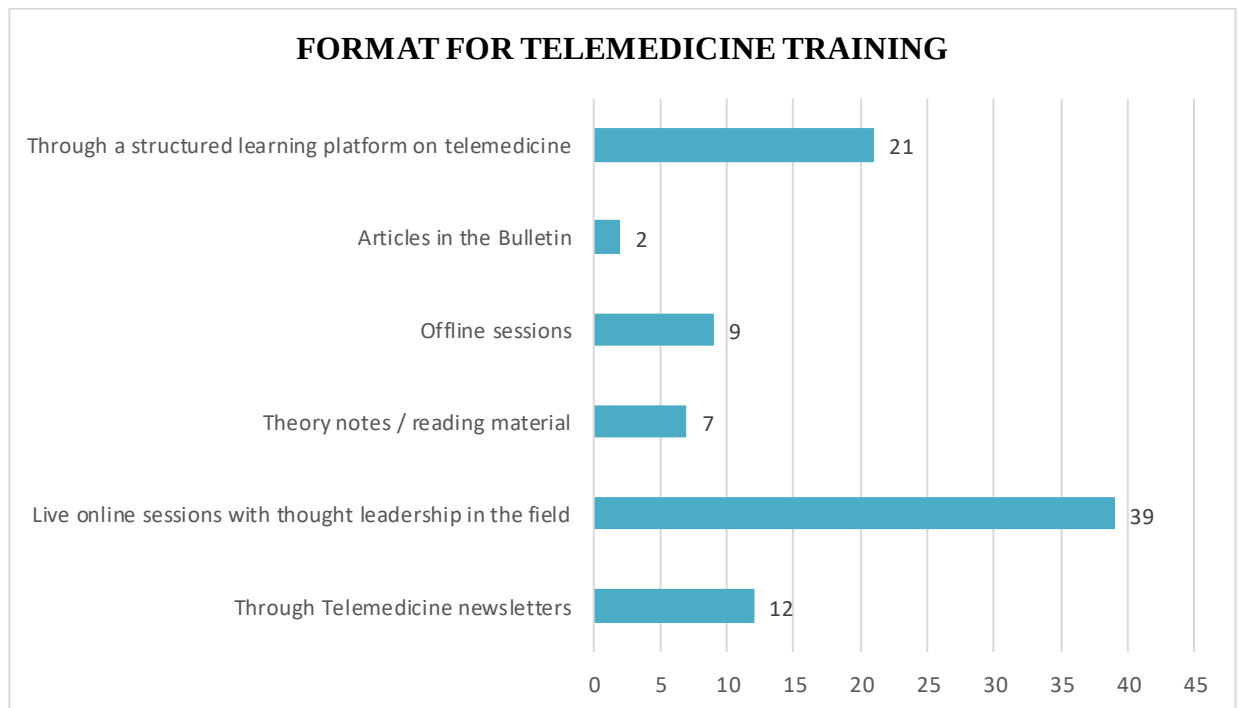


Table 5.11 – Preferred format for telemedicine training

CHAPTER 6

DISCUSSION

Considering the recent release of telemedicine practice guidelines for registered medical practitioners as well as the current healthcare delivery systems seriously impacted by COVID 19 pandemic, telemedicine has come to the forefront as an additional mode of healthcare delivery. Before the pandemic telemedicine was not a frequently utilized form of delivering health care by urologists. Globally telemedicine has seen an exponential rise in past year and continues to do so this year as well. This study aims to investigate the feasibility of telemedicine in urology practice, urologist's perception of telemedicine and perceived barriers in its adoption.

Total 90 study participants took part in the survey out of which maximum were male in the age group of 31-40 years. Majority of the respondents described their primary work setting as a public teaching hospital. More than half of the urologists practiced multi-subspecialty urology (high end work in multiple sub-specialty areas with or without general urology).

Regarding the use of telemedicine approximately 60% of urologists participating in the survey recorded no current usage of telemedicine and they listed their reasons for the same in an open text box at the end of the survey. As per the responses in this open-ended question it was observed that majority of the respondents were hesitant to adopt telemedicine for the fear of malpractice while several could not accept virtual consultation as an alternative to in-person consults which according to them played a big role in developing doctor patient relationship and developing correct diagnosis. A major concern that the non – telemedicine practicing urologists had was the lack of detailed guidance in practicing safe telemedicine. However, as a result of the global pandemic several non - telemedicine practicing urologists showed a willingness to learn about telemedicine in

practice and were of the opinion that use of telemedicine in urology practice could increase in the coming future.

Also, to be noted is eSanjeevani, the telemedicine initiative launched under Ayushman Bharat by GOI in 2019 to provide healthcare to patients at the comfort of their home. The use of this portal has seen a rise during the COVID-19 pandemic.

On studying the relationship of use of telemedicine with several variables such as demographic characteristics of the respondents it was seen that telemedicine found the highest use in the age groups of 31-40 years and 41-50 years. The use of telemedicine was highest in the urologists practicing multispeciality urology and catering to the patient population belonging to cities.

On the survey of the urologists that currently practiced telemedicine it was observed that the most preferred mode of teleconsultation by the urologists was WhatsApp, followed by third party telemedicine platforms.

For the use of telemedicine in aspects of office urology and surgical urology, maximum respondents were of the opinion that counselling, and patient education was the most feasible aspect of office urology that could be carried out via telemedicine consultation, on the other hand most respondents believed post treatment complication management in was not feasible to carry using telemedicine consultation in both office urology and surgical urology procedures.

Out of the urologists that practiced telemedicine 55.2% of the respondents felt that the amount of effort involved in telemedicine was the same as in regular in-person consultation. Out of a list of possible barriers to implementation of telemedicine, highest votes were in the favour fear of malpractice and legal responsibility followed by time taken for tele consult and the uncertainty in the remuneration for virtual consultations. Other

studies (8) have also documented similar barriers time management, lack of familiarity with new platforms, increased documentation

While accessing the knowledge of the urologists regarding guidelines for telemedicine it was seen that 70 % of the urologists were aware that the Govt. of India has brought out a framework to practice telemedicine in India and the rest 30% had no information regarding the same. Similarly, more than 70 % of the study participant admitted having never undergone any training workshop/read/attended any webinar related to the Telemedicine practice.

Of utmost importance in the practice and adoption of telemedicine is the status of internet availability at both ends of the spectrum i.e., for both the provider and the recipient of healthcare, also important is their ability to use the said technology. For adoption of telemedicine, it is imperative that both the physician and patient become familiar and efficient in using telemedicine platforms. (14)

CHAPTER 7

CONCLUSION

Telemedicine has the capacity to make healthcare more affordable and accessible for all. It can help facilitate the delivery of healthcare irrespective of location of the recipient and provider using real time technology. Currently Telemedicine is not used uniformly across urology practice due to reasons such as lack of technical literacy, fear of malpractice, lack of organized platforms etc. What is needed is adequate institutional support, research, and funding as well as government policies to promote the use of telemedicine in urology practice as an alternative or adjunct line of treatment. However it should be kept in mind telemedicine cannot be used in a one size fits all strategy, it needs to be tailor made as per the requirements of the healthcare provider and the recipients.

CHAPTER 8

LIMITATION OF THE STUDY

A limitation of the study is that it was distributed through social media and electronic mailing lists therefore participation may be limited to urologists who are more comfortable with technology and the results may be skewed, therefore results received from a larger scale survey with a large sample size maybe generalized to the urologist population in India and the status of telemedicine use.

Also, this study does only access the current status of usage and non-usage of telemedicine and does not take into account any direct effect that the COVID pandemic may have on the usage of telemedicine and whether the same status of telemedicine usage among urologists will continue beyond the pandemic.

CHAPTER 9

RECOMMENDATIONS

- A well-planned comprehensive set of guidelines for urologists practicing telemedicine should be developed preferably by the “Urological Society of India “as indicated in the survey, with specific instructions on case-to-case management of disease conditions. These guidelines should also include instruction on choosing the appropriate setup for telemedicine practice, its installation, record maintenance, do and don’ts.
- Regular workshop should be held within the fraternity of urologists for skill-upgradation regarding technological aspects of telemedicine, discussions on new treatment modalities with respect to telemedicine and updating of the above-mentioned guidelines.
- More user-friendly platforms need to be developed to facilitate the ease of operation for the patient and provider.
- Sensitization sessions should be held for both public and private set ups disseminate information telemedicine and advocate its use in regular practice.

CHAPTER 10

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CHAPTER 10

ANNEXURE

ANNEXURE 1 – QUESTIONNAIRE

This is the Official Joint Survey of the Telemedicine Society of India and Urological Society of India on “Practice of Telemedicine in Urology”. The objective of this survey is to understand the current status and usage of telemedicine in urology practice.

The results of this survey will help us understand the use of telemedicine by Urologists and create a strategy on how to train urologist to practice safe telemedicine in India. All the responses will be processed confidentially, and only collated data will be used for understanding, policy making and for any publication in the future.

Once you submit the survey questions you will be able to download a fifty pages reference book on Telemedicine Practice Guidelines entitled FAQs on Telemedicine Practice in India.

Thank you for your contribution to this important survey on practice of telemedicine.

Dr. Sunil Shroff, Consultant Urologist & Transplant Surgeon

President, Tamil Nadu, Telemedicine Society of India

For queries contact sanaa@mohanfoundation.org

*** Required**

1. Email *

PLEASE TELL US ABOUT YOURSELF

2. Please Indicate your gender *

- Male
- Female

- Other:

3. Please Indicate your age group *

- Less than 30 years
- 31 - 40 years
- 41- 50 years
- 51 - 60 years
- 61 years and above

4. Which of the following best describes your urology practice *

- General Urology only
- Multi-subspecialty Urology (High end work in multiple sub-specialty areas with or without general urology)
- Single subspecialty Urology (High end work in single sub-specialty areas with or without general urology)

5. Which of the following best describes your primary work setting *

- Public Teaching Hospital
- Private Teaching Hospital
- Public non-Teaching Hospital
- Private non-Teaching Hospital (including single or multispecialty nursing home)
- Day-care Urology

6. Which ONE of the following do most of your patient population belong to? *(Metropolis - E.g.: Mumbai, Chennai, Delhi, Kolkata, Hyderabad, Bangalore, Pune, and Ahmedabad) *

- Metropolis*
- City
- Town

- Village

7. When did you LAST use Information & Communication Technology (Mobile phones, Computer, Internet etc.) to consult your patients

- Within the last 24h
- Within last 7 days
- Within last 1 month
- I seldom or never use this method of consultation

PLEASE TELL US YOUR VIEWS ABOUT TELEMEDICINE (Regardless of whether you currently use this medium)

8. Are you aware that the Govt. of India has brought out a framework to practice telemedicine in India?

- Yes
- No

9. Should Urological Society of India establish practice guidelines for telemedicine to help Urologist in their practice. *

- Yes
- No

10. Should Urological Society of India have workshops with experts for safe practice guidelines for telemedicine to help Urologist in their practice. *

- Yes
- No

11. In your opinion which of the following is the best format to teach the practice of telemedicine *

- Through Telemedicine newsletters
- Live online sessions with thought leadership in the field
- Theory notes / reading material
- Offline sessions
- Articles in the Bulletin
- Through a structured learning platform on telemedicine

12. In your opinion which of the following is the second-best format to teach the practice of telemedicine *

- Through Telemedicine newsletters
- Live online sessions with thought leadership in the field
- Theory notes / reading material
- Offline sessions
- Articles in the Bulletin
- Through a structured learning platform on telemedicine

13. Have you undergone any training workshop/read/attended any webinar related to the Telemedicine practice? *

- Yes
- No

14. Do you practice any form of telemedicine? *

- Yes
- No, skip to ques 25

PLEASE TELL US ABOUT YOUR PRACTICE OF TELEMEDICINE

15. What is your preferred mode of Teleconsultation *

- WhatsApp
- Third party Telemedicine Platforms/Software
- Mobile Phone Video Call
- Computer & Web Cam
- Zoom
- Skype
- Hangout
- Facebook/Messenger
- Other

16. What is your second preferred mode of Teleconsultation *

- WhatsApp
- Third party Telemedicine Platforms/Software
- Mobile Phone Video Call
- Computer & Web Cam
- Zoom
- Skype
- Hangout
- Facebook/Messenger
- Other

17. Which ONE of the following best describes your view of the suitability of patient population covered under telemedicine consultations in Urology practice?

- Should be restricted to education and counselling only

- Counselling and minor postoperative care
- All forms of follow up consultation, counselling, and care should be included
- All classes of patients with the exception of urological emergencies

18. In your opinion which of the following aspects of OFFICE UROLOGY procedures are feasible to carry out via telemedicine consultation

(Yes /No)

- Diagnosis
- Counselling and patient education
- Treatment
- Post treatment Follow up
- Post treatment complication management

19. In your opinion which of the following aspects of UROLOGICAL SURGERY procedures are feasible to carry out via telemedicine consultation *

(Yes /No)

- Diagnosis
- Counselling and patient education
- Treatment
- Post treatment Follow up
- Post treatment complication management

20. In your opinion, the amount of effort involved in telemedicine is *

- Similar to in-person consultation
- More
- Less

21. According to you, the remunerations for telemedicine should be *

- Similar to in-person consultation
- More
- Less

22. According to you what is/ could be the Impact of telemedicine in Urology. Please rank according to degree of impact,1 (Lowest impact) to 5 (Highest Impact) *

- Reduced healthcare costs for patient and provider
- Enhanced patient access to the healthcare
- Increased Patient engagement
- Increased Patient satisfaction
- Improved treatment outcomes

23. What do you think are the /can be the possible challenges and/or barriers in providing telemedicine services in your practice? (You can choose more than one option) *

- Not getting Paid for the consultation
- The time it may take for teleconsultation
- Fear of malpractice and legal responsibility
- Lack of infrastructure in my hospital/practice group
- I do not have time for telemedicine
- I do not think telemedicine is appropriate for my practice
- My hospital / partners are not interested
- Reimbursement from insurance companies
- It is too expensive to set it up
- I do not understand telemedicine well enough to implement it
- Existing evidence does not support adoption yet

24. In your practice, which of the following BEST represents the acceptance by your patients of a telemedicine consultation over the last ONE year?

- Stagnating
- Slow increase

- Modest increase
- Rapid adoption

ADDITIONAL COMMENTS

25. Please leave any additional comments about telemedicine or this survey. For those who are NOT practicing telemedicine, please tell us your reasons and whether you plan to adopt telemedicine in your practice in the future.