

Unlocking compassion: expanding access to palliative care in Saudi Arabia

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Abstract

Background: Palliative care is an essential element of the healthcare system. It has profound benefits for patients with life-limiting illnesses. The Saudi Arabian healthcare system lags in integrating this vital component effectively. Hence, estimating the palliative care needs of the Saudi Arabian population is crucial to understanding the country's demand for palliative care.

Aim: To assess the past trends in adult palliative care needs in Saudi Arabia.

Methods: The current research used population-based secondary data analysis by employing two palliative care needs estimation methods: the direct or fixed estimation method by Gómez-Batiste and the maximum or maximal method by Murtagh and Rosenwax. The estimated palliative care needs were stratified by gender.

Results: An upward trend in the palliative care needs of the Saudi Arabian population is evident through the estimation techniques. The proportion of palliative care needs relative to deaths climaxed at 95% in the observed years. By 2022, the number of people requiring palliative care skyrocketed to 79,725 (fixed method) and 101,623 (maximal method).

Conclusion: The need for palliative care in Saudi Arabia substantially rose in the observed years. It is inevitable to bridge the gap between palliative care needs and supply with advanced integration of palliative care services in the national healthcare system.

Keywords: Gómez-Batiste, Murtagh, palliative care, palliative care needs, Rosenwax, Saudi Arabia

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Introduction

Palliative care services were initiated in the mid-1900s to aid patients facing life-threatening illnesses and support their families.¹ Over time, palliative care has evolved as a medical specialty dedicated to improving the quality of life for seriously ill patients and their families through timely diagnosis, impeccable assessment, pain relief, and managing psychological, spiritual, and social distress.^{2,3}

There is concrete evidence depicting the significance of palliative care, but it is often underutilized.¹ On one hand, the global demand for palliative care is upsurging due to contributing factors such as the aging population, swelling

prevalence of chronic life-limiting diseases, and the recognition of unmet needs for specialized care. On the other hand, there is a global issue of scarcity of palliative care services, with significant gaps in access and coverage observed across various regions. According to the estimates, a daunting number of the population that is approximately 40 million patients per annum, require palliative care, with the majority residing in low- or middle-income countries and facing limited access to palliative care services.⁴ Moreover, research has even uncovered inconsistencies in access to palliative care in high-income countries.⁵ Addressing the worldwide shortage of palliative care services requires an opposite approach to cater to the changing population through expanding trained

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professionals in the field, adapting care delivery models and establishing specialized palliative care centers or wings.^{6,7}

The first step toward improving access to palliative care is to explore and estimate the level of need in the population.⁸ Researchers have defined need in the context of healthcare as the “ability to benefit” from healthcare services.⁹ This definition of need is apt enough to be applied to individual and population healthcare problems and lay the foundation for epidemiological research and planning.¹⁰ Quite a few studies have employed different measurement methods to estimate population needs for palliative care in different countries.^{11,12} However, a significant shift in demographics, population, and diseases put forward the urge to explore the evolving level of palliative care needs to plan palliative-related services accordingly.⁸ Hence, it is the need of the hour to estimate the population-based need for palliative care for different countries or regions to guide service development.

There is no denying the surmounting need for palliative care due to the ever-growing population and prevalence of life-limiting diseases. Therefore, this study aims to calculate the numbers and proportions of the people of Saudi Arabia in need of palliative care. This research is a population-based assessment of palliative care needs in Saudi Arabia conducted by employing two estimate-based methods, one introduced by Gomez and the other by Murtagh and Rosenwax.^{10,13,14} This study is novel as it is the first seminal research to fill the existing literature gap by statistically assessing the population’s need for palliative care in the Kingdom of Saudi Arabia (KSA). This study provides a glimpse of the number of patients in KSA who require palliative care and encourages future endeavors toward upgrading palliative care services in the country.

Background

Palliative care in Saudi Arabia is still in the nascent stage, and there is a need for further education, policy development, and infrastructural upgradation to ensure that palliative care services meet the needs of patients and their families across the country. Developing policies and regulations that support palliative care integration into the healthcare system is crucial for improving access to quality end-of-life care for patients in Saudi Arabia. The palliative care services were

initiated in the country at King Faisal Specialist Hospital and Research Centre in Riyadh over three decades ago.¹⁵ Recent progress includes the establishment of the Saudi Society for Palliative Care and the National Palliative Care Program, which have contributed to a better understanding of palliative care among healthcare providers.¹⁶

Currently, the significance of palliative care is garnering some recognition in Saudi Arabia; however, there is substantial room for improvement, particularly in educating and training medical staff and implementing service models. Political issues, scarcity of resources, and lack of education and awareness are common factors restricting palliative care progress in the Middle East, including Saudi Arabia.¹⁷ A recent research explored the knowledge and awareness of palliative care among medical students in Saudi Arabia, and the findings revealed an overall lack of confidence in providing palliative care.¹⁸ Another cross-sectional study focused on home-based palliative care nurses in Saudi Arabia, revealing a lack of knowledge and practice in palliative care.¹⁹ The recent seminal work highlights the need for improved education and training in palliative care to equip healthcare professionals to deliver quality end-of-life care to patients in Saudi Arabia.

While the oldest palliative care program in the country is now three decades old, most services focus on adults with advanced ailments, and there is a lack of specific pediatric palliative care programs.²⁰ A recent study discovered the need for pediatric palliative care in the Arab Gulf Cooperation Council countries, including Saudi Arabia, revealing a clear and urgent need to develop pediatric palliative care services in the region.²¹

Existing research on palliative care needs in Saudi Arabia indicates that hospital-based palliative care models are prevalent; however, there is an absence of subacute palliative care models, which impacts end-of-life quality indicators.¹⁶ Furthermore, a significant number of emergency department visits by palliative care patients could potentially be avoidable, suggesting a need for better palliative care practices.²² Additionally, cultural factors and the need for subacute care models must be considered to improve the country’s overall quality of palliative care services.^{16,22}

The literature review suggests that the need for palliative care in Saudi Arabia is becoming

increasingly apparent due to the aging population and the prevalence of chronic diseases. For several reasons, estimating the population's need for palliative care in Saudi Arabia is crucial. First, it allows for the appropriate allocation of resources, including healthcare workforce and pain medications, to meet the growing demand for palliative care services.²³ The palliative care needs assessment is particularly important given the increasing prevalence of chronic diseases such as diabetes mellitus and cancer, which often require palliative care.^{24,25} Saudi Arabia's ever-increasing population, evidenced by an epidemiological model predicting a 12.8% population growth over 10 years, is another reason to assess palliative care needs.²⁶ Understanding the population's needs helps to address the challenges of geographical distribution and resource allocation to ensure equitable access to palliative care across different regions.²³

In summary, estimating the population need for palliative care in Saudi Arabia is essential for strategic planning and improving the quality of life for terminally ill patients and their families. It supports the development of targeted education to address knowledge gaps and misconceptions about palliative care, and it emphasizes the need for culturally sensitive healthcare discussions and provider training.^{16,27} Addressing these needs aligns with the country's healthcare reforms, such as Vision 2030, which aims to enhance the availability and quality of palliative care services.²³ Therefore, accurate estimation of palliative care needs is a critical step toward achieving these goals and ensuring that the healthcare system can adequately respond to the needs of its population.

Methodology

Study design

This study used openly available secondary data to estimate the palliative care needs in Saudi Arabia. Mortality and population-related data were gathered. This study focused on estimating adult palliative care needs. The sample included adults aged 15 years and above. The current research estimates annual palliative care needs in Saudi Arabia from 2011 to 2022 using two estimates, namely the Direct/Fixed estimation method proposed by Gómez-Batiste and the Maximum/Maximal estimation method by Rosenwax and later extended by Murtagh.^{10,13,14}

Data sources

The population and mortality data were obtained through the Saudi Arabian General Authority of Statistics database. The database includes crude mortality data and categorically arranges the recorded deaths according to the cause per the 10th revision of the International Statistical Classification of Diseases and Related Health Problems.

Estimates

Numerous seminal studies have used mortality data to estimate palliative care needs.^{8,10,13,14,28} These studies have also justified using mortality data for palliative care needs assessment. The current research has applied estimation methods by Gómez-Batiste and Murtagh to the number of mortality cases in the Saudi Arabian population from 2011 to 2022. The reason for opting for these methods was the limited availability of data and resources related to Saudi Arabia. Also, there is no doubt about the scientific validity of these methods as they have been adopted in other countries to assess national palliative care needs.^{12,29,30}

The estimation methods are as follows:

- I. The direct or fixed measurement method introduced by Gómez-Batiste proposes that 75% of the total deaths in a year are due to chronic progressive illnesses that might have benefited from palliative care services.¹³ Therefore, 75% of all deaths in a country would need palliative care. The simple calculation for estimating palliative care needs is multiplying yearly deaths or crude mortality by 0.75 or 75%. The resulting figure gives the estimation of palliative care needs.
- II. The maximum or maximal estimation method presented by Rosenwax and later polished by Murtagh suggests that, except for sudden deaths, all other deaths require palliative care services at the end of life.^{10,14} According to this method, by taking into account all the deaths except poisoning, injury, maternal, neonatal, and perinatal deaths, the palliative care needs of a population can be estimated.

Ethical considerations

Using publicly available secondary research data does not require ethical committee approval.

Accordingly, the study was not subjected to ethical review.

Results

The numbers presented in Table 1 give an overview of the changes in the population and number of deaths from 2011 to 2022 in Saudi Arabia. The recorded population in 2011 was 30.15 million, which jumped to 36.41 million by 2022. In 2011, the total number of deaths was 73,790, while in 2022, the figures showed 106,300 total deaths.

Table 2 shows the estimates of the palliative care needs by employing the fixed and maximal estimation methods, which are presented graphically in Figure 1. The calculations show that in 2011, the number of people who required palliative care services according to fixed and maximal methods was 55,343 and 68,625, respectively. By 2022, these numbers skyrocketed to 79,725 and 101,623.

Figure 2 depicts the percentage of cases of palliative care needs relative to total deaths. According to the fixed method, a rate of 75% remains constant throughout the observed years. Meanwhile, according to the maximal method, the recorded rate was 93% in 2011, climbing to 95.6% in 2022.

Gender-wise estimates of palliative care needs in Saudi Arabia are showcased in Figure 3. The estimates are computed using both methods and stratified based on gender. In 2011, the number of females who required palliative care services was 10,009 according to the fixed method and 12,411 for the maximal method. In 2022, 17,423 and 22,208 females could have benefited from palliative care services. A total of 17,663 and 21,902 males needed palliative care services in 2011. Meanwhile, the estimates for fixed and maximal methods portray that 34,110 and 26,760 males required palliative care in 2022.

Discussion

This study is the first to carry out a nationwide estimation of palliative care needs in Saudi Arabia. Secondary data spanning over 12 years was used to draw the insights. Two estimation methods helped to assess the constant and maximum palliative care needs. The estimated palliative care needs of the population in Saudi Arabia plunged from 2011 to 2022. As Saudi Arabia is

Table 1. Population and total number of deaths.

Year	Population	Deaths
2011	30,150,945	73,790
2012	30,821,543	76,614
2013	31,482,498	78,934
2014	32,125,564	82,338
2015	32,749,848	84,744
2016	33,416,270	89,630
2017	34,193,122	88,390
2018	35,018,133	88,114
2019	35,827,362	91,146
2020	35,997,107	94,358
2021	35,950,396	117,820
2022	36,408,820	106,300

Table 2. Palliative care needs estimate.

Year	Gomez (fixed)	Murtagh (max)
2011	55,343	68,625
2012	57,461	71,711
2013	59,201	74,198
2014	61,754	75,751
2015	63,558	79,151
2016	67,223	84,521
2017	66,293	83,617
2018	66,086	83,532
2019	68,360	85,404
2020	70,769	89,640
2021	88,365	112,282
2022	79,725	101,623

going through demographic and epidemiological transitions, palliative care needs are also on the rise. Mortality count and population have increased, and as a result, an upward trend can be seen in palliative care needs.

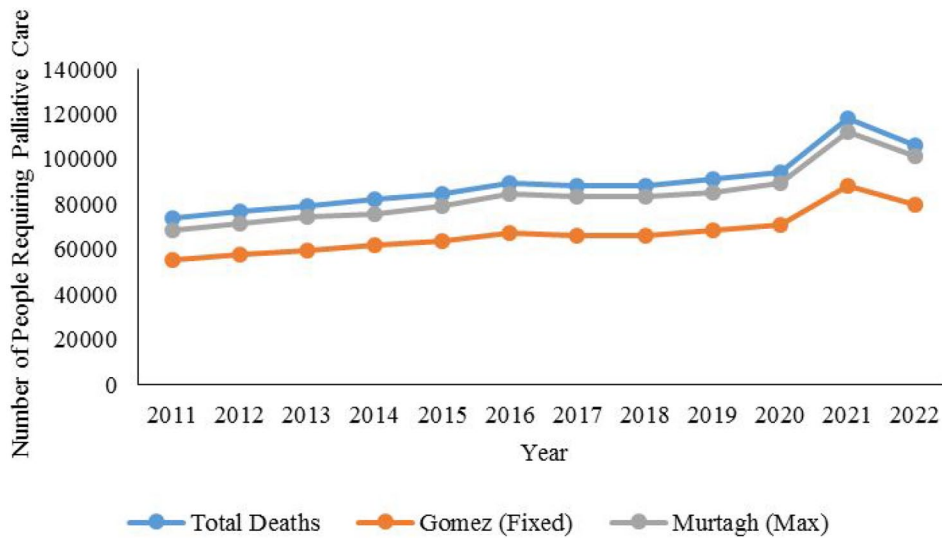


Figure 1. Estimation of absolute number of palliative care needs in a certain year.

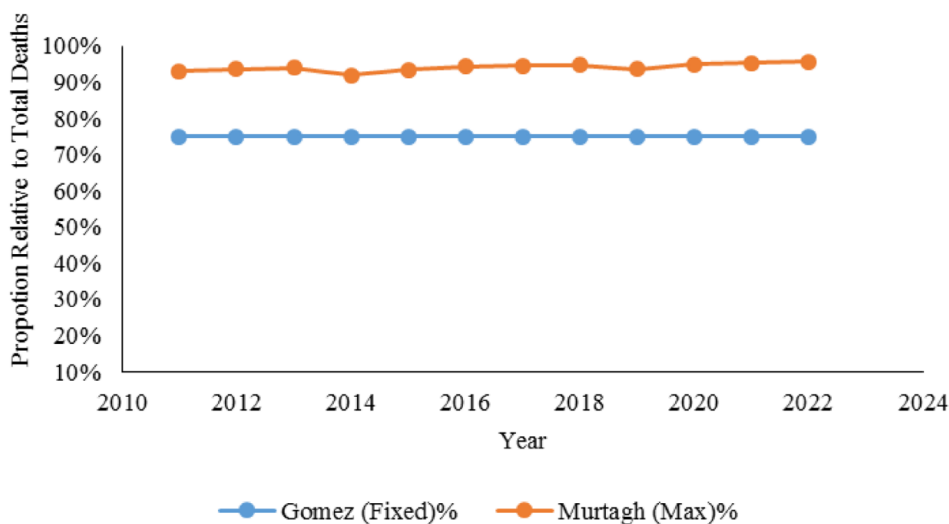


Figure 2. Estimation of proportion of palliative care needs relative to total deaths.

It is evident from the results of the current study that the proportion of palliative care needs relative to deaths in Saudi Arabia hovered between 92% and 95% in 2011–2022. Quite a few previous seminal studies have been conducted to estimate the palliative care needs of other countries like the United Kingdom, Ireland, Germany, Malaysia, and other countries, and they have shown a surge in palliative care needs over the years.^{8,12,29–31} Similar upward trend in the palliative care needs in Saudi Arabia is apparent from the present research results.

Like any other research, the present study has its fair share of limitations due to data availability constraints and questionable accuracy in the recorded causes of death. However, it is worth mentioning that estimating the population's palliative care needs in Saudi Arabia has several implications. First, it highlights the necessity for expanding palliative care services beyond secondary and tertiary healthcare institutions to include primary healthcare levels. It is vital to foster positive attitudes among pharmacists, expand palliative care integration into primary healthcare,

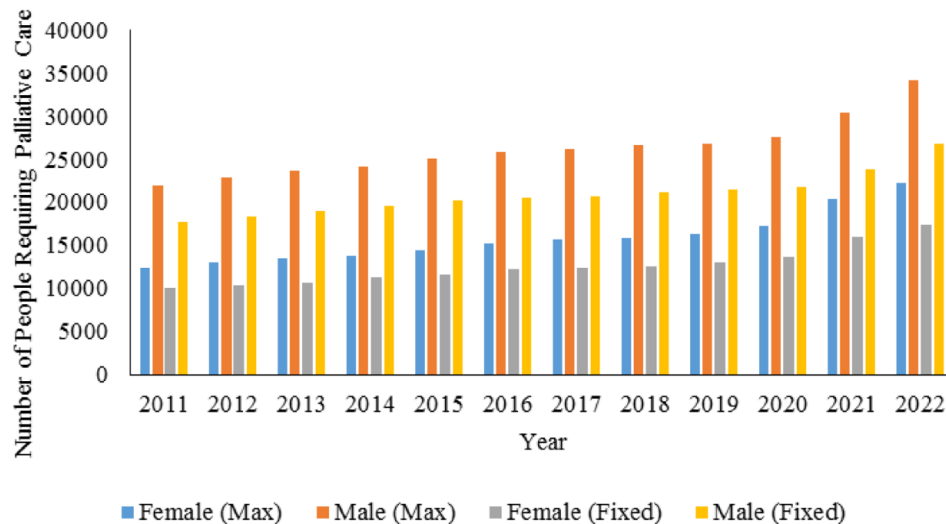


Figure 3. Gender-wise estimates of palliative care needs.

develop subacute care models, and prioritize pediatric palliative care programs. Adopting a multifaceted approach can lead to significant improvements in the provision of palliative care in Saudi Arabia. The privatization trends within the Saudi healthcare sector, as part of Vision 2030, highlight the importance of balancing improvements in health services.

In conclusion, estimating the palliative care needs of the Saudi Arabian population is imperative for guiding the expansion and integration of palliative care services at all levels of healthcare. It informs the development of policies and training programs, addresses systemic challenges, and ensures the provision of high-quality, equitable palliative care. Addressing these needs is also aligned with the broader objectives of the Saudi healthcare system, which is to provide comprehensive and accessible services to all citizens.

Last but not least, future research should focus on longitudinal studies tracking evolving needs across disease trajectories and care settings to understand palliative care needs further. Studies examining palliative care needs in special populations (e.g., pediatrics, elderly, refugees) and assessing the impact of social determinants of health on palliative care needs can be a fruitful addition to the literature. These research directions will provide a more comprehensive understanding of palliative care needs and inform the development of targeted interventions and policies.

Conclusion

The current study demonstrates feasible estimation methods other countries can apply to estimate palliative care needs. The quantification of palliative care is an essential first step in designing a better palliative care model for Saudi Arabia. The palliative care needs in Saudi Arabia supersede the supply of services as the population grows. In light of the increasing burden of palliative care, a national health system with advanced integration of palliative care services is the need of the hour.

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication

Consent for publication given.

Author contribution

Fhaied Almobarak: Investigation; Writing – original draft.

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Competing interests

The author declares that there is no conflict of interest.

Availability of data and materials

All data and related materials are available.

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References

1. Sheikh M, Sekaran S, Kochhar H, et al. Hospice vs palliative care: a comprehensive review for primary care physician. *J Fam Med Prim Care* 2022; 11: 4168.
2. Compton C. Palliative care, hospice, and end of life. In: Compton C (ed.) *Cancer: the enemy from within*. Cham: Springer International Publishing, 2020, pp. 259–267.
3. Radbruch L, De Lima L, Knaut F, et al. Redefining palliative care: a new consensus-based definition. *J Pain Symptom Manage* 2020; 60: 754–764.
4. Maher F, Mammas I and Spandidos D. Challenges and perspectives of palliative medicine: a webinar by the Paediatric Virology Study Group. *Med Int* 2023; 3: 24.
5. Connor SR. Global atlas of palliative care, 2020, <https://thewhpc.org/resources/global-atlas-of-palliative-care-2nd-ed-2020/>.
6. Toftagen C, Guastella A and Latchman J. Perspectives on hospice and palliative care in the United States. In: Holtslander L, Peacock S and Bally J (eds) *Hospice palliative home care and bereavement support*. Cham: Springer International Publishing, 2019, pp. 105–119.
7. Peterson LE. Palliative care champions are a promising solution to meeting patient needs. *J Am Geriatr Soc* 2019; 67: S468–S469.
8. Etkind SN, Bone AE, Gomes B, et al. How many people will need palliative care in 2040? Past trends, future projections and implications for services. *BMC Med* 2017; 15: 102.
9. Stevens A, Raftery J, Mant J, et al. *Health care needs assessment, first series, volume 2, second edition*. Taylor & Francis Group, 2018.
10. Murtagh FE, Bausewein C, Verne J, et al. How many people need palliative care? A study developing and comparing methods for population-based estimates. *Palliat Med* 2014; 28: 49–58.
11. Choy CH-L. International access to palliative care: the need to improve. *Ann Palliat Med* 2017; 6: S99–S101.
12. Yang SL, Woon YL, Teoh CCO, et al. Adult palliative care 2004–2030 population study: estimates and projections in Malaysia. *BMJ Support Palliat Care* 2022; 12: e129–e136.
13. Gómez-Batiste X, Martínez-Muñoz M, Blay C, et al. Prevalence and characteristics of patients with advanced chronic conditions in need of palliative care in the general population: a cross-sectional study. *Palliat Med* 2014; 28: 302–311.
14. Rosenwax L, McNamara B, Blackmore A, et al. Estimating the size of a potential palliative care population. *Palliat Med* 2005; 19: 556–562.
15. Alshammary SA, Abuzied Y and Ratnapalan S. Enhancing palliative care occupancy and efficiency: a quality improvement project that uses a healthcare pathway for service integration and policy development. *BMJ Open Qual* 2021; 10: e001391.
16. Alsolami FN, Alharbi IM, Alsulami JN, et al. Assessment of knowledge and attitudes toward palliative care and end-of-life decision-making in Saudi Arabia: a cross-sectional study. *Cureus*. Epub ahead of print 22 September 2023. DOI: 10.7759/cureus.45781.
17. Zeinah GFA, Al-Kindi SG and Hassan AA. Middle East experience in palliative care. *Am J Hosp Palliat Med* 2013; 30: 94–99.
18. Mosalli R, Aboumoustafa GA, Khayyat W, et al. Assessment of nurses' knowledge and confidence regarding tracheostomy care in a pediatric long term care hospital in Saudi Arabia. *Risk Manag Healthc Policy* 2022; 15: 1809–1821.
19. Almulla H and Hassouneh D. Home-based palliative care and home health care in Saudi Arabia: an integrative literature review. *Home Health Care Manage Pract* 2022; 34: 288–301.
20. Al-Alaiyan S and Al-Shahri MZ. Pediatric palliative care in Saudi Arabia. In: Knapp C, Madden V and Fowler-Kerry S (eds) *Pediatric palliative care: global perspectives*. Dordrecht: Springer Netherlands, 2012, pp. 161–168.
21. Alotaibi Q and Dighe M. Assessing the need for pediatric palliative care in the six Arab Gulf Cooperation Council countries. *Palliat Med Rep* 2023; 4: 36–40.
22. Salama H, Omer MH, Shafqat A, et al. Avoidable emergency department visits among palliative care cancer patients: novel insights from Saudi Arabia and the Middle East. *BMC Palliat Care* 2024; 23: 60.
23. Alshammary S, Altamimi I, Alhuqbani M, et al. Palliative care in Saudi Arabia: an updated assessment following the National Vision 2030 reforms. *J Palliat Med* 2024; 27: 651–657.

24. Abusanad A, Alghamdi M, Bakkar M, et al. General oncology care in the Kingdom of Saudi Arabia. In: Al-Shamsi HO, Abu-Gheida IH, Iqbal F, et al. (eds) *Cancer in the Arab world*. Singapore: Springer Singapore, 2022, pp. 215–233.
25. Youssef Wazqar D. Overview of cancer care and oncology nursing in the Kingdom of Saudi Arabia. *Am J Nurs Sci* 2017; 6: 324.
26. Al-Senani F, Al-Johani M, Salawati M, et al. An epidemiological model for first stroke in Saudi Arabia. *J Stroke Cerebrovasc Dis* 2020; 29: 104465.
27. Al-Jabarti A, Al-Shareef A and Aseeri F. End-of-life care: a Saudi Arabian perspective. *Saudi J Emerg Med* 2021; 2: 268–271.
28. Knaul FM, Farmer PE, Krakauer EL, et al. Alleviating the access abyss in palliative care and pain relief—an imperative of universal health coverage: the Lancet Commission report. *Lancet* 2018; 391: 1391–1454.
29. Morin L, Aubry R, Frova L, et al. Estimating the need for palliative care at the population level: a cross-national study in 12 countries. *Palliat Med* 2017; 31: 526–536.
30. Scholten N, Günther AL, Pfaff H, et al. The size of the population potentially in need of palliative care in Germany: an estimation based on death registration data. *BMC Palliat Care* 2016; 15: 29.
31. Kane PM, Daveson BA, Ryan K, et al. The need for palliative care in Ireland: a population-based estimate of palliative care using routine mortality data, inclusive of nonmalignant conditions. *J Pain Symptom Manage* 2015; 49: 726–733.e1.

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