Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

COMMENTARY

THE AMERICAN JOURNAL of MEDICINE®

Do Hospital Visit Restrictions Cause Increase in the Doses of Morphine in Terminal Care? Spiritual Pain and Palliative Care in the COVID-19 Pandemic

SEE RELATED ARTICLES, p 1154 and 1158.

BACKGROUND

The Centers for Disease Control and Prevention (CDC) alerted public health departments, health care professionals, and first responders of "a concerning acceleration of the increase in drug overdose deaths" coinciding with the emergence of the coronavirus disease 2019 (COVID-19) pandemic and said that the surge in deaths was driven primarily by a rapid rise in overdose deaths caused by synthetic opioids.[1]

Palliative care is one of the most important factors for pain control in terminal cases of patients with cancer. Lack of visitation by loved family may strongly affect pain control in terminal care.[2] Visitation seems important as a spiritual component of palliative care, although there is not enough evidence for this. In a study of 937 cases of patients receiving dialysis, an association between the importance of religious or spiritual beliefs with care preferences and palliative care needs was found for most study participants.[3]

OBJECTIVE

The COVID-19 pandemic has resulted in hospitals across world, including Japan, restricting visitation to their patients. Families of terminal-stage patients were also prohibited from visiting. We speculated that these restrictions of visitation would increase the physiological and psychological distress of patients and increase their total dose of opioids (morphine milligram equivalents). In this study, we objectively compared the total dose of patients in terminal-stage before death in the periods before the COVID-19 pandemic (hospital visits allowed for patients' families) and during the COVID-19 pandemic (visiting prohibited).

Funding: None.

Conflicts of Interest: None.

Authorship: All authors had access to the data and a role in writing this manuscript.

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https://doi.org/10.1016/j.amjmed.2022.04.011

METHODS AND FINDINGS

We investigated all clinical records of the patients with cancer pain on opioid analgesics who received palliative care from our palliative care team and who died in our hospital during the 3 years 2018, 2019, and 2020. Because our hospital's decision to prohibit patients' families from visiting hospital was announced on March 31, 2020, we counted the cases for 2020 in the period from April 1 of that year through March 31, 2021. To make accurate comparisons, we also counted only the cases from April 1 through March 31 of 2019-2020 and 2018-2019 in the same manner. This study was approved by National Hospital Organization Tokyo Medical Center, Ethics Committee on October 4, 2021 (#R21-081, UMIN000045866).

Analyses of variance across time periods were done on the sum of the numbers of doses administered over all patients, the total dose of opioids, converted to morphine equivalent, over all patients, and the mean size of every applied dose. Welch t-tests were followed on significant results. Data on the doses in the respective 3 years were calculated to obtain mean dose per patient. Data from the 2 years, 2018 and 2019 (the prepandemic period), were combined for contrasting to the year 2020 (the COVID-19 pandemic period). Results are grouped separately for each year of dosage administration and results for 2018 and 2019 are combined and compared with those from 2020. These results are illustrated in the Table.

The mean intervention duration per patient was approximately constant at 15.5 days ($P = .9603$, $d = 0.01$), and the mean age of patients also showed almost no difference in each year over the 3-year period. The mean size of every applied dose in 2020 exceeded that of the previous 2 years ($P < .0001$, $d = 0.25$) by 39%, as shown in the Figure, and the mean full dose per patient increased by 24% in 2020 as shown in the Table.

DISCUSSION

Before the increases of morphine dose, all members of the clinical team are called to use compassionate listening and communication skills to address the pervasive isolation and

Table Changes in Dose of Morphine Between the Period Before the COVID-19 Pandemic (Hospital Visits Allowed for Patients' Families [2018+2019]) and During the COVID-19 Pandemic (Visiting Prohibited [2020])

Year	Patients (n)	Mean age (years) [range]	Total number of administered doses over all patients	Total amount administered to all patients (mg) [Mean dose per patient] (mg)	Mean size of all doses (mg) [SD of dose sizes] (mg)
[2018+2019]	144	72.2 [41-99]	1857	148,647 [1032]	80.047 [111.506]
(2018)	59	71.5 [41-95]	732	70,565 [1196]	96.40 [115.447]
(2019)	85	72.6 [41-99]	1125	78,082 [919]	69.406 [107.590]
[2020]	63	72.9 [27-93]	722	80,338 [1275]	111.271 [153.302]

SD = standard deviation.
Welch *t*-test $P < .0001$
Effect size * d = 0.25
(*d: |.20|≦small<|.50| |.50|<medium<|.80| |.80|≦large).

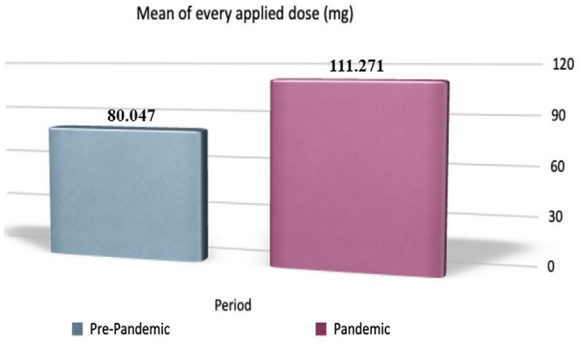

Figure Mean size of applied doses (mg). The mean size of applied doses in 2020 exceeded that of the previous 2 years ($P < .0001$, d = 0.25) by 39%.

grief of those in their care.[4] With the firm care of our palliative care team, we were able to see a decreasing trend in total opioid doses in the 2 years prior to restricting visits. However, after the restricted visitation, total doses for pain relief increased significantly. In other words, the study found that the restricted visitation increased the spiritual pain factor and could cause significant stress to patients in terminal stage.

To decrease spiritual or physiological pain, solutions were suggested to provide spiritual and psychological palliative care to hospitalized patients and their families through interdisciplinary telehealth delivery.[5] Phone and video calls can be effective and may significantly reduce the dosage of morphine needed. The results of this study provide objective evidence that it is important for patients to meet and talk with someone personally close to them and that there is a causal relation between this invisible power and spiritual pain.

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