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Management of Obesity Using Telemedicine During the COVID-19 Pandemic

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While telemedicine was introduced prior to the pandemic of 2020, the COVID-19 pandemic made it more readily available and more acceptable to both health care professionals and patients.

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Abstract

Importance: During the COVID-19 pandemic, telemedicine visits increased to provide safer access to healthcare.

Methods: To evaluate the role of telemedicine in obesity management during COVID-19, we conducted a systematic review to identify barriers in using this approach to patient care.

Conclusion: While necessary, the management of obesity through telemedicine was met with patient-specific and healthcare-specific barriers. Increased awareness of these barriers may allow physicians to better understand patient interactions via virtual medical visits.

Introduction

Telemedicine has played a role in the United States healthcare system for decades now. It was most initially utilized as a means of monitoring astronauts in flight, established by the National Aeronautics and Space Association (NASA) in 1960.[1] In more recent years, it has played a more prevalent role in certain medical specialties, such as radiology, psychiatry, and cardiology than others. It has also allowed for increased inter-specialty communication between healthcare professionals. Its versatility has been demonstrated across different settings as well: ambulatory appointments, emergency visits, hospital follow-up, and most recently, testing and screening for COVID-19.

This article focuses on the use of telemedicine for patients struggling with obesity and its limitations. It is long known that physicians have tried to manage obesity in patients through diet and exercise, then stepping up to medication, and if all else fails, bariatric surgery. However, it is unknown how well these management plans have succeeded during a pandemic that has required virtual medical visits and extended periods of quarantine. This is a particularly important topic to consider because it was found that obesity has been associated with an increased risk of death among hospitalized patients diagnosed with COVID-19.[2] Additionally, obesity has become increasingly common among the population age 50 and younger, thus shifting the severe and fatal COVID-19 cases to the younger population.

Methods

We conducted a systemic review of the literature across the PubMed (MEDLINE) and Elsevier ClinicalKey research databases. Searches were performed between February 1, 2021, and February 28, 2021, by A. W. S. The keywords used to search for relevant articles included telemedicine, telehealth, virtual visits, COVID-19, coronavirus, obesity, and weight. We reviewed articles published between February 1, 2020, and February 1, 2021, and excluded all other articles published outside of that timeframe. The inclusion criteria used for PubMed (MEDLINE) included: free full-text, English language, and humans. The inclusion criteria used for ClinicalKey included: full-text only, articles listed under specialties endocrinology and metabolism, internal medicine, and surgery. Exclusion criteria included: articles outside the scope of the search, articles that included diabetic patients and diabetes management, articles that did not focus on medical management during COVID-19. Using the parameters, 23 articles from the MEDLINE database and 70 articles from the ClinicalKey database were obtained. After exclusion criteria was applied, two articles from the MEDLINE database and three articles from the ClinicalKey database were reviewed and analyzed. Figure 1 illustrates the search process with the inclusion and exclusion criteria described above.

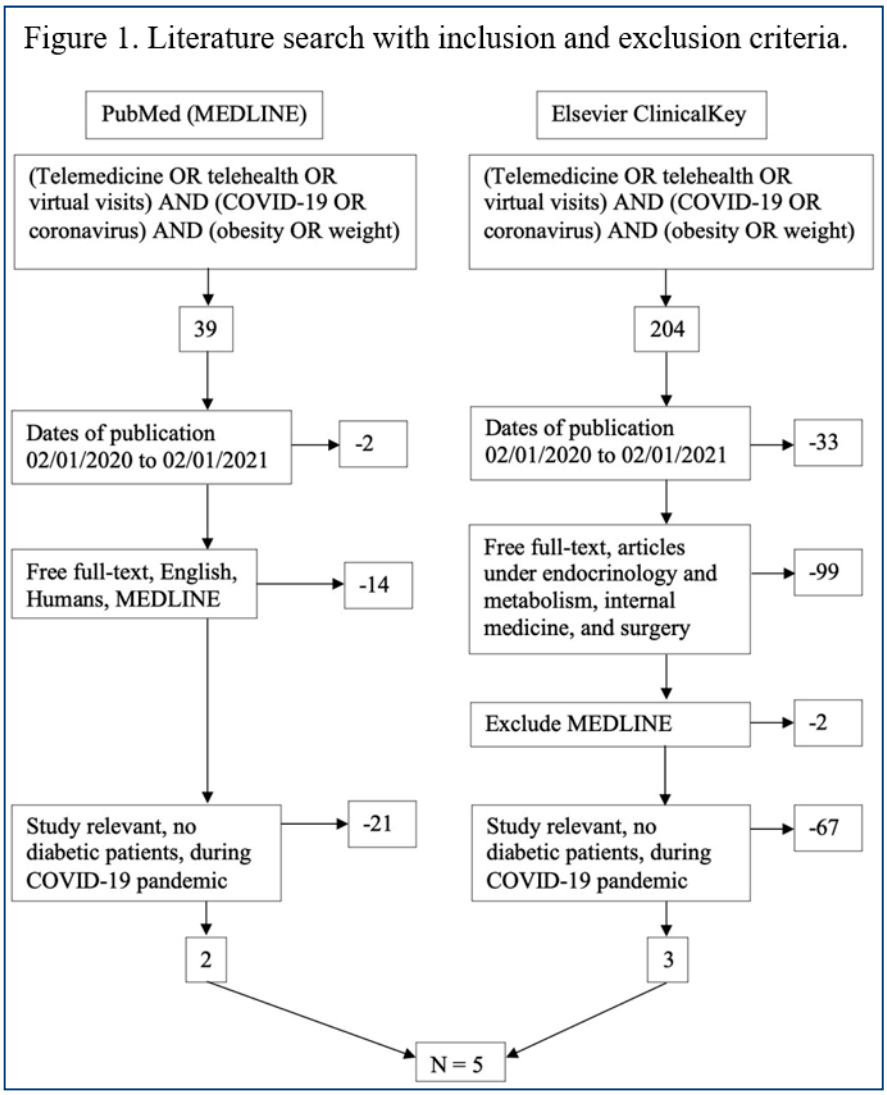
Results

Limitations of telemedicine for visits for obesity management were broken down into two categories: patient-specific barriers and healthcare-specific barriers. Limitations that were included in patient-specific barriers included access to technology and patient acceptance.[3] Although 75% of U.S. adults have internet service at home, this does not account for the unequal distribution across racial minorities, the elderly, those living in rural regions, and those with lower levels of education and income. This is particularly relevant to the management of obesity, as there is a disproportionately higher obese population among certain racial/ethnic and socioeconomic classes.[4] It was found that among the age group of 2-5 years, 16.5% of Hispanic/Latino and 11.6% of Black, non-Hispanic children fall into the obese group, whereas 9.9% of White, non-Hispanic children fall into the same category. These children are also found to have a higher obesity risk in adolescence compared to their healthy weight counterparts. Therefore, children who are impacted by obesity translates into a similar adult population demographic also impacted by obesity. As a result, unfortunately, the same patient demographic who has a disproportionately higher rate of obesity also suffers from more limitations in having access to telehealth.

In comparison, it has been shown that established telemedicine practices have received positive feedback. A Pediatric and Adolescent Weight and Cardiometabolic Clinic in Orono, Maine, had established a weight management clinic with a full interdisciplinary team and IT experts to set up a telemedicine plan for patients in 2015, before the COVID-19 pandemic. It was concluded that the telemedicine services, in fact, reduced barriers to access including reduced travel time, decreasing competing responsibilities, less absence from work, avoidance of inclement weather, and allowing patients to be in a home environment where they are most comfortable.[5] The technological and socioeconomic disparities are briefly touched upon by the author, but the benefits listed contributed a different and interesting perspective in adding telemedicine practices for obesity management as an adjunct to traditional office visits in the future.

In addition to the benefits that the clinic in Orono, Maine, has listed, telemedicine has also been found to be beneficial with regards to increasing access to bariatric surgery programs. Many of the screening process steps for bariatric surgery, questions that patients may have, and initial informational sessions can all be addressed and presented to patients remotely.[6] This also increases the number of participants per session, thus further increasing

Figure 1. Literature search with inclusion and exclusion criteria.



the number of patients who have access to this information. The argument for why traditional office visits have not been as successful with bariatric surgery is due to lengthy process patients have to go through in order to get cleared for surgery, making it a cumbersome and demoralizing process. It has been shown that less than 1% of patients eligible for bariatric surgery actually end up undergoing surgery, and 50% of patients who initiate the process end up dropping out. This is despite the fact that bariatric surgery is one of the most effective methods for treating obesity and its associated comorbidities. Consequently, telemedicine has proven beneficial in this very specific, but unique, avenue of obesity management.

In addition to patient-specific barriers, limitations that were included in healthcare-specific barriers included healthcare provider acceptance, reimbursement, and regulatory barriers. Changes in the healthcare system has also been witnessed to accommodate this prevalent implementation of telemedicine. Previously, insurance companies had restrictions on the types of visits that would receive reimbursements. However, to support the widespread need for virtual visits, Medicare has broadened the scope for which it allows reimbursement for telemedicine visits under the 1135 Waiver.[7] Outside of government-funded healthcare, over 30 states across the country have required private insurance companies to reimburse providers for telehealth services. Additionally, the federal government have lifted regulatory barriers that prohibit communication with patients that may violate the Health Insurance Portability and Accountability Act as well as lifted restrictions on providing care across state lines.[3] This has allowed physicians to communicate with patients via Zoom, Google Hangouts, Apple FaceTime, and more. These changes have eliminated some of the restrictions of the level of care physicians can provide for patients.

Discussion

On a national level, obesity has been viewed as a sign of personal moral failure and is not categorized as a disease.[6] Consequently,

this has limited patient access to care, as well as a patient's desire to seek out care. Additionally, obesity has been shown to affect a disproportionately higher number of certain racial/ethnic groups and those of lower socioeconomic and education status.[4] With the COVID-19 pandemic, patients affected with COVID-19 and who also suffer from obesity, have a higher severity of the disease and fatality.[2] Together, these issues highlight the value of improving obesity management, during the COVID-19 pandemic and after.

The widespread application of telemedicine has both positive and negative impacts on obesity management. Though positive reviews include decreased travel time and less stigmatization of patients seeking bariatric surgery, there are still a number of barriers that need to be corrected to deliver fair and accessible telemedicine healthcare for those in need. This includes overcoming a lack of resources for patients who do not have access to, or do not have knowledge of how to use, the technological aspect of telemedicine. With the increased utilization of telemedicine, it may become a role of the physician's office team to educate patients on how to use technology services and how to understand interactions via a virtual platform. This shift in responsibility will need to be further evaluated in terms of the workflow of a physician's office, the comfort level of the team, feasibility, and simple willingness from both parties. Because obesity is also more prevalent among specific ethnic/racial and socioeconomic groups, reducing the rate of obesity in these patient demographics would help decrease the rate of obesity in general. However, the scope of this approach would have to be further evaluated as obesity has been determined to be a multifactorial and complex health issue.[8,9] We believe that the first step in addressing these issues is recognition, and from there, the limitations can begin to be eliminated.

Conclusion

While telemedicine was introduced prior to the pandemic of 2020, the COVID-19 pandemic made it more readily available and more acceptable to both health care professionals and patients. However, like its counterpart "in-person" practices in medicine, its limitations need to be identified and addressed to further improve delivery of care to patients. More research is needed to identify the barriers that limit patients' access to and use of telemedicine. Before telemedicine can gain further patient acceptance and meet the expectations of the traditional model of healthcare, its barriers need to be understood and eliminated to provide equitable care for patients.

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Disclosure

None reported. **MM**