



## Evaluating the use of telemedicine in gynaecological practice: a systematic review

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### Abstract (600 word limit)

**Objectives:** The aim of this systematic review is to examine the use of telemedicine in the delivery and teaching of gynaecological clinical practice. To our knowledge, no other systematic review has assessed this broad topic. **Design:** Systematic review of all studies investigating the use of telemedicine in the provision of gynaecological care and education. The search for eligible studies followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines and focused on three online databases: PubMed, Science Direct and SciFinder. **Eligibility criteria:** Only studies within gynaecology were considered for this review. Studies covering only obstetrics and with minimal information on gynaecology, or clinical medicine in general were excluded. All English language, peer-reviewed human studies were included. Relevant studies published up to the date of final submission of this review were considered with no restrictions to the publication year. **Data extractions and synthesis:** A data extraction spreadsheet was developed and agreed between the authors. The selected studies were comprehensively examined. Relevant data were extracted for each paper and inputted to the spreadsheet by the first author (SM) and subsequently crosschecked by the second author (NG). Data were then analysed qualitatively and summarised in the Results section.

Data extraction and qualitative assessment were performed by the first author and crossed checked by the second author. Quality assessment for each study was assessed using the Newcastle-Ottawa scale. **Results:** A literature search carried out in August 2020 yielded 313 records published between 1992 and 2018. Following a rigorous selection process, only 39 studies were included for this review published between 2000 and 2018. Of these, 19 assessed gynaecological clinical practice, eight assessed gynaecological education, one both, and 11 investigated the feasibility of telemedicine within gynaecological practice. 19 studies were classified as good fair and eight poor using the Newcastle-Ottawa scale. Telecolposcopy and abortion care were two areas where telemedicine was found to be effective in potentially speeding up diagnosis as well as providing patients with a wide range of management options. Studies focusing on education demonstrated that telementoring could improve teaching in a range of scenarios such as live surgery and international teleconferencing.

### Importance of Research( 200 words)

Moving into the 21st century, the exponential development of technology is driving change in the teaching and practice of gynaecology. The potential to reach a wider audience via targeted cost-effective innovation is almost inevitable, with an avenue opening up to improve access to healthcare and patient

outcomes. Telemedicine (TM) can be defined as ‘the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status’. It can be used for clinical care directly and as a method of educating trainees. Within gynaecology, advocates of TM stress its potential role to aid diagnosis, treatment, follow-up and long-term care. Inadequate access to overall medical care has been reported as being related to a range of factors including poverty, the requirement of health insurance, geographic isolation from healthcare providers and lack of education. Difficult access to healthcare providers is not just an issue facing low-income countries. With the centralisation of tertiary services, which has shown to improve patient outcomes, access and availability can also be an issue in patients living in rural areas of high-income countries, as well as certain patients living in urban areas with mobility issues.

#### **Biography: (200 words)**

Hassan El Motawkel Ala Allah Hassan Soliman has done his M.B.B.Ch. At Ain Shams University, Cairo, Egypt. In 1983, and done his M.Sc (Obst. & Gyn.) in Ain Shams University, Cairo, Egypt in 1989, Diploma of Obstetrics & Women Health, Dublin, Ireland. He worked as a consultant and head of the department of Ob&Gyn in different Egyptian Military Hospital from 2001 to 2007 in Egypt. He got the membership in Royal College of Obstetricians & Gynaecologists, (M.R.C.O.G.), London, UK in 2000. He got the Fellowship in Minimal Access Surgery. World Laparoscopic Hospital. Guryana, Haryana, India. Acting as a Consultant and Head of Department Ob. & Gyn. In Saudi German Hospitals from 2007 till now (2018) in K.S.A. He became the senior member of the European Society of Aesthetic Gynecology (E.S.A.G.) in 2015. The aim of this study was to evaluate the role of laparoscopic ovarian drilling in correcting an ovulation and failure of conception in women with Polycystic Ovarian Syndrome. The investigation was

designed as a retrospective study, was undertaken at a tertiary referral unit in KSA, Saudi German Hospital, Asser. The participants comprised of 150 women between 20-30 years old and Body Mass Index (BMI) between 20-30, treated with Clomiphene Citrate but failed to ovulate or get pregnant. He has publications in several national and international journals. He is a lecturer and instructor in the following international courses: FCCS, PFCCS, ENLS, Airway Management, Critical Care Nephrology, and mechanical ventilation courses.

#### **Information of institute & lab**



The King Faisal Specialist Hospital and Research Centre (KFSH&RC) is a 985-bed tertiary/quaternary care and referral hospital with facilities in Jeddah and Riyadh in Kingdom of Saudi Arabia. It is the national referral and research centre for oncology, organ transplantation, cardiovascular diseases and genetic diseases and we provide treatment for everything from minor to complex and advanced medical conditions for Saudi Arabian nationals. We hold Joint Commission International (JCI) accreditation as an Academic Medical Centre, and American Nurses Credentialing Centre (ANCC) Magnet designation. We are recognized as one of the leading healthcare organizations in the Middle East. The main priorities of KFSH Research include Cancer Research, Cardiovascular Disease, Stem Cells Therapy, Polycystic Ovary Syndrome, gynecology and Genetics Research & others, thus making it one of

the world top centers in rare diseases research.

### Recent Publications (15 to 20)

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7. [Moher D, Liberati A, Tetzlaff J, et al. . Reprint-preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Phys Ther 2009;89:873-80.](#)
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13. Jefferis H, Muriithi F, White B, et al. . Telephone follow-up after day case tension-free vaginal tape insertion. Int Urogynecol J 2016;27:787-90.
14. Ricard-Gauthier D, Wisniak A, Catarino R, et al. . Use of Smartphones as adjuvant tools for cervical cancer screening in low-resource settings. J Low Genit Tract Dis 2015;19:295-300
15. Hitt WC, Low G, Bird TM, et al. . Telemedical cervical cancer screening to bridge Medicaid service care gap for rural women. Telemed J E Health 2013;19:403-8.