

# USE OF TIC'S IN HEALTH CENTERS AGAINST COVID – 19

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**Abstract**—The article seeks to identify the use of TICs in health centres against covid-19. A cross-sectional and descriptive study was carried out. The census sample consisted of 85 health professionals from Lima Centro - Peru. In which the survey and data collection were used were questionnaires for the Use of Information and Communication Technologies in Health. The results regarding ICT'S use, Inpredomino the usual indicator with 74.1% (n-63), and the dimension access to TIC'S, I also always predominate with 74.1 % (n-63), almost always followed by 12.9% (n-11); in the use of TIC's I always predominate with 42.4% (n-36); while in appropriation of TIC's it almost never dominated with 56.5% (n-48), followed by regularly 16.5% (n-14), never 12.9% (n-11), almost always 8.2% (n-7) and always with 5.9% (n-5). In which we conclude the use of TICs in health centres against covid-19 that I always predominate in times of pandemic.

**Keywords**—Covi-19, health centers, pandemic, public health, TIC's.

## I. INTRODUCTION

At the beginning of December 2019, the first cases of pneumonia unknown to its origin were detected and identified in the Eastern Republic of China, Wuhan City. The pathogen was identified as the new RNA betacoronavirus that has now been referred to as severe acute respiratory syndrome coronavirus (Sarvs-Cov-2) because of the great resemblance it bears to Sarvs-Cov (1). As of 29 November 2020, 61,869 330 confirmed cases of COVID-19 and 1,448,896 deaths were reported to the WHO World Health Organization.

In America as of January 14, 2021, 40,188,017 confirmed cases and 932,788 deaths (2) had been reported, while in Peru whose first confirmed case was reported on 6 March 2020, 1,040,231 confirmed cases and 38,399 deaths (3) have been reported.

The use of digital tools at the first level of care to address covid-19 has had an impact and importance in the field of health service management, so first-level care facilities have had to adapt to this change and turn to this new digital age, where health professionals interact with these digital tools to monitor the at-risk population, cases and their contacts (4) which allow to develop and implement models of greater complexity for data analysis, artificial

intelligence, 5G technologies as well as robotics, as well as the use of integrated applications and information systems, allowing to strengthen our range of digital tools in the frontal fight against COVID-19; so that health professionals can continue to save lives (5), and improve people's quality of life.

There are major challenges to achieving an initiative in the use of TIC in health in Peru. even more so in these times of pandemic, where we find that there is a large gap of internet connectivity, in the management of these changes, in the transformation to having a digital cultural, as well as the financing mechanisms and administrative procedures of health institutions (6). Similarly establishing regulatory, supervisory and monitoring procedures, which go hand in hand with incentives to promote their use, digital health literacy should not only be to users of these health services, but also to providers of these services, in addition to the constant training of health professionals (7).

Peru since 2014, is a member of the American Network of Cooperation on Electronic Health RACSEL, in which several technical documents have been generated in order to facilitate the use of TICs in the countries that make up the region, based on international models and standards, which are endorsed by the Inter-American Development Bank (8).

On May 10, 2020, the publication of D.L. No. 1490 was formalized, in which he defined the use of these digital health tools as "... the remote health service provided by competent health personnel, through digital tools, so that they are accessible and timely (sic) to the population" (9).

The objective of this study was to be able to identify TIC'S use in health centres frente to covid-19.

## II. MATERIAL AND METHODS

### Studio design

It is a quantitative, non-experimental study of the descriptive cross-sectional subtype, since it is interesting to teach the state of reality at a certain time.

### Study population

The population consisted of 85 health professionals working in a health establishment of the first level of care in Lima Centro - Peru.

### Source of data

The technique used for this research was the survey, which allowed the use of structured and standardized collection tools for our data, allowing the information to be collected in an appropriate manner.

The instrument that was used was the collection of data from the Use of TICs in health centres, which makes it possible to determine the relationship between the use of TICs and patient care at the first level of care, is a tool used by the American Network for Cooperation on Electronic Health RACSEL, which was jointly developed by the Brazilian Information and Communications Center (NIC.br) and the Regional Centre for Development Studies of the Information Society (Cetic.br), of which Peru is a member (10).

It consists of 3 categories such as, access to digital tools in the work environment (Item 1), use of digital tools in the work environment (Item 2) and appropriation of digital tools (Item 3). Which have already been standardized by CERTIC using a LIKERT scale we can determine whether the level or grade is low, medium or high (11).

### Description of the research scenario

The study was carried out at the san miguel health center that belongs to the Directorate of Integrated Health Networks Lima Center of the Ministry of Health.

### Study variable

The study variable is the use of TICs in health facilities, which is defined as the interaction of health professionals with digital platforms with the aim of supporting better treatments for patients (12).

### Ethical considerations

The health professions were invited to participate in the study conducted and those who were happy with the research were informed about the purpose of the analysis, and gave their official informed consent both orally and in writing.

## III. RESULTS

Of a total of 85 participants we have 63 participants aged 30 to 59 years (74.2%) majority age range, as well as an average of 50.25 years. While, in relation to sex, 32 participants are male (37.6%) 53 female (62.4%). In relation to the profession, a nursing technical pre-term with 27.1% (No. 23), followed by doctors at 24.7% (n.21). In terms of working mode, face-to-face predmino with 65.9% (n-56) and virtual with 34.1% (n-29).

The use of TIC's in professionals working in the center of Lima Centro in which it almost always dominated with 41.1% (n.35), followed almost never,

We have the use Tic's by health professionals according to their size. As for the dimension of access to Tic'S,always predominate with 74.1% (n-63), almost always followed by 12.9% (n-11), regularly 9.4% (n-8), almost never 2,9% (n-11), regularly 9.4% (n-8), almost never 2.8 4% (n-2) and never with 1.2% (n-1); in the use of pre-domino TICS always with 42.4% (n-36), almost always

followed by 29.4% (n-25), regularly 24.6% (n-21), almost never 2.4% (n-2) and never with 1.2% (n-1); in TIC's appropriation almost never dominated with 56.5% (n-48), followed by regularly 16.5% (n-14), never 12.9%(n-11), almost always 8.2% (n-7) and always with 5.9% (n-5).

## IV. DISCUSSION

The study raises the issue of the use of Tic's in health facilities,which seeks to help this toolkit help overcome the difficulties that health professionals have in care at the firstlevel, which are further complicated in times of pandemic.

In relation to the use of Tic's in health centres versus covid-19, it is clear that 41% (n-35) always use digital tools, 20% (no.17) almost never, 16.5% (n-14) almost always and regularly, as well as 5.9% (n-5) ever. These results may be due to the innate and empirical use of most healthcare professionals, but in turn there is a gap that remains to achieve optimal digital competence in the use of these tools, from the implementation of adequate infrastructure to training of healthcare personnel (13).

As for its dimensions of use of Tic's,most of them showed a higher percentage in the indicator always. In the dimension access to digital tools it was found that 74.1% (63 participants) always have access to these tools, 12.9% (11 participants) almost always, 9.4% (8 participants) regularly, 2.4% (2 participants) almost never and 1.2% (1 participant) ever. In which the results of this dimension demonstrate that access to these tools is being given more frequently and as a priority in this pandemic context that we live in (14-16).

In relation to its second dimension, ICT employment was shown to be mostly used with 42.4% (36 participants), 29.4% (25 participants) almost always, 24.6% (21 participants) regularly, 2.4% (2 participants) almost never and 1.2% (1 participant) ever.which means that healthcare professionals use these tools either from the use of electronic medical history (E-QUALI)(17) to see clinical backgrounds, as well as the use of Google maps for geolocation monitoring of patients with covid-19(18).

As for its last dimension appropriation of ICTs it is evident that I almost never predominate with 56.5% (48 participants), followed 16.5% (14 participants) regularly, 12.9% (11 participants) never, 8.2% (7 participants) almost always and 5.9% (5 participants) always. reflecting that most professionals do not update on digital knowledge either on a personal initiative or on the basis of the same institution's policy, which must be responsible for such knowledge renewal through their trainings (19),which leads to no awareness of digital culture and constantupdating of them (20), leadingto the lack of a real lack of digital literacy in health professionals (21).

In conclusion, we note that the use of digital tools at the first level of attention versus covid-19 was always predated, almost always, regularly and never. Proper use of

digital tools is an important factor in addressing first-level care over covid-19.

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