



ORIGINAL ARTICLE

Reducing Treatment Cost in Cancer Patients with Providing Palliative Care: a Successful Experiment in Golestan Province

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ARTICLE INFO

Article history Received:

April 23, 2020

Accepted: Nov 14, 2020

Published: Dec 02, 2020

Volume: 5

Issue: 3

Key words:

Palliative Care,

Cancer,

Home Care,

Iran,

Advanced Illness

ABSTRACT

Introduction: Palliative care is fundamental to health and patient rights. The aim of palliative care is to improve quality of life in advanced illness and reducing the pain. It is characterized as holistic approach which includes all aspects such as physical, emotional, social and spiritual. Our purpose of this study is to report a successful experience of utilizing palliative care in Golestan province. **Materials and Method.** This qualitative research was conducted in Golestan province, Iran using content analysis method. In this study, data was gathered from a 90 minute semi-structured interview with the founder of Golestan's Mehr club. The interview was recorded and transcribed afterwards. **Results:** Data analysis on the implementation of palliative care showed the themes 'simplification of treatment, crisis management, cost reduction, home care, and barriers against palliative care'. Some codes were repeated in the interviews such as having a trustee, avoiding confusion and relief. The interview reported that cancer, in addition of physical suffering, cause social, familial and financial trauma. **Conclusion:** Our findings demonstrated that palliative care will result cost reduction in hospital and medical expenses for cancer and terminally ill patients in Golestan province. It is essential for health practitioners to utilize palliative care as localized guideline to improve quality of life in advanced illness such as end stage cancers.

INTRODUCTION

The health profile shows a transition from communicable disease to non-communicable diseases (1) which are responsible for the most global deaths. Cancer is estimated to be the top cause of death and the most important barrier for life expectancy in the 21st century (2, 3). Cancer is the second leading cause of death worldwide in all ages and both sexes. (4). The International Agency for Research on Cancer (IARC) released the estimated incidence and mortality rate for 36 types of cancer which have risen to 18.1 million new cases and 9.6 deaths in 2018. One in five men and one in six women globally develop cancer during their lifetime (2). Cancer is accounting for approximately 9.6 million deaths in 2018 and nearly 70% of deaths exist in low and middle-class countries (5). In addition, the incidence of cancer in Iran is increasing due to aging, population growth, environmental

hazards, and lifestyle (4). Due to the increasing prevalence of cancer, the financial burden of this disease is one of the important factors affecting society. This financial burden does not only include direct costs of the disease, such as the cost of treatment and medicines but also indirect and hidden costs such as expensive travel to receive medical care, lost wages of the patient, and a second lost wage of the caregiver, the sale of personal assets such as wedding gold or a family home (6). Increasing costs of medical care such as hospitalization costs is an effective factor in increasing the overall costs of cancer (7). On the other hand, rising costs of the disease may reflect decision making in the treatment process such as repeated hospital admissions, invasive treatments, and staying in the intensive care unit (8). In addition, many studies showed that a disproportionate percentage of treatment costs are spent on end-stage patients (9). Using ag-

gressive treatment at the end-life period of a patient can lead to higher costs (10). To cope with the increasing costs, it is necessary to plan carefully about the advance care program, palliative care (PC) in the medical regimen, and intensive care unit (ICU) admissions to avoid unbeneficial measures and reduce costs (11).

The World Health Organization (WHO) considered palliative care as a way of improving the quality of life in cancer patients. Palliative care, taking into account the different dimensions of the patient, includes measures to relieve the patient (12). Currently, five different models have been used in palliative care, including hospital-based, outpatient-based, home-based, nursing home-based, and hospice based palliative care (13). Recent studies noted that home-based palliative care improves the quality of life of patients and their family and patients benefit emotionally from this method. In addition, a review of evidence on costs and cost-effectiveness of PC found that hospital-based PC tends to be cheaper than usual care. Besides, a home-based PC program tends to be cheaper than usual care in a hospital or hospice care (14). Professional specialized in home-based palliative care help patient to take their palliative care besides their family which can lead to more satisfaction in patients and better outcome over ally (15). In Iran, the healthcare system is networked and provides prevention in three levels. Patients are identified in a smaller center and referred to specialized centers for further measures. Home-based palliative care is difficult to use in such a system and requires the support of external organizations. There are many support centers like charities that support patients that need home-based palliative care (14).

Performing any program in a community requires evaluating its usefulness in all dimensions and its compatibility with the target community. Due to the structure of the health-care system in Iran and the culture of the people of the region, the implementation of this method requires careful evaluations. Thus in this study, we introduce a successful experience of palliative care for end-stage patients with cancer in GOLESTAN province in Iran. we report and explicate the processes of palliative care.

MATERIALS AND METHODS

This qualitative research was conducted in Golestan province, Iran using the content analysis method. This method is an appropriate model to obtain valid and reliable results from a text form such as the transcription of an interview in our case. With this method, we could generate new ideas, knowledge, and practical guides.

In this study, data was gathered from a 90-minute semi-structured interview with the founder of Golestan's Mehr club. Mehr club is a supporter of terminally ill and cancer patients has been founded to provide palliative care and end of life care. The founder has post-doctorates on hematology, oncology, and palliative care and has been working in this field for more than 8 years.

The researcher started with the following questions and used other follow up questions to get more collaboration on the matter:

-Which patients are suitable to receive palliative care?

-What are the goals and benefits of palliative medicine?
-What are the barriers to executing palliative care for patients?

The interview was recorded and afterward transcribed completely. For analyzing the data qualitative content analysis method by Graneheim (16) was adopted. In the first step, the interview was read a few times by the researcher. After that paragraphs, sentences, and words were considered as meaning units, and codes were extracted and labeled. Then the codes were compared by their similarities and differences and classified with a specific label. With the comparison of classifications and thinking deep on them, underlying meaning in the data was introduced as the subjects of the study.

RESULTS

Golestan's Mehr club started helping cancer and other terminal patients from 2015. This club is an outpatient center that runs under the supervision of a group of medical doctors and experienced nurses. In this center patients with specific criteria enter the palliative care process. These criteria include cancer patients who have written confirmation of no benefit of treatment from chair physicians due to diffuse metastasis to vital organs and incurable progress of the disease. Patients' eligibility will be confirmed thorough evaluation of patient's conditions and medical history by a doctor at home. These criteria will include some non-terminal patients too. These patients also should have consented to move their patients from hospital to home to prevent doing no beneficial procedures.

Most of the patients were referred to the club by the suggestion of hospital employees or close relatives. Also, some patients were introduced to the club by recommendation from people with knowledge of palliative medicine. Until now 125 patients have been under the care of this center (88 percent of them underwent end of life stages and the rest of the patients are in other stages of the disease). 67 of these patients have died peacefully at home. 25 of them passed away at small town's local hospitals and another 25 at passed away at hospitals in the capital of the province. Patients who were admitted to hospitals and ICU in the last months of life were costed an average of 40 million tomans per patient, while patients who were covered by the Mehr club faced a cost of fewer than 1.2 million tomans they had.

The main subjects were extracted from the interview after a complete analysis of the codes. The main subjects related to experience in presenting and executing palliative care were simplifying the treatment, crisis management, reducing costs, home care, and barriers in implementing palliative medicine. Some of the codes that repeated many times and supported the main subjects are as follows: having a trustee, avoid confusion, decreasing health providers' exhaustion, mind relief, self-care, supportive treatment, patient's dignity, and considering patient's needs.

Reducing costs

Patients are referred to the emergency department for their simplest problems and undergo futile laboratory tests.

"Hospital beds are there for curable patients; end of life patients can be sent to home with the support of a palliative

team to spend their last moments with their families. When we hospitalize end of life patients we are bringing costs which are not in benefit of patients and their families.”

Providing palliative medicine for patients in their last month (end of life palliative care) or providing palliative care from the early diagnosis of terminal diseases (early palliative care) reduces significant costs for patients’ families.

“Occupying hospital beds in intensive care units or regular departments, daily routine laboratory testing, administering numerous and futile drugs for patients at the last days of their lives are some of the visible costs that patients are subjected to them. There are also some invisible costs such as repeated visits to the hospital and costs of travel, hospital crowding, traffic jams, and air pollution, etc. these costs and problems can be solved by palliative medicine.”

Crisis management

Palliative medicine also helps patients’ families by preparing them and helping them in accepting the truth.

“This center helps patients’ relatives with counseling to accept the truth before even patients pass away. This has made patients’ families have more satisfaction and their quality of life doesn’t drop significantly after their patient is passed away.”

Home care

In Golestan province, palliative care is provided in the form of home care, telephone care, counseling, 24-hour counseling in 7 days of the week. This care is provided by a team that consisted of physicians, nurses, therapists, social workers, and health benefactors.

“The main goal of palliative medicine is providing self-care by the family members. Right now this is happening in Gorgan, Golestan. Palliative care team nurses’ depending on patients’ conditions visit them at home daily or once every two days. Physicians also visit them at home if needed but mostly they do the consultation over the phone. Other members of the team including therapists, social workers, and nutritionists also are in contact with the patient and his family. This way costs have reduced significantly and patients’ families are content with the fact that they are directly involved in the care process.”

Barriers in implementing palliative medicine

Barriers such as physicians’ benefits, lack of awareness palliative care methods, and lack of facilities have caused delays in implementing these methods vastly.

“With this method, many visits to physicians and specialists will be reduced. Since insurances have no supervision on being hospitalized or not, administering drugs or not there is no oversight cancer specialists in Iran. In other words, there is no legal discipline or specific guidelines. With this method, the physician will lose his inclusive governance over the patient, and the future and decision of the patient would not be only in the hands of the doctor. Lack of cancer knowledge and the presence of false believes and cultures are also barriers. Also, lack of educational courses in this field has resulted in unawareness of people and specialists of palliative medicine.”

DISCUSSION

We conducted this study to report a successful experience in palliative care for patients at the end of life days. The findings indicated the improving quality of life of patients, reduction of expenses, and satisfaction of families. Palliative care is to relieve complications caused by cancer and its aim is to improve life expectancy and quality of life and besides reducing the costs of end-stage patients (17). However, this approach is still insufficiently accessible in many countries and only a limited patients can utilize this type of care (18).

The financial burden of cancer for patients, families, and society is expected to increase in the future due to aging and population changes. These burdens include morbidity, lack of productivity, youthful death, direct medical cost, and reduction of quality of life (5).

Pham et al in 2014 conducted a systematic review on the impact of palliative care on economic analysis. They reviewed articles from 2000 to 2013 and noticed the significant effects of palliative care at home. Patients’ quality of life has increased at the end of their lives and the costs reduced approximately 4400 USD per patient (19). This is consistent with the findings of this study. We acknowledged that the cost for a patient who passed away at home is significantly lesser than the one who was taken care of in ICU.

A cohort study on increased hospice utilization is reported reducing hospital costs, invasive intervention, and hospitalization of patients by Shao et al in 2017. This study is conducted approximately 250 thousand patients older than 18 years old who died of cancer between 2008 and 2013 in Taiwan and showed the change of hospice utilization after policy changes (From 20.8% to 36.2%) (20). This is consistent with the analysis by Palma et al on the effectiveness of palliative care services in end of life cancer patients. This retrospective study was conducted on a cohort of 34,357 patients with poor prognosis cancer and showed the reduction of costs and intensive services (21). Singer et al. performed a systematic review on populations and interventions for palliative care. They reviewed published RCTs that addressed advanced illness whom palliative care should be considered and only four studies report hospice use. They found strong evidence for palliative care improving the quality of life and delivering symptomatic support but they reported a poor impact on the reduction of costs and economic issues (22). These findings can be explained by old ways of using home care and palliative care in this review article. Over time, improving palliative care deficiencies can affect the effectiveness of this approach to costs which recent studies showed it (23, 24).

The qualitative study reported an additional and interesting finding among patients who received palliative care is their lack of information about palliative care and the desire of a good patient-physician relationship by Masel et al. in 2016 (18).

One of the methods used in palliative care in our study, also of the home care team, was telephone support to deliver care and management to patients. Pandor et al.

demonstrated the effectiveness of this method as an optimal strategy for office hours to reduce the costs. This systematic included 21 RCTs that compared different methods such as remote monitoring, telephone support, and telemonitoring in office hours in heart failure patients (25).

In this study, the authors emphasized on lack of awareness and the need for training and education for all staff in the palliative care process. Marcel et al. also presented the expectations and needs of patients when admitted to the palliative care unit. Being aware of the patient's perspective makes the medical team to improve better care. The qualitative study by Ansari et al. in 2018 reported the educational needs of stakeholders of palliative care which increase the quality of life in cancer patients. Considering this fact that palliative care is an essential part of the health system, policymakers need to develop proper educational models in universities and training healthcare personnel.

ACNOWLEDGMENTS

The authors thank Hamidreza Aghadust for his assistance in data acquisition.

AUTHOR CONTRIBUTION

All authors conceived And designed the study. All authors contributed to manuscript revision. All authors approved the final version of the manuscript and agreed to be held accountable for the content therein,

CONFLICT OF INTEREST

None.

ETHICAL STANDARDS

This article does not content any studies involving animals performed by any of the authors. This article does not contain any studies involving human participants performed by any of the authors. This study approved by school of medicine- Tehran University of medical sciences. All the patients signed written consent before including the study.

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