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# Value-based culture on a tertiary hospital and responses to COVID-19 epidemic: Measuring quality of Life in patients at risk of Long-COVIDfacilitators

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## Background & Objectives

In June 2020, while combating the first wave of SARS-CoV-2 epidemy, healthcare professionals showed concern about the evolution in the long term of COVID-19 recovered patients' symptoms. A monographic consultation was created to improve the follow-up after discharge, and patients with inclusion criteria were given an appointment for a check-up three months later. The nursing staff worried about patients' Quality of Life (QoL) and asked the coordinator of Value-Based Healthcare (VBHC) implementations to measure PROM in COVID-19 patients included in this consultation and evaluate the improvement. This work details measuring PROM in a high-complexity hospital during a health emergency and the results obtained.

## Material & Methods

A Descriptive observational study in a cohort of 871 COVID-19 patients over 16 years of age followed up after hospital discharge by the Internal Medicine Department of the Hospital Universitario 12 de Octubre, from June 29, 2020 to June 15, 2021. All the patients were included in a Post-COVID consultation program to a closer follow up. We took as the baseline the first interview conducted (during the first month after the diagnosis). We compared it with successive interviews at 3, 6, 9 and 12 months after the baseline interview. The nurses from the practice carried out the surveys using 3 modalities: telephone, face-to-face with assistance or face-to-face without assistance. Sociodemographic variables, such as age and sex, were analysed, and the loss and recovery of health-related quality of Life (HRQoL) in patients following SARS-COV-2 infection was measured using patients' health perceptions using the European Quality of Life-5 Dimensions (EuroQol-5D) questionnaire and the self-rated health status thermometer. Absolute and percentage frequencies were used to represent the categorical or qualitative variables, and the mean and standard deviation were used for the quantitative variables.

The Chi-square test (X2) and Student's t-test (T-test) were used to analyse differences between variables in 2 categories. A statistically significant difference was considered with values of $p<0.05$ and the 95% confidence interval for mean differences that did not include 0. The analysis was performed with the SPSS version 26.0 statistical package.

## Results

All patients discharged from the Internal Medicine Department between June 2020 and June 2021 were recruited after hospital discharge (N = 871), and only 867 agreed to answer the questionnaires (0.45% non-compliance). The combination of the values obtained for each dimension was used to automatically evaluate the state of health based on a specific global health index, which evaluates the magnitudes of each dimension, giving greater importance to the problems that the Spanish population considers most relevant. This same index was offered to the patient as a visual analogic index to self-report their perceived global health status.

**Figure 1:** The systematic and structured communication between patients and health professionals allowed better follow-up and personalized adjustments on the treatment.

We observed a discrepancy between the self-evaluated global health index and the automatically calculated index; these differences, shown in table 1, were maintained in time and were statistically significant ($p < 0.000$). After one year from discharge, the patients showed an improvement of 1.04% ($p<0.000$) when measured by the automatic algorithm, while it was significantly lower (0.12%) when reported by the patient.

When stratified by worse versus better-perceived Quality of Life (patient versus automatic), there was a significant diference ($p < 0.000$).

Of the 240 patients that adhered to the one-year PROM follow-up and agreed to answer a satisfaction questionnaire, 91.6% thought the nurse calls were of high or very high quality, 91.67 felt "more" or "much more" accompanied for, and 92.34 would recommend the program for "sure" or "entirely sure."

| | Baseline | 12 months | p |
|---|---|---|---|
| Patients (n) | 867 | 226 | n.s. |
| Patients lost (%) | 0.45% | 73.9% | NA |
| Age | 53.4±15.3 | 59.2±13.9 | n.s. |
| Sex (% men) | 51.3 | 56.4 | n.s. |
| Months of follow up by PROM (mean±SD) | 4.3±5.3 | 5.0±6.4 | n.s |
| Number MD consultation (mean±SD) | 3.3±2.7 | 3.8±3.0 | n.s |
| Automatic score (Baseline vs 12 months) (mean±SD) | 6.51±2.37 | 7.55±2.19 | p < 005 |
| Patient score (Baseline vs 12 months) | 6.68±1.71 | 6.80±1.80 | n.s |
| Difference Automatic vs patient | 0.17 | 0.75 | P<0.0001 |
| | Better self-perceived health | Worse self-perceived health | |
| Number of consultations | 4.1±3.2 | 3.62±2.97 | n.s. |
| Months of clinical follow-up) | 5.8±6.3 | 5.1±6.2 | n.s |
| Automatic global health score -12 months follow-up | 5.7±2.1 | 8.1±1.8 | P < 0.001 |
| Self-perceived global health score -12 months follow up | 6.95±1.56 | 6.5±1.73 | n.s |

**Table 1:** Summary of the descriptive vaiable of the COVID cohort. n.s = Without statistical significance

## Conclusions:

Post-Covid patients perceived a benefit from periodic follow-up because of the time sequelae that this disease can generate and appreciated added value in the PROM follow-up (satisfaction scores). The EQ5 tool has a significant discrepancy when calculated automatically vs the perceived patient-reported global QoL; There are one or more dimensions of the QoL of COVID patients not identified by the five questions included in the PROM, which could be an indicator of patients prone to long-COVID.

Thanks!