

## Evaluation of Telemedicine Consultation in Obstetrics and Gynaecology- A Cross Sectional Observational Study.

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### Abstract

Introduction: Telemedicine has a range of advantages. It improves timely access to relevant interventions, such as quicker access and access to programs that would not be accessible otherwise. Telemedicine has a range of advantages. It improves timely access to relevant interventions, such as quicker access and access to programs that would not be accessible otherwise. Providing in-person healthcare in India is difficult, particularly given the vast geographical distances and limited resources. One of the major benefits of telemedicine is that it can save money and time for patients, particularly those in rural areas, because they do not have to travel long distances for consultation and care. Telemedicine consultation for obstetrics and gynecology patients opens new gateway for female health care.

Materials and methods : This was a cross sectional observational study . Teleconsultation through Whats App video call was done on 84 women desiring consulatation. Analysis was done for sociodemographic characteristics, classification for type of problems. Level of care given , urgent need for hospital visit and effectiveness and outcome in terms of patient and doctor satisfaction.

Results: Maximum patients who benefited from the teleconsulataion were young (71.42%), married (76.19%) and literate (91.66%). 61.9% of patients were residing in area beyond 25 km from the hospital. More patients (72.61%) preferred single consultation . Obstertrics patients(40.47%) outnumbered patients seeking care for other conditions . 19.04% patients required urgent hospital visits, while others were managed by electronic prescription (32.14%), reassurance (11.9%) and follow up with tests (36.9%) . Overall patient satisfaction rate was good i.e 89.28%.

Conclusion: Telemedicine consultation proved to be a blessing in disguise for obstetrics and gynaecology patients especially during lockdown period. It was very effective and accepted by the patients.

### Introduction :

Telemedicine is application of new technologies in medicine . Introduced as early as 1950, it has recently gained momentum , especially during covid 19 pandemic. Telemedicine, according to Bashshur, Sanders, and Shannon, is "the use of modern information technology, especially two-way interactive audio/video communications, computers, and telemetry, to provide health services to remote patients and to

promote information exchange between primary care physicians and specialists at a distance.” (as quoted in Darkins and Cary 2000:2) (1). The communication between the health care provider and health care beneficiary can be through teleconsultation , teleexpertise and tele monitoring i.e through e mails, messaging videoconferencing , telephone calls, web sites, or using smartphone. (2). Telemedicine is used in prenatal care, maternal and fetomaternal screening, fetal echocardiography, monitoring of chronic medical conditions in pregnancy, and reproductive medicine in Obstetrics and Gynecology. [3] In the case of a global covid 19 pandemic, telemedicine may be an ideal solution for not only providing timely and quicker access, but also for preventing the spread of the disease. It will also cut down on the financial costs of travel. It also lessens the burden/impact on family and caregivers, as well as social factors. Telemedicine ensures the protection of patients, especially obstetric patients, as well as health workers, particularly in situations where infectious infections are a concern. As a result, health systems that invest in telemedicine are better equipped to ensure that patients suffering from Covid-19 problems receive the treatment they need. Telemedicine Practice Guidelines was laid by Ministry of Health and Family Welfare india on 25 March 2020. (4)

This study evaluates the effectiveness of telemedicine consultation in obstetrics and gynaecology patients in covid 19 pandemic scenario.

#### **AIMS AND OBJECTIVES**

To assess the usefulness of teleconsultation in catering to women’s obstetrics and gynecological problems, level of care that can be given and the effectiveness of the novel technique in India.

#### **MATERIALS AND METHOD**

It was a cross sectional observational study. The study was conducted at tertiary care rural hospital. The study started during lockdown period in covid 19 pandemic. Duration of study was 6 months from April 2020 till October 2020 . Tele consultation was carried out through smart phone using video call through whats app. Total 84 patients carried out teleconsultations. Patients were characterized based on sociodemographic characteristics, level of urgency, need for consultation, effectiveness and outcome. After the teleconsultation, patients were enquired whether they were satisfied or not. Those patients requiring hospital visit or admission were directed to report to the hospital.

#### **RESULTS**

TABLE NO 1: SOCIODEMOGRAPHIC CHARACTERISTICS

	NUMBER (84)	PERCENTAGE
AGE		
<40 YEARS	60	71.42%
>40 YEARS	24	28.57 %
MARITAL STATUS		
MARRIED	64	76.19%
UNMARRIED	20	23.80%

EDUCATION		
ILLITERATE	7	8.33%
UPTO 10 TH STD	69	82.14%
10 TH STD AND ABOVE	8	9.52%
RESIDENCE		
LOCAL AREA (25 KM)	32	38.09%
OUTSIDE AREA	52	61.90%

Maximum patients, 71.42%, were less than 40 years of age with mean age being 28.4 years and 76.19% were married. As teleconsultation requires use of smartphone with video calling app, educated patients preferred the method with 91.66% patients being literate. 8.33% illiterate patients took relative's help for teleconsultation. As covid pandemic affected travel, 38.09% patients who took teleconsultation were from local area and 61.90% were from outside area (area beyond 25 km)

TABLE NO 1: LEVEL OF URGENCY AND NUMBER OF CONSULTATION

LEVEL OF URGENCY	NUMBER	PERCENTAGE
ELECTIVE	68	80.95%
EMERGENCY	16	19.04%
NUMBER OF CONSULTATION		
SINGLE CONSULTATION	61	72.61%
MORE THAN 1 CONSULTATION	23	27.38%

19.04% patients were categorized as requiring emergency care. 5 patients were supposed to be in labour, 2 patients were diagnosed to have symptoms of pre eclampsia, 2 patients had severe hyperemesis gravidarum, 2 patients were advised urgent ultrasonography for fetal well being and 2 gynaecology patients had heavy bleeding. 3 patients had fever with cough and were advised urgent follow up at covid 19 opd for RTPCR test. Thus teleconsultation was quite useful in advising these patients to report to hospital urgently. 72.61% of patients had single consultation while 27.38% took more than one consultation.

TABLE NO 3: NEED FOR CONSULTATION

	NUMBER	PERCENTAGE
OBSTETRIC CARE	34	40.47%
1 ST TRIMESTER	7	8.33%
2 ND TRIMESTER	11	13.09%
3 RD TRIMESTER	16	19.04%
POSTNATAL CARE	19	22.61%
MTP AND CONTRACEPTION	8	9.52%

CARE		
GYNAECOLOGICAL PROBLEMS	20	23.80%
OTHERS	3	3.57%

Teleconsultation proved to be a boon for many obstetric patients especially in 1st and 2nd trimester. Out of 40.47% of obstetric consultations, 52.94% were in 1<sup>st</sup> and 2<sup>nd</sup> trimester. Advice regarding continuation for medicines, time for Tetanus vaccinations, need for ultrasonography and maintenance of daily fetal movement count was given. Out of 19.04% patients who were in third trimester, patients requiring need for admission were advised to report urgently. Postnatal patients were 22.61%. Queries regarding medications and baby immunization were solved. 6 patients who had undergone caesarean section were advised to get suture removal done at nearby clinics. Out of 9.52% patients, 5 patients wanted contraception counseling and 3 patients wanted termination of pregnancy. Patients were very well satisfied with contraception advice. Those wanting termination of pregnancy were advised to follow up in hospital. Out of 23.8% patients with gynaecological problems (menstrual irregularities, white discharge per vaginum, dysmenorrhea), 2 patients with heavy per vaginal bleeding were advised to urgently report in hospital while others patients were given conservative management and advised to follow up.

TABLE NO4: EFFECTIVENESS AND OUTCOME

ADVISE	NUMBER	PERCENTAGE
ELECTRONIC PRESCRIPTION	27	32.14%
REASSURE	10	11.90%
FOLLOW UP FOR EXAMINATION	31	36.90%
URGENT FOLLOW UP.	16	19.04%
PATIENT SATISFACTION		
SATISFIED	75	89.28%
NOT SATISFIED	9	10.71%
DOCTOR SATISFACTION		
SATISFIED	80	95.23%
NOT SATISFIED	4	4.76%

32.14% patients were given electronic prescription, 46.9% patients were reassured and advised to follow up and 19.04% required to report urgently. Thus teleconsultation could effectively manage 80.95% population without urgent need for hospital visit. 95.23% patients were satisfied with the teleconsultation. Out of 10.71% of patients who were not quite satisfied, 5 patients were advised for follow up and they were reluctant to visit hospital. The doctor satisfaction was overall good with 95.23%

but the teleconsulting doctor felt the need for some fetal heart monitoring technique especially for last trimester patients.

## **DISCUSSION**

71.42% of patients using teleconsultation were less than 40 years of age. This implies that young population can make use of teleconsultation in a better way than older population. This is due lack of education regarding handling smart phones and using apps for video calls in older population. This result is similar to study done by Karwowski R et al(5) and Moyo J et al(6) where young women preferred teleconsultation. As teleconsultation needs knowledge and orientation to handling smart phones, basic level of education was present in 91.66 % of patients. Similar result were found in study done by Moyo J et. 61.90% of patients were residing in area beyond 20 km. Thus teleconsultation was a smart solution to the barrier of distance especially in covid times.

As seen in study by Karwowski R et al(5) maximum number of patients had single consultation i.e 72.61%. this implies people took consultation only when required. Though the rate of satisfaction was high i.e 89.28% similar to 94% in study by Moyo J et al(6)., the availability of specialist tele consultation during global pandemic satisfied them, but if offered the alternative of visiting specialist doctor, patients would definitely prefer in person consultation. This is contrast to the study done by Pflugeisen BM et al (7) where he found that patient satisfaction scores were higher when he compared virtual care to “traditional” obstetric care. The mindset of people in a developing country like India along with the level of education can be the contributory factor for the difference. Thus teleconsultation should not only be limited to pandemic times, but should be made a routine to avoid crowding at the hospitals.

40.47 % of patients consulted for obstetrics reasons. While MTP and contraceptive care was required by only 9.52% patients and gynaecological issues were faced by 23.8 % women. This is in contrast to study done in other countries by Moyo J et al (6) and Karwowski R et al(5). The reason being India a developing country has high rate of reproduction, people are less aware about contraception as well as gynaceological issues.

32.14% were given electronic prescription, 46.9% patients were reassured and advised follow up and 19.04% were advised to visit hospital urgently. These findings are comparable to study done by Moyo J et al(6) where 20.8 % people required emergency referral. People sought consultation for routine check ups or non life threatening conditions. Patients seeking consultation for emergency condition was less as they preferred hospital visit at such time. Though the doctor satisfaction rate was good but specialist doctors felt the need for some innovative technique for monitoring of fetal being through telemedicine and application of the same.

TM has been used previously in similar healthy crisis. It has been used in contact tracing, monitoring isolated patients, screening potential infected patients and providing health care to unaffected patients as in our study [11,12]. Similarly, South Korean government also allowed telemedicine care during MERS-CoV epidemic in 2015 as epidemic forced shutdown of medical hospitals(13)

## CONCLUSION

Teleconsultation was a successful initiative especially in covid 19 pandemic and proved to be a boon for obstetrics and gynaecology patients. It should be made a routine even after pandemic is over. It would not only prevent crowding at hospitals in a country like India with high population, but would also help in proper use of resources. Teleconsultation can categorise patients according to the level of care needed as appointments can be planned accordingly. Not only private sector, but public sector should also incorporate teleconsultation. This covid 19 pandemic has opened a new gateway of telemedicine. This should not stop with the pandemic, but this novel way should be carried forward with improvisation. This was a small sample study. More studies should be undertaken on larger populations which would pave the way for development of telemedicine network for female health.

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