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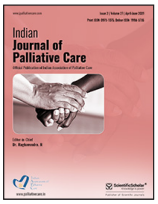

Review Article

Socially, Culturally and Spiritually Sensitive Public Health Palliative Care Models in the Lower-income Countries: An Integrative Literature Review

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ABSTRACT

The demand for palliative care (PC) is ever-increasing globally. The emergence of COVID-19 pandemic has further accelerated the need for PC. In the lower-income countries (LICs), where PC need is highest, PC, the most humane, appropriate and realistic approach to care for patients and families affected by life-limiting illness, is minimal or non-existent. Recognising the disparity between high, middle and LICs, the World Health Organization (WHO) has recommended public health strategies for PC within the socioeconomic, cultural and spiritual contexts of individual countries. This review aimed to: (i) identify PC models in the LICs utilising public health strategies and (ii) characterise how social, cultural and spiritual components were integrated into these models. This is an integrative literature review. Thirty-seven articles were included from a search of four electronic databases – Medline, Embase, Global Health and CINAHL. Literature, both empirical and theoretical literature, published in English from January 2000 to May 2021 that mentioned PC models/services/programmes integrating public health strategies in the LICs were included in the study. A number of LICs utilised public health strategies to deliver PC. One-third of the selected articles highlighted the importance of integrating sociocultural and spiritual components into PC. Two main themes – *WHO-recommended public health framework* and *sociocultural and spiritual support in PC* and five subthemes – (i) suitable policies; (ii) availability and accessibility of essential drugs; (iii) PC education for health professionals, policymakers and the public; (iv) implementation of PC at all levels of healthcare and (v) sociocultural and spiritual components, were derived. Despite embracing the public health approach, many LICs encountered several challenges in integrating all four strategies successfully.

Keywords: Palliative care, Lower-income countries, Public health strategies, Social, cultural and spiritual, Integrative review

INTRODUCTION

The need for palliative care (PC) is increasing globally. Each year, chronic illnesses including cancer, organ failure, dementia, HIV/AIDS and drug-resistant tuberculosis kill almost 41 million people worldwide.[1] The lower-income countries (LICs) are worst affected accounting for 85% of deaths.[1,2] PC, identified as a fundamental human right,[3-5] aims to improve the quality of life (QOL) of patients and families affected by life-limiting illnesses that cause complex health-related suffering.[6]

PC in LICS

More than 78% of adults and virtually all children (98%) who require PC live in low-and-middle-income countries.[2] While prevention and cure of disease is a priority, most LICs cannot afford sophisticated treatment modalities such as chemotherapy or advanced surgeries.[7] Tragically, in the LICs, diseases are mostly diagnosed at an advanced stage where curative treatment is often futile leaving PC the only option.[2] There exist huge gaps in PC availability between high and LICs.[2] Recognising this disparity, the World Health Assembly in 2014 emphasised that PC must be integrated into all health-care settings, in the community and patients' homes and that it must be the responsibility of all health-care providers.[8] PC does not involve expensive treatment and sophisticated technology. Instead, it is a humane, realistic and cost-effective approach to treat symptoms and improve the QOL of patients and families.[2]

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Public health and PC

Public health aims to ensure a basic standard of living for every individual and the potential to realise his/her right to health and longevity.[9] Health promotion relates to maintenance of social, psychological and spiritual health even when there is no prospect of cure.[9] '*Given that death is both inevitable and universal, the care of people with life-limiting illness stands equal to all other public health issues.*'[4(p767)] The World Health Organization (WHO) has emphasised integrating PC into public health since the 1980s.[10] However, PC remains a sporadic, albeit emerging, theme within the public health paradigm, particularly in LICs.[9] In 2018, the *Astana Declaration* included PC as a significant public health component.[11]

For effective integration of PC, the WHO has recommended four key public health strategies; (1) framing suitable PC policies; (2) ensuring availability and accessibility to essential PC medicines; (3) providing PC education to health professionals, policymakers and the public and (4) implementing PC at all levels of healthcare and community.[10,12]

Social, cultural and spiritual components in PC

Those affected by life-limiting conditions in LICs experience additional suffering related to social issues such as loss of income and catastrophic out-of-pocket treatment expenses.[13] Further, in the LICs, cultural beliefs and values significantly affect the experience and QOL of dying persons and their family.[14] Spirituality plays a key role in influencing health-related decision-making and acceptance of a life-threatening diagnosis.[15] A public health approach, adapted according to the socioeconomic, cultural and spiritual context, has enabled adequate provision of PC services even in resource-constrained countries.[2]

This review aimed to (i) identify PC models in LICs that utilised the WHO public health strategies and (ii) characterise how social, cultural and spiritual components were integrated into these models.

MATERIAL AND METHODS

An integrative literature review was undertaken. We followed the framework suggested by Whittemore and Knafl.[16]

Literature search stage

A comprehensive literature search using Medline, Embase, Global Health and CINAHL was conducted. The search terms included 'palliative care' OR 'hospice care' OR 'terminal care' OR 'end-of-life care' OR 'supportive care' AND 'developing countries' OR 'low-middle-income countries' OR 'third world countries'. Articles were also identified through ancestry search for grey literature. The target population for the review included adults and children, their families and carers affected by life-limiting conditions.

Inclusion and exclusion criteria

The inclusion criteria were limited to literature, both empirical and theoretical, published in English from January 2000 to May 2021. An article was included if it mentioned PC models, services or programmes and integrated the WHO public health strategies in LICs with gross national income per capita of up to US $4045 in 2019.[17]

Data extraction and reporting

The literature search was conducted by TDL and the review of titles and abstracts were carried out by TDL, CJ and KA. TDL reviewed the retained papers. A narrative synthesis[18] was undertaken to analyse included studies. From each identified article, the characteristics of the WHO public health strategies to PC (policy, education, drugs and implementation) and social, cultural and spiritual components were extracted and tabulated [Table 1]. The data were used to inform agreed themes and subthemes.

Assessment of methodological quality

The critical appraisal checklists for qualitative research,[19] cross-sectional studies,[20] mixed method studies[21] and text and opinion articles[22] were used.

RESULTS

The initial search resulted in 3078 articles. The process of article selection is outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analysis flowchart[23] [Figure 1]. Thirty-seven articles were included in the study. Twenty-eight were narrative descriptions, three quantitative studies, one qualitative study, four mixed method studies and one commentary. The selected articles were from Bolivia,[24] China,[25,26] India,[27-32] Kenya,[33,34] Malawi,[35,36] Nepal,[37,38] Rwanda,[39,40] Tajikistan,[41] Tanzania,[42,43] Uganda,[44-49] Vietnam[50,51] and Zambia.[52] Eight articles[13,53-59] described PC services in more than 1 country. Methodological quality of the selected articles ranged from 42.9% to 100%. No paper was excluded based on methodological quality because quality was not the objective of the review.

Fourteen articles specified PC as a fundamental human right.[13,28,30-33,40,42,48,50,53-55,57] Two main themes, (1) *WHO-recommended public health framework* and (2) *sociocultural and spiritual support in PC* were deductively derived and further categorised into five subthemes: (i) *suitable PC policies*; (ii) *availability and accessibility of essential PC medicines*; (iii) *PC education for health professionals, policy makers and the public*; (iv) *implementation of PC at all levels of healthcare* and (v) *sociocultural and spiritual components*. These characteristics are summarised in [Table 1].

Theme 1: WHO-recommended public health framework

Although not all articles specifically mentioned 'WHO public health', they did describe services based on its strategies (policy, education, drugs and implementation). While 14 articles[25,28,29,31-33,36,39-42,47,49,53] described that all four strategies were in place, others[24,26,30,34,35,37,38,45-48,50-52,54,56,59] identified the need and/or discussed efforts being made towards achieving all four strategies.

Table 1: Characteristics of the public health palliative care models in the lower-income countries.

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Abidjanova, 2018, Tajikistan	To discuss WHO Public Health PC initiative		Narrative	National policy available	Oral morphine included in the essential drug list	PC education included in nursing and medical schools and legal professionals	PC integrated into healthcare and communities	Not mentioned	100
Ali, 2016, Kenya	To develop PC service delivery, training and mentorship in 11 hospitals		Narrative	Integrated PC into the National Strategy for Prevention and Control of NCDs 2015–2020	Advocating to MoH to procure morphine	Integrated PC education in undergraduate medical and nursing curriculum	11 provincial hospitals have integrated PC	Not mentioned	100
Ali, 2016, Kenya	To outline the development of PC in Kenya while highlighting the challenges faced in SSA		Narrative	The Kenya Hospice and PC Association is working with the MoH to develop a national policy	Advocating to MoH to procure morphine for hospitals providing PC	PC integrated into undergraduate medical and nursing programme. Identified the need for education and training for HCPs, policymakers and public	>42 public hospitals have integrated PC. Identified the need to integrate PC into the community	Not mentioned	100
Bhatnagar, 2019, India	To describe the creation of Lien Collaborative to bring PC to CTC in India		Narrative	Emphasised government support to integrate PC into the health system	Morphine available in 27 CTCs	PC is introduced in postgraduate programmes	PC integrated in 27 CTCs	Not mentioned	66.6
Bollini *et al.*, 2004, India	To review the development of pain and PC society in Kerala and discuss the implication of this model to the developing countries	Official documents, patients, families and local newspapers	Narrative	PC policy available in Kerala	Oral morphine available in all PC link centres	Training provided to clinicians, medical students, volunteers and families. Public awareness created	Outpatient clinics, home and community PC services available	Social rehabilitation services, financial, emotional and spiritual support provided	83.3
Bond and Knopp, 2018, Tanzania	To describe the status of PC in the East African Countries by featuring PC programme in Shirati, Tanzania		Narrative case study	National policy available	Morphine is available at Shirati KMT Hospital	PC included into medical and nursing curricula in Tanzania. PC education provided to patients and families	26 home based PC programmes available	Psychosocial support provided to patients; chaplains visit patients	83.3
Brown *et al.*, 2007, Nepal	To describe the development of PC programme		Narrative	National policy development in progress	Access to opioids have enhanced	PC education and training conducted for HCPs	PC is provided by four major hospitals through inpatient, outpatient and home-based services	Culturally appropriate psychosocial support and spiritual care emphasised	100
Downing, 2008, Uganda	To discuss the conception of a Nankya PC model in Uganda	Interviews, focus group, observation, research diaries, relevant document	Qualitative case study	The model identified advocacy to develop national PC policy	The model identified the need for PC drugs, especially morphine	The model explicitly emphasised the importance of PC education and training for HCPs and public	Emphasised on developing PC in the districts	The model aimed to promote culturally appropriate PC	60

(Contd...)

Table 1: *(Continued).*

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Downing *et al.*, 2010, SSA	To discuss the integration of HBC in SSA, its challenges and responses to the challenges		Narrative	Lack of recognition on the importance of PC from the ministries of health and other sectors	Limited availability of PC drugs. The HBC services facilitated access to morphine	Education/training was one of the components of HBC	Community-HBC; district-level HBC; hospital-supported HBC; home visiting; hospice care with HBC and outreach HBC	Counselling/ psychosocial support; facilitated income generating activities and provision of food supplements	100
Downing, 2014, Uganda and Serbia*	Development of PC services in Uganda, Africa and Serbia		Commentary	Uganda - National PC policy developed	Uganda - Liquid morphine available; developed a national morphine production programme	Uganda - PC training programmes for specialists; diploma, undergraduate and degree programmes and mentorship programme	Uganda - PC integrated into 50 public health facilities	Not mentioned	100
Downing *et al.*, 2015, Kenya and Malawi	To explore the similarities and differences, barriers, challenges and opportunities in the existing PC models	Official documents, PC staff, hospital officials and local stakeholders	Mixed method study	Emphasised government to understand PC policy	PC medications available	Specialist PC trained staff at tertiary level. District model trained volunteers and home care assistants. Emphasised the need for PC education for policymakers and those delivering PC at community level	PC services provided by primary, secondary and tertiary levels of healthcare and outside the health systems	Social and nutritional support provided across all levels of care. Community provided bereavement counselling and use of local herbs as appropriate	100
Downing *et al.*, 2016, Uganda	To describe an innovative model of nurse leadership PC training in Uganda (*Based on the WHO model with emphasis on education)*		Narrative	Not mentioned	Not mentioned	Uganda has degree courses on PC. PC incorporated into undergraduate and postgraduate nursing and medical programme	75% of the districts have access to basic PC services		100
Grant, *et al.*, 2011, Africa	To review progress on PC policy, service provision and training initiatives since 2005; to illustrate programmes in Kenya, Malawi and Uganda, analyse challenges and suggest some ways ahead		Narrative	PC policies being developed	By 2010, morphine was available in 48 countries. In Kenya, only seven out of 250 public hospitals had morphine. Total absence of morphine stock throughout Uganda	PC incorporated into the undergraduate nursing and medical curricula in Uganda, South Africa, Kenya, Malawi, Botswana and Zambia	In 2010, integration of PC increased to 28 and PC providers to 87 from 5 and 8, respectively, in 2004	Social support including food and financial assistance; culturally and spiritually appropriate care provided	100
Grant *et al.*, 2017, Africa	To describe the impact of integrating PC within the health systems of Kenya, Uganda, Rwanda and Zambia	12 hospitals -3 each	Mixed method study	All hospitals demonstrated improved policies and professional standards on PC	Morphine consumption and consistency of supply increased in all 12 hospitals by the end of the project	PC training for HCPs and volunteers provided across 12 hospitals. Diploma and degree programme available	PC was integrated in all 12 hospitals at the end of the research programme	Not mentioned	100
Herce *et al.*, 2014, Malawi	To assess and improve the NPCP; to report the results of situation analysis and early outcome of NPCP	Patients, family caregivers and relevant stakeholders	Mixed method - Rapid evaluation	Need to integrate PC into national policy identified	Essential PC drugs, including morphine, available for NPCP and all district health facilities	PC training provided to HCPs. Training for stakeholders identified as important	PC linked with home, community and health facilities.	NPCP provides psychosocial, financial and emotional support	100

(Contd...)

Table 1: *(Continued).*

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Jagwe and Merriman, 2007, Uganda	To explain the development of PC in Uganda		Narrative	Draft PC policy was incorporated into First Health Service Strategic Plan 2000–2005	Adequate stock of PC medicines confirmed	Emphasised integration of PC curriculum into training institutions. Training provided to volunteers	All hospitals and health centres IV will provide PC	Culturally appropriate PC service developed	100
Judkins *et al.*, 2021, Bolivia	To describe the current state of PC in Bolivia		Quantitative study	No national PC guidelines/policy	Morphine injectable and immediate release capsule/ tablets available. Patients have poor accessibility due to cost and obtainability	No accredited PC education or training programmes. Most PC physicians have received at least some PC training.	16 PC sites with 19 PC teams available. Services located in the five most populous urban centres – mostly in government health centres.	Psychological and social support provided	87.5
Kamonyo, 2018, Kenya and Uganda	To describe the progress on PC in Kenya and Uganda and how to address challenges		Narrative	*Kenya*: Draft PC policy developed. *Uganda*: Draft PC policy awaiting approval from MoH	*Kenya*: Opioids available. *Uganda*: Oral morphine available	*Kenya*: PC curricula integrated into undergraduate and postgraduate medical and nursing schools. Additional programmes available at Kenya Medical Training Institute and Referral Hospital. *Uganda*: PC training programmes available for HCPs, social workers, spiritual advisors, traditional healers and volunteers	*Kenya*: PC is integrated at home, hospitals, faith-based institutions and community-based centres. *Uganda*: Hospice Kampala; Mobile Hospice Mbarara; and Little Hospice Hoima provides homecare, outpatient consultation, hospital visits, day care, road side clinics. Also PC provided by Makerere University, Mulago National Referral Hospital and The Kitovu mobile PC service.	*Kenya*: Not mentioned. *Uganda*: Emphasised culturally appropriate PC	100
Krakauer *et al.*, 2007, Vietnam	To discuss the development of a PC programme for HIV/AIDS and cancer patients	Patients, family members, HCPs, programme managers, health leaders and policy makers	Survey for rapid situational analysis	PC guidelines developed. The need for national PC policy identified	The need to increase opioid availability identified	Education and training on PC emphasised	Recommends implementation of PC at all levels of healthcare	PC guidelines were based on local and cultural needs	70
Krakauer *et al.*, 2010, Vietnam	To describe the successes and challenges of launching WHO public health PC initiative		Narrative	National PC guidelines developed in 2006	Morphine accessible through University of Wisconsin. Opioid regulations were reviewed	PC short courses provided to oncologists, HIV physicians and general doctors. The need for PC training curricula identified for HCPs and social workers	PC services integrated into healthcare system, cancer and HIV/AIDS programmes	Not mentioned	100

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Table 1: *(Continued).*

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Krakauer *et al.*, 2018, Rwanda	To describe PC in Rwanda		Narrative	National PC policy available since 2011	Planned for adequate accessibility to opioids including slow release and powder morphine	PC training extended to hospitals and community health centres of six districts. PC training initiated for internal medicine residents. Doctors, nurses and pharmacists also attended PC training in Uganda and/or the U.S. Identified locally appropriate training programmes	Hospital-based PC for both adults and children along with home care services available in Kigali, the capital city. Rwanda MoH working towards enhancing nationwide PC services	Support for psychological, emotional and social suffering emphasised and provided	100
Krishnan *et al.*, 2018, India	To describe PC services delivered by TIPS; and to provide an estimate of the economic costs of delivering this care	Clinical case records	Quantitative study	PC Policy available in Kerala	Limited access to morphine in Kerala	TIPS provides training and education on PC to HCPs from across India	TIPS offers inpatient, outpatient and home-based PC. Provides consultation services to the public hospitals	TIPS provides social, financial and spiritual support	42.9
Livingstone, 2004, Uganda	To discuss challenges in accessing opioids, educating HCPs and influencing policymakers, encountered in developing HAU and how these have been addressed		Narrative	The MoH supported PC initiative	Oral morphine available in 56 districts. Efforts made to reach those unreached	PC is part of the core curriculum for doctors and nurses. Short courses available for clinicians, allied health professionals, volunteers and spiritual leaders	PC provided at home and communities	Spiritual leaders and traditional healers involved in PC. Culturally appropriate home PC provided	100
Logie, 2012, Zambia	To describe and evaluate a strategic advocacy programme to enhance the provision of WHO PH approach of PC in Zambia	Desk surveys, facility interviews and field visits	Mixed method	PCAZ is developing a National PC Strategic Plan with MoH	This study improved access to morphine and other drugs over the 2-year period. Morphine became available in Ndola	54 HCPs, tutors and student nurses from the University Teaching Hospital in Lusaka were trained at the Cancer Hospital. Short courses provided to various cadres of health staff	This study resulted in improved PC service at Ndola Central Hospital and its community. Developed mobile PC clinics	Not mentioned	100
Lu *et al.*, 2018, China	To present on the past progress and future challenges on Hospice and PC		Narrative	Health-care policy supports PC	PC drugs accessible in urban hospitals but are limited in rural communities	Various education and training on PC available	PC is provided across health-care settings	Culturally appropriate PC emphasised	100
Merriman, 2002, Uganda	To discuss about PC development in Uganda		Narrative	Working on developing PC policy with MoH	Morphine made available in 57 districts	PC education and training available for HCPs and non-health professionals, village health volunteers. PC distance learning diploma and degree programme available	PC is introduced throughout the health systems	Not mentioned	100
Molyneux *et al.*, 2013, Malawi	To describe about paediatric PC in Queen Elizabeth Central Hospital		Narrative	PC is on the national health agenda and in all health curricula	Oral morphine available	PC training available for HCPs and volunteers	PC expanded to rural areas. Paediatric PC developed from a single hospital-based team to a national service	Emphasise culturally and spiritually appropriate PC	100

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Table 1: *(Continued).*

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Nanney *et al.*, 2010, Tanzania	To describe about improving PC in rural Tanzania		Narrative	Tanzanian PC Association and Care for People Living with HIV/AIDS in Tanzania (CHAT) project aimed to influence the government for PC policy	Access to morphine was made possible in 13 hospitals	CHAT provided PC short courses to HCPs, chaplains and social workers. Two nurses completed diploma in PC in Uganda and five enrolled in the Nairobi Hospice Distance Diploma course	PC integrated into all the 13 hospitals throughout rural Tanzania	Spiritual support, bereavement counselling, bedding, nutritional support, psychosocial support, educational resources, are provided to orphans and vulnerable children	83.3
Onyeka *et al.*, 2013, Georgia, Nigeria, Ethiopia and Tanzania	To describe PC practices in these countries		Narrative	*Georgia*: PC policy exists. *Nigeria*: No PC policy existed. *Ethiopia*: Need for PC policy identified. *Tanzania*: PC policy endorsed.	*Georgia*: Availability of oral morphine improved over the years. *Nigeria*: Efforts are made to procure morphine. *Ethiopia*: Limited access to opioids. *Tanzania*: Access to morphine is limited	*Georgia*: PC courses are introduced in medical universities. *Nigeria*: PC curriculum included at the University hospital in Ibadan. Short courses available. *Ethiopia*: Short courses available. Identified the need to integrate PC into medical and nursing curriculum. *Tanzania*: PG diploma course in PC available	*Georgia*: PC provided as in-patient, hospice and HBC at various levels of healthcare. *Nigeria*: PC units available in six tertiary health centres. *Ethiopia*: Home-and -community-based PC programme available. *Tanzania*: PC services offered by four facilities in the country	Not mentioned	100
Paudel *et al.*, 2015, Nepal	To describe initial successes of developing PC in Nepal		Narrative	PC policy is being developed	Access to morphine improved as Nepal started producing morphine	Short courses available for HCPs. Nepal Association of PC with MoH conducts PC training annually	PC services offered at Bhaktpur Cancer Hospital, Shechen Clinic, B.P. Koirala Memorial Cancer Hospital and Thankot Hospice	Not mentioned	100
Rajagopal *et al.*, 2002, India	To describe the status of cancer pain relief and PC in Kerala.		Narrative	Identified the need for PC policy	Availability of oral morphine is limited but free uninterrupted supply of oral morphine is ensured in all PC link centres	PPCS conducts educational programmes for clinicians and volunteers	27 outreach link clinics	Support children's education through annual grant. Provides 1 time grant to restart a living	100
Rajagopal, 2015, India	To describe the current status of PC in India		Narrative	National PC strategy exists. National PC policy drafted but not yet endorsed. Kerala developed PC policy in 2008	Access to morphine improved remarkably in Kerala and some other states	Undergraduate and postgraduate PC courses available for doctors and nurses. Education provided to volunteers	Kerala had 83 PC services against 139 in the whole of India (2013)	Not mentioned	100
Rosa *et al.*, 2018, Rwanda	To share experiences on advancing PC in Rwanda		Narrative	National PC policy available	Opioids are available	PC education, training and awareness improved. Training provided to community health workers	PC implemented into primary, secondary and tertiary healthcare	Culturally appropriate PC emphasised	100

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Table 1: *(Continued).*

Author, year and country of study	Aim of the study	Study sample and setting	Study design and methods	Characteristics of PH approach/social, cultural and spiritual components					Methodological quality (%)
				PC policy	Availability and accessibility of PC drugs	PC education and training	Implementation of PC services	Social, cultural and spiritual components	
Stjernsward, 2002, Uganda	To present the development of Hospice Uganda and future PC prospects		Narrative	PC policy available	Morphine was made available for Hospice Uganda	Culturally sensitive PC training programmes available	PC to be extended throughout the country	Socioeconomic and culturally specific PC approaches prioritised	100
Vallath *et al.*, 2020, India	To describe activation of PC services in Assam India		Narrative	Government decision-makers were engaged and activated supportive PC policies	The Narcotic Drugs and Psychotropic Substances Act amended. Annual morphine consumption increased from 3.72 kg to 6.8 kg and authorised the office of the State Drug Controller to enhance the stock and dispense the opioid analgesics	Sensitisation programmes and trainings were provided to HCPs. Three doctors and 12 nurses were trained during the project period. Twenty-six professionals completed certificate course. Six PC services can now conduct foundation courses. One hundred and eight frontline workers trained to screen for PC needs and provide basic services. Community awareness conducted	Provision of daily PC services increased from 2 to 8 major institutions. PC services aimed to expand across all clinical settings including home-based care	Not mentioned	100
Van der Plas *et al.*, 2020, Sub-Saharan Africa	To describe the importance of PC in LMICs and how it is currently still underdeveloped		Narrative	*Kenya, Rwanda* and *Uganda*: Policy exist. *Ethiopia, Malawi, Nigeria* and *Senegal*: Policy NA	*Ethiopia* and *Senegal*: Limited access to morphine. *Kenya*: Centralised morphine production. *Nigeria* and *Rwanda*: Government controlled distribution. *Uganda*: Free morphine distribution. *Malawi*: Lack drug availability.	*Kenya, Nigeria, Rwanda and, Uganda:* PC education available. *Ethiopia* and *Senegal*: No specific PC education	*Ethiopia*: Two regional NGOs as PC institutions. *Kenya*: PC units, local hospice and PC in government hospitals. *Malawi*: Locally organised PC teams. *Nigeria*: PC in all tertiary health centres. *Rwanda*: PC in district hospitals, HBPC. *Senegal*: No put-patient PC. *Uganda*: Local and regional PC teams	Not mentioned	100
Wang *et al.*, 2002, China	To describe the development of PC		Narrative	PC policy identified as a crucial need	Opioids were available	PC education and training available to some HCPs. PC education highly prioritised. Emphasised education for patients	'Ning Yang' Care Model set up 20 Hospices around China	Emphasised culturally and spiritually appropriate PC	100

PC: Palliative care, HCPs: Health-care professionals, MoH: Ministry of Health, NCDs: Non-communicable diseases, SSA: Sub-Saharan Africa, CTC: Cancer Treatment Centres, HBC: Home-based care, NPCP: Neno palliative care programme, TIPS: Trivandrum Institute of Palliative Sciences, PC: Palliative Care Association of Zambia, PPCS: Pain and Palliative Care Society, LMICs: Low-and-middle-income countries, *(Serbia -middle income country. Hence, not included)

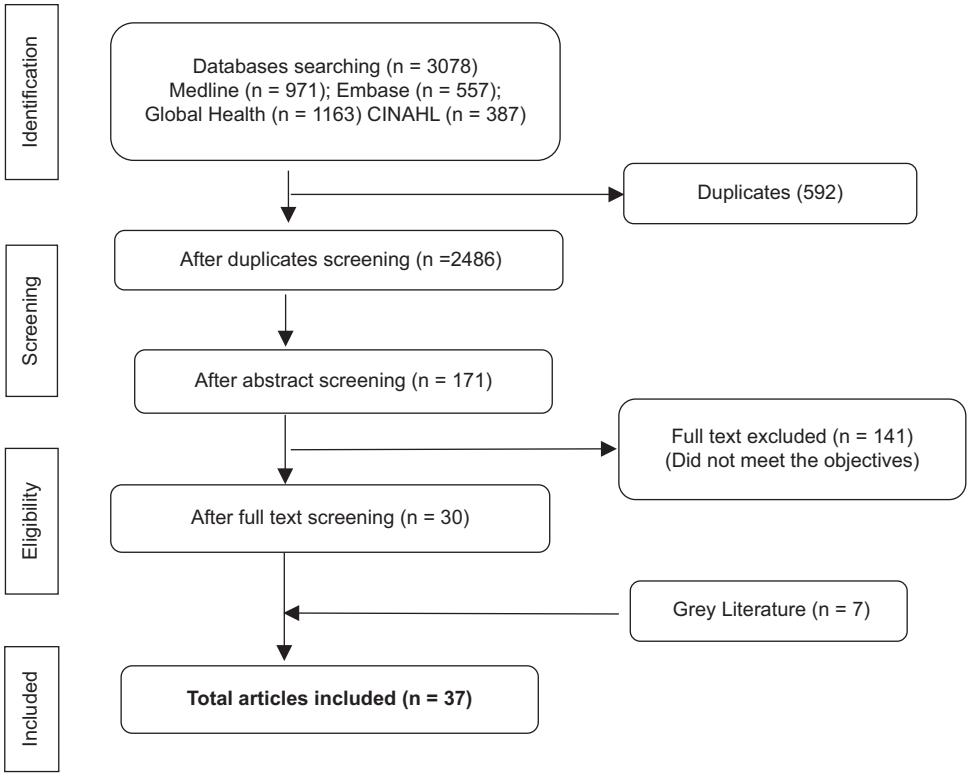

Figure 1: PRISMA flow chart showing selection of reviewed articles.

Suitable PC policies

Not all LICs who adopted the WHO public health strategies had PC policies in place. However, the need for policy was prioritised with progress to establish and embed them at national and local levels in many LICs.[13,24,26,30,32,34,35,37,38,43,45-48,50-52,55,56,59] Where policies existed, they were either standalone[39-42,49,53] or embedded within the national strategies for the prevention and control of non-communicable diseases (NCDs) or HIV/AIDS programmes[33,36] or local policies developed by state governments or non-governmental organisations.[28,29,31] In some African countries, educating political and health leaders were recognised as essential to enable policy development.[13,59]

Relevant policies facilitating budget allocation for PC for cancer and non-cancer patients, have enabled better access to PC drugs in India and Rwanda,[28,29,32,39] allowed PC service delivery to rural populations in Nepal and Uganda,[38,46] ensured access to PC in Tajikistan[41] and determined appropriate PC services in primary, secondary and tertiary healthcare in some African countries.[52,56] Lack of PC policy was one of the main challenges to providing adequate PC in several LICs.[25,29,38,54,56] China and some African countries, despite having national PC policies, continue to experience funding and service delivery difficulties.[13,25]

Availability and accessibility to essential PC medicines

Despite embracing public health strategies, many LICs struggled with morphine availability[26-31,35,37,40,42,43,47-49,55,56,58,59] or limited access[42,50-54,57] while others had no access to morphine at all.[13,25,47,52] In Bolivia, despite availability patients could not access opioids due to affordability issues and restricted prescribing.[24]

Several articles[13,25,26,32,33,51,52] identified the need to review opioid regulations, authors in Tajikistan and Malawi recognised the need to include morphine in their essential drug list,[36,41] Kenya identified the need for advocacy to governments to procure morphine,[33,34] and others[13,38,42,54] emphasised the need for education and training for health professionals. In Uganda, special training for nurses and other clinicians on morphine prescribing increased access to pain relief.[46] Nepal and some African countries considered producing morphine within the country.[38,45,53] Financial and technical assistance from the International Pain Policy Fellowship Program (University of Wisconsin) facilitated access to opioids in Nepal, Rwanda and Vietnam.[38,39,50]

PC education to health professionals, policymakers and the public

Education and training for health professionals, volunteers and the public were emphasised by most articles with some authors identifying it as crucial to the WHO strategy's success.[26,40,45,51] In most LICs, PC training and education

involved awareness programmes, workshops, seminars and conferences.[24-26,28-30,32,35-38,40,43,46-50,52,55-57] Many LICs integrated PC into undergraduate nursing and medical education,[25,31,41,42,47,48,55-57] and in India and some African countries, PC was included in postgraduate health professional education.[27,31,55,56] In India and Tanzania, there are distance education fellowship programmes in PC.[32,43] The need for well-trained national instructors was identified in Nepal.[38] Bolivia and some Sub-Saharan African countries had no PC education for health professionals.[24,59] Education and training for community volunteers, social workers and spiritual leaders were an important part of PC services in several LICs.[13,28,30,36,46-48,55] Some LICs also educated patients, families and the public.[13,28,32,42] Authors in Africa and India reported that PC education and training have contributed to improved knowledge and skills among health professionals, changed their attitudes towards the care of very ill and dying patients and helped improve access to PC medicines.[32,40,52,56]

Implementation of PC at all levels of healthcare

PC services in the identified LICs were delivered through public hospitals and community health centres,[24,25,28,32-41,43,48,50,52,53,55-59] community home-based care[28-31,39,42,47,57,59] and hospices.[26,56,57,59] In Bolivia, PC teams existed only in cities leaving rural populations with little access.[24] In Kenya and Uganda, PC was included in some private hospitals and faith-based institutions,[56] and in India and Vietnam, PC was also available in cancer and HIV/AIDS centres.[27,50] In some African countries, PC was also provided through mobile services, such as roadside clinics, to reach patients in remote areas.[52,56] Countries proposing to establish the public health approach aimed to integrate PC services at all levels of healthcare.[34,45,46,49,51] In some African countries, with integration into the health-care system, access to basic PC services improved radically.[13,43]

Theme 2: Sociocultural and spiritual support in PC

Eleven articles[13,26,28,29,35-37,39,42,51,56] discussed some form of sociocultural and spiritual support integrated into PC. The emphasis on integrating such care into PC was reported in another 11 articles.[25,26,28,36,37,40,45-47,49,56]

Sociocultural and spiritual components

In India and some African countries, support included provision of food and financial support,[13,29,35] rehabilitation services[28] and bedding and educational resources to vulnerable children.[43] In Kerala, India, PC included annual grants for living expenses and to support children with schooling.[30] In Tanzania and Uganda, PC services facilitated chaplain visits and traditional healers to address spiritual needs.[42,47] In Bolivia, Rwanda and Tanzania, PC services provided psychosocial and emotional support.[24,39,43] An article from Vietnam identified the importance of this support.[51]

DISCUSSION

PC remains a huge unmet public health need in most LICs.[10] It is very limited in Sub-Saharan African countries, many Latin American countries and Southeast Asia region.[24,59-61] Today, PC is an essential component of the Universal Health Coverage.[62]

This review found that many LICs utilised the WHO-recommended public health strategies for PC and others have highlighted the importance of integrating, sociocultural and spiritual components. This is consistent with available evidence that a public health approach customised to the sociocultural and spiritual context enables effective provision of PC services even in resource-poor countries.[2,35]

To achieve its required impact, PC must be supported by national policies.[8,53] Despite embracing the public health approach, most LICs included in the review did not have PC policies in place. An important impediment was governments not prioritising the need for PC. For instance, despite the 2009 *Cape Town Declaration* committing to developing WHO-recommended public health strategies, some Sub-Saharan African countries failed to recognise the importance of PC.[54] Political resolve is crucial to achieving adequate PC provision. Where available, PC policies have improved funding, ensured better access to medicines, enhanced education and training opportunities and made PC services accessible through all levels of healthcare and community.[38,41,46,52,56] Moreover, PC policies support home-based care increasing the opportunity for home deaths and support family caregivers thus reducing hospital admissions and costs.[8,10]

Availability of opioids, particularly morphine, is an indicator of a country's capability to provide adequate PC.[63] The majority of the world's opioids are utilised by high-income countries.[63] Only 1% of the 388 tons of morphine manufactured worldwide is consumed by LICs.[64] Although an affordable PC Essential Package is available,[63] this review found most LICs struggled to make opioids available. Where morphine is available, it is usually sustained-release and not immediate-release formulations.[63] Knaul *et al.*, in their Lancet Commission Report,[63] made 'emphatic recommendations' to make immediate release morphine available in both oral and injectable formulations. Further, opioids should be available in communities, rather than only at cancer centres, big hospitals or city pharmacies.[12] Regulatory hurdles, cost and lack of education and training hampered availability and accessibility to opioids in most LICs.[63] Government's role is thus identified as significant in addressing shortage of opioids.

Education and training are a pillar of public health.[12] Although some LICs totally lacked PC education, most had some opportunities, many health professionals still lacked adequate knowledge and skills in pain relief and PC. Given that PC extends beyond symptom management, a PC

curriculum must be unique to a country's socioeconomic realities and cultural and spiritual context.[12] PC education should be available through undergraduate medical and nursing education and as part of in-service training for health professionals, social workers and spiritual caregivers involved with patients with life-limiting illnesses.[65] Specialist PC training should also be available for professionals at the community level so that quality services enable patients to stay at home.[53] Media and public advocacy and family caregiver training are important avenues to create awareness, increase knowledge and change attitudes among policy makers, drug regulators, traditional healers, patients and families.[12]

For public health strategies to be effective, PC should be implemented at all levels of healthcare and community.[12,65] This review found that PC services in most LICs were available variably in hospitals, hospices, cancer and HIV/AIDS centres, faith-based institutions and communities including mobile services such as road side clinics and as home-based care. However, in some LICs, PC is available only in urban areas[24,25] or not available at all.[66] A narrative review exploring PC models in Sub-Saharan Africa[67] recognised an urgent need for a public health approach to ensure equitable access. Identifying leaders, developing champions and integrating PC into community and across NCD programmes are the most cost-effective and sustainable approach.[13,68]

Sociocultural and spiritual support is fundamental to PC, more so in countries, where medical resources are scarce but sociocultural systems are strong.[69] Given the extent of poverty and fragile health systems in most LICs, PC cannot be effective without considering basic necessities such as food, clothing, shelter and financial assistance in addition to medical and nursing care. In India, for example, PC also had to ensure essential services such as clean drinking water, sanitation and primary education.[70] In Pakistan, where PC was virtually non-existent, strong family-based culture and religious beliefs helped ensure psychosocial and spiritual support, however, the need for PC along with realistic opioid policies was identified to ensure a peaceful death.[66] Respecting the sociocultural and spiritual needs during end of life and bereavement are emphasised in several LICs.[36,47,66,71,72]

Limitation

This review has included articles that discussed WHO-recommended public health strategies to PC irrespective of the methodological quality. The findings are based on the limited articles that resulted from the search strategy used. A more comprehensive search strategy such as using wild cards and names of LICs may have resulted in more articles.

CONCLUSION

The WHO has recommended sustainable and cost-effective public health strategies to develop PC which is particularly realistic for LICs. It further recommends that the public health approach be customised to the sociocultural and spiritual context of individual countries. This review found that despite utilising the public health approach, many LICs encountered challenges in integrating all four strategies successfully.

A significant barrier, among others, included lack of awareness among policymakers and government leaders resulting in inadequate policies limiting access to essential PC drugs, inadequate PC education and training and inadequate implementation of PC. This review could inform a suitable PC model for many LICs.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

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