

From concept to practice, is multidimensional care the leading principle in hospice care? An exploratory mixed method study

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ABSTRACT

Background Hospice care (HC) aims to optimise the quality of life of patients and their families by relief and prevention of multidimensional suffering. The aim of this study is to gain insight into multidimensional care (MC) provided to hospice inpatients by a multiprofessional team (MT) and identify facilitators, to ameliorate multidimensional HC.

Methods This exploratory mixed-method study with a sequential quantitative–qualitative design was conducted from January to December 2015. First a quantitative study of 36 patient records (12 hospices, 3 patient records/hospice) was performed. The outcomes were MC, clinical reasoning and assessment tools. Second, MC was qualitatively explored using semistructured focus group interviews with multiprofessional hospice teams. Both methods had equal priority and were integrated during analysis.

Results The physical dimension was most prevalent in daily care, reflecting the patients' primary expressed priority at admission and the nurses' and physicians' primary focus. The psychological, social and spiritual dimensions were less frequently described. Assessment tools were used systematically by 4/12 hospices. Facilitators identified were interdisciplinary collaboration, implemented methods of clinical reasoning and structures.

Conclusions MC is not always verifiable in patient records; however, it is experienced by hospice professionals. The level of MC varied between hospices. The use of assessment tools and a stepped skills approach for spiritual care are recommended and multidimensional assessment tools should be developed. Leadership and commitment of all members of the MT is needed to establish the integration of multidimensional symptom management and interdisciplinary

collaboration as preconditions for integrated multidimensional HC.

INTRODUCTION

In the Netherlands, 141 245 patients died a non-sudden death in 2014 of whom ~10% died in hospice care (HC).¹

HC aims to optimise the individual's subjective health-related quality of life by minimising physical, psychological, social and spiritual suffering.^{2 3} A multiprofessional team (MT) provides optimal multidimensional care (MC), physicians, nurses, chaplains and social workers are recognised as the core members.³

In the Netherlands, palliative care is not a medical specialty and is mainly provided by generalist palliative care providers ([figure 1](#)).⁴ Inpatient HC is available for patients with a <3 months prognosis. From a historical perspective, hospices are either volunteer or professional driven ([figure 2](#)). Volunteer-driven hospices provide 24/7 care by trained volunteers, supported by general practitioners, district nurses and other care providers if indicated. In professional-driven hospices, specialist HC is provided by specialised nurses, physicians, chaplains and a variety of paramedical therapists (eg, psychologist, physiotherapist, occupational therapist) and supportive therapists (eg, therapist for complementary medicine, creative/art therapist, music therapist) available 24/7. The MT is supported by trained volunteers. Professional-driven hospices are either stand-alone small-scale organisations or nursing home hospices. Professional driven stand-alone hospices collaborate in the Dutch Association of Hospice Care (DAHC).

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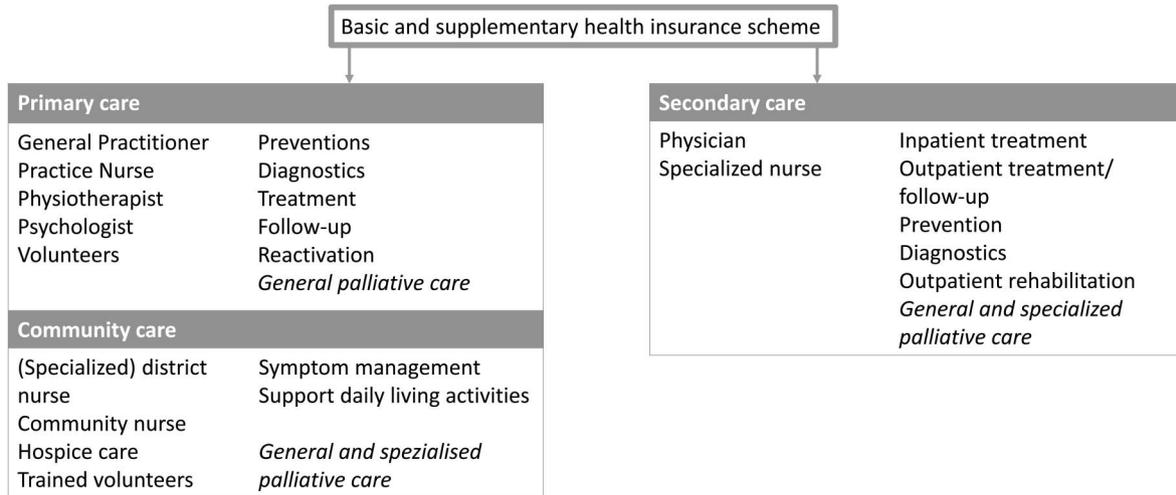


Figure 1 Palliative care and hospice care in the Netherlands.

Access	Patients with < 3 months remaining lifetime		
Finance	Healthcare Insurance act		Longterm care act
	Donations from charity and foundations		
	Voluntary contribution		
Characteristics	Local context Religious / non-religious		
Association	Dutch Association of Palliative Terminal Care Volunteers	Dutch Association of Hospice Care	Dutch Association of Nursing Homes (Actiz)
Organisational structure	Volunteer-driven hospice	Professional-driven Stand-alone-hospice	Professional-driven Nursing home hospice
Staff	Trained volunteers 24/7 Supported by consulting general practitioners and district nurses	Specialized nurses 24/7 in multidisciplinary team collaboration with physicians (GP's, medical specialists), chaplain, paramedics, music and art therapists and trained volunteers	

Figure 2 Historical development of hospice care in the Netherlands. GPs, general practitioners.

At admission, hospice inpatients experience seven symptoms concurrently.⁵ MC should be embedded in a process of clinical reasoning to ensure an impeccable assessment and analysis of the symptoms and problems experienced.⁶ Communication is the key to interdisciplinary collaboration.⁷ Communication is supported by reports in the patient records and face-to-face contact during MT meetings (MTM) to ensure the continuity and quality of HC.⁸

The aim of this study is to gain insight into multidimensional HC and to identify facilitators and barriers, to ameliorate multidimensional HC provided to all patients in need.

The research question was: How is MC provided to hospice inpatients by the multiprofessional hospice team? Two subquestions were formulated: (1) How

are the dimensions described in the record notes by nurses, physicians, chaplains, others and the MTM minutes? and (2) How do MT members reflect on multidimensional HC described and provided?

METHODS

Design

A mixed-method study with a two-phased sequential exploratory design was performed from January to December 2015.⁹ The first phase was a retrospective quantitative study. Data were collected from patient records of 12 hospices across the Netherlands. The second phase was a qualitative focus group study, to explore MC in-depth, gain a broader perspective on MC and adjust for lacking documentation.¹⁰

Both methods had equal priority.⁹

For this report the Strengthening the Reporting of OBservational studies in Epidemiology (STROBE) statement¹¹ and COnsolidated criteria for REporting Qualitative studies (COREQ)¹² were used.

Population

Hospice facilities in the Netherlands are small-scale facilities, providing care to 4–12 patients.

Quantitative phase

A convenience sample of 12 hospices was drawn from DAHC members. Per hospice three patient records were selected to reduce the risk of selection bias and obtain insight into HC provided per hospice during one year. Inclusion criteria were: deceased adult hospice inpatients, admitted >2 weeks, <3 months in January, June and December 2014. If >1 record was eligible, one was selected, using a simple lottery randomisation procedure.

Qualitative phase

A purposive sample was drawn from the participating hospices in the quantitative phase, based on (1) the level of MC (low, middle, high), based on the quantitative data and (2) organisational structure (hospice or hospice unit).

Four hospices, 1 high-level, 1 middle-level and 1 low level MC and 1 high level hospice unit, were selected. To reach data saturation, 1 low level hospice was added. Per hospice the core MT (a physician, chaplain and 3–4 nurses) was invited by email via the hospice manager to participate in a focus group.¹³ Focus groups were organised on location to optimise participation and took about 60–75 min.

Ethics and anonymity

This study was performed according to the declaration of Helsinki,¹⁴ principles of good clinical practice¹⁵ and the Dutch law as approved by the ethics committee of the University Medical Center of Utrecht (14–680/C). Local approval was obtained from the hospice managers. Data from patient records were gathered on location, anonymised and coded per hospice (MvK and EdG). Focus group participants received information by email and verbal consent was obtained.

Data collection

Quantitative phase

MC was defined as the frequency at which the physical, psychological, social and spiritual dimensions were described in the patient records by nurses, physicians, chaplains, ‘other professionals’ and in the MTM minutes. The physical dimension entailed information on the illness, functional status and physical symptoms (eg, pain, dyspnoea). The psychological dimension was defined as the description of cognitive and emotional problems and psychological symptoms (eg, anxiety and depressed mood). In the social

dimension information about family and relations, and actual and perceived social support were reported and finally the spiritual dimension was defined as information about religion, meaning and existential well-being. The notes of social workers and psychologists were merely not identifiable and therefore grouped as ‘other professionals’.

Steps of clinical reasoning were the frequency of assessments, interventions, monitoring and evaluations. Assessment was the initial description of a problem/symptom, all upcoming descriptions were monitoring. Interventions were distinguished in pharmacological and non-pharmacological interventions. Finally, evaluation was the description of the effect of an intervention.

Measurement tools were all tools used to assess symptoms or quality of life

To ensure the quality of data, a purpose-developed data-extraction tool (see online supplementary appendix 1) was used to count notes on MC and steps of clinical reasoning per professional or MTM and the assessment tools used. Face and content validities were tested by the research team (EdG, MvK and ST). Small adaptations were made for readability.

Qualitative phase

Semistructured focus group interviews were performed by an experienced moderator (EdG) and novice observant (MvK). The moderator invited participants to join the discussion, in order to obtain all views. A member check was performed by providing short summaries during the interviews. Misinterpretations were corrected and additional ideas were added. The observant took field notes including non-verbal reactions, behaviour and identification of individual participants. All interviews were digitally recorded.^{9 16}

Data analysis

Quantitative phase

Descriptive statistics were employed using the IBM SPSS, V.21 (IBM Corporation, UK). A trail was logged to support decisions made.

Qualitative phase

Focus group interviews were transcribed thematically, using MC and clinical reasoning as theoretical framework, enabling data reduction into categories. The categories were organised to compare, determine relevance and draw conclusions.^{16 17}

To ensure trustworthiness, the transcriptions and categories were checked using the original records and field notes (EdG and MvK). Peer debriefing was used to reflect on the findings, differences were discussed in the research team (EdG, MvK, DZ and ST). During data collection and analysis researchers critically reflected on their preconceptions (EdG and MvK). One researcher (EdG) had prior relationships with

five participants. No differences were identified in questioning, reflecting and summarising between focus group interviews (EdG and MvK). Finally, an audit trail was logged.^{9 12 16}

The integration of quantitative and qualitative data was performed during data analysis.⁹

RESULTS

The 12 participating hospices admitted 81 patients in 2014 on average. The core MT consisted of Registered Nurses, physicians and chaplains. Records from 36 patients were analysed, of which 23 (64%) were men, aged 71 years, and admitted for 43 days.

In 3/5 focus groups, all core members of the MT were present, on two occasions a physician was lacking. See [table 1](#) for hospice and staff characteristics.

Patient records

Nurses were responsible for 76% of the notes, only 2% were made by chaplains ([figure 3](#)). Owing to the integration of documentation in two hospices, individual professional notes were not verifiable.

Participants liked the idea of integrated documentation to underpin interdisciplinary collaboration. However, the lack of identifiable information per profession was a negative result. Participants tried to identify the source of documentation using names and dates. Chaplains stated they were a patients' refuge, as a result two chaplains felt that documentation would hinder their practice. Others documented major themes and interventions to inform the MT.

Multidimensional care

The physical dimension was described by physicians 70%, nurses 62% and MTM almost 50% ([figure 4](#)). On average, nurses noted 152 (72–277; SD 86.4) physical symptoms per patient during a hospice admission.

Nurses and physicians stated that physical symptoms are easy to spot and to discuss. All participants recognised that physical problems could mask needs in other dimensions. At admission, patients predominantly expressed physical problems, over time, priorities shifted towards other dimensions.

Physicians stated they were trained primarily to address physical problems. Information from other professionals was used to make a multidimensional picture, as a process of thought. These pictures were rarely described in notes, but sometimes discussed during MTM.

The psychological dimension was described in notes of physicians 15%, nurses 15%, 'other professionals' 42% and MTM 20%.

All participants recognised that less attention was paid to the psychological dimension, compared to the physical dimension. Nurses stated that assessment tools support them to identify anxiety or depressed

mood. Nevertheless, symptoms could be mistaken for physical problems; without an in-depth exploration, the underlying psychological causes could be missed.

The social dimension was reported by nurses 19%, chaplains 38% and MTM 15%.

Nurses identified an under-representation of the social dimension in their notes. Many observations and interventions, for example, supportive conversations, being present there and providing relief, were interpreted as usual care and therefore not documented. Although some social workers were involved as experts, their contribution was under-represented in the quantitative results.

The spiritual dimension was described by chaplains 37%, nurses and physicians, both 5% and MTM 16%.

Chaplains stated to be a refuge for patients and reported only if the patient explicitly consented. One chaplain stated that records contribute to the continuity of care. Others only reported if interventions to provide spiritual support required assistance of other professionals or volunteers, or if they felt that information obtained during guidance would benefit other team members, two chaplains reported nothing. When confronted with spiritual issues, nurses experienced 'finding the right words' problematic and patients' confidentiality a dilemma. As a result, they tend to discuss these problems with their colleagues. Nurses who related spirituality strongly to religion felt more restrained to discuss spiritual needs with patients. One physician specifically stated that she could not provide optimal care when information on the spiritual dimension was lacking.

Steps of clinical reasoning

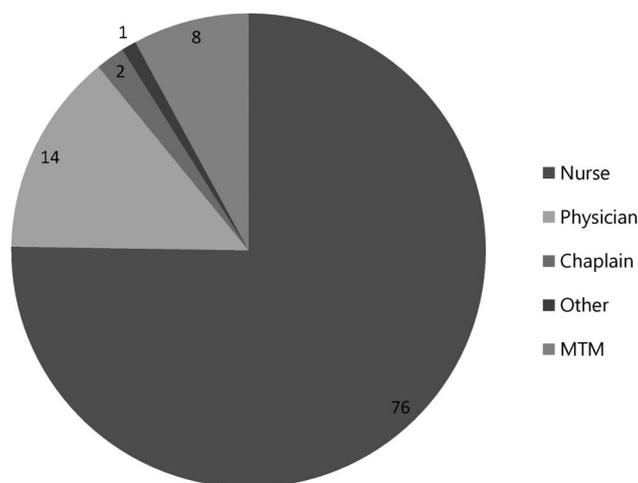
Nurses assessed 24 (14–44; SD 10.64) new symptoms per patient per admission ([figure 5](#)). Consecutively, 152 (71–250; SD 85.16) symptoms/problems were described during the process of monitoring. Physicians and nurses reported pharmacological interventions respectively 11 (2–18; SD 6.81) and 41 (8–99; SD 34.46) and non-pharmacological interventions, respectively 4 (1–14; SD 5.22) and 19 (8–51; SD 14.51). Evaluations were less frequently described by physicians 3 (0–8; SD 3.7) and nurses 9 (2–16; SD 8.06). Most hospices used clinical reasoning to structure MTM. Nevertheless, only 5/12 hospices described all consecutive steps of clinical reasoning.

Nurses recognised that the majority of their documentation is about known problems, monitoring symptoms and problems over time. The dispersion between hospices seemed to be influenced by the timing of documentation. Nurses, who reported in the patients' room, directly after care/treatment, were more likely to report in detail and identified and monitored more problems concurrently. In contrast, if nurses reported at the end of their shifts, details became less clear and more likely to be missed. Some

Table 1 Hospice characteristics

Hospice	Beds (N)	Patients 2014 (N)	Nurses (N)	Educational level	Physicians (N)	Chaplain (N)
1	7	64	15	NA, RN, MSc	14	1
2	10	84	15	NA, RN	2	1
3	6	62	10	NA, RN	GP	1
4	10	82	16	NA, RN, MSc	2	1
5	5	65	17	NA, RN	3	1
6	5–7	77	10	RN	10 GP	1 On call
7	7	87	14	NA, RN	2	1 On call
8	11	126	17	RN	1	2
9	10	76	13	NA, RN	1	1
10	6	45	7	RN	1	1
11	10	98	11	RN	2	2
12	8	103	10	RN	3	1

GP, general practitioners; NA, not applicable.

**Figure 3** Documentation per discipline. MTM, multiprofessional team meetings.

participants specified that evaluation was part of daily care but under-represented in the records, others acknowledged that evaluation needs more attention. The steps of clinical reasoning supported a cautious analysis of all dimensions during MTM.

Tools

Tools were used in 10/12 hospices (table 2). Two hospices used the distress thermometer to identify problems/symptoms experienced by patients on admission. The Utrecht Symptom Diary (USD), a Dutch adapted translation of the Edmonton Symptom Assessment System,¹⁸ was used in four hospices to monitor symptom intensity of physical and psychological symptoms. The USD-professional for proxy measures, was used concurrently in two hospices and USD4D, with additional social and spiritual items, was used for study purposes. In addition, other screening tools used were, the delirium observation scale for delirium, a pain assessment tool for pain, and a mouth screening tool for mouth sore. The

Liverpool care pathway for the dying was used in two hospices.

In 4/12 hospices tools were used systematically, 6/12 hospices used tools ad hoc.

Nurses used tools to discuss all dimensions with patients and address underlying and influencing causes. In addition, tools supported unambiguous multiprofessional and interdisciplinary communication. Although, not all tools used in daily practice were identified in the records, the use of tools, systematically or ad hoc was identified correctly.

One physician strongly opposed the use of tools and felt that a multidimensional assessment based on observations and communication should be sufficient. Although nurses in the MT felt tools could support their observations, they only used tools if specifically indicated by the physician.

Facilitators and barriers

Although the MTM minutes showed a more equal dispersion of all dimensions, only 5% was about the spiritual dimension. Four hospices with high levels of

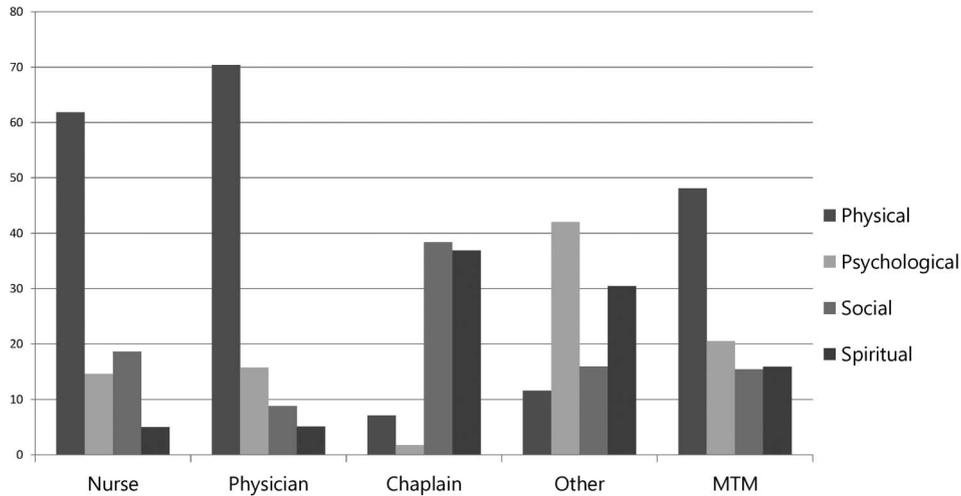


Figure 4 Multidimensional care per discipline. MTM, multiprofessional team meetings.

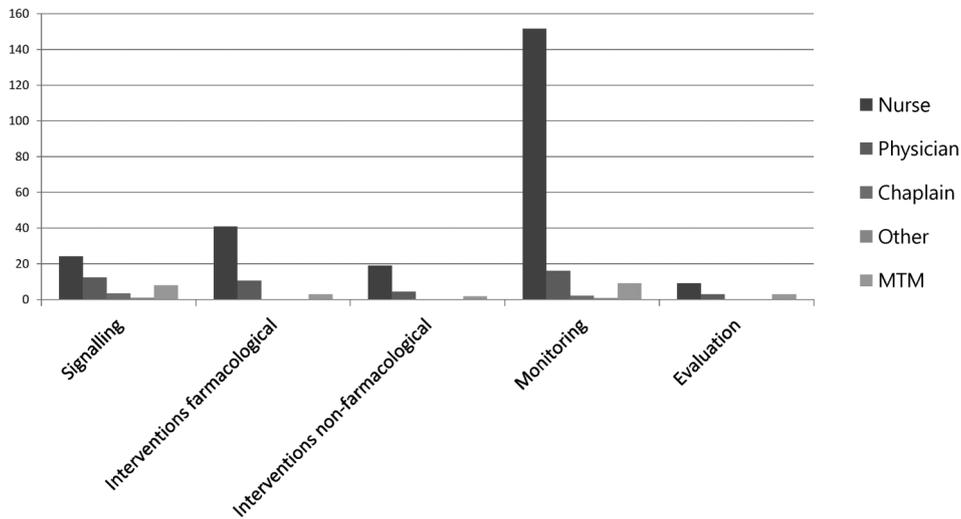


Figure 5 Steps of clinical reasoning per discipline. MTM, multiprofessional team meetings.

MC used all consecutive steps of clinical reasoning during MTM.

Three themes emerged when addressing barriers and facilitators to MC: (1) interdisciplinary collaboration (2) methods and (3) supportive structures.

Interdisciplinary collaboration was the main facilitator to MC; nevertheless all teams identified challenges to interdisciplinary collaboration as an ultimate level of multiprofessional collaboration. Nurses shared that it took courage and experience to participate in MTM on an equal basis, specifically if more than one physician was present during MTM. Chaplains felt appreciated by other team members, but experienced to be different in personal and work-related characteristics.

The steps of clinical reasoning were helpful to MC, but not always implemented in daily practice. Teams which integrated a stepwise approach for problem analysis, intervention selection, monitoring and evaluation showed higher levels of MC provided by all MT members.

The use of structured documents supporting MC was mentioned as obvious and easy to enhance. In contrast, structured documents could hinder HC, for example, structures based on long-term care did not always fit the rapid changes of HC. As a result, team members worked their way around the structure.

DISCUSSION

The concept of MC is not always verifiable in patient records; it is experienced by professionals in daily practice. This study shows that MC is provided by MTs in hospices at various levels. Assessment and monitoring are well-described steps of clinical reasoning in contrast to evaluation. Measurement tools are implemented and used methodologically in only 30% of hospices. Facilitating factors are interdisciplinary collaboration, implemented methods and supportive structures.

Table 2 Overview of applied tools (per hospice)

Hospice	Thermometer	USD	USD-professional	USD 4-dimensional	DSR-R98	DOS	Mouth assessment	Pain assessment	REPOS	Liverpool care pathway
1	3	118	0	29	0	10	25	0	0	0
2	0	0	0	0	0	4	0	2	0	0
3	2	19	42	0	0	3	0	2	0	0
4	14	13	0	13	0	0	0	0	0	0
5	0	0	0	0	0	3	0	1	0	0
6	0	0	0	0	0	14	0	4	0	0
7	0	71	0	0	0	6	0	0	0	0
8	0	0	0	0	0	10	0	0	0	2
9	0	0	0	0	0	10	0	0	5	0
10	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	4	0	0	0	2
12	0	0	0	0	0	0	0	0	0	0

DOS, delirium observation scale; DRS, delirium rating scale; REPOS, Rotterdam elderly pain observation scale; USD, Utrecht Symptom Diary.

Multidimensional care

MC is essential to provide optimal HC. Most attention is paid to the physical dimension since it is the patients' primary focus, specifically at admission. Physicians and nurses stated that without an in-depth exploration of all dimensions, other dimensions causing or influencing symptoms can be missed. Therefore, the under-documentation of these dimensions identifies a potential risk of suffering and inadequate care and treatment.

Although, the psychological dimension is mentioned less frequently than the physical dimension, anxiety and depressed mood are frequently described if the USD is used. This is supported by a previous study where USD use was related to more frequently described anxiety in patient records.¹⁹

The under-representation of the social dimension can be linked to three reasons. (1) Information on the social dimension is addressed as usual care and therefore not reported. (2) Assessment of the social dimension is not supported by self-assessment tools, inevitable for professionals to gain insight into the patients' experience.²⁰ Finally, most MTs in Dutch hospices do not include social workers, in contrast to the international hospice model where social workers are member of the core team.³ Social support in participating hospices is provided by nurses or nurses with additional training on a generalist and specialist level. Expert level social support is not common sense.

Spiritual suffering is a great threat to the patients' quality of life,²¹ but information on the spiritual dimension is scarce. Chaplains state to be a refuge for patients, and nurses lack words to describe spiritual needs and feel that patients' confidentiality is a dilemma. Assessment tools can (1) support nurses to assess the spiritual domain and (2) contribute to communication about spiritual needs with patients, families and MT members.²²

Interdisciplinary collaboration

Interdisciplinary collaboration is vital to MC.³ Although MTs were established in all hospices, the dispersion in MC is facilitated by interdisciplinary collaboration by members of the MT.

Interdisciplinary collaboration is supported by interdependence, flexibility, newly created professional activities, collective ownership of goals and reflection on processes.⁷ Nurses and physicians use a common language in clinical reasoning and are used to shifting tasks, responsibilities and supporting interdisciplinary collaboration. Nurses and chaplains tend to shift responsibilities for spiritual needs on generalist and specialist/expert levels, nevertheless a lack of common language and use of steps of clinical reasoning, hinders interdisciplinary collaboration. This is supported by the results showing chaplains, who adjust their language towards clinical reasoning, overcoming that barrier.

Methods and supportive structures

The steps of clinical reasoning and a flexible structure of patient records support MC. Methods and structures developed for long-term care instead of HC did not fit the rapid changes of HC, and were experienced as a barrier. The ability to fit methods and structures to specific settings and the local context is a known facilitator in innovation science.²³

Strengths and weaknesses

To the best of our knowledge this is the first description of MC in hospices. Strengths of our study are that the research setting is a real-life setting. The mixed-method design contributed to an in-depth exploration of MC and identified facilitators.

Although the retrospective design enlarged the risk of bias, the use of qualitative methods reduced weaknesses. Missing items and generalisability of the quantitative results were checked using focus groups. The

convenience sample could have caused selection bias, but the diversity in MC indicates a larger population of hospices within the sample. The data collection tool and audit trail contributed to the reliability and replicability of the findings and trustworthiness of the qualitative data was ensured during data collection and analysis.

The results of our study have to be interpreted with caution. The lack of volunteer driven hospices in our sample reduces generalisability and differences in care systems between countries have to be taken into account at all times.

Recommendations

The development of an assessment tool including the psychological, social and spiritual dimension could support teams to assess, monitor and discuss patients' needs. In practice, the use of stepped skills for detection and discussion could support nurses who feel less comfortable talking about spirituality to address spiritual suffering and refer to expert colleagues.²⁴ For the exchange and interpretation of observations of spiritual needs, further research is required.

Symptom assessment is the first step of symptom management.²⁵ In addition, monitoring symptoms over time and evaluation of interventions applied are the main reasons to use tools in daily practice.²⁶ The implementation of a systematic symptom management approach using assessment tools requires a multifaceted strategy entailing education, commitment of MT and integration in daily practice.²³ However, negative attitudes toward symptom assessments of individual professionals hinder adoption in daily HC.²⁷ Outcomes should be incorporated in daily care and clinical decision ensures MC for all hospice patients.²⁸ In addition, outcomes can be used to benchmark and identify possibilities to ameliorate the quality of HC on an institutional level.²⁹

Finally, interdisciplinary collaboration is vital to optimal MC. The implementation of methods for clinical reasoning and supportive structures support MC and provide a common language as a base for interdisciplinary collaboration. These methods should incorporate the differences between caregivers as a multifaceted strategy to support all members of the team. A culture shift, from multidisciplinary to interdisciplinary collaboration requires leadership, supportive strategic management and commitment of MT members and management.

CONCLUSION

The integrated provision of MC by members of the MT is still work in progress. Although all dimensions were covered, most attention was paid to the physical dimension. The use of tools improves the assessment of psychological problems. The social and spiritual dimensions are under-represented. Methods of clinical

reasoning and supportive structures facilitate multidimensional HC.

MC requires a cultural shift towards a systematic multidimensional symptom-management approach and interdisciplinary collaboration of the team members involved. However, change does not come easy. Leadership and commitment of team members is needed for a successful implementation of multidimensional symptom management and interdisciplinary collaboration.

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Competing interests None declared.

Ethics approval Medical ethical committee of the University Medical Center of Utrecht.

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Data sharing statement Data used in this research article can be obtained from the research group.

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