Assessment of the impact of home palliative care on the quality of life, anxiety, and depression as well as performance status in cancer patients – case series

Alina Niezgódka-Klósak[1], Ewelina Swora-Cwynar[1], Monika Raniszewska[2], Agnieszka Seraszek-Jaros[3], Agnieszka Dobrowolska[1], Jacek Karczewski[1]

[1]Katedra i Klinika Gastroenterologii, Dietetyki i Chorób Wewnętrznych, Uniwersytet Medyczny w Poznaniu, Poznań, Poland
[2]Hospicjum Palium, Uniwersytet Medyczny w Poznaniu, Poznań, Poland
[3]Zakład Bioinformatyki i Biologii Obliczeniowej (ZBBO), Uniwersytet Medyczny w Poznaniu, Poznań, Poland

Abstract

Introduction: The main aim of this study project is an assessment of the impact of home palliative care on the quality of life (QOL), anxiety, and depression as well as performance status in cancer patients.

Material and methods: We used the following questionnaires: European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – Core 30 (EORTC QLQ C-30), the Hospital Anxiety and Depression Scale (HADS), and the Karnofsky Performance Status (KPS).

Results: We enrolled 21 cancer patients (adults) under home palliative care. In this study project we mainly compared the results of EORTC QLQ C-30, HADS, and KPS over time. Interestingly we found statistically significant differences between day 1 and day 21 of palliative care in the score of the EORTC QLQ C-30 and HADS scale. We noticed that the mean EORTC QLQ C-30 and HADS scores decreased at each time point at which we re-assessed QOL and anxiety as well as depression. We observed no statistically significant differences between the first and 21st day in terms of performance status.

Conclusions: Preliminary results indicate that the home palliative care can improve QOL and may also reduce the severity of anxiety and depression in cancer patients.

Key words: cancer, home palliative care, quality of life, depression, anxiety.

Address for correspondence:

dr Alina Niezgódka-Klósak, Katedra i Klinika Gastroenterologii, Dietetyki i Chorób Wewnętrznych, Uniwersytet Medyczny w Poznaniu, Poznań, Poland, e-mail: niezgodkaalina@gmail.com

INTRODUCTION

Patients struggling with progressive and incurable cancer disease require hospice care. The incidence of cancer is constantly growing, thus increasing the need for palliative care [1]. The main goal of palliative care is to improve the quality of life (QOL) of cancer patients [2]. Cancer patients may be offered palliative care at home or in hospice centres. However, at present, we have few scientific reports on the impact of home palliative care on QOL in Poland [3, 4]. The quality of life is determined by both the mental and physical spheres. Therefore, the main aim of this study project is the assessment of the impact of home palliative care on QOL, anxiety, and depression as well as performance status in cancer patients.

MATERIAL AND METHODS

We conducted the study from May to November 2022. The inclusion criterion was a predictable survival time of more than 3 months. We used the following questionnaire to assess the quality of life: the European Organization for the Research and the Treatment of Cancer Quality of Life Questionnaire – Core 30 (EORTC QLQ C-30). The EORTC QLQ C-30 questionnaire was constructed by the Quality of Life Research Group established by the European Organization for Research and Treatment of Cancer (EORTC). The measurements of functioning of cancer patients include the following scales: physical functioning, functioning in social roles and at work, emotional functioning, cognitive functioning, social functioning, and general measurement quality of life. The validity of the Po-

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lish version was estimated on the basis of correlations between individual scales of the EORTC QLQ C-30. High correlation was found between overall QOL and all other scales, both of which are related to physical condition and performance, as well as those relating to the sphere mental [5].

In turn, we used the Hospital Anxiety and Depression Scale (HADS) to assess the degree of anxiety and depression. The Hospital Anxiety and Depression Scale is a screening method for identifying psychiatric disorders in patients of non-psychiatric wards, constructed by Zigmond and Snaith. It includes 7 items regarding anxiety and 7 items regarding depression. A score ≥ 11 on both HADS indicates anxiety or depressive disorders. The Polish version of the HADS is a reliable tool for patients in the terminal stage of the disease. The validity of the HADS scale was assessed by correlating its results with functional evaluation of the EORTC QLQ C-30 scale. The research results indicate a statistically significant relationship between the HADS with most QOL indicators assessed by EORTC QLQ C-30 [5].

We also assessed performance using the Karnofsky Performance Status (KPS). The Karnofsky Performance Status is a method for determining physical functioning using a metric assessment of the degree of functional independence, developed by Karnofsky and Burchenal. It is assumed that higher values of the scale correspond to better performance and higher QOL. The results obtained using this scale for oncological patients correlate highly with survival time [6].

The palliative care scores in the QOL, HADS, and KPS questionnaires are presented as means. We assessed QOL 4 times, i.e. on the 1st, 7th, 14th, and 21st day of palliative care (Table 1). We also assessed anxiety and depression 4 times using the HADS scale (Table 1). Furthermore, we compared the results of the QOL questionnaire as well as the anxiety and depression questionnaire over time.

The study project received the approval of the Bioethical Committee of the Collegium Medicum of the University of Zielona Góra in Poland.

Home care included medical visits (at least once every 2 weeks) and nursing visits (at least twice a week) and, depending on the patient's needs, also visits by a psychologist and physiotherapist. Home care consists of meeting all the needs of cancer patients and includes treatment of pain and other somatic symptoms as well prevention of complications caused by disease progression and causal treatment.

Compliance with the normal distribution was confirmed using the Shapiro-Wilk test. The analysis of the results over time was performed using the repeated measures ANOVA test with the Bonferroni correction. Pearson's correlation test checked the relationship between age and disease duration and QOL and KPS results. All statistical analyses were performed in MedCalc® Statistical Software version 20.027 (MedCalc Software Ltd, Ostend, Belgium; https://www.medcalc.org; 2022). The results were considered as significant at $p < 0.05$.

RESULTS

We enrolled 21 cancer patients (adults) under home palliative care. All patients completed this study project. Mean patient age was 72.4 ±13.9 years. Most patients included were female (57%). Patients included in this study project had the following types of cancer (order determined by frequency): gastrointestinal cancer (colorectal cancer, pancreatic cancer, and stomach cancer; 38%), breast cancer (19%), lung cancer (9.5%), ovarian and prostate cancer (9.5%), cancer diseases of the hematopoietic system (9.5%), melanoma (5%), and the remaining 9.5% had cancers of unknown primary location. As for treatment methods, 48% of all patients underwent several types of therapy (e.g. chemotherapy, teletherapy, and hormone therapy), 19% of all cancer patients used teletherapy, 14% of all cancer patients received hormone therapy, and 9% of all cancer patients used chemotherapy. The median duration of cancer disease (from diagnosis) was 14 months.

We noticed that the mean EORTC QLQ C-30 decreased at each time point at which we re-assessed QOL (Table 1). On the first day of palliative care we found anxiety disorders in 71% of cancer patients and depressive disorders in 43% of cancer patients. We found statistically significant differences between the first and 21st day of palliative care in the EORTC QLQ C-30 ($p = 0.02$) and HADS anxiety

Table 1. European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – Core 30 and the Hospital Anxiety and Depression Scale scores at 4 time points

Questionnaire	Day 1	Day 7	Day 14	Day 21	p-value*
	Points, mean (min.–max.)				
EORTC QLQ C-30	84.7 (63–107)	80.8 (61–98)	77.4 (55–101)	77.7 (52–93)	0.02
HADS anxiety	12.7 (6–20)	11.6 (6–19)	10.2 (5–18)	10.3 (6–17)	0.0005
HADS depression	10.3 (3–17)	9.6 (5–17)	9.0 (5–15)	8.8 (5–13)	0.01

EORTC QLQ 30 – European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – Core 30,
HADS – the Hospital Anxiety and Depression Scale
* p-value refers to the comparative analysis between days 1 and 21

($p = 0.0005$) as well as HADS depression ($p = 0.01$) (Fig. 1). Furthermore, we performed the assessment of performance status according to KPS on the first and 21st day of palliative care. We observed no statistically significant differences between the first and 21st day ($p = 0.05$). In addition, we checked whether age correlated with QOL and KPS. We noted statistically significant correlations only in the case of performance status ($p = 0.03$). We obtained here negative correlations with age (day 1; $r = –0.55$, $p = 0.009$, day 21; $r = –0.47$, $p = 0.03$), i.e. the older the age, the lower the performance status.

DISCUSSION

The impact of palliative care on improving QOL of cancer patients has already been confirmed in many scientific studies [7]. However, we currently have few scientific data evaluating the impact of home palliative care on QOL in Poland. Additionally, we do not know the impact of home palliative care on anxiety and depressive disorders, which in turn may determine QOL. We noticed an improvement in QOL in patients under home palliative care, although we observed no differences in performance status. Pietrzynski *et al.* obtained similar results when assessing the influence of home palliative care on QOL and performance status among patients with breast cancer ($n = 144$) [8]. Moreover, we observed an improvement in anxiety and depression during the patient's home palliative care. Interestingly, Swetz *et al.* found opposite results when assessing the effects of home care on anxiety and depression (2 weeks after hospital palliative care) in cancer patients [9]. As mentioned earlier, cancer patients may receive palliative care at home or in hospice centres. However, it is not known whether the 2 types of palliative care similarly affect QOL or other important aspects such as anxiety and depression as well as performance. Conducting such a project study in the future could improve palliative care. Chang *et al.* compared the 2 types of palliative care in terms of QOL only. They concluded that both types of palliative care (hospital and home) can improve QOL in cancer patients [10].

A limitation of this research project is the small study group, which results from the fact that this observational study project was conducted in one centre offering home palliative care. In the future, this study project should be expanded to include additional palliative care centres.

CONCLUSIONS

Home palliative care can improve the QOL of cancer patients within 3 weeks. Furthermore, home pal-
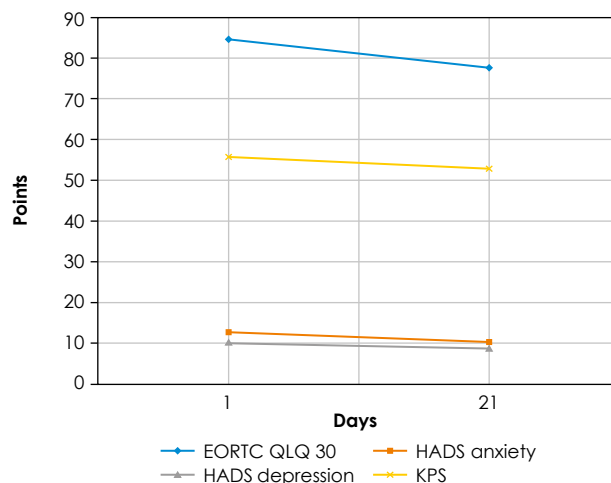

Fig. 1. European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – Core 30, Karnofsky Performance Status, and Hospital Anxiety and Depression Scale changes over 21 days of home palliative care

EORTC QLQ 30 – European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire – Core 30, HADS – the Hospital Anxiety and Depression Scale, KPS – Karnofsky Performance Status

liative care may also reduce the severity of anxiety and depression in cancer patients. The above results indicate that home palliative care fulfils its main aim, which is to improve the QOL of cancer patients, but it does not improve the performance status. Nevertheless, there is a need for a multicentre study project covering a larger study group as well as scientific research comparing home palliative care with palliative care in hospice centres in terms of improving QOL as well as anxiety and depression.

The authors declare no conflict of interest.

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