

Results of 5 Months Experience for the Treatment of Diabetic Patients with Telemedicine in an area of Central Italy

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Summary

In March 2021 we launched a telemedicine service in our institution to follow the diabetic patients. After an initial phase of recruitment we observed a rapid increase in the number of patients under treatment and a decrease of Body Weight and HbA1c after 91 ± 8 days. At the same time the number of patients coming in person for the first visit increased, due to the greater availability of time slots.

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Introduction

The current CoV-19 pandemic is simply an accelerator of the use of telemedicine [1,2] an effective technique that the medical community has long been trying to implement [3]. Telemedicine should be considered a discipline in itself. Among the opportunities of telemedicine, the ease of access to the medical facilities, the comfort of the patient and the medical staff, the completeness of the information, a more strict and regular follow up, and the possibility of remote monitoring of the Blood Glucose values (SMBG, CGM) should be mentioned [4].

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Aim

Our aim was to evaluate if the follow up in telemedicine was accepted and satisfactory to the patient, if it was effective, its impact on the total volume of activity of our institution and on the body weight and HbA1c value of the patients. Telemedicine is not for all, and not for any medical condition, but its scope will be undoubtedly expanded in the next future.

selected 43 who had had at least two interviews in telemedicine and enough time had elapsed (≥ 3 months) to allow a consistent time of follow up.

We evaluated the increase in number of visits, the increase in the number of follow ups, the change in HbA1c and weight and the change in the number of new first visits in person in our institution.

Materials and Methods

We evaluated the practical use of telemedicine in an area of central Italy. The activity was launched in March and has been going on now for 5 months. We offered a follow up in telemedicine to 112 patients on their first in person visit ($n=57$) or already in F-u ($n=85$), who were deemed apt for telemedicine on the basis of the inclusion criteria, represented by the diagnosis of diabetes from at least one year, the absence of complications requiring in presence consultation in our office and a blood glucose level not requiring immediate hospitalization. The subjects were included irrespective of their treatment and if they or one of their relatives were able to use electronic media. Twenty one of them declined because they did not consider the contact adequate (age 75 ± 6 ys), twenty five declined because they did not have enough technical expertise or the hardware. Among the remaining 66 we

Protocol

We offered the Follow-up visit to 112 diabetic patients, both first visit and patients already in follow-up. The timing of the follow up was decided on the basis of their needs (treatment, level of metabolic control, other health conditions). Eighteen declined because they did not consider the contact adequate (age 72 ± 5 ys) 22 declined because they did not have enough technical expertise or the hardware. Among the remaining 72 who were willing to be followed in telemedicine, only forty-three were included in the present study because they had been in follow-up for at least 80 days and had undergone at least two FU visits in telemedicine.

The average duration of the interview was 15 ± 7 min. We collected the symptoms, HbA1c, and SMBG. The average follow up interval was 42 ± 18 days, versus $>3 \pm 3.2$ months for the in person visits calculated on the basis of the 2019 data.

We also recorded the number of the in-person visits, and among them the number of new patients. We compared the data with

the number of accesses in year 2019. The comparison of these numbers with those of the previous year was impossible because of the pandemic-related lockdown which caused a sharp decline of the activity of the hospitals throughout the country in 2020. The data were analyzed with the SPSS package ver 18.

Results

The time between visit 1 and 2 was on the average 54 ± 14 days, and from visit 1 to visit 90.7 ± 8.1 days. During this time there were some more contacts on telephone, lasting less than 5 min, but we did not include them in our study because those were, strictly speaking telemedicine. The average duration of the interview was 15+7 min. After 90 days the HbA1c was reduced of $-2.1 \pm .77$ (p test for paired data, Sig .000) and the Weight was reduced -2.69 ± 1.8 Kg (p test for paired data =.000). During the visits we adjusted the dosage or changed the drugs to 28 patients.

Even more interesting is that the number of new patients coming in person for the first visit increased 81% versus the 2019 data, where most slots were occupied by the follow up of the patients.

Discussion

The acceptance of telemedicine was consistent (64.2%), which is not surprising. Telemedicine offers a number of advantages, health related, economic, social, and Personal. The patients can be followed while they are comfortably at home, they have the availability of any medical document, they have easy access to the drugs in use, whose names they frequently forget, they have the support of their relatives and/or caregivers In the comfort of home they also have an easier interaction with the medical staff on the other side Other strengths are the economic and social advantages of time spared, the costs of transportation, and the sparing of time lost by the patient and his/her caregiver(s).

Also not surprising were the statistical significance of the results

on the weight and HbA1c reduction, largely attributable to the more frequent follow up virtual visits and the attendant sense of being supported by the team that the patients and their relatives perceived. Unfortunately these patients frequently suffer from an "abandonment syndrome"[5-7].

Equally expected was the increase in the number of new patients entering our clinic. This was evidently attributable to the number of "free slots" made available after most of our patients were moved to telemedicine follow-up.

Our work also has some limitations. We could not have a control group because of the pandemic and the lockdown. The last available data for comparison were from 2019 when the general conditions were largely different.

Irrespective of these considerations the average interval between visits was 160 ± 30 days in 2019 compared to 30 ± 12 days in telemedicine, which can explain the improvement we could obtain. Our results demonstrate e number of advantages of telemedicine used in the right context for the follow-up of diabetic patients and should be confirmed in different settings and with greater numbers [8-10].

We are sure, however, that this type of virtual assistance will coexist with "face to face" visits in patients

With diabetes and that the "know-how" that patients, families, caregivers and diabetic teams have acquired

During this difficult period of CoVid-19 pandemic will not be irretrievably lost in future.

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References

- 1 Charnes A, Cooper WW, Rhodes E (1978) Measuring the efficiency of decision making units. *Eur J Oper Res* 2:429-444.
- 2 Hou W, Ren R (2001) Application of data envelopment analysis in efficiency evaluation of hospital. *Chin J Integr Med* 18:279-280.
- 3 Banker RD, Charnes A, Cooper WW (1984) Some models for estimation technical and scale efficiencies in data envelopment analysis. *Manag Sci* 30:1078-1092.
- 4 Banker RD, Thrall RM (1992) Estimation of returns to scale using data envelopment analysis. *Eur J Oper Res* 62:74-84.
- 5 Hu HH, Qi QH, Yang CH (2012) Analysis of hospital technical efficiency in China: Effect of health insurance reform. *China Econ Rev* 23:865-877.
- 6 Zhang N, Hu A, Zheng J (2007) Using data envelopment analysis approach to estimate the health production efficiencies in China. *Front Econ China* 2:1-27.
- 7 Zhen W, Zhang C (2009) Efficiency Evaluation of China's New Rural Cooperative Medical System Using DEA Method, mimeo. *Front Psychol* 12: 68-69.
- 8 Zhang RH, LIU L, LI WH (2011) Evaluating Efficiency of Health Services of 31 Provinces and Cities in China Based on DEA Model. *China Econ Rev* 30:69-71.
- 9 Vitaliano DF (1987) On the estimation of hospital cost functions. *Health Econ* 6:305-318.
- 10 Xuan CY, Qi AJ (2017) DEA—Based Evaluation of Efficiency of Level III General Hospitals in Shandong Province. *Med Soc* 30:51-53.