Palliative care services for cancer patients in Nepal, a lower-middle-income country

Deepa Gautam and Sudhir Adhikari

Abstract: With the rise in cancer burden, need for palliative care services has increased simultaneously and majority of people requiring services are from low- and middle-income countries where palliative care is in primitive stage. Nepal is also facing similar challenges of dealing with cancer care and end-of-life care. From its initiation in the early 1990s, there has been gradual progress in the development of palliative care with joint effort of government as well as non-governmental organizations. Morphine, a major milestone for pain management, is being manufactured in the country for nearly a decade, yet morphine equivalence mg per capita is far below the global average. Currently, Nepal has been placed under 'Category 3a' with isolated care provision and there are a lot of challenges to overcome to improve the existing services. Majority of hospice and palliative care centres are located in the capital city and only a few in the periphery. Scarcity of treatment centres and expertise, limited finances, lack of awareness among patients and health care workers, and difficult terrain are major barriers for optimal care. Proper implementation of national guidelines, human resource development and integration of palliative care to primary healthcare level would be crucial steps for further improvement.

Keywords: cancer, cancer care, end-of-life care, home-based care, hospice, low- and middle-income country, Nepal, pain management, palliative care, terminal illness

Received: 21 October 2020; revised manuscript accepted: 7 May 2021.
There are about 40 million people globally who require palliative care and 78% live in low- and middle-income countries where palliative care is in primitive stage. Only 30 countries around the world have advanced palliative care facilities which provide services to 14% of the world population eligible for support at the end of life. Nepal, being one of the developing countries, is also facing similar problems associated with palliative care and hence, there is an urgent need to upgrade the services to address the sufferings of people in a systematic way.

**Cancer burden in Nepal**

In addition to the existing infectious diseases, the incidence of non-communicable diseases including cancer is increasing every year. Two thirds of the total annual mortality is attributable to non-communicable diseases and cancer deaths account for 9%. Cancer is one of the dreadful chronic conditions which results in significant burden to patients, their families and healthcare system. In Nepal, in the year 2018, there were 26,184 new cases along with 19,413 deaths. The prevalence of cancer is 43,816 cases which is likely an underestimate because most of the cases remain undiagnosed.

**Development of palliative care**

Worldwide, focus towards modern palliative care in the form of pain management and end-of-life care needs of the patients with advanced stage cancer was initiated in the late 1960s and about a decade later, it expanded to include the psychosocial and the spiritual care as well. Thereafter, in the late 1980s, it grew as a separate subspecialty of general medicine.

A palliative care model for resource-poor settings has been demonstrated in Kerala, a state of India, provides a model for Nepal, demonstrating that quality services is possible with active participation of trained community volunteers and family. This model uses local resources to provide home-based, community-based and outpatient clinics-based care. Non-governmental organizations operated free palliative care service model can be useful as well for running similar development projects in other developing countries.

Palliative care services for cancer patients, in Nepal, began in 1991 when the department of oncology was started at Bir Hospital, Kathmandu. The department later expanded to involve a medical oncology team with expertise in palliative care which now provides clinical services as well as academic training for post-graduate medical students. In 1992, the first cancer hospital in Nepal, B.P. Koirala Memorial Cancer Hospital (BPKMCH), Bharatpur, was established where cancer patients could receive palliative care services along with the curative therapy. A dedicated palliative care unit with all forms of inpatient, outpatient and home-visit services as well as a separate hospice facility has been providing services to the needy patients since then. Various public and private hospitals are also providing palliative care services in different parts of the country. The government of Nepal, Public Health Service Act 2018 has also included palliative services in the definition of ‘health service’ providing legal framework towards palliative care development.

Non-governmental organizations (NGOs) have played key role in providing services as well as running training programmes in the country including International Nepal Fellowship Nepal in Green Pastures Hospital, Pokhara is providing palliative care services since 2009 in the under-resourced Western Region. Similarly, United Mission to Nepal supports palliative care development by establishing hospitals in rural parts of the country to provide holistic care and International Network for Cancer Treatment and Research (INCTR) has been involved in providing education and training as well as financial support to the hospices.

On the basis of various dimensions of palliative care, Nepal is classified as ‘Category 3a’ with isolated palliative care provision. This means that the development of palliative care services are still patchy in scope and not well supported, heavily donor dependent funding, limited morphine availability, and services not proportionate to the huge population size.

The American Society of Clinical Oncology (ASCO), after recognizing the limitations and challenges that a resource-poor country has to face regarding the implementation of palliative care, has suggested consensus guidelines for resource-constrained settings to integrate palliative care into standard oncology care. The four suggested models are basic (Primary health care), limited (District), enhanced (Regional), maximal (National) based on staffing requirements, roles and training needs of team members, psychosocial support, spiritual care, and opioid analgesics. In
resource-constrained settings, basic palliative care can be provided by the staff in an institute especially doctors, nurses and volunteers, after they are given adequate training. In Nepal, in those centres where there is no separate palliative care unit, public hospitals, private hospitals, medical colleges, for instance, the attending physicians often oncologists, provide palliative care services. Apart from oncologists, internal medicine physicians, anaesthetists, general practitioners can also be trained and involved in providing services.

**Education and training**

The Nepalese Association of Palliative Care (NAPCare), a non-profit non-governmental organization was established in 2009, to improve palliative care services in the country and to create awareness and educate the healthcare personnel about palliative care. NAPCare has developed the National Strategy for Palliative Care, which focuses on pain management in coordination with Ministry of Health (MoH) and WHO with support from Two Worlds Cancer Collaboration, Canada. With the joint effort of national and international organizations, palliative care training programmes have been run in Nepal since 2009. Network for Cancer Treatment and Research (NNCTR), a non-profit non-governmental organization, has been working in the field of cancer care since 2000. To date, 2214 medical, nursing and public health students have been sensitized to palliative care with one-day course and 7 doctors and 20 nurses have received short-term palliative care training of one month. With the joint collaboration of the NNCTR, NAPCare and BPKMCH, one-month palliative care training programme for doctors and nurses has been conducted in 2010 and 2012. NAPCare and National Health Training Centre under MoH have jointly started two-week training twice a year since 2013 but in recent years, the duration has been reduced to six days. Similarly, BPKMCH had conducted two six-week courses in palliative care nursing for health professionals from different parts of the country. Hospice Nepal has also been training its post graduate medical trainees (residents and fellows) about palliative care. However, with regards to undergraduate education, although the WHO has emphasized for compulsory palliative care education and it has been included in undergraduate medical curriculum in various countries, in Nepal, two medical institutions, Patan Academy of Health Science and Institute of Medicine have only introduced the topic in the curriculum for undergraduate students for just over a decade. A study conducted in one these institutes had demonstrated inadequate knowledge and perception of palliative care among undergraduate medical students.

**Palliative care services in Nepal**

Hospice Nepal is the first formally established modern hospice centre in Nepal which was started in the year 2000 in Kathmandu Valley. Currently, there are five hospices dedicated to caring cancer patients and four palliative care units of major cancer hospitals of the country. (Table 1) Maiti Nepal which runs Sattighatta Hospice and Sonja Kill Memorial Hospice, Nava Kiran Plus, Blue Diamond Society are other key organizations which provide care to patients with other life-limiting illnesses like HIV/AIDS, spinal injuries, human-trafficking survivors. The majority of them are located in the capital city of the country, and only a few are located outside Kathmandu Valley. There are few hospice centres which blend spiritual and religious aspect of caring patients with the medical care such as, the Pashupatinath Hospice, located in the vicinity of one of the most famous religious places in Nepal, the Pashupatinath Temple. There is also a hospice in the Shechen Monastery at Boudhha established by a Buddhist charitable foundation named Karuna-Shechen which provides palliative care to needy patients.

In Nepal, home-based care for terminally ill cancer patients is being provided by health workers including those working with the Binaytara Foundation Cancer Centre–Hospice & Palliative Care Programme. This programme has focused on cost-effective home-based care initially in Kathmandu Valley and later expanding to Janakpurdham, a city in southern Nepal.

**Opioid use and pain management**

To live a pain-free life is the right of cancer patients, and thus, opioid analgesics are vital for symptom palliation. The WHO analgesic ladder
has been a simple and effective guide for over three decades towards reducing the morbidity due to pain in cancer patients. Among the medications used, opioids have played the most significant role in controlling moderate to severe pain in those patients. Morphine, the most commonly used opioid as well as the initial drug of choice in managing the severe cancer-induced pain, had been a major breakthrough in the development of palliative care. According to WHO, immediate-release oral morphine must be available and accessible to all patients requiring it and slow-release formulations should be made available as well. A Nepalese pharmaceutical company was licenced to manufacture morphine in 2009, and 10-mg immediate-release tablets manufacturing started in 2011 and followed by sustained-release oral morphine and syrup. Department of drug administration under ministry of health and population regulates the sales and distribution of opioids and other narcotic drugs. In 2015, it was found that Nepal had morphine equivalence (ME) of 0.27 mg per capita as compared to the global average of 61.5 mg per capita and South-East Asia Region of 1.7 mg per capita. Despite the strong emphasis on morphine by the WHO, there are instances of inconsistencies in its availability in the

### Table 1. Hospices and hospitals with palliative care units in Nepal.

| Hospices | Year established | Location | Inpatient palliative care beds | Home care services | Website link |
|----------|------------------|----------|-------------------------------|-------------------|--------------|
| Pashupatinath Hospice | 1995 | Kathmandu | – | – | [https://www.facebook.com/people/Pashupatinath-Hospice/100009488305083](https://www.facebook.com/people/Pashupatinath-Hospice/100009488305083) |
| Hospice Nepal | 2000 | Lalitpur, (Kathmandu Valley) | 9 | Yes | [http://www.hospicenepal.org.np/page/how-it-all-began](http://www.hospicenepal.org.np/page/how-it-all-began) |
| Karuna-Shechen Hospice | 2004 | Kathmandu | – | – | [https://karuna-shechen.org/](https://karuna-shechen.org/) |
| BPKMCH Hospice | 2004 | Bharatpur, Chitwan | 15 | Yes | [https://bpkmch.org.np/departments/hospice.php](https://bpkmch.org.np/departments/hospice.php) |
| Thankot Hospice Centre | 2007 | Kathmandu | 10 | Yes | [https://thankot-hospice-centre.business.site/](https://thankot-hospice-centre.business.site/) |

### Hospitals with palliative care units

| Hospice | Year established | Location | Inpatient palliative care beds | Home care services | Website link |
|---------|------------------|----------|-------------------------------|-------------------|--------------|
| Bhaktapur Cancer Hospital | 2004 | Bhaktapur (Kathmandu Valley) | 9 | Yes | [http://www.bhaktapurcancerhospital.org/](http://www.bhaktapurcancerhospital.org/) |
| BPKMCH | 2004 | Bharatpur, Chitwan | 450 bedded hospital; separate beds not allocated | Yes | [https://bpkmch.org.np/departments/hospice.php](https://bpkmch.org.np/departments/hospice.php) |
| The Binaytara Foundation Cancer Centre–Hospice & Palliative Care Programme | 2016 | Kathmandu | – | Yes | [https://cancer.binayfoundation.org/](https://cancer.binayfoundation.org/) |
| | 2018 | Janakpurdham | 25 bedded hospital; separate beds not allocated | Yes | |
country because of the limited production and supply not being able to meet the demand\(^{14}\) in contrast to the scenario of the developed world where epidemics of opioid overdose exist.\(^{32,33}\)

**Financial aspects of palliative care**

Nepal has recently been upgraded from low-income to lower-middle-income economy with per capita income of US dollars (\$) 1,090.\(^{34}\) The government of Nepal provides treatment support equivalent to about US$855 for cancer patients and recently, Nepalese government has introduced health insurance system through ‘Health Insurance Board (HIB)’\(^{3}\) which provides additional support for the treatment of insured citizens.\(^{14,35}\) This also covers daily expenses of Nepalese Rupees (NRS) 500 (US $ 4.28) per day for patients receiving palliative care. Although this looks a bit encouraging for Nepalese patients with financial limitations, cancer management remains costly and this amount becomes insignificant compared to the cost of treatment. Apart from the treatment cost, expenses for travelling hundreds of miles, food, lodging for patients and their caretakers becomes a burden, and on top of that, loss of daily income of both patients and their caretakers. Many patients are compelled to sell their property, livestock, jewellery and any other assets or take loans to pay for treatment and end up in debt.\(^{36}\) The financial assistance by the government is provided once the diagnosis is established and only available at treatment centres that are designated to provide this support. Hence, out-of-pocket expenditure remains the primary source of funding. In such a scenario, early palliative care referral for those not benefitting from expensive curative treatment can prove to be a cost effective approach for both patients and the government.\(^{37}\)

**Barriers to effective palliative care services**

The potential limiting factors for implementation of successful palliative care are provider-related, patient-related and healthsystem-related. Limited services with a lack of infrastructure and skilled human resources, inconsistent drug availability as well as improper regional and national strategy and guidelines are hindering the path of palliative care development in Nepal.\(^{13,38}\) Healthcare providers, at times, are reluctant to refer the patients for palliative care being unaware of its benefits or fear of losing the continuity of treatment and follow-up of the patients with them after seeking treatment elsewhere.\(^{38}\) Lack of awareness by patients and their families about the improved quality of life a distressed patient can live with the help of palliative care leads to opting for alternative treatments. There are instances when after knowing that disease is incurable or in advanced stage, instead of taking palliative care, they either stop their treatment and go back home, or visit some quacks who promise them to cure the disease but instead cause further damage their financial as well as health conditions. It is not uncommon that the patient does not know his or her diagnosis and prognosis because family members are reluctant to disclose the diagnosis and prognosis to the patient fearing that he or she will lose hope to live.\(^{39}\)

Clear communication with patients and their families about the disease, treatment and prognosis has been a major limitation that is observed among the service providers in Nepal and the major reason being the lack of expertise.\(^{14}\) There is hardly any professional counsellor even in a tertiary cancer centre which leaves this task to doctors or nurses who do not have adequate time for proper counselling, and lack skills and training in this area.

In Nepal, 83% of the total area is hilly and mountainous; this difficult terrain acts as a challenge for accessibility of overall health services including palliative care. Thus palliative care must be integrated in the community health level to reach everyone who needs it. Mid-level health workers in government services such as health assistants, auxiliary health workers who are the major service providers in the rural areas of the country are found to be enthusiastic in learning about palliative care and providing care in the community.\(^{40}\)

Also, a Female Community Health Volunteers (FCHVs) programme, which was started in 1988, acts as a strong linkage between the health system and the community. These volunteers are primarily involved in maternal and child health services programmes and hence, supporting the implementation of the community-based health interventions.\(^{41}\) Their involvement in basic palliative care could also be an important step in the path of universal coverage.

**Socio-cultural and spiritual aspects**

Nepal is a multicultural, multi-ethnic, religiously secular country with predominantly Hindu and Buddhist populations, and each culture has its
own norms and values, rituals during life and death. Most people wish to be at home with their family and relatives during their last days of life, and support at home and community level is of utmost importance. Despite socio-cultural and spiritual issues being an important part of palliative care, these are often ignored by both the service providers and the patients and their families. Spiritual health interventions for cancer patients create a positive faith and peace of mind which gives strength to face the illness and gives the sense of symptoms being improved and thus, improving the quality of life.

Bereavement care is another crucial aspect which is not optimal even in the developed countries and almost non-existent in our country. Coping with the devastating situation of losing loved ones is extremely difficult for the family members, and supportive services from trained healthcare providers are helpful for gaining strength and support. In Nepal, friends and relatives visit the bereaved families for console and express their condolences till last rites are over, usually 13-day period, after which they do not continue their bereavement support to those families.

Paediatric palliative care

Although WHO and American Academy of Paediatrics has recommended the initiation of palliative care at diagnosis of childhood malignancy, often there are delays in the discussion about the care with the family and start of the palliative care. Lack of dedicated centres, competent service providers, delayed referral, and effective communication between health service providers and the patients and the families are the common reasons for such delays.

Providing optimal relief of bothersome symptoms including pain that children suffer is an important aspect of the paediatric palliative care. Identifying and managing the distressing symptoms, and providing a holistic care requires interdisciplinary collaborations among paediatric oncologists, paediatric palliative care experts, psychiatrists, psychologists and child life specialists.

Discussion about the health status of children to their parents or guardians is a sensitive issue. A compassionate and transparent communication about the prognosis of the disease, treatment plan and end-of-life care, keeping in mind the psychosocial impact that it has to the patient and the caretakers and thus developing patient-centred and family-centred goals is a crucial part of paediatric palliative care. Hence, trainings and mentorship programmes for care providers are essential for developing excellent communication skills to conveying the correct information effectively to the patients and the families.

In Nepal, Kanti Children’s Hospital, Kathmandu, BPKMCH, Bharatpur and Bhaktapur Cancer Hospital, Bhaktapur are the three major centres that are treating the paediatric cancers as well as providing palliative care services to the children in need.

Future needs and recommendations

• Complete implementation of national guidelines in palliative care would be beneficial for the service providers to give optimal uniform services throughout the country.
• Inclusion of palliative care in the curriculum of undergraduate and postgraduate medical and paramedical courses to sensitize the students to the subject.
• Integration of palliative care to the primary healthcare level with mobilization of local human resources such as community volunteers to optimize the accessibility.
• Establishing separate palliative care units at the tertiary hospitals and as well as regional and district levels.
• Opening of hospice centres in every region of the country.
• Prioritizing cost effective home-based care.

Conclusion

The increasing cancer burden in Nepal has led to the rise in patients requiring palliative care. For last three decades, Nepal has been progressing in providing services to the terminally ill cancer patients, and the local opioid production has been a milestone in the path of development of palliative care. NAPCare has assisted the government of Nepal to formulate national guidelines, yet there are still significant gaps in its implementation.

National and International Non-governmental organizations have played a significant role in expanding palliative care in the country. Despite the assistance provided by the government, financial issue still remains a major challenge for the most patients and their families. Effective communication...
with patients and the family members is crucial for providing optimal services. Accessible, affordable and socially acceptable quality palliative care at community level should be the main goal for universal coverage of palliative care.

Conflicts of Interest statement
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs
Deepa Gautam https://orcid.org/0000-0002-3861-7378
Sudhir Adhikari https://orcid.org/0000-0001-5314-3222

References
1. GBD 2015 DALYs and HALE Collaborators. Global, regional, and national disability-adjusted life-years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE), 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet 2016; 388: 1603–1658.
2. Bray F, Ferlay J, Soerjomataram I, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin 2018; 68: 394–424.
3. 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; 39: 1391–1454.
4. World Health Organization. WHO definition of palliative care, http://www.who.int/cancer/palliative/definition/en/ (accessed 23 July 2020).
5. World Health Assembly, 67. Strengthening of palliative care as a component of integrated treatment throughout the life course: report by the Secretariat, https://apps.who.int/iris/handle/10665/158962 (2014, accessed 28 July 2020).
6. Assessing national capacity for the prevention and control of non-communicable diseases: report of the 2019 global survey. Geneva: World Health Organization, https://www.who.int/news-room/fact-sheets/detail/palliative-care (2020, accessed 20 September 2020).
7. Clark D, Baur N, Clelland D, et al. Mapping levels of palliative care development in 198 countries: the situation in 2017. J Pain Symptom Manage 2020; 59: 794–807.
8. World Health Organization. Noncommunicable diseases country profiles 2018. Geneva: World Health Organization, https://www.who.int/nmh/countries/2018/npl_en.pdf?ua=1 (2018, accessed 20 August 2020).
9. Clark D. From margins to centre: a review of the history of palliative care in cancer. Lancet Oncol 2007; 8: 430–438.
10. Bollini P, Venkateswaran C and Sureshkumar K. Palliative care in Kerala, India: a model for resource-poor settings. Onkologie 2004; 27: 138–142.
11. Krishnan A, Rajagopal MR, Karim S, et al. Palliative care program development in a low- to middle-income country: delivery of care by a nongovernmental organization in India. J Glob Oncol 2018; 4: 1–8.
12. Piya MK and Acharya SC. Oncology in Nepal. South Asian J Cancer 2012; 1: 5–8.
13. Paudel B, Dangal G and Munday D. Overview of palliative care. Nepal J Obstet Gynaecol 2014; 9: 3–10.
14. Gyawali B, Sharma S, Shilpakar R, et al. Overview of delivery of cancer care in Nepal: current status and future priorities. JCO Glob Oncol 2020; 6: 1211–1217.
15. B.P. Koirala Memorial Cancer Hospital, https://bpkmch.org.np/departments/hospice.php (accessed 20 August 2020).
16. The Public Health Service Act, 2075 (2018), http://www.lawcommission.gov.np/en/wp-content/uploads/2019/07/The-Public-Health-Service-Act-2075-2018.pdf (2018, accessed 22 February 2021).
17. Munday D and Powys R. Reflections on the challenges and opportunities for palliative care in Nepal. Christ J Glob Health 2017; 4: 12–20.
18. Brown S, Black F, Vaidya P, et al. Palliative care development: the Nepal model. J Pain Symptom Manage 2007; 33: 573–577.
19. Osman H, Shrestha S, Temin S, et al. Palliative care in the global setting: ASCO resource-stratified practice guideline. J Glob Oncol 2018; 4: 1–24.
20. Nepalese Association of Palliative Care, http://napcare.org.np/about/ (accessed 1 September 2020).
21. Nepalese Association of Palliative Care, Guidelines for pain management in palliative care applied since 2017, http://napcare.org.
22. Nepal Network For Cancer Treatment and Research. Outcomes / impact of projects run by or in collaboration with NNCTR, https://www.nnctr.org.np/our-work/achievements-2002-current/ (accessed 1 September 2020).

23. Paudel BD, Ryan KM, Brown MS, et al. Opioid availability and palliative care in Nepal: influence of an international pain policy fellowship. *J Pain Symptom Manage* 2015; 49: 110–116.

24. Pandey S, Gaire D, Dhakal S, et al. Perception of palliative care among medical students in a teaching hospital. *J Nepal Med Assoc* 2015; 53: 113–117.

25. Hospice Nepal, http://www.hospicenepal.org.np/ (accessed 5 September 2020).

26. International Association of Hospice and Palliative Care. Global directory of palliative care institutions and organizations (Nepal), https://hospicecare.com/global-directory-of-providers-organizations/search?idcountry=51 (accessed 5 September 2020).

27. Shah BK and Shah T. Home hospice care in Nepal: a low-cost service in a low-income country through collaboration between non-profit organisations. *Lancet Glob Health* 2017; 5: S19.

28. Singer PA and Bowman KW. Quality care at the end of life. Should be recognized as a global public health and health systems. *BMJ* 2002; 324: 1291–1292.

29. WHO guidelines for the pharmacological and radiotherapeutic management of cancer pain in adults and adolescents, https://www.who.int/publications/i/item/who-guidelines-for-the-pharmacological-and-radiotherapeutic-management-of-cancer-pain-in-adults-and-adolescents (2019, accessed 19 September 2020).

30. Inspection Division of Department of Drug Administration, Government of Nepal, https://www.dda.gov.np/content/divisions-of-dda (accessed 25 February 2021).

31. Vallath N, Rajagopal MR, Perera S, et al. Access to pain relief and essential opioids in the WHO South-East Asia Region: challenges in implementing drug reforms. *WHO South East Asia J Public Health* 2018; 7: 67–72.

32. Manchikanti L, Helm S II, Fellows B, et al. Opioid epidemic in the United States. *Pain Physician* 2012; 15: ES9–ES38.

33. Opioid overdose: understanding the epidemic. Atlanta, GA: Centers for Disease Control and Prevention, https://www.cdc.gov/drugoverdose/epidemic/index.html (accessed 23 July 2020).

34. Serajuddin U and Hamadeh N. New World Bank country classifications by income level: 2020-2021, https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2020-2021 (2020, accessed 20 September 2020).

35. Nepal Government and Health Insurance Board, https://hib.gov.np/en (accessed 18 September 2020).

36. Khatiwoda SR, Dhungana RR, Sapkota VP, et al. Estimating the direct cost of cancer in Nepal: a cross-sectional study in a Tertiary Cancer Hospital. *Front Public Health* 2019; 7: 160.

37. Reid EA, Kovalerchik O, Jubanyik K, et al. Is palliative care cost-effective in low-income and middle-income countries? A mixed-methods systematic review. *BMJ Support Palliat Care* 2019; 9: 120–129.

38. Hawley P. Barriers to access to palliative care. *Palliat Care* 2017; 10: 1178224216688887.

39. Gongal R, Vaidya P, Jha R, et al. Informing patients about cancer in Nepal: what do people prefer? *Palliat Med* 2006; 20: 471–476.

40. Gongal RN, Upadhyay SK, Baral KP, et al. Providing palliative care in rural Nepal: perceptions of mid-level health workers. *Indian J Palliat Care* 2018; 24: 150–155.

41. Khatri RB, Mishra SR and Khanal V. Female community health volunteers in community-based health programs of Nepal: future perspective. *Front Public Health* 2017; 5: 181.

42. Ripamonti CI, Giuntoli F, Gonella S, et al. Spiritual care in cancer patients: a need or an option? *Curr Opin Oncol* 2018; 30: 212–218.

43. Aoun SM, Rumbold B, Howting D, et al. Bereavement support for family caregivers: the gap between guidelines and practice in palliative care. *PLoS ONE* 2017; 12: e0184750.

44. Cheng BT, Rost M, De Clercq E, et al. Palliative care initiation in pediatric oncology patients: a systematic review. *Cancer Med* 2019; 8: 3–12.

45. Weaver MS, Heinz KE, Kelly KP, et al. Palliative care as a standard of care in pediatric oncology. *Pediatr Blood Cancer* 2015; 62(Suppl. 5): S829–S833.

46. Snaman JM, Kaye EC, Baker JN, et al. Pediatric palliative oncology: the state of the science and art of caring for children with cancer. *Curr Opin Pediatr* 2018; 30: 40–48.

47. Sah KP, Arora RS, Sapkota S, et al. Pediatric oncology services in Nepal. *South Asian J Cancer* 2014; 3: 227–228.