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The potential advantages and disadvantages of the role of Tele-medicine in supporting the modern delivery of diabetes care in the community.

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Introduction

DM Once diagnosed, is for life. The diabetic patients care needs constatnt visits and communication with the health care providers to seek advice about the diabetes, changes in the lifestyle, dosage of medications, and discover its complications. Rising Prevalence of DM, shortage of diabetes team and complexity of treatment translates to poor health outcomes and failure to reach therapeutic targets.

Therefore DM is disease costly.

Technological advances have created new opportunities for connecting diabetic patients to their diabetic team to help them to improved the management in addition to reduce treatment costs. In the past two decades, telemedicine have been used to provide education for monitoring of blood glucose and to facilitate consultation with health providers.

What is Telemedicine:

Telemedicine defines as a communication between the patient and healthcare providers at a distance to provide medical care and may provide opportunities to serve the "triple aim" of better health and improved patient experience at reduced cost. It involves many applications of established and emerging technologies. Telemedicine interventions include, telephone, mobile phones, wirelss devices, electronic mail, website, or video conferencing.

What are the models of Telemedicine.

Models of Telemedicine	Characterization
Asynchronous	- "store" and "forward" approaches
Synchronous	- Delivers medical care in Real- Time
Remote Patient Monitoring	- A device that provides many benefits most significantly increase access to point of care tool to support better clinical decision making and improved patient outcome.
Mobile device for healthcare services	- These devices provides patient generated health data to diabetic team and keep patients informed on their health goals and stored in devices as a medical record.

The advantages of telemedicine in Supporting Diabetes Care:

Telemedicine may enhance patient access for certain at risk populations, such as those who are geographically (rural communities), functionally (elderly or disabled), abd socioeconomically isolated. It may amplify the inadequate and concentrated supply of diabetes specialist, educators, and mental health personnel, to support primary care teams and their patients with diabetes and may even provide an alternative for engaging people with diabetes less motivated to visit their healthcare team.

Telemedicine also helps gathering patients data, store important data such as investigation and as a reminder for future followup appointments with the diabetic team, and a reminder with the patient regarding the emerging development related to diabetes.

In other hand many studies have evaluated the effectiveness of remote glouse monitoring on improved glyceic control, there is still alaock of strong evidence for its effectiveness in improving HbA1c but there is a notable exception is telemedicine diabetic retinopathy screening system, where fundus is taken at primary healthcare sites and transferred to central reading centres for assessment and grading of a retinal disease related to DM. These telemedicine retinopathy screening system have been shown to be both effective identifying individuals requiring referral for treatment and cost effective to implement across different resource settings.

They've been a number of well conducted meta analysis and meta regregations aimed at assessing the clinical effectiveness of dozens of telemedicine interventions for diabetic care. the diversity of interventions has highlighted the wide range of opportunities, from diabetes education to medical care, including specialized service such as eye care and mental health support. these reviews have generally reported positive findings in terms of clinical outcomes (example glycemic control and self management) and patient experience (example care coordination and access).

(idea tel) trial which compared telemedicine case management to usual care in the management of DM. the trial showed little, but considerable an improvement in HbA1C, BP, LDL-C, and sustained clinical improvement which will likelyto reduce long term complication despite the high cost but no

impact on mortality. it has been suggested that standardizing processes and outcomes may improve our understanding of the clinical and cost effectiveness of telemedicine in the care of individual with diabetes perhaps most importantly the absence of cost effectiveness data.

Although there is a problem in covering insurances in Tele medicine but fortunately there is evidence that reimbursement policies may be changing for certain at risk population and those receiving care in specific situations suggest Veterans Health Administration.

The disadvantages of telemedicine in diabetic care:

there are many challenges to widespread adoption telemedicine many of the clinical improvements were modest and not consistent across studies. there are also some unintended negative findings, including challenges with technologies dimensioned quality of interactions with healthcare team. in addition to the unavailability connection can be a Great Barrier in delivery of healthcare information to the patient an telemedicine needs an expert team and trainer all technical problems and find quick solutions for them,

There was significant attrition many years ago much owing to challenges or frustration with the computer. any independent evolution demonstrated no reduction in the Medicare user cost for health services.

Despite sustained clinical improvements the intervention cost what deemed excessive over 8000 USD per person annually given similar improvements noted in case management trials not using telemedicine which occurred at a fraction of the cost there were significant lessons learned and summarised in the final report for many studies which emphasized the need to target high risk populations likely to benefit from telemedicine and adoption of lower cost user friendly technologies which have since entered the marketplace.

State level regulations and private insurance reimbursement a critical barriers to expanded use of telemedicine services they remain significant variation in reimbursement for telemedicine best care in the commercial insurance market.

Conclusion

Information technology has the potential not only to strengthen existing models of care but also to create new models of care for people living with DM. telemedicine is part of new digital age that is transforming the world it is well popular in treating diabetes.

Telemedicine interventions whether synchronous and asynchromous remind and important enabler of models off care that focus on providing better access especially in resource limited settings. increasingly healthcare teams recognise the critical importance of staying connected to people with diabetes in between routine impersonate clinical encounters in addition to improving access to people with diabetes for whom significant barriers may impede access in traditional face to face encounters.

There is general consensus the effective telemedicine intervention like most successful technological innovation. although the advances in information technology hold emails promise in enhancing the different models of care for diabetes embracing those technologies remains a challenge. with the right design and careful implementation telemedicine will continue to play increasing role in supporting healthcare system. in generalizable and cost effectiveness of telemedicine diabetes care remind an improvement area for future investigation

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