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Telemedicine: Benefits and Pitfalls

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The concept of providing healthcare remotely for patients is not new. It is a part of everyday medical practice and complements the traditional face-to-face encounters between doctors and patients on a regular basis.

However, with the disruption of traditional healthcare delivery between 2020 and 2022 due to the COVID 19 pandemic telemedicine has become the focus as a method of healthcare delivery that could in some cases replace the traditional time-tested method of physical doctor patient encounters.

This paper aims to look at the advantages and disadvantages of telemedicine, in the provision of quality healthcare without compromising patient safety and guaranteeing good outcomes via a review of the literature.

This reviews the aspects of good practice that must be adhered to in the implementation of telemedicine.

Keywords: Telemedicine; teleconsultation; remote healthcare delivery; regulatory frameworks.

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1. INTRODUCTION

The basis for the provision of healthcare services is bound in the ethical framework encompassing the principles of autonomy, beneficence, non-maleficence, and justice. This has been made known to all by Tom Beauchamp and James Childress in the 1970s [1].

Autonomy implies that the rights of a patient capable of making decisions regarding care are respected. Beneficence relates to the provision of good beneficial care, while non-maleficence emphasizes the need not to harm the individual during the process of providing care. Finally, justice relates to equity and fairness in the provision of care primarily emphasizing equality and need [1].

These principles hold true in the provision of all elements of healthcare, and it may be argued that the availability of telemedicine and teleconsultation allows for the provision of care more widely to those who may be without access to the traditional form of delivery, thereby fulfilling the principles of beneficence and justice more completely.

2. WHAT IS TELEMEDICINE?

The World Medical Association defines telemedicine as the practice of medicine over distance in which interventions, diagnoses, therapeutic decisions, and subsequent treatment recommendations are based on patient data, documents and other information transmitted through telecommunication systems [2].

In simpler terms, the Malaysian Medical Council defines telemedicine as all medical services provided via information and communication technology to deliver care [3]. This implies remote consultation which means the patient and physician are not physically together as compared to the older traditional method of consultation. By this measure remote consultation does not always imply long distances between parties [3-8].

Telemedicine is part of the larger tent of eHealth which encompasses the use of information and communication technology to deliver healthcare, encompassing public health promotion, health administration, diagnoses, investigation, treatment, [9] as well as education.

3. STANDARD OF CARE

As telemedicine involves patient management it is important to ensure that standards of care expected are made clear to all parties involved in the process of delivery and receipt of such care. Traditionally standard of care has been held to mean care that is provided by the ordinary skilled man who exercises and declares (professes) that special skill (Bolam v Friern Hospital Management Committee 1957) [1]. In medico legal practice, what the “Bolam Test” refers to is this standard. With the case Bolitho v City and Hackney Health Authority in 1998, reasonable and responsible care was added to the standard required [1].

This concept was challenged in the Australian courts in 1992 (Rogers vs Whitaker) which decided that patients needed to be informed of the material risk involved when embarking on a plan of management. Material risk is defined as one, which if informed would influence the patient’s decision to accept or reject a specific plan of management [10-12].

In Malaysia, the current state is that Bolam is used as a standard for diagnosis and management. Roger vs Whitaker is meanwhile restricted to the duty to advise on the risks associated with any form of treatment planned [10].

The issue at hand is as to whether the standards of care as they exist are applicable in telemedicine. Traditionally the practice of medicine and provision of healthcare is based on a physical presence during which a physical examination is performed. This is conspicuously absent in a teleconsultation, and while information from examination can be provided remotely by a third party, a physician, it is not quite the same as examining the patient in person [13-16].

While standards required for physical consultation are clear in jurisdictions all over the world, such standards are not available for telemedicine consultation. There are arguments on both sides, i.e., the provision of “new” standards and the continued provision of existing standards [9], but most jurisdictions at present seem to advice that the use of technology does not alter the ethical, professional, and legal requirements in provision of care to patients and the same standards as a physical consultation would apply [3].

In addition, the limitations of the relationship and services provided should be clearly conveyed, together with information on the provision of further care and access to it if needed. The need to convey information to other physicians involved in the care of the patient should also be clearly spelt out during a teleconsultation [9,17].

Other aspects of care include compliance, and proficiency in the use of the technology required while being comfortable with a remote interaction with patients. The limitations of this mode of consultation should be recognized and steps to address these should be taken, for example the provision of a proxy physician to examine the patient and share findings, including ensuring appropriateness of this service for the patient's needs [17].

Issues of confidentiality, documentation of findings, and decisions of management should meet the standards of a physical encounter [3,17]. Virtual consultations because of their obvious limitations are best used as a utility to provide continued care to patients already familiar to the treating doctor, with the caveat to convert to physical care if required [3,9].

In a pandemic or public health emergency it may be a tool for triage as well, thus reducing the strain on an already stretched service provider. Both the patient and the doctor should be aware of the strengths and limitations of such a consultation with adequate arrangements for continuance of care and referrals as required [3]. It also is obvious that indemnity for the practicing physician should be in place for such consultations.

4. IMPLICATIONS TO MEDICAL EDUCATION

The framework of professionalism that underlines the practice of medicine, which is taught to all medical students is based on clinical competence, effective communication skills and ethical practice. All students and doctors are expected to pursue excellence in practice, exhibit humanism and altruism in their daily patient encounters and be accountable for their actions as practitioners. (Attributes of Professionalism, Arnold and Stern 2006) [18]. These requirements are not negotiable and need to be ingrained into all patient encounters, physical or virtual.

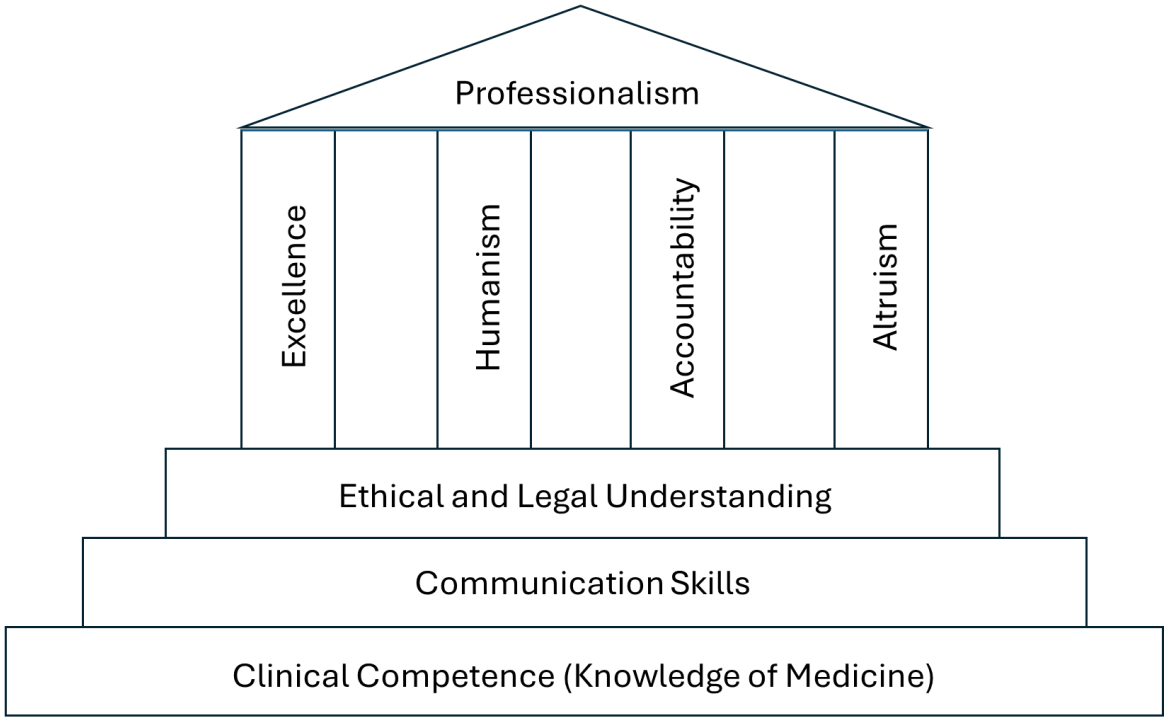

Fig. 1. Attributes of Professionalism (Arnold and Stern 2006) [18]

The COVID 19 pandemic was a major disruptor in all areas of activity, including medical education and practice. It resulted in a major change in the delivery mode of education and healthcare. This accelerated the use of technology in everyday academic and clinical practice. The virtual space was particularly conducive for teaching and development of leadership and communication skills which are integral to effective health care delivery [19].

Table 1. Pros and Cons of Telemedicine

Pros	Cons
Convenience	Inpatient Visits Still Necessary
Saves Time	Security Concerns
Cost Effective	You May Not Know the Doctor
Minimizes Visits for Patients	Limited Technological Access
Improved Access to Care	Training and Equipment Required and Cost
Improved delivery and Quality	

The impact of incorporating telehealth in education and practice among a small group of trainees in a pediatric and adolescent medicine clinical setting in the United States revealed that it helped facilitate learning and that the trainees would incorporate this skill in their clinical practice in the future [20].

There is no doubt about the efficacy of this modality in providing both healthcare and educating young doctors. One major impact of the pandemic has been the continued usage of the virtual platform for education of our young doctors.

The easy availability of technology and low cost are major facilitators of telemedicine and telehealth, encumbrances on the other hand would be the digital divide and unavailability of resources to operationalize the project as well as the cultural preference of patients and concerns regarding confidentiality and privacy. The pros and cons of telemedicine are summarized in Table 1 [21].

5. CONCLUSION

Just as the pandemic has been a disruptor in many if not all spheres of activity, it has also changed the way healthcare is delivered and doctors are trained. Telemedicine and telehealth that were previously accepted very grudgingly are now facets of healthcare delivery that are here to stay. They have clear value in training young doctors as well as a space in daily practice.

The fundamental aim of providing quality care should not be compromised by telemedicine. Clear aims and expectations with recourse to a physical consult should be the basis for provision of telemedicine in healthcare to ensure quality and patient safety.

Regulatory frameworks to ensure patient safety and confidentiality, as well as issues of medical negligence for doctors, and reimbursement of costs for patients by insurers are among areas that still need more deliberation and clarity.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during writing or editing of manuscripts. The authors also declare that they have no ethical or conflicting interests in this area.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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