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Pandemic iatrogenesis: exclusion and lag in non-COVID medical care in Mexico City

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Abstract *The paper analyzes, from a qualitative perspective, how the COVID-19 pandemic has significantly reduced medical care for chronic patients at the three levels of the Mexico City health sector due to community mitigation strategies, the perceived risk of infection of health personnel and patients, the focus on pandemic care, and how these processes are articulated with the previous underfunding conditions of the public health system. Thus, we adopted the Grounded Theory approach based on the description and analysis of the experiences of 42 doctors interviewed at the three care levels. The pandemic iatrogenesis concept is proposed to address the interrelation between the material and symbolic organization of the dominant model of medical care and specific structural and cultural dimensions of massive and systemic neglect since the arrival of the pandemic. We point out some strategies and possibilities to avoid similar future settings based on this theoretical proposal and the experiences of the doctors interviewed.*

Key words *COVID-19, Physicians, Hospitals, Chronic disease, Health Care inequalities*

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Introduction

The COVID-19 pandemic has affected health care: visits, referrals, and hospitalizations of non-COVID-19 patients have significantly been reduced, and follow-up of chronic patients has been interrupted, raising concerns for those already poorly managed and the lack of effective strategies to provide them with distance care[1,2], mainly affecting those with a lower socioeconomic level[1]. Some patients, in turn, postponed their visits for fear of infection by the Coronavirus[2].

The priority of health systems has been to reorganize themselves to ensure access to care for those suspected of COVID-19, relegating other services[1,3]. In Europe, these experiences have been documented to learn from them[4]. However, in Latin America, few studies have analyzed how the COVID-19 pandemic affected the care of non-COVID patients, and little is known about the strategies developed in this respect.

In Mexico, the fragmented health system caused gaps between the subsystems concerning the development of health guidelines and protocols, infrastructure (reconverting hospitals), and supplies (personal protective equipment), mainly oriented towards COVID patient care at the hospital level[5]. The protocols and actions aimed at chronic patients, older adults, pregnant women, and transplants were subsequently developed. The health authorities announced work leaves for medical interns and high-risk workers even when human resources were already limited[5]. The pandemic revealed the underlying deficiencies of the Mexican health system, which are reflected in access inequalities due to historical underfunding[5].

This paper aims to describe and analyze how the care of non-COVID patients was affected during the first months of the pandemic in Mexico City from the experiences of public health doctors, understood as a body of knowledge and beliefs[6]. We also retrieved some strategies developed to reorganize and maintain the care of these patients. These experiences and strategies show the macro and micro-social, and cultural articulations of the p*andemic iatrogenesis process*.

Pandemic iatrogenesis refers to the neglect and inadequate health care caused by the prioritization of COVID-19 care from national and international decision-making that are registered, in the case of Mexico, in a local context of a hospital-centric and historically underfunded public health system, in which the responses of the Global North[7] are emulated, ignoring the local and differentiated specificities of the health of the Mexican population. The iatrogenesis concept proposed by Ivan Illich[8] refers to unwanted harm to health, specific counterproductivity, driven by growing biomedicine. It can be of three types: a) clinical, related to the doctor's practice; b) social, caused by the impact of the social organization of medicine on the total environment (for example, medicalization) and c) cultural, when it hinders people's ability to cope with pain, illness, and death. In the case of COVID-19, the *pandemic iatrogenesis* has a specific and sudden nature of challenging the material and symbolic organization of the dominant care model and the political decisions on prioritizing a care type, namely, COVID-19, compared to another type, chronic diseases. It does so in two ways: the first is structural and refers to the economic-political processes that affect the material configuration of the hospital care-centered public health system, fragmented into bureaucratic insurance subsystems and overcrowded due to the lack of health staff and infrastructure. The second is cultural and responds to the emerging "epidemic organizational culture of health care"[9] and the responses of health personnel and users and their social affiliation groups that, traversed by the social construction and perception of the risk of exposure to COVID-19[10], jointly participate in the neglect and inadequate care. Unlike other proposals such as structural iatrogenesis[11], which emphasizes the harm caused by bureaucratic systems within medicine that transcend the subject's control, the structural and cultural levels are articulated in pandemic iatrogenesis, with some of the cultural responses relatively autonomous and changing since, in a pandemic context such as the current one, they depend on the perception, production and management of risk, the transmission of COVID-19, of the actors and health systems[10]. Following Mary Douglas[12], risk is a social construct culturally determined by the members of a society that can be used to carry out social evaluations about probabilities and values in the face of a threat, to which we should add the importance of scientific expert knowledge and social and institutional dynamics[13] in the perception and social construction of risk.

Pandemic iatrogenesis expands the perspective on the "desubjectivized" structural processes that affect how the dominant biomedical model reproduces social and health inequalities, highlighting the participation of actors in these processes from the COVID-19 pandemic, which puts in check the material and logistical response capacity of

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health systems and the production of subjectivities from the social construction and subjective incorporation of fears and uncertainties linked to the perception of risk of a potential infection.

Methods

This qualitative study is nested in the Grounded Theory[14] as it aimed to approach a new health problem in exploratory fashion, focusing on its sociocultural dimension from the viewpoint of the social actors involved.

The Mexican health system is divided into private and public sectors. The latter is segmented per the population served: a) formal workers with social security, such as the Mexican Institute of Social Security or Security Institute (IMSS) or Social Services for State Workers (ISSSTE), and b) population without social security, which is the majority and is served by the services of the Federal Health Secretariat (SSA) and the states (SESA), and IMSS-Bienestar. In turn, the three subsystems are divided into three care levels: the first level comprises outpatient medical units that provide general visit services, for which they absorb most of chronic patient care: they are known as "Health Centers". The second care level includes hospitals with beds and at least the following specialties: General Surgery, Internal Medicine, Pediatrics, and Obstetrics-Gynecology. The third level comprises specialty and highly specialized hospitals, where teaching and research are also performed.

Mexico's three health care levels were affected in the COVID-19 pandemic. Consequently, we decided to interview doctors from the three care levels of various health subsystems in Mexico City (SSA, ISSSTE, and IMSS), which we understand as the same unit of analysis because they have faced the same challenges since the onset of the pandemic.

The informants were searched using the snowball technique. The first three contacts were identified from colleagues and friends of the authors, who referred us to others, and so on. Forty-two of the 70 doctors invited with a WhatsApp message agreed to participate. Due to the restrictions imposed by the COVID-19 pandemic, the interviews were conducted by telephone and were stopped when detecting saturation in the information obtained.

Among the informants, 16 were residents of Internal Medicine, Medical-Surgical Emergencies, Psychiatry, Pediatrics, Clinical Pathology, Oncological Surgery, and Dermatology; 16 were specialists in Critical Medicine, Medical-Surgical Emergencies, Ophthalmology, Otorhinolaryngology, Clinical Pathology, Cardiothoracic Surgery, Urology, Pediatrics, and Gynecology; nine were family doctors, and one was a health promoter. Twenty informants were women, and 22 were men. Age ranged from 26 to 55 years, with a median age of 33.

Fieldwork period occurred from May to September 2020. The duration of the interviews ranged from 1 to 2 hours, and they were transcribed verbatim for subsequent coding with the Atlas.ti 8 program. Previous, co-occurring, and emergent categories were considered for coding and analyzing the information. The material obtained was triangulated between the data offered by the different informants, recurrent in the selected analysis units, and, when possible, with other existing data in the scientific literature and official information.

Ethical considerations

In Mexico, anthropological research is not required to go through an Ethics Committee. The WhatsApp invitation message sent to the informants explained to the participants the project's details (approach, methods, tools) and their right to confidentiality, to withdraw from the study at any time, and to receive the results. Only the specialty of informants is included in the statements of this paper, without data of age or hospital where they work that could identify them.

Both fieldwork and the use of the data collected abide by the guidelines of the Declaration of Helsinki: the informants gave their informed consent to conduct the interview and authorized its recording, and keys were employed in the transcripts to identify them. Their anonymity was guaranteed by avoiding recording personal data and deleting the cell phone conversations with which it was carried out. We asked the project's transcriptionists to eliminate audio and Word documents, which only the first author has.

COVID-19, new patients, and an underfunded health system

The informants reported that patients were significantly reduced at the three care levels, mainly due to the "community mitigation strategy" of the pandemic that suspended non-essential activities, including medical care for certain patients, like the chronic ones.

This national strategy was called the National Period of Healthy Distance. At the second and third levels, it responded to the need to give time to hospital reconversion to prioritize the care of COVID-19 patients, anticipating that a large number would require hospitalization[15]. Some were designated exclusively for the care of COVID patients and were called COVID hospitals; others maintained a specialized COVID area, while the other specialties continued to operate and were called hybrid hospitals.

Per the Hospital Reconversion Guideline[15], the reconversion considered the reorganization of the outpatient consultation, establishing criteria for services that could be suspended (such as rehabilitation or group psychological visits), services that can be postponed and rescheduled (such as the outpatient specialties for patients with controlled chronic diseases), and services that could not be suspended (such as deliveries, emergencies, hemodialysis, and chemotherapy). The informants explained that they maintained the care of vulnerable patients in the same hospitals, and others were referred to another hospital with resolution capacity for interventions such as surgeries.

Third-level urology head: *We canceled appointments in March-April. We started a little in May, prioritizing vulnerable populations with prostate or testicular cancer diseases. Other non-life-threatening illnesses are redirected to some hospital that are supporting us.*

Other factors that reduced the visits in the three care levels were the "COVID leaves", which are work leaves for the health personnel with risk factors, and the reduction of doctors' working days.

First-level gynecologist: *Gynecology is not open for visits because the doctor is over 68 years old; the pediatrician is going once and sees respiratory patients. The doctor doing the ultrasounds only does ultrasounds of high-risk pregnancies once a week. I (colposcopist) work twice weekly (for surgeries or urgent things), and I deliver pap smear results and biopsies by phone. Psychiatry works twice a week: emergency and prescription delivery. The integrated medicine doctor works two days.*

These processes experienced by male and female doctors are part of the structural conditions of the public health system. The informants refer to the historical health system underfunding, which has implications for health personnel and their working spaces. Several doctors sharing an office, the office is tiny, the large number of patients they usually attend and the long waiting lists for several interventions are some examples. Given this situation, visits were reduced to the minimum to ensure doctor-patient safety and air circulation, using protective equipment, and avoiding people in the waiting room.

Third-level immunopediatrician: *We are five doctors, it is a large office, but it has divisions for the five of us. We have tried to make it as well ventilated as possible. Fortunately, the allergy office is located where there is a flow of air, which helps. Visits have been staggered, and not all of us attend simultaneously. We try to have the least number of people in the same place.*

Third-level quality head: *external visits opened in August with 20% of the patients, around 150 visits per day, and all staggered. It means that there are not as many people in the hospital at any time. It seeks to avoid as much as possible that patients cross.*

This situation implies rejecting unscheduled patients when previously a space could be made for them. In the case of hospitals, COVID meant restricting care to only priority patients:

Third-level urology head: *we send a list to the main entrance, and they already know which patients are going to be evaluated or followed up; if they do not appear on that list, they are not given the attention... to try to contain whether there is a patient with a probable COVID infection.*

The reduction of external visits is seen as of concern in third-level patients who have not received referrals from the second level, generating a backlog of patients without appropriate and timely care.

Third-level otorhinolaryngologist: *scheduled appointments have declined considerably, and scheduled surgeries have been suspended since the end of March to date* [July 2020].

Third-level ophthalmologist: *I have not operated for three months. We only see urgent or priority patients. There are no referrals from the second level, and 80% of the hospital is focused on COVID care.*

The decrease in psychiatric services becomes relevant as they are not considered a priority, and psychiatrists are reassigned to COVID care, which also occurred in some first-level units due to the refusal of mental health personnel to come to work for fear of infection. Besides delaying the care of patients with previous mental health problems, it also impacted the care of people who debuted with these problems due to confinement, lack of work, or suffering from COVID.

Third-level Psychiatry resident: *In psychiatry, I no longer see patients. Appointments are can-*

celed, and we see particular cases and refill prescriptions. My main task is COVID triage... the service cannot be given to patients we already saw: for example, depressive or anxious disorders...

First-level pediatrician: *A psychologist is critical to help us in the psychological follow-up of families who have lost loved ones... and they are in a plan that they do not want to work and want to go home.*

Pandemic iatrogenesis from the first care level

The first care level monitors chronic patients who used to visit services regularly. One process that produces dissatisfaction in patients regarding medical visits is that they no longer see their usual GPs, changing specific dynamics, such as medication.

First-level family doctor: *I have patients who are not from my practice. I have my way of running the visit. I don't like their treatment, and I don't authorize it. They complain about me because I don't give them what they have been given for twenty years. I run late in my appointment. They interrupt the visit, and it's very complicated.*

The primary strategy to avoid contagion at this care level is spacing between visits (from one to three months), which is seen as an issue that deteriorated with the shortage of doctors, who turn them into prescribers without physical examination.

First-level family doctor: *On Monday, 150 patients did not have an office assigned for a visit. We give medicines for three months because we are not enough. We don't check. We give their medicine and send them home... Attending 24 patients is not the same as attending 62 patients.*

This situation is aggravated by the lack of laboratory studies and referrals to the second level, which respondents said caused "poorlytreated" patients, referring mainly to those with chronic conditions that are not receiving adequate follow-up.

First-level family doctor: *There are eighteen offices, and we only have six doctors. The burden has become excessively heavy for poorly treated, multi-complicated, single-line patients who have not seen their family doctor since the pandemic began. We have not been able to request laboratories and electrocardiograms at the second level. We have outraged patients because they have complications; they have not been operated on or given rehabilitation. We cannot provide them with all the care in fifteen minutes.*

Referrals to hospitals that do not treat COVID from the second and third care levels

The designation as COVID hospitals, which fell to several of those with specialty discharges, meant that they referred their usual priority patients and other emergency patients to hospitals that do not treat COVID. Services were reduced by 80% during the months with more COVID cases. Visits were resumed at a maximum of 50% in hybrid hospitals when cases decreased, per the experiences reported by the participants.

Third-level laboratory head: *there was a significant reduction in outpatient appointments, and redistribution was made. Urgent surgeries are given priority, and patients are referred to other general hospitals to continue their treatment. I usually have 400 patients scheduled for the laboratory. We only attended to 80 in April. We are only having 150-200 right now* [July 2020].

Informants have reported that the saturation of hospitals forced them to refer patients without the certainty that they would find a bed in another hospital, which has frustrated doctors and angered patients. On the other hand, some reference hospitals have not received patients referred from COVID or hybrid hospitals, per established protocols, due to the suspicion that they may have COVID-19. The informants consider this discriminatory behavior, as it produces deaths due to neglect that could have been avoided by treating patients with the appropriate protective equipment and other measures.

Second-level medical internist: *An assistant stays over the weekend, the director from home just gives instructions, says "make the referrals or transfer them"; the assistant gives us the indication. I tell my patient that there are no beds and that he should be referred to where there are no beds either*.

Second-level internal medicine resident: *A hospital in the network is dedicated to cases of cardiovascular pathology and is our place of reference. They have not received any patients who are not confirmed not to have COVID. Some patients with a heart attack were not treated due to suspected COVID and died. It is like that in all specialties. I have had about five cases*.

The processes described in this section and the previous ones make visible the articulation between the cultural and structural dimension of pandemic iatrogenesis, based on the new epidemic organizational culture established to manage and mitigate risk[10], on the emerging

modalities of social construction and subjective incorporation of the risk of health personnel and patients, and the material conditions and social relationships in the medical field before the pandemic.

Patients' fear of acquiring COVID-19 and cultural changes in access to the health center

Informants from the three care levels agree that patients also experience processes that affect neglect, such as the fear of COVID-19 infection in health centers. Similarly, the usual practice of being accompanied by several family members was prohibited with restrictions on admissions to care centers, which has generated conflicts between health personnel and users.

Third-level urology head: *We initially scheduled 10-12 patients. Half or a quarter came because people were still afraid. We talked to them, and they said, "well, it scared me, but I'm going to go", and it keeps happening.*

First-level family doctor: *the filter prevented people from going because they would argue with us first. Ten to twenty wanted to go in with nephews and children, and they all have to stay on the street... they gradually stopped going.*

Strategies to reduce exclusion to care and follow-up of non-COVID-19 patients

There are three main documented strategies to prevent "non-COVID" patients and those with chronic conditions from not receiving medical care: prescription refills, remote appointments, and patient quarantine. The first is generalized, and the others were referred by certain informants. The purpose of the refillable prescription is to space out appointments while continuing to receive treatment.

Third-level laboratory head: *many patients were assigned an appointment to be given medication for three or four months, and the outpatient visit was rescheduled.*

First-level family doctor: *the IMSS has been running the "Refillable Prescription" program for years… and there were between 2,000-2,500 prescriptions a month…* [When the pandemic began, the number of prescriptions increased to] *20,000… the number was catastrophic, among diabetic, hypertensive, epileptic patients… a prescription was given to a family member, a neighbor, a friend, for three months… it worked well for us. It lowered 24 daily appointments to six.*

The remote visit has been reported in several care centers, first level with chronic patients and colposcopy and in specific third-level specialties, such as psychiatry. In the latter case, although it allows the visit to occur, it is perceived as having limitations for adequate care.

Third-level psychiatry resident: *A visit of one person with another is not recommended. COVID ties our hands as a psychiatry service. A project of video calls, or telemedicine, was implemented, which is very good but leaves aside a lot of what a psychiatric appointment is. Let patients know that you are there, see their expressions, let them see yours: this significant doctor-patient relationship in psychiatry is not achieved so well by phone or video call.*

First-level family doctor: *We started virtual visits. It was one of the strategies that have worked the most for us so as not to have a large influx of patients in the unit.*

Patient quarantine was a specific strategy documented in a psychiatric hospital (non-COVID or hybrid), enabling a floor where emergency patients stay for 14 days while they are tested and COVID-19 is ruled out. They remain in that area if they are positive for COVID and do not have a moderate or severe condition. This strategy is possible due to the exclusion of non-urgent chronic patients.

Third-level psychiatric resident: *We have triage, and only those who need immediate psychiatric care go through [...]. They made a corridor for patients who may have symptoms and another for those who do not. We do not have patients with severe COVID, but we do have patients with symptoms inside the hospital, and we cannot transfer them because COVID hospitals only receive severe patients, nor send them home, and we isolate them. If they don't have symptoms, they are taken down to another floor; if they show symptoms, they are moved to that specific area.*

Discussion

Illich (1975) proposed the concept of iatrogenesis to point out the adverse health impacts of medical practice and the growth and expansion of biomedicine, which have a structural nature. Pandemic iatrogenesis is linked to the interaction of the structural and cultural conditions of the health system before the pandemic, with a new massive demand for prioritization of medical care for COVID-19 inscribed in new ways of managing and producing risk to the exposure

and transmission of the virus. As shown by doctors' experiences at the three care levels, this type of iatrogenesis affects massively and systemically, mainly people who treat or seek to treat chronic health conditions. The informants' narratives reflect the structural conditions before the pandemic that have historically hindered adequate and timely medical care and are exacerbated by the arrival of COVID-19 due to the lack of medical personnel and adequate spaces in a new context of intrahospital transmission risk and occupational acquisition of the virus[16,17].

The high prevalence of chronic diseases in the Mexican population and health personnel considered at risk for developing a severe COVID-19 condition has implied reducing care at the three levels analyzed. In the context of appointment overcrowding, the hospital reconversion guidelines have involved spacing out or canceling visits to prioritize COVID-19 patients and mitigate community transmission, which meant that, in Mexico, during 2020, 33% of the total population that received medical care did so in the public system and 67% in the private system. Health Secretariat medical visits fell by 48.6%, a total of 42.2 million appointments less than in 2019. By specialty, the decline in mental health was 44.2%, communicable diseases 40.9%, chronic degenerative diseases 38.5%, and family planning 34.6%[17].

In 2020, 5 million more people had to spend on health concepts. This out-of-pocket expense (primary care, hospital care, and medicines) increased by 40%[17]. Doctors' new and uncertain representations and practices operate within the old structural factors. Doctors are often unable to evaluate the cost-benefit of attending to certain non-COVID patients or not, given their potential exposure and that of the health personnel to a possible infection in the hospital, as Rosenbaum[18] points out.

Although the declining care of non-COVID patients has been reported in Global North contexts such as England and Belgium[1-3], its impact on excess mortality is still unknown. Recent studies[19] indicate that Mexico ranked third in the proportion of excess mortality among the countries with available information in 2020, with 45.1%, after Peru (66.7%) and Ecuador (61.8%), and excess mortality has been prolonged compared to other countries, which could be due to socioeconomic conditions and the high prevalence of comorbidities that elevate the risk of dying in the Mexican population[19]. An example is that the most affected age group has been that of 45-64 years (63.9% of excess mortality), which differs from other European countries where it was 65 years or older[19]. Mexico City recorded excess mortality of 74.4% in 2020. A proportion of 23.1% may be associated with the conditions caused by the pandemic, such as difficulty in accessing timely care for other conditions or people's fear of going to the facilities and becoming infected with COVID-19[19]. Unfortunately, we do not know its impact on socioeconomic and ethnic population groups.

One structural factor affecting pandemic iatrogenesis regarding chronic patient control is the greater or lesser strength of the first care level. In Mexico, the first care level's weakness is historical. However, this problem has also been seen in European countries, evidencing the shortcomings of highly privatized systems, for example, co-insurance, as in Belgium, which hinder universal coverage for control of certain chronic patients before and during COVID-19[2]. The problems referred by the respondents regarding the discontent of the patients and their inadequate care and follow-up contribute qualitatively to the few existing studies[20] regarding the adaptation from the first level to chronic care with the arrival of COVID-19.

The pressure on the care capacity of hospitals and the hospital reconversion policy have had iatrogenic effects of a structural[11] and cultural nature on the possibility of adequate care and referral to other hospitals, based on the mediation of new risk perception and management caused by the pandemic. Inadequate referrals are linked to neglect caused by stigma in the face of suspected COVID[16].

In pandemic iatrogenesis, the social and practical representations of patients and their support networks also contribute to the interaction with cultural changes in the access to the health system. The cancellation of appointments due to patients' fear of becoming infected with COVID-19 has also been documented in other contexts[2], as was the cultural importance of being accompanied by family members to the health center[21]. It should be noted that accompaniment is also encouraged by the State by subrogating care to patient support networks when required to minimize costs[22], evidencing the need for alternatives in the pandemic. Health sector strategies have focused on COVID-19 care, such as the increase in medical personnel, hospital reconversion, or some telemedicine experiences focused on communication with the relatives of COVID-19 patients[15,23].

The health sector's main "non-COVID" strategies were directed exclusively at priority care cases and emergencies. The strategies documented in our research are specific and coincide with others published, such as the use of telemedicine in Mexico City's first care level geared to people with diabetes[24]. The refillable prescription was the only exception as it was implemented at the three care levels for all chronic patients, a strategy that has existed for seven years and was reinforced by the pandemic by considering their care reschedulable[15].

Telemedicine appointments are seemingly satisfactory when it comes to providing laboratory results. However, the experience changes in mental health care, implying limitations for the therapeutic relationship as some studies have pointed out before COVID in others contexts[25]. More research is required in this regard, considering technological gaps and specific health determinants in certain populations[24].

The separation of spaces in hybrid and COVID hospitals to mitigate the risk of infection is perceived by doctors as ineffective[9]. However, quarantine spaces are seemingly successful experiences, albeit not without challenges before possible transmission, as documented in the Spanish context[26]. In Mexico, this strategy derives from a guideline on psychiatric hospitals[27] that should not interrupt their care, considering that mental health care is concentrated in them. The strategy is articulated with iatrogenesis when, in public hospitals historically underfunded and saturated with patients, it is necessary to take advantage of the spaces freed up by the exclusion of those chronic patients who are intended to be protected in order to attend to urgent cases and mitigate the transmission of the virus.

In Mexico, hospital reconversion was planned to provide a transient response for a limited period. However, it lasted for more than a year[28], since COVID's incidence curve has been almost constant in the country[19], but also because the responses continue to focus on serving the people and numbers of the pandemic in the short term, through the media more visible than chronic patients and historically neglected emergencies.

Final considerations

Pandemic iatrogenesis is a novel process due to its global, massive, and systemic dimension that has put public health systems worldwide in check, revealing their contradictions. In the Mexican case, based on its specificities, we recommend the following:

a) Implementing an effective care model for chronic diseases to allow rapid and adequate adaptation to present and future pandemics.

b) Increasing health expenditure at the material, educational, and staff levels and strengthening the three care levels.

c) Learning from successful mitigation experiences and implementing financial incentives for their adequate replication, such as telemedicine or clinical spaces for quarantine in non-segregated hospitals.

d) Promoting good cultural practices of risk mitigation and communication to address the fear and detachment of patients to medical visits.

e) Generating more ethnographic and quantitative knowledge about the processes that produce pandemic iatrogenesis and its consequences in other contexts in Mexico and Latin America, with qualitative and quantitative data disaggregated by gender, age, ethnicity, and citizenship and economic status.

f) encouraging an iatrogenic memory that allows learning from previous iatrogenic processes and during pandemics to avoid similar future settings.

Collaborations

Both RM Martínez and RGC Gómez contributed to the conception, design, data analysis and interpretation, writing the paper, and the approval of the final version.

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References

1. Danhieux K, Buffel V, Pairon A, Benkheil A, Remmen R, Wouters E, Olmen J. The impact of COVID-19 on chronic care according to providers: a qualitative study among primary care practices in Belgium. *BMC Fam Pract* 2020; 21(1):255.
2. Verhoeven V, Tsakitzidis G, Philips H, Royen P. Impact of the COVID-19 pandemic on the core functions of primary care: will the cure be worse than the disease? A qualitative interview study in Flemish GPs. *BMJ Open* 2020; 10(6):e039674.
3. Bennett P, Noble S, Johnston S, Jones D, Hunter R. COVID-19 confessions: a qualitative exploration of healthcare workers experiences of working with COVID-19. *BMJ Open* 2020; 10(12):e043949.
4. Kumpunen S, Webb E, Permanand G, Zheleznyaknov E, Edwards N, Ginneken E, Jakab M. Transformations in the landscape of primary health care during Covid-19: themes from the European region. *Health Policy* 2022; 126(5):391-397.
5. Bautista-González E, Werner-Sunderland J, Pérez-Duarte P, Esquinca-Enríquez-de-la-Fuente CJ, Bautista-Reyes D, Maciel-Gutiérrez MF, Murguía-Arechiga I, Vindrola-Padros C, Urbina-Fuentes M. Health-care guidelines and policies during the COVID-19 pandemic in Mexico: a case of health-inequalities. Health Policy OPEN 2021, 2:100025.
6. Turner VW. *On the edge of the bush: anthropology as experience*. Tucson: The University of Arizona Press; 1985.
7. Mata GC, Moreno AB. Saúde global: uma análise sobre as relações entre os processos de globalização e o uso dos indicadores de saúde. *Interface (Botucatu)* 2014; 18(48):9-22.
8. Illich I. *Némesis médica: la expropiación de la salud*. Barcelona: Barral; 1975.
9. Muñoz-Martínez R, Cortez-Gómez RG. La producción de la cultura organizacional epidémica en la atención al Covid-19: una aproximación antropológica a los hospitales de la Ciudad de México. *Rev Esc Antropol* 2021; 18. DOI: 10.35305/revistadeantropologia.v0iXXVIII.144.
10. Muñoz-Martínez R. Risk, Covid-19 and hospital care in Mexico City: are we moving toward a new medical practice? *Noesis* 2022; 31(61):26-46.
11. Stonington S, Coffa D. Structural iatrogenesis – a 43-year-old man with "opioid misuse". *N Engl J Med* 2019; 380(8):701-704.
12. Douglas M. *Risk acceptability according to the social sciences*. London: Russell Sage Foundation; 1986.
13. Lupton D. *Risk*. Routledge: London/New York; 1999.
14. Strauss AL, Corbin J. *Bases de la investigación cualitativa: técnicas y procedimientos para desarrollar la teoría fundada*. Medellín: Universidad de Antioquia; 2002.
15. Gobierno de México. Lineamiento de reconversión hospitalaria, Versión 05 de abril de 2020 [Internet]. [acceso 2021 set 10]. Disponible en: https://coronavirus.gob.mx/wp-content/uploads/2020/07/Lineamientos-Reconversion-Hospitalaria_05042020_2.pdf
16. Muñoz-Martínez R. Covid-19 and social stigma in hospitals: a new epidemic of signification? *Med Anthropol* 2021; 40(7):667-681.

17. CIEP: Centro de Investigación Económica Presupuestaria. Interrupción de los servicios de salud por COVID-19 [Internet]. [acceso 2021 set 15]. Disponible en: https://ciep.mx/interrupcion-de-los-servicios-de-salud-por-covid-19/
18. Rosenbaum L. The untold toll – the pandemic's effects on patients without COVID-19. *N Engl J Med* 2020; 382(24):2368-2371.
19. Palacio-Mejía LS, Wheatley-Fernández JL, Ordoñez -Hernández I, López-Ridaura R, López-Gatell-Ramírez H, Hernández-Ávila M, Hernández-Ávila JE. Estimación del exceso de mortalidad por todas las causas durante la pandemia del Covid-19 en México. *Salud Pública Mex* 2021; 63(2):211-224.
20. Baird B. How has general practice responded to the Covid-19 (coronavirus) outbreak? The Kings Fund [Internet]. [acceso 2021 set 5]. Disponible en: https://www.kingsfund.org.uk/blog/2020/04/covid-19-general-practice
21. Hamui-Sutton A, Ramírez-de la Roche OF, Aguirre- Hernández R, Fuentes-García R, Díaz-Villanueva A, Gómez-Lamont DS. La experiencia de los acompañantes en su trayectoria por las unidades hospitalarias durante un evento de atención médica: un acercamiento cualitativo. *An Med (Mex)* 2013; 58(1):26-36.
22. Muñoz-Martínez R. *Pueblos indígenas ante la epidemia del sida: políticas, culturas y prácticas de la salud en Chiapas y en Oaxaca*. México: La Casa Chata (en prensa).
23. Sevilla-Fuentes S, Hernández-Medel ML. Telemedicina y humanización de la atención médica en la pandemia Covid-19. *Salud Pública Mex* 2020; 62(5):459-461.
24. Silva-Tinoco R, Torre-Saldaña V. La imperiosa necesidad de telemedicina en la atención de diabetes durante la pandemia de COVID-19. Un estudio de abordaje integral. *Gac Med Mex* 2021; 157(3):323-326.
25. González-Peña P, Torres R, Barrio VD, Olmedo M. Uso de las nuevas tecnologías por parte de los psicólogos españoles y sus necesidades. *Clin Salud* 2017; 28(2):81-91.
26. Ríos-Domínguez M. Hibridaciones. In: Evangelidou S, Martínez-Hernáez A, editores. *RESET – Reflexiones antropológicas ante la pandemia de Covid-19*. Tarragona: URV Publicacions; 2003. p. 51-62.
27. Gobierno de México. Lineamientos generales para la mitigación y la prevención de COVID-19 en los hospitales psiquiátricos [Internet]. [acceso 2021 set 10]. Disponible en: https://coronavirus.gob.mx/wp-content/uploads/2020/06/Lineamientos_generales_mitigacion_prevencion_COVID-19_hospitales_psiquatricos.pdf
28. Santiago D. 4 hospitales de la CDMX avanzan en la desconversión tras el COVID-19 [Internet]. *Expansión* 2021; 25 mayo. [acceso 2021 set 10]. Disponible en: https://politica.expansion.mx/cdmx/2021/05/25/4-hospitales-de-la-cdmx-avanzan-en-la-desconversion-tras-el-covid-19

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