

Comparison of pre and post-pandemic general morbidity in primary care

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Case Report

Family Medicine



Background

OBJECTIVE: Determine the changes in the frequency of some diseases pre and post-pandemic COVID-19.

METHODS: Retrospective, descriptive, cross-sectional, observational study of the Family Medicine clinic files of the University Hospital of Universidad Autonoma de Nuevo Leon, Mexico. (UANL)

The total files (15,849 records) representing the general morbidity of the year 2018 (pre-pandemic) were studied and compared with a post-pandemic year (March-Dec 2022 and Jan-Feb 2023.)

RESULTS: The results show an increase in pathologies such as cancer, with an increase of 105%, and Tuberculosis, with an increase of 130%.

On the other hand, a decrease in Diabetes Mellitus and Arterial Hypertension was observed up to 50% less.

Other pathologies, such as HIV, increased in a small proportion. Anxiety and depression practically stayed the same.

Lymphomas is the cancer that showed the most significant increase (nine times greater)

CONCLUSION: In patients treated at the University Hospital of the UANL (MEXICO), an increase in cancer and a decrease in cases of hypertension and diabetes have been observed if we compare the pre-and post-pandemic data. Health systems must take steps to address these changes in morbidity and ensure adequate patient care.

What is inconsistent with previous reports is that some diseases increased significantly post-pandemic, and others decreased by half while others remained stable.

KEYWORDS: Morbidity; Pandemic; Primary Care.

The effects of the pandemic on health have been very evident. Several areas in this regard have been affected both at the individual and collective levels and even in health services.^{1,2}

The World Health Organization in its 2023 report states a total of 6,946,974 deaths in the world from COVID-19.³

Regarding morbidity, diseases directly related to the virus, specifically of the respiratory system, and other diseases such as depression and anxiety increased, a direct or indirect consequence of the pandemic.^{4,5,6}

Diseases such as cancer, tuberculosis and HIV also presented post-pandemic variation.

There is no conclusive evidence that the COVID-19 pandemic has directly increased the number of cancer cases in Mexico or in the world. It is mentioned that mortality from COVID-19 increased in patients who suffered from cancer.⁷

However, the pandemic has had an indirect impact on cancer diagnosis and treatment.

“The coronavirus disease 2019 (COVID-19) pandemic has impacted cancer screening and treatment efforts around the world. In many countries, cancer screening programs have been paused since March 2020, resulting in a hiatus in screening for an unknown period of time.”⁸

On the one hand, fear of contagion and the need to prioritize medical resources for the care of patients with COVID-19 have led to a decrease in cancer screenings and delays in the diagnosis of new cases. This can result in late diagnosis and a worse prognosis for cancer patients resulting in increased mortality.⁹

Additionally, restrictions on mobility and social distancing have made it difficult for patients to access cancer treatment, such as radiotherapy and chemotherapy. This can delay or interrupt treatment and negatively affect patients' survival and quality of life.¹⁰

Although the COVID-19 pandemic has not directly increased the number of cancer cases in

Jan-Dec 2018	f	March-Dec 2022 and Jan-Feb 2023	f
Diabetes mellitus	959	Diabetes mellitus	376
High blood pressure	421	High blood pressure	265
Abdominal pain	275	Abdominal pain	192
Irritable bowel syndrome	271	Low back pain	168
Low back pain	193	Gastroesophageal reflux disease	147
Headache	183	Headache	119
Gastroesophageal reflux disease	140	Irritable bowel syndrome	108
Urinary tract infection (UTI)	134	Unspecified anxiety disorder	103
Chest pain	127	Cholelithiasis	95
Joint pain	110	Dyspepsia	85
Hypothyroidism	107	Rheumatoid arthritis	64
Unspecified anxiety disorder	104	Urinary tract infection (UTI)	58
Dengue fever	97	Metabolic syndrome	57
Cholelithiasis (gallstones)	86	Hemorrhoids	53
Obesity	82	Venous insufficiency	53
Gastroenteritis	77	Knee pain	47
Healthy patient	76	Joint pain	46
Osteoarthritis	72	Benign prostatic hyperplasia	45
Rhinopharyngitis	71	Osteoarthritis	44
Anemia	70	Umbilical hernia	43
Colitis	67	Obesity	43
Muscle contracture	64	Tuberculosis	43
Rheumatoid arthritis	56	Anemia	39
Hemorrhoids	55	Inguinal hernia	39
Neck pain	54	hypothyroidism	37

Table 1. Comparison of the 25 most frequent pathologies pre and post-pandemic

Mexico, it has had a significant impact on cancer diagnosis and treatment in the country, which may have long-term negative consequences for people's health. population.

The COVID-19 pandemic has had several influences on the increase in cancer cases, both direct and indirect. Below are some of the possible reasons: Reduced screening: Lockdown measures and mobility restrictions have led to a decrease in cancer screenings, such as mammograms and colonoscopies. This has led to a reduction in early cancer diagnosis, which may result in a higher number of advanced cases.

Interruption of cancer treatment: Lockdown measures and the prioritization of medical resources

for the care of patients with COVID-19 have led to an interruption or delay of cancer treatment for some patients. This can lead to cancer progression and decreased survival.

Increased stress: The pandemic has caused an increase in stress and anxiety for many people. Studies have shown that chronic stress can negatively affect the immune system and increase the risk of developing cancer.^{11,12}

Changes in lifestyles: Lockdown measures and anxiety related to the pandemic have led to changes in the lifestyles of many people, such as an increase in alcohol consumption and a decrease in physical activity and healthy diet. These changes may increase the risk of developing cancer.¹³

Jan-Dec 2018	f	March-Dec 2022 and Jan-Feb 2023	f
Lymphoma	1	Lymphoma	9
Hepatocellular carcinoma	2	Hepatocellular carcinoma	3
Metastatic cancer	5	Metastatic cancer	5
Colon cancer	3	Colon cancer	8
Breast cancer	4	Breast cancer	6
Sarcoma	3	Sarcoma	0
Prostate cancer	6	Prostate cancer	7
Other cancers	15	Other cancers	42
Total	39	Total	80

Jan-Dec 2018	f	March-Dec 2022 and Jan-Feb 2023	f
Tuberculosis	14	Tuberculosis	43
Pulmonary tuberculosis	13	Pulmonary tuberculosis	20
Total	27	Total	63

Jan-Dec 2018	f	March-Dec 2022 and Jan-Feb 2023	f
HIV	11	HIV	5
HIV POSITIVE	3	HIV POSITIVE	12
HIV AIDS	0	HIV AIDS	1
Total	14	Total	18

Table 2. Pathologies that increased in frequency.

Another condition that has also been affected post-pandemic is Tuberculosis.

According to a report published by the World Health Organization (WHO) in 2020, it is estimated that the number of people suffering from Tuberculosis (TB) worldwide could increase by between 6% and 13% in the next five years due to the pandemic. of COVID-19 and its impacts on healthcare.¹⁴

Therefore, it is important that measures are taken to ensure continuity of TB care services and innovative strategies are implemented to reach people affected by the disease amid the pandemic.¹⁵

The COVID-19 pandemic has had a significant impact on the fight against TB in Mexico, as in many other countries around the world. Although the pandemic has not been the direct cause of the increase in TB cases, it has created several barriers that have made detection, diagnosis and treatment of the disease difficult.¹⁶

According to a report published by the Mexican Ministry of Health in 2022, there was a 4.4% increase in the number of TB cases in the country

during the first half of the year compared to the same period of the previous year.¹⁷

Furthermore, the TB mortality rate also increased by 5.5%. These data suggest that the COVID-19 pandemic has had a negative impact on TB care and control.¹⁸

Objective

Determine the changes in frequency of some diseases pre- and post-COVID-19 pandemic.

Methods

Retrospective, descriptive, cross-sectional, observational study of the files of the Family Medicine clinic caring for patients over 18 years of age at the University Hospital of the Autonomous University of Nuevo León, Mexico. (UANL).

The total number of consultation records (15,849 records) that represent the general morbidity of the year 2018 (pre-pandemic) were studied and

compared with a post-pandemic year (March-Dec 2022 and Jan-Feb 2023.)

The information was captured in SPSS and processed with the frequency function.

Results

The comparison of the 25 most frequent pathologies pre and post-pandemic is shown in table 1.

The results show an increase in pathologies such as cancer, with an increase of 105% (39 pre-pandemic cases and 80 post-pandemic cases) Table 2.

Lymphomas are the cancers that showed the greatest increase (nine times greater), breast cancers also increased by 25% (4 cases pre-pandemic and 6 cases post-pandemic) and colon cancers increased by 133% (3 cases pre-pandemic and 6 cases post-pandemic). 8 post-pandemic cases). On the other hand, prostate cancer remained the same.

Other cancers such as gastric and kidney cancer occurred one pre-pandemic and 3 post-pandemic. Given the small number, the increase cannot be accurately calculated, but it would seem that it reaches 200%.

Tuberculosis with an increase of 130%.

A decrease in Diabetes Mellitus and Hypertension was observed up to 50% less. So do depressive disorders.

Other pathologies such as HIV and Anxiety practically remained the same.

Respiratory tract diseases do not appear in 2022 because since the beginning of the pandemic these patients were referred to a specific diagnosis and treatment center.

Discussion

There is no conclusive evidence that the COVID-19 pandemic has directly increased the number of cancer cases in Mexico or in the world. However, the pandemic has had an indirect impact on cancer diagnosis and treatment.

In Mostafa El Wahab's study, the analysis included 710 breast cancer (BC) patients, 350 from the pre-COVID cohort and 360 from the post-COVID group. He detected a 27.9% increase in late-stage BC (stages III-IV) in the post-pandemic cohort compared to the pre-pandemic.¹⁹

Restrictions on mobility and social distancing have made it difficult for patients to access cancer treatment, such as radiotherapy and chemotherapy. This can delay or interrupt treatment and negatively affect patients' survival and quality of life.²⁰

Interruption of cancer treatment: Lockdown measures and the prioritization of medical resources for the care of patients with COVID-19 have led to an interruption or delay of cancer treatment for some

patients. This can lead to cancer progression and decreased survival.

Sharpless even predicts a significant increase in mortality from colon and breast cancer in the following years, suggesting that “during the next decade we would expect to see almost a million deaths from these two diseases”⁹

The same thing happens with tuberculosis. Muñiz reports a 49.8% decrease in cure or completion of TB treatment.²¹

Comella del Barrio in Spain reports that “they could result in 6.3 million additional TB cases between 2020 and 2025, and 1.4 million additional TB deaths during this time”²²

Increased stress: The pandemic has caused an increase in stress and anxiety for many people.

It has been shown that chronic stress can negatively affect the immune system and increase the risk of developing cancer.^{23,24}

Changes in lifestyles: Lockdown measures and anxiety related to the pandemic have led to changes in the lifestyles of many people, such as an increase in alcohol consumption and a decrease in physical activity and healthy diet. These changes may increase the risk of developing cancer.²⁵

Some authors, referring to the pandemic, report an increase in tuberculosis cases and state that “cases of multi-resistant TB remain undiagnosed or, when diagnosed, do not receive treatment or proper notification.”²⁶

An increase in mortality from tuberculosis post-pandemic has been reported. “The COVID-19 pandemic had a notable impact on this infectious disease of tuberculosis, reducing uptake, diagnosis, treatment and increasing mortality rates in some countries around the world.”²⁷

The panorama in Mexico is very similar to the rest of other countries. Sánchez mentions that “until October 2020, there was a lack of detection of 30% of TB cases”²⁸

In this post-pandemic panorama, challenges arise for health services as suggested by Zumla “to ensure that TB control objectives are not delayed. “Overlap and commonalities for surveillance, detection, diagnosis, and management must be exploited.”²⁹

Conclusion

In patients treated at the UANL University Hospital (MEXICO), an increase in cancer and tuberculosis and a decrease in cases of hypertension and diabetes have been observed, if we compare pre- and post-pandemic data.

It is important that health systems take steps to address these changes in morbidity and ensure appropriate patient care.

What is not consistent with previous reports on the matter is that some diseases increased significantly post-pandemic and others decreased by half. While others remained stable.

The pandemic directly and indirectly affected general morbidity.

Conflicts of interest

The authors declare no conflict of interest.

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