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Exceptional primary care for exceptional times in Chile

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ABSTRACT

Chile presents the highest incidence of SARS-Cov-2 worldwide. Mortality rates have increased ten-fold in Chile during the last two months. Emergency and hospital services have been overwhelmed.

A partnership between the P. Universidad Católica de Chile, regional health authorities and municipalities was developed to address the management of patients with Covid-19 pneumonia in an area of extreme poverty in Santiago.

A new program based on a 24-hour continuous clinical management of patients at primary health care centers was developed. In one month, 574 patients with Covid-19 pneumonia cared for. Only 31% had to be referred to emergency services and when home care was fully implemented 111 patients were able to return home to continue oxygen therapy and rehabilitation. The new program is a concrete innovation that represents the potentiality and adaptability of primary care and can reduce the burden of the Covid-19 epidemic in Latin America.

INTRODUCTION

Covid-19 in Chile and Latin America and the neglected primary health care scenario.

The SARS-Cov-2 pandemic has arrived with force in Latin America. Chile presents one of the highest incidence rates of SARS-Cov-2 in the world with over 13500 cases per million; higher than Brazil (5600/million), Peru (8262/million) or the United States (7500/million) (Johns Hopkins, 2020). The explosion of cases in Chile is producing pressure on the health care system and has had a tremendous health impact. The mortality rate has increased dramatically and is currently 265 per million, similar to Brazil and Peru. In average 200 deaths have been reported every day in Chile over the last 30 days (Johns Hopkins, 2020).

As in many other Latin American countries, health policies addressing the epidemic in Chile have focused on strengthening intensive care units and implementing quarantine measures at the population level. Chile has a strong primary health care system (PHC) regulated by regional health authorities and providing free health care at the frontline of the epidemic interface between the community and health care services; however, PHC has been neglected in the design and implementation of health policies in Chile.

About 80% of Covid-19 cases are non-severe cases presenting with mild symptoms or mild or moderate pneumonia. The remaining 20% of patients are severe or critical cases (Wu, 2020). The explosive increase in the number of Covid-19 cases in Chile has overloaded the emergency and hospital services. The traditional referral pathways to the emergency units at the hospitals were not working and PHC was not considered and was not prepared to address mild or moderate cases of Covid-19 pneumonia. Most patients referred to the hospital services have had to wait up to 24 hours in ambulances or in the corridors at the emergency units and in many cases were sent back home paradoxically requesting observation and surveillance by the PHC centers that had originally referred them. By June mortality rates had increased by 10 times compared with those of May and the underserved areas, particularly the southeastern area of Santiago were the hardest hit.

A new primary care strategy

In addition to the traditional and essential roles of early detection and surveillance, PHC had been facing the challenge to respond to an increasing number of patients with moderate Covid-19 pneumonia at high risk of entering the severe phase of the disease. The interaction with the hospital services, the strong ties with the community and the experience working in home-based care services, had to be harnessed in a new way to address the dramatic clinical and epidemiological scenario.

The communities of La Pintana and Puente Alto in the southeastern area of Santiago are underserved areas with extreme poverty and the highest incidence and mortality rates for Covid-19 in Chile. The Faculty of Medicine at Pontificia Universidad Católica de Chile (PUC) has a long partnership with regional health authorities (SSMSO) and the municipalities in this area. PUC has run three PHC centers in this area since 2002, serving an average of 20,000 people in each center.

Given the critical health scenario, on June 2nd, 2020 a task force (with representatives from SSMSO, the municipality of Puente Alto and PUC) was created to develop a new strategy for providing care to patients with mild or moderate Covid-19 pneumonia at the PHC level. The new program *Unidad de Observación Prolongada* (Continuous Care Program, CCP) was created providing continuous 24-hour clinical observation and management of patients with moderate Covid-19 for a maximum of 5 days in the PHC centers. The program required close links with the hospital system for a managed referral if needed, and also with the patients´ families, for initiating home-based care.

The CCP was created based on the experience of the local health teams and PUC, and on the evidence that the majority of Covid-19 pneumonia patients will require oxygen therapy, basic clinical support measures and close clinical surveillance, but will not require invasive ventilation or critical care (Center for Disease Control and Prevention, 2020). With the participation of leading specialists (intensivists, emergency medicine, family medicine) together with health managers, the CCP created new clinical guidelines for treating Covid-19 pneumonia patients in PHC (Servicio de Salud Metropolitano Sur Oriente, 2020).

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A primary health care contribution to reduce the Covid-19 burden

The clinical guideline development was conducted through an effective iterative process with six participants from five different organizations. In a record time of nine days the guidelines were finished and a clinical support and training web-based system with informative capsules was commenced. The guidelines included three main topics: diagnosis of Covid-19 pneumonia in primary care; severity stratification; home or hospital referral criteria. The traditional CRB-65 (Chalmers, Singanayagam, Akram, Mandal, Short, Choudhury, et al, 2010; Su, et al., 2020) score was used as a first approach to define severity of the disease. This scale was complemented with the National Early Warning-2 (NEWS 2) (Royal College of Physicians, 2017) [scale] developed to assess the clinical course and define referral criteria. General therapeutic measures such as prone position, appropriate hydration, temperature control beside oxygen therapy were emphasized. As new evidence evolves, the guidelines are updated: topics such as the use of steroids and criteria for antibiotics use have recently been added.

The CCP is run mainly by professionals (doctors, nurses and physiotherapists) and technical staff from the local PHCs. In the space of a few days, the 24-hour rotation was put in place, with support from the PUC academics particularly the department of Family Medicine. The waiting rooms of the health centers was rapidly converted into the observation area, replacing the chairs with adequate beds, monitors, and access to oxygen. Bed-clothing, PPE and food services had to be organized. And meanwhile the health center had to maintain the usual running of its daytime clinics.

Home-based care was another key component of the strategy. Key coordination with the PHC physiotherapists led to an effective team approach with the patients´ families. A family member worked with the health team learning how to manage oxygen therapy at home and how to detect early signs of complications. In addition, the physiotherapists did home visits to support the patient and family and to support them in the rehabilitation process.

During the first month, 574 patients have entered the CCP. 31% (174 patients) have required referral to the emergency services. 50% (287 patients) were referred to a low complex community hospital after compensation to continue their treatment. Three weeks after starting the program, home care with oxygen therapy was fully introduced. The number of patients referred home from that date rapidly increased and to date, 111 patients (19%) have been transferred to their homes to continue their care. The average length of stay at CCP was 36 hours, range 1-5 days. The initiative has received the support from Ministry of Health and public health experts and now has been replicated in three other municipalities in Santiago.

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CONCLUSION

This experience has shown how adaptable primary health care teams can be, especially when supported by a task force of key leaders. Realizing that PHC teams are capable of such flexibility in times of crisis has been a boost to the moral for the frontline primary care workers. The initiative has been highly valued by the community who has seen how the primary care teams have gone far beyond their normal line of duty and have developed an exceptional strategy to address this exceptional crisis.

One key to the success of this project was the close coordination between PHC, the hospital services and the local and regional health authorities. Another important feature of this project is the involvement of the families in the care of their relatives.

However, there has been some resistance from the Chilean Medical College and other primary care organizations who have stated that CCP should not be a role for primary care and there is a need to strengthen the emergency services. However, in this exceptional crisis we feel that this strategy provides an option for the care of moderate COVID-19 pneumonia patients. The strategy responds to a priority health need in a novel way, these are the essential criteria for defining social innovations (Castro-Arroyave, 2020). The diverse political reactions to this new initiative is perhaps a sign of a true innovation where the introduction of a new perspective in the health care system can be seen either as a threat to the traditional role of PHC in Chile and Latin America or as an expression of the great potential of PHC in the region that can respond exceptionally to exceptional circumstances.

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