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Living conditions and COVID-19 in agricultural communities: farm laborers in Sonora and Baja California, Mexico[1]

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ABSTRACT: The objective is to analyze the social and care conditions before COVID-19 in agricultural communities of Baja California and Sonora, Mexico. The research carried out from June 2020 to July 2021 was qualitative, for which 34 semi-structured interviews were conducted with people who were working in agricultural fields during the first months of the pandemic. Access to local formal health systems was inefficient, in addition to an evident resistance to using them, so traditional medicine practices were implemented. The precarious conditions of the houses, the overcrowding and the difficulties of access to public services, such as piped water, hampered the prevention practices that were implemented. The conditions of social vulnerability contributed so that in these agricultural communities they continued working to survive, while the precarious living conditions made daily care focused on social distancing impossible.

KEYWORDS: Rural community; health, pandemics; traditional medicine.

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Condiciones de vida y COVID-19 en comunidades agrícolas: personas jornaleras de Sonora y Baja California, México

RESUMEN: El objetivo es analizar las condicionantes sociales y de cuidado ante el COVID-19 en zonas agrícolas de Baja California y Sonora, México. La investigación, realizada de junio de 2020 a julio de 2021, fue de corte cualitativo por medio de 34 entrevistas semiestructuradas a personas que laboraron en campos agrícolas durante los primeros meses de la pandemia. El acceso a los sistemas locales de salud formal fue insuficiente en algunos momentos, pero también hubo resistencia a utilizarlos, y prefirieron poner en práctica saberes de medicina tradicional. Las precarias condiciones de las viviendas, el hacinamiento y las dificultades de acceso a los servicios públicos, como agua entubada, obstaculizaron las prácticas de prevención que se implementaron. Las condiciones de vulnerabilidad social contribuyeron para que en estas comunidades agrícolas se siguiera trabajando para sobrevivir, mientras que las precarias condiciones de vida imposibilitaron el cuidado cotidiano centrado en el distanciamiento social.

PALABRAS CLAVE: Comunidad rural; salud; pandemia; medicina tradicional.

TRANSLATION OF SUMMARY
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Introduction

The main purpose is to analyze the social conditions and care regarding COVID-19 in agricultural areas with a day laborer population in B.C. and Sonora during the first six months of the pandemic. We start from the idea that there is a condition of social vulnerability that is reflected in the deficient health and public services, such as irregular access to drinking water and drainage, or housing with little space for healthy distance, which together hinder basic health care measures. The communities of San Quintín (B.C.), Estación Pesqueira (Sonora) and Poblado Miguel Alemán (Sonora) are located in these agricultural zones and are mainly populated by migrant and settled day laborers.

Globalization processes and neoliberalism have encouraged labor precariousness (Scully-Russ and Boyle, 2018) and although agroindustries have brought economic growth in areas of B.C. and Sonora, since decades ago, the conditions of social vulnerability faced by populations inserted in intensive agriculture as day laborers in northern Mexico have been documented, namely fragile local health systems, inefficient public infrastructure and deteriorated community spaces (Pérez, 2014; Velasco *et al.*, 2018). According to the National Commission of Minimum Wages (CONASAMI, by its acronym in Spanish), in Mexico, 9 out of 10 agricultural day laborers have no access to health care and no benefits in agricultural enterprises (Comisión Nacional de Salarios Mínimos, 2020). Thus, in the face of health crises, community impacts and affectations exacerbate their vulnerability.

The worldwide spread of the SARS-CoV-2 virus in 2020 impacted different urban and rural areas that were overwhelmed by insufficient infrastructure and health services. In communities whose main source of employment is agriculture, the first months of infection were experienced with uncertainty (González *et al.*, 2020; López *et al.*, 2021). According to a study, in the United States, in one year (March 2020 to March 2021), the incidence rate of infection for this disease was high in some communities with more agricultural workers (Lusk and Chandra, 2021).

The Inter-American Conference on Social Security (CISS, by its acronym in Spanish) reported that, of the 3 million 417 workers dedicated to agriculture and livestock in Mexico, in 2020 only 415 053 had the opportunity to use health services (Flores, 2021). In the case of casual farm workers affiliated with the IMSS, they represent only 9.9%, or 296,896 affiliates (Flores, 2021). These preconditions in Mexico's agricultural communities worsened during the

pandemic, disrupting labor dynamics and those related to social reproduction such as food, mobility, upbringing, and formal education and, therefore, exacerbating the historical conditions of vulnerability (Avila, 2020; Calvario *et al.*, 2021; Delgado and Tinajero, 2022).

In this sense, this article addresses the cases of agricultural areas of Sonora and Baja California (B.C.), located in the northwest of the country, whose common denominator is labor precariousness within the global chain of export agriculture. On this, Lara (2015) and Moraes *et al.* (2012) argue that the circumstances that make work precarious are related to migration and the condition of labor contracts, to which fragile local health systems are added.

In this article, for the purpose of analysis, the concept of social vulnerability is taken up again, which highlights the socio-structural dimensions, as a product of social inequality reflected in the absence of self-determination and availability of social protection (Sanchez and Egea, 2011). This manifests itself in different forms and modalities: it is comprehensive, as it impacts people's lives and is usually cumulative, generating a spiral of adverse conditions. Vulnerability is a state of disadvantage, since every person in such condition is at risk of suffering discrimination and violation of their rights (Lara, 2015). In this sense, vulnerability is contextual, being conditioned by "the characteristics and circumstances of a community, system or asset that make them susceptible to the effects of a threat [...]" (UNISDR, 2019).

Health determinants, in general, refer to those social factors that produce inequality in different groups, such as access to health services, the different axes of social differentiation, such as: ethnicity, migration status, employment, among other living conditions. In particular, the World Health Organization (WHO) established the social determinants of health, which consist of an accumulation of "circumstances in which people are born, grow, live, work and age, including the health system" (WHO, 2005). In particular, the social determinants of health link social factors such as economic income, education, access to basic services, among others (Santos, 2011).

In this sense, the social place of an individual influences his or her health condition, which may represent an unequal distribution of resources, goods, and services among different social groups (WHO, 2011). It is possible that by belonging to an ethnic group there are limitations to social ascent, access to education, housing, among other social

benefits such as the right to health services (Santos, 2011). Gutiérrez, J. *et al.* (2019) point out that Mexico has been characterized by social inequity in health, which is reflected in the unfavorable health conditions of the population living in poverty, and which is more evident among the indigenous population. Although the concept of social determinants of health is used by official organizations, it is assumed that this approach requires a critical approach to the conditioning factors that reproduce health inequities (Alemán, 2020).

We consider that the social determinants of health care are interwoven with social vulnerability, especially in the context of COVID-19, and involve several social, cultural, and political factors that promote prevention and care practices among the day laborer population. In this case, it is important to analyze the relationship between local health systems in the face of the pandemic, with housing conditions, public services and community spaces in the localities that may enable or hinder prevention and care practices. In addition, the impact of the pandemic on the labor dynamics of some agricultural fields in the state of Sonora, Mexico, is analyzed in depth (Calvario and Arellano, 2022).

Agricultural communities and COVID-19

This research was conducted in San Quintín, Baja California, and in Estación Pesqueira and Poblado Miguel Alemán, Sonora, agro-industrial poles that are part of the northwest route, to which internal migrants are inserted to be employed in intensive and extensive agricultural work (Velasco *et al.*, 2014). In these as in other agricultural areas, field work was not interrupted during the pandemic, hence the interest in developing this research, also, our work team had already developed previous projects in these agricultural enclaves, so it was feasible to carry out field work with the required sanitary measures for the care of the population.

San Quintín, which is located in the middle part of B.C. and the Pacific Ocean coast, has a population of 27,258 people, 13,746 men and 13,512 women, living in 8,028 homes. According to the National Institute of Statistics and Geography (INEGI, by its acronym in Spanish), this region is made up of the towns of Lázaro Cárdenas, San Quintín and Colonia Nueva Era, where 34% of the population is dedicated to agricultural activities (2020). In the last 15 years, productive development has been based on the cultivation and export of tomatoes and vegetables. They

have technology that optimizes irrigation, as well as a day labor force that comes mainly from Oaxaca, Chiapas and Puebla (Comité de Planeación para el Desarrollo del Estado de Baja California, n.d.). In San Quintín, it was recorded that 2% of the houses had dirt floors, 99% had electricity, the same percentage for water service inside the house, and 90% had sewerage. According to empirical data, drinking water was available only once or twice a week.

Regarding COVID-19 data, 471 cases were registered in San Quintín, from January to November 2020; by April 2021 the number increased to 1, 870 and 88 deaths (Gobierno del Estado de Baja California, 2020; Gobierno del Estado de Baja California, 2021). Sonora ranked twelfth nationally, with 63 deaths associated with COVID-19 in the population considered indigenous; followed by the state of B.C. with 59 (Dirección de Información Epidemiológica, 2021). In Sonora, the investigation was conducted in Poblado Miguel Alemán (PMA) and Estación Pesqueira (EP). The former has 39,474 habitants, of whom 19,169 are women and 20,305 are men, and live in 9,756 houses.

Meanwhile, Estación Pesqueira (EP) has 9, 442 inhabitants, 4, 521 are women and 4, 921 are men, and inhabit 2, 346 homes (Instituto Nacional de Estadística y Geografía, 2020). The aforementioned communities are located in agricultural areas of the municipalities of Hermosillo and San Miguel de Horcasitas, Sonora, respectively. These communities have experienced economic growth thanks to fruit and vegetable production; however, they experience the paradox of generating wealth in terms of the value of the product, but the population lives in social backwardness that impacts their way of life.

According to INEGI's Population and Housing Census, in PMA, 13% of homes have dirt floors, 97% have electricity, 98% have piped water, and 86% have drainage inside their homes. In EP, 10% of households had dirt floors, 96% had electricity, 99% had piped water, and 93% had drainage inside their homes. In PMA and EP, 232 cases were reported from April 2020 to January 15, 2021 (Dirección General de Promoción a la Salud y Prevención de Enfermedades, 2020; Dirección General de Promoción a la Salud y Prevención de Enfermedades, 2021).

Methodology

The methodological approach was qualitative and semi-structured interviews and field observation were selected as research techniques, which allowed documenting testimonies and recording direct observations to analyze the processes of care and social conditions before COVID-19. The scope of this research was exploratory, since there were no antecedents and we sought to learn about the impacts of a new phenomenon.

The study design was flexible and we worked with sensitizing concepts, which allow us to derive categories from reality itself (Freidin and Najmias, 2011; Taylor and Bogdan, 1996). These concepts function as a mirror of health care processes. In this way, social practices and discourses were recorded in three localities in northwestern Mexico: two agricultural localities near Hermosillo, Sonora, and one more in San Quintín, B.C., both in Mexico.

Thirty-four semi-structured interviews (individual and collective) were performed, following in both cases, the prevention measures. It is a dialogue that is established, after rapport, with the person, under an agreement of mutual trust and respect (Taylor and Bogdan, 1996). For this purpose, a semi-structured and flexible interview guide with preestablished topics was developed, and, based on that criteria, open questions were formulated. The main themes of the semi-structured interview and observation guides were as follows:

i. Sociodemographic information: age, marital status, number of children, schooling, beneficiary, and access to social security.

ii. Material conditions and circumstances of the day laborers: access to health and housing services and the community environment.

iii. Care practices in the face of the pandemic.

iv. Domestic environment: conditions that allow for care in the face of COVID-19.

In this article we take up part of the empirical results to analyze the social conditioning factors and caregiving facing COVID-19. The interviews were conducted mostly in person; and in parallel, to a lesser extent, they were conducted via telephone

and/or a virtual platform such as Zoom or Google Meet, given the pandemic situation and the respective confinement; the flexibility of qualitative designs allows for adaptations as different contexts and situations arise. The researchers who collaborated in this study are also teachers, so they were knowledgeable in the use of distance education platforms and technologies. Archibald et al. (2019) point out that videoconferencing platforms, such as Zoom, can be innovative for obtaining information in both qualitative research and mixed designs; however, one of the challenges to overcome in rural contexts is the poor quality of connectivity, which generates unstable communication. When conducted by telephone, the disadvantage was the "non-visual" communication and the difficulty of establishing rapport with the informants.

The selection criteria were the following: 1) live in one of the study localities; 2) working in an agricultural field; and 3) being over 18 years old. We used the snowball technique, since we had previous contacts, and visited several facilities in the PMA and EP. Some interviews were done in their own homes, and others in rooms rented to the migrant day laborer population. The following tables describe some of the sociodemographic characteristics of the participants.

Table 1. Day laborers interviewed in San Quintín, B.C.

Pseudonym	Age	Gender	Place of birth	Medical service
Epif	33	Female	Oaxaca	Public[2]
Guada	35	Male	Veracruz	Public
Pepe	24	Male	Sinaloa	Mixed
Gonza	21	Male	Guerrero	Public
Juli	43	Male	Oaxaca	Private[3]
Marga	43	Female	Oaxaca	Public

[2] Includes affiliation to the Mexican Social Security Institute (IMSS, by its acronym in Spanish) and, for the open population, the Health Centers belonging to the Secretary of Health (SSA, by its acronym in Spanish) of the states, in this case, Baja California and Sonora, respectively.
[3] Includes offices of private pharmacies Similares, private offices and medical services offered by agricultural fields or ranches.

Max	36	Female	Oaxaca	Mixed[4]
Rigo	38	Male	Baja California	Public
Vane	42	Female	Baja California	Public
Mara	24	Female	Baja California	Public
Lencho	20	Male	Baja California	Private
Amali	43	Female	Oaxaca	NA
Tere	34	Female	Oaxaca	NA

NA: No data available.
Source: Own elaboration.

Table 2. Day laborers interviewed in Poblado Miguel Alemán and Estación Pesqueira, Sonora.

Pseudonym	Age	Gender	Place of birth	Type of service
Anselmo	18	Male	Tabasco	Private
Aleida	43	Female	Poblado Miguel Alemán, Sonora	Public
Alfonsina	20	Female	Poblado Miguel Alemán, Sonora	Public
Antonia	35	Female	Hermosillo, Sonora	Public
Cande	22	Female	Poblado Miguel Alemán, Sonora	Public
Corintia	32	Female	Chihuahua, Chihuahua	Public
Edilberto	42	Male	Cárdenas, Tabasco	Public
Enrique	27	Male	Cárdenas, Tabasco	Public
Emilio	41	Male	Oaxaca, Oaxaca	No service
Efraín	40	Male	Poblado Miguel Alemán, Sonora	Public
Estonia	35	Female	Xicotepec de Juárez, Puebla	Mixed
Javier	48	Male	San Juan Copala, Juxtlahuaca, Oaxaca	Public
Santiago	43	Male	Villahermosa, Tabasco	No service
Manuel	38	Male	Ocosingo, Chiapas	Public

[4] Includes services of Health Centers and private doctor's offices.

Maura	30	Female	Granjas Valle de Guadalupe, Ecatepec de Morelos, Estado de México	Private
Rita	24	Female	Poblado Miguel Alemán, Sonora	Private
Rubí	33	Female	Poblado Miguel Alemán, Sonora	Public (Popular Insurance)
Enriqueta	18	Female	Hermosillo, Sonora	Private
Telma	54	Female	Culiacán, Sinaloa	Public
Venustiano	58	Male	Juxtlahuaca, Oaxaca	None
Miguel	44	Male	Santiago Juxtlahuaca, Oaxaca	None
Rambo	52	Male	Juxtlahuaca, Oaxaca	Private
Yurenia	25	Female	Veracruz, Veracruz	Private

Source: own elaboration.

Informed consent was obtained to conduct the interviews and the objectives and purpose of the study were explained; the interviews were audio-recorded with prior permission and subsequently transcribed in their entirety, organized and systematized in Nvivo. The analysis plan was inductive, with some categories identified in advance, and coded according to the previous themes of analysis, as well as those that emerged with the empirical data.

Results and discussion

Below, the results of the research are presented and discussed, taking up the social conditions of the day laborer population before COVID-19 according to: 1) access to health services, 2) spaces for care in housing and public services, 3) the community environment, and prevention measures, as central axes of analysis that allow us to discuss the conditions of social vulnerability.

1) Access to health services:

Access to health services among the day laborer population is mainly through SSA Health Centers, for those who do not have social security, as documented by Andrade (2022), who makes a recount of some findings in Tamaulipas, Sonora and other states, in which he notes the precarious health coverage. It was found that some day laborers have the

possibility of going to private medical consultations, however, covering this service and medicines affects their economy. In addition to these care strategies, participants referred to the use of traditional medicine to prevent COVID-19, as part of their self-care practices and as evidence of alternatives to the hegemonic medical model, centered on biomedical knowledge (Menéndez, 2020). The migratory processes, and the exchange with the communities of origin, allowed the sharing of knowledge to face the pandemic. The use of teas was documented as an expression of therapeutic resources shared collectively and familiarly. The use of teas (eucalyptus and lemon, for example), the temazcal bath, preparations with honey and other infusions, remedies and home recipes were repeatedly mentioned as traditional medicine practices:

> We go with what we find, here where we live there are many herbs, which we can only use in our towns and here it is very difficult to get them, and when they arrive, they are dry, so they lose the extract they should have, so it does help, but it is not the same as a medicinal herb that is still fresh (Amalia, San Quintín, B.C.).

According to the "Guide for the care of indigenous and Afro-Mexican peoples and communities in the context of the health emergency generated by COVID-19", traditional medicine is an adjuvant in terms of mitigating the symptoms derived from the infection (National Institute of Indigenous Peoples, 2020).

Regarding allopathic medicine resources, in the PMA and EP, in Sonora, there are three Health Centers, an IMSS-Bienestar hospital and some private care units (including specialized ones). In San Quintin, B.C., the IMSS-Bienestar Rural Hospital No. 69 and the SSA Health Centers provide medical consultations, thus 65% of those interviewed in B.C. reported having public health services. A large proportion of agricultural workers do not have access to social security or social benefits, since the lack of formal contracts means that they are not incorporated into the IMSS regime as employees. This is evidence of the flexible and precarious labor relations that systematically and structurally violate the labor rights of this population. It is worth noting that two of the informants indicated that they could turn to either the public or private sector, but it will depend on whether or not they have economic resources at that moment, as narrated in the following testimonies:

> Right now, I don't have insurance other than at work, the truth is I don't even know if I have insurance because I haven't registered, they say that you have to go and register [...] (Abigail, San Quintín, B.C.).

> Because we don't have insurance and many times we don't go to the hospital and we have to pay a private doctor [...] because if we don't have savings, then that's where our savings stay with them [...] (Rambo, EP, Sonora).

In both localities, access to medical consultations in generic pharmacies covers part of the need for health care, either because there is no access to social security. The absence of an IMSS clinic and the precariousness due to lack of materials and/or medicines in EP, makes the situation more complicated, according to Rambo.

As documented by Velasco, Zlolniski and Coubés (2018), in the process of human settlement in San Quintín, not only population growth was experienced, but also the increase in public and private health services. Although several localities have basic health services, the quality and equipment do not meet the requirements and needs of users in this region. Coverage is limited in terms of health services, meager medical attention and lack of specialized medical personnel. The health centers set their hours of operation without taking into account the time of day laborer women. Also, there is no staff to act as translators when there are people who are not fluent in Spanish. In the first case, this is a reflection of the absence of an intercultural health policy.

Along with the lack of medicines and healing materials, as Rambo mentioned. This situation is complex and long-standing among the day laborer population, despite the fact that some of them have been working for more than two decades, as Emilio related:

> All my life, I came here to La Costa in '99, I have been here for like 21 years, and all the time I have worked as a casual laborer, I have been working for about 12 years in these trucks, taking agricultural workers to different fields (Emilio, PMA, Sonora).

As Flores (2021) refers, when there is "access to public medical services, provided by local authorities, these are usually retired, they do not provide medicines and healing materials, and poor care or medical negligence is common" (p. 39).

Some women had access to Social Security in Poblado Miguel Alemán or in the city of Hermosillo, Sonora, but often because they are enrolled or affiliated thanks to their spouses; even though they are also salaried workers, they are hired through informal means with reduced time, which makes access to this right difficult or nullifies it, since it is usually more complicated to be placed in a permanent position called "planta". However, it is women who take care of family welfare, especially health care, which reflects the unequal distribution of the domestic burden compared to men and the reproduction of gender norms that make them responsible for care as a female task. Several studies have documented that this was exacerbated during the health crisis (Amilpas, 2020; Gómez, Morales and Martínez, 2021; Llanes and Pacheco, 2021).

Only one of the cases of older adults had access to IMSS through one of their children who were salaried and affiliated to this service. However, the process of care for their chronic conditions, such as diabetes, was interrupted during the pandemic, and private medicine, in this case that offered by pharmacies, was the most affordable option:

> We are diabetic, we have had an appointment that time and we canceled and so far we haven't gone to the Health Center because we still can't go, we haven't made an appointment, we are taking medicine, every day, but now we have to buy our medication (Venustiano, EP, Sonora).

This was also found among B.C. respondents, who trusted the private sector more to attend to any health condition than the public sector. For example, a resident of San Quintín, B.C. (Julián) stated that whenever he has a health problem, he goes to a pharmacy chain that has doctors who provide consultations, whose main characteristic is that they only handle similar medications, which makes the service cheaper (Dr. Simi).

The exclusion of social security among the day laborer population has resulted from a systematic process of violation of labor rights, despite the fact that there have been some legal changes that require the accounting of weeks worked per season and with each employer.

In addition to the difficulties of going to public spaces, the decision to attend or not to attend the public health service was also related to the social representation of COVID-19; that is, associated with fear and uncertainty among the population of the localities. The emotional dimension is fundamental for the analysis of the social relations that developed during the pandemic, and the agricultural communities were no exception.

Thus, an obstacle to going to the IMSS and/or Health Center was precisely the fear of receiving a positive diagnosis of the disease, the possibility of being hospitalized and potentially dying during care. The fatalistic representations of the disease and, therefore, of the hospitals or Health Centers themselves, contributed to animosity towards health personnel. In fact, in a fragment of the field diary, testimonies were recorded:

> In our visit to the region of Pesqueira as of Miguel Alemán people express the low availability of the Health Center, not only because care has been restricted but also because of the fear of using them [...] (Field Diary, June, 2020).

This situation was also experienced in San Quintín, Baja California, as some workers in the region stated that, among some people belonging to indigenous peoples and day laborers, there is fear of going to the Health Center when they have any symptoms. This was a frequent situation among the general population, both in urban and rural areas:

> [People]... have, as well as a bad way of looking at hospitals and doctors and those who work [...] I say, I prefer to die at home, I don't know, it sounds illogical that having information you think that way, but I don't know, as an indigenous person, as a person I don't know; yes, I would be afraid that they would take me by force (Amalia, San Quintín, B.C.).

On the other hand, given that the agro-export industry is increasingly characterized by meeting optimal standards of certification of its products, this includes the quality of its products and certain types of training for day laborers, as well as having first aid personnel in case of accidents (Zlolniski, 2016). For this reason, some certified agricultural fields provide health services to workers; however, this benefit is only valid for the duration of the employment contract, which allows workers to include their immediate family members in the coverage. Nevertheless, there were also cases of self-medication, when some people used pills popularly known by the commercial name of "paracetamol" and

"throat pills".

2) Spaces for care: housing and public services:

Housing and its characteristics have an important impact when addressing the needs of care in the face of the pandemic, since the size and distribution of living spaces can make a difference in the probability of infection, along with public services such as drinking water and drainage.

In this sense, the place where the day laborers interviewed were housed was made of different construction materials. In the case of Sonora (PMA and EP), the walls were usually made of cement block and sand (handmade or factory-made), galvanized sheet metal, oily black cardboard and adobe. The use of these different materials could be recorded in the same dwelling. The roofs were made of concrete with joists and coffer, solid concrete, galvanized sheeting or oily cardboard sheeting.

In B.C., 13 agricultural day laborers were contacted in the town of San Quintín, of whom 54% were women and 46% men (see Table 1). Due to mobility restrictions, interviews were conducted through telephone or video calls. Based on the testimonies, 100% of the interviewed persons stated that they owned the home or that they were the owner of a family member who lived there. In terms of housing materials, 80% of the floors were made of concrete and 20% of dirt; 60% of the walls were made of block and 40% of wood; 90% of the roofs were made of wood and 10% of concrete.

In the case of the 22 informants in Sonora (see Table 2), the housing conditions reported were as follows: 45.5% owned their homes, while 18.2% lived in sheds; 86.4% of the houses had concrete floors and walls of *block*, brick or concrete; the roofs were of galvanized sheet metal in 54.5% of the houses, and half of the houses had only one bedroom. Although all the houses had potable water and access to electricity (95.5% were supplied by the electricity company), only 72.7% had access to the public sewage system.

Regarding services, most of those that were interviewed stated that they had potable water through pipes or hoses inside their homes (80%), although the service was continually interrupted, and sometimes they only had it once a week. Similarly, another

group mentioned that water was supplied by pipes (20%).

Electricity was the most frequent service in the homes, although there were two cases where they did not have it. On the other hand, sewage service was the most absent, since 80% of the people reported using latrines connected to a septic pit.

In this context, two of the main recommendations, such as social distancing and hand washing, were difficult to comply with given the conditions of the spaces and access to clean water. When there was the possibility to do so, for example, hand washing, it was reflected differentially between men and women, "(men) do not take it seriously, not really. Yes, because we used to say to many of them: 'hey, put on your mask, hey, wash your hands'" (Yurenia, EP, Sonora).

It was also recorded, through observations in the field and narratives in the interviews, that the reduced spaces of the private and rented rooms became places of risk, since a large number of family members interacted in these spaces. When one of the members of the group manifested any symptom related to COVID, the problem of confinement appeared:

> [...] there are hospitals that are used only for that [...] To isolate and well, maybe if get infected, I would prefer to go and be hospitalized, because how can I allow everyone to get sick in my house, because one person can infect the whole family (Aleida, PMA, Sonora).

The story of our informant shows part of the contradictions that were experienced during the pandemic, because despite the fears and stigmas of the health services, there was also the idea that given the danger of infection of the whole family, it was preferable to take them to the hospital. The spaces are small because they live with five people, in which there is only one room and a kitchen. This situation of overcrowding was common in the communities studied, so that the generalized measure of staying at home and keeping a social distancing inside the homes could not be applied to the conditions of the domestic units of the day laborer population.

The informant explained that the house is their own; however, there are cases where they rent to live for short periods of time. In the latter cases, i.e., rentals, the house consists of a single room or a group of rooms, and can be occupied by a family on a rental basis. Sometimes the owner builds several rooms, whose "contracts" of lease are usually

informal. These rooms are almost always lacking in quality of construction and space, as well as in services inside the rooms, such as bathrooms, yards, and laundry rooms. Concerning this, Yurenia commented:

> There are a lot of people in these facilities, they live next to each other, what social distancing, or masks? The owner or the facility do not give it to them, they also use water, here in the community, during the hottest weather of the year, we only have water during the night, during the day there is none, whatever you collect at night is what you are going to use during the day, just imagine, there are many people who do the washing, who take a bath, the water runs out very fast [.... ...] yes, in the facilities, it is difficult, there are many as they say in the municipality "wash your hands every day, use hand sanitizer" but if many people do not have water, they can't wash their hands, or how are they going to use hand sanitizer, if they don't even have enough money to buy one, especially when the sanitizer is very expensive as well (Yurenia, EP, Sonora).

Yurenia, who lives in the town of EP and is 25 years old and works as a day laborer, expressed these problems that complicated her care in regarding COVID-19. She also mentioned the extreme temperatures, particularly in Sonora's summer, which can be higher than 150°F, which increases the consumption of water for vital needs.

In this regard, public services, and although Aleida and Yurenia, and other informants, had sewage, electricity and drinking water, there were cases, especially in the peripheral areas of the localities, where they lacked regular piped drinking water services, and in the best of cases the service was irregular. Yurenia emphasized it in the following comment:

> Many people do not have the possibility of doing all that, because, for example, here many people do not have clean water. For example, we are going to talk about the community of Nueva Esperanza, which is called El Basurón, they do not have water, the water is very poor, the water is for bathing, washing dishes, washing clothes, they do not have enough water. So they don't have the possibility of washing their hands all the time, why, because if they waste that water, they run out of water, and they don't go every day to bring them water with the pipe, they go once a week, [there are] people who don't have a water storage tank, they don't have those barrels, they have to take good care of their water so that they can get enough (Yurenia, EP, Sonora).

In San Quintín, B.C., it was found that, inside the house, most of them had one or two bedrooms, spaces that are occupied by three or six people: grandparents, father, mother and children. Also, most of the interviewees stated that they own their home, and only one informant said that he had borrowed the house. One of the recommendations of the health authorities when a family member becomes infected was to keep him or her in isolation, however, the dimensions of the house in San Quintín represented a challenge, as it is a small space where family members live together, and also there is no sanitary sewage inside the house and water is usually limited. However, according to one of the interviewees, there was some confidence in dealing with the disease:

> Interviewer: if someone gets infected, do you have the appropriate place to take care of them?
>
> José: Yes, in one of the rooms (José, San Quintín, B.C.).

On the other hand, Julián, who lives in San Quintín, when asked if in the event that a family member got infected by COVID-19, his home would have space for the isolation of the person, answered yes, in addition to providing care options such as buying hand sanitizer gel and looking for other strategies.

The reproduction of the domestic group in the spaces of their homes highlighted the condition of care and gender. Men, in the opinion of women in the community, minimized the danger, especially when they became ill from COVID-19; while women were more attentive to the well-being of the domestic group because if something happened to them, it would imply lack of protection or an eventual orphanhood in case of death, Yurenia said:

> [...] the women in the community would get scared and say "we are going to take care of ourselves, we shouldn't go out too much either because it's really dangerous. Then the children will get infected, oh God, how terrible", they say. Yes, obviously as women we think a lot about our children, if something were to happens to them. Especially those of us who have little ones (laugh) (Yurenia, EP, Sonora).

This perception of different risk between men and women is related to gender

stereotypes, which make it possible for men to expose themselves to higher exposure to health risks and to a delayed search for care. These social constructions of gender interferes with COVID-19 prevention measures, in addition to the conditions of the community environment, as discussed below.

3) Community environment and prevention measures:

The social context of the study regions in Sonora is composed not only by precarious housing conditions and deficient public services, but also by environmental issues: strong heat, extreme wind, loose dirt and air pollution from the combustion of waste material such as tires to mitigate eventual crop damage due to low temperatures. In San Quintín, the semi-urban context is also characterized by adverse environmental conditions for health, for example, in some settlements there are no paved streets, which generates affections related to the respiratory system (aside from COVID-19). Similarly, in addition to the contexts of marginalization described above (lack of sewage and reduced availability of water inside the home), there is also the problem of the use of pesticides and fertilizers in the agricultural fields near the communities, which puts both day laborers and other residents of San Quintín at risk. In 2020, San Quintín was decreed as a new municipality, the sixth in B.C., which may represent better conditions for its social, economic and territorial development.

In Sonora, as in B.C., the lack of pavement and environmental contamination due to lack of or poor sewage service, produce an unhealthy context. In winter, with the arrival of cold weather and the consequent damage to crops near the PMA, different producers have burned tires, causing black smoke trails that produce harmful community spaces. Both EP and PMA are dependent localities of the municipalities and therefore, responses to health problems, associated with social factors, are the responsibility of the central authorities of each municipality, San Miguel de Horcasitas and Hermosillo, respectively. With the arrival of the pandemic, some community actors of the PMA tried to organize themselves in terms of resources and planning to face it, however, one of the first diagnoses derived from such efforts was negative, that is, there were not enough material,

financial or human resources.

On the other hand, some of the changes visualized in the immediate environment are related to the restriction of mobility in the first months; the disposition of some local authorities to inhibit people from leaving their homes at certain times produced a series of changes that for some can be read as a loss of "coexistence", as well as changes in the ways of accessing public spaces such as establishments to buy food, as Franco, a field driver, related:

> [...] coexistence is no longer the same, because of fear, you no longer coexist the same, yes you can talk on the phone, but it's no longer the same, everything has changed, when shopping, going to the supermarket, everything is becoming different (Franco, PMA, Sonora).

Regarding public spaces in Sonora, such as local stores, banks and ATMs, they were places where crowds of people were inevitable and, above all, these stores were not fully adapted to ensure a social distancing and good ventilation.

According to field observations in San Quintín, as well as in the PMA and EP, the use of face masks was irregular, with a tendency not to use them. This situation was influenced by local authorities' restrictions on the use of face masks in public places, especially in those that did not have or do not have ventilation or were outdoors. During the first observations, in June 2020, there were people walking along the avenues, in the PMA and EP, without face masks. In subsequent weeks, in which the referred localities were visited, there was a visible increase in the use of face masks, mainly in outdoor areas, but without becoming a generalized practice. However, in October, for example, in the PMA, one of the informants noted that "people do notice, we walk around without face masks, without a way to protect ourselves, as they say" (Alfonsina, PMA, Sonora). In Alfonsina's case, her mother also told her that she was "ridiculous" because she did not use them, but she did put them on her son, because she commented that she could get sick, but her son could not; in this case, the maternal notion of care is highlighted.

For Sonora, in addition to the socio-environmental circumstances, there was also another serious social situation, as Aleida mentioned: crime:

> [...] they break into the houses, since sometimes you have to go outside, they take advantage of that, and that's when they break in and take what you worked so hard for [...] a lot of drugs, a lot of crime, I think that's the most serious problem here (Aleida, PMA, Sonora).

In addition, she points out that the use of face masks facilitated anonymousness, which was taken advantage of by people engaged in robbery. Paradoxically, a preventive public health provision was also identified with the possibility of using it in a harmful way, for purposes of anonymity when committing a crime such as assault or robbery. The fear of being infected of COVID-19 was combined with the fear of crime, which further affected the lives of the population.

Final thoughts

The risk of suffering from COVID-19 is related to the previous health condition of people, who are more likely to suffer from it, if they have any chronic disease such as hypertension, diabetes and/or heart disease (López-Gatell, 2020; Adhikari *et al.*, 2020). This risk is deeply related to the social conditions of life that also make care processes difficult, especially among socially vulnerable populations, such as agricultural day laborers, who referred to the tension between the need to work and take care of themselves in adverse conditions. These conditions are related to historical processes of social and structural vulnerability that affect health, disease and care processes, which has also been documented in studies on health and indigenous peoples (Berrio *et al.*, 2021) and on health and migration (Piñones, Quezada and Holmes, 2019). The migratory processes that take place in the peasant communities of origin, in southern Mexico, and the communities of destination, in northern Mexico, give a particular stamp by reducing the conditions for coping with environmental risks, and in this case, COVID-19 disease was no exception. Thus, the sociocultural context of the day laborers interviewed, in some cases, practitioners of indigenous languages and of rural-peasant origin, favored the use of alternative therapeutic resources to biomedical medicine.

Although there are particularities among the study localities, some points in common

were found: public health services were exceeded, and even a social narrative of distrust towards them was built; community spaces such as squares, streets and stores were poorly adapted to the sanitary needs of social distancing and ventilation; educational, health and cultural spaces lacked and still lack public infrastructure; the use of masks and hand sanitizer in the domestic, public and work spaces was irregular. In domestic spaces, women were the main actors, especially in the care before COVID-19. This is a subject of analysis pending to be deepened in the empirical data, as well as in the design of future research.

In B.C., almost all of the respondents are homeowners, so they could make adjustments to their homes in case they became infected. However, the space with the greatest possibility of contagion was public transportation, used for going to work, since, according to the informants, during the first months of the pandemic, they tried to maintain social distancing inside the buses used to transport personnel, but this measure was relaxed after a few months. Although there were no cases of contagion among those interviewed, there was a permanent concern about infecting a family member within the home when exposed in transportation, especially among day laborer mothers.

In Sonora, it was found that some of the people interviewed have their own homes, but others rent in the so-called "facilities"; in both cases, the small size made social distancing difficult. The condition of owning or not owning a home marks in some way the family capacities to respond collectively to a danger; the fact of living in a "room" in which not only they have reduced spaces, but also the family economic income is reduced, since they have to pay for services in case they need them (electricity, drinking water, sewage), provisions and the cost of rent.

Access to the formal health systems, IMSS and SSA, was insufficient and increased the resistance to use them due to distrust regarding their quality, in addition to identifying them as risky due to the possibility of becoming infected or going to them, being hospitalized and dying. During the first months of the pandemic, one of the practices of attention and care were the prescriptions of traditional medicine, as part of the practices of self-care.

The empirical data as a group, evidences the situations of social vulnerability, but

also the agency of the population to face the health crisis, such as the practices of self-care centered on ancestral knowledge. This response to the vulnerability of the day laborer population is what Pedreño (2014) calls social sustainability; that is, the tendency to cover the material and subjective needs of social groups with their own resources, and especially in the face of the impacts of the economic dynamics of agroindustrial sites on community life.

Although the vaccination of a large part of society has reduced the effects of the pandemic, it is necessary to follow up on this public health problem in order to analyze care practices in a different context, since socialization on health promotion and disease prevention is broader. The COVID-19 pandemic showed the urgency of influencing social and health policy in the lives of day laborers with the purpose of achieving a state of well-being; therefore, research is proposed to follow up on these results and to focus on a critical analysis of public health and the social conditioning factors that place populations in different situations of vulnerability.

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