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Effect on symptom control of structured information given to patients receiving chemotherapy☆

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A B S T R A C T

Purpose: The performance of a planned education model in patients receiving chemotherapy can alleviate the side effects of chemotherapy and thus can increase the quality of the patients' lives. In accordance with this view, this study was conducted with the purpose of examining the effect of planned education given to patients receiving chemotherapy on their symptom control.
Methods: The study was quasi-experimental. A sample of 120 patients participated, of which 60 were in the experimental group (EG) and 60 were in the control group (CG). A patient data form and the chemotherapy symptom assessment scale (C-SAS) were used in order to collect the data. Median, Mann–Whitney *U* test and Wilcoxon signed rank test were used to analyze the data.
Results: There were statistically significant decreases in the frequencies of the following symptoms: nausea, vomiting, constipation, pain, infectious signs, problems of mouth and throat, problems of skin and nails, appetite changes, weight loss or weight gain, feeling distressed/anxious, feeling pessimistic and unhappy, unusual fatigue, difficulty sleeping. Also, there were statistically significant decreases in the severity of eleven symptoms and on the discomfort levels of nine symptoms.
Conclusion: In the study, the planned education provided by the health-care providers had a positive effect on the symptom control of patients receiving chemotherapy.

Introduction

Cytotoxic drugs used in chemotherapy affect normal cells in addition to the destruction and prevention of proliferation of cancer cells (Mihelic, 2005). In addition to its curative effects, chemotherapy also produces side effects such as pain, anorexia, cachexia, impaired taste, alopecia, nausea, vomiting, dehydration, mucositis, depression, and anxiety (Coates et al., 1983; Giordano and Jatoi, 2005). These side effects are mostly temporary and are preventable or can be minimized with appropriate treatment and care (Coates et al., 1983). Inappropriate control of side effects causes patients to give up the treatment, the treatment dose to be lowered, or the treatment to be terminated, while prolonged physical symptoms lead to psychosocial problems in patients (Kornblith et al., 2003).

Symptoms generated by chemotherapy affect morbidity, effective therapy, and quality of life. Thus, health-care professionals, and particularly nurses, have responsibility for the early detection, prevention, and control of these symptoms (Chau et al., 2004; Kornblith et al., 2003). Assessment of symptoms of chemotherapy is important in terms of detecting the patient's quality of life, determining problematic areas, developing standards of care, and planning, implementing, and improving related nursing activities (Chen et al., 2008). Assessment of symptoms is also important in terms of calculation of care-related costs and determination of doses of drugs to be used in symptom control (Tina Shih et al., 2007). Many studies have stressed the importance of nurses in education to control side effects and in supporting patients in addition to systematic assessment of side effects in patients undergoing cancer chemotherapy (Aslan and Vural, 2006; Williams and Schreier, 2005, 2004). Symptom control by nurses in patients undergoing chemotherapy positively affects the patients' quality of life (Bahrami and Arbon, 2012; Bahrami, 2011).

The educational role of the nurse always comes into prominence in symptom management for cancer patients (Aslan and Vural, 2006). Nurses have the responsibility of informing patients about the chemotherapy drugs, potential side effects, and measures to mitigate side effects (Williams and Schreier, 2004). It is very important to inform and comfort patients and to gain their trust by education on symptom control while they are undergoing

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chemotherapy (Bahrami and Arbon, 2012; Williams and Schreier, 2004).

Cancer patients require education and knowledge to participate in the decision-making processes, to control their disease and the symptoms associated with the treatment, and to cope with the cancer experience (Devine, 2003). As a consequence of the nurse education model planned according to the patients' needs, the side effects of chemotherapy can be mitigated, patients can take responsibility for their own care, and they can participate in the decision-making process. As a result, their quality of life and adherence to treatment will improve (Aslan and Vural, 2006; Chau et al., 2004). In the literature, studies on symptom control have yielded beneficial results (Coughlan and Healy, 2008; Williams and Schreier, 2005, 2004). However, studies related to this topic are insufficient in Turkey. This study is a quasi-experimental one that tests patient educational interventions during chemotherapy, with a secondary aim of focusing on describing symptoms in patients during chemotherapy.

Materials and methods

Patients

This quasi-experimental study was carried out with patients taking chemotherapy as either outpatients or inpatients at Erciyes University Mehmet Kemal Dedeman Oncology Hospital, Hematology–Oncology Unit. The sample size was calculated using the study of Aslan and Vural (2006) investigating the reliability and validity of the chemotherapy symptom assessment scale (C-SAS). The minimum number of patients was determined by $\alpha = 0.05$ margin of error, $\beta = 0.2$ ($1 - \beta = 0.8$ power) and type-II error. The study sample consisted of individuals older than 18 years who were given inpatient chemotherapy at the hematology unit or outpatient treatment for the first time between April 2010 and February 2011; the patients were able to communicate, and gave consent for their participation in the study. When determining patients for the experimental and control groups, every individual who satisfied the inclusion criteria was randomly included into the study with an equal chance of being selected in either group. A total of 120 patients – 60 trial subjects and 60 control subjects – were enrolled.

Data collection tools

To collect data the following forms were used by the researcher.

Patient information form (PIF): this is a 19-question form requesting information such as age, sex, educational status, marital status, diagnosis, duration of disease, number of courses, chemotherapy regimen, home town, and social support of the patient.

C-SAS: the validity and reliability analysis of the study which was developed by Brown et al. (2001) was performed by Aslan and Vural (2006). The C-SAS includes the 24 chemotherapy symptoms observed in cancer patients receiving chemotherapy. The first part of the scale includes the frequency of the symptoms, the second part includes severity, and third part includes the degree of discomfort. Frequencies of symptoms are given in yes/no format, symptom severity is scored on a three-point likert-type scale (mild: 1, moderate: 2, severe: 3), and the degree of discomfort is scored on a four-point likert-type scale (none: 0, mild: 1, quite a lot: 2, excessive: 3). Each symptom is assessed individually. High scores indicate elevated symptom severity and degree of discomfort.

During the validity and reliability study performed for the scale by Aslan and Vural (2006), the scale was first translated from English into Turkish and from Turkish into English by two linguists, and then evaluated by five English-speaking oncologists to assess its validity. The scale was then applied to training groups consisting of five patients each in order to assess whether there were any comprehension-related difficulties. To analyze its reliability, the scale was administered to 409 patients at two oncology centers. According to this study, the Cronbach's α coefficient was 0.67, 0.80, and 0.82 for the first, second, and third parts of the scale, respectively (Aslan and Vural, 2006).

The reliability analysis we have performed in the current study determined Cronbach α coefficients of 0.74, 0.76 and 0.87 for the first, second and third sections, respectively.

Ethical considerations

The required institutional approval, approval of the institutional ethical committee, and written informed consent of the patients were obtained.

Procedure

First, the patients were informed about the study, and their written and oral consent was obtained.

The patients in the control group were included in the first stage of the study. The control group consisted of 60 patients who volunteered to participate and were given chemotherapy for the first time. The PIF – which addresses the socio-demographic, clinical, and treatment features of the control group – was completed before the first chemotherapy session, and the C-SAS was completed after the third round of chemotherapy. The researcher performed both sessions face-to-face in a suitable room.

After completing the control group, preparations were made for 60 patients who were eligible for the experimental group, had volunteered to participate in the study, and were about to receive chemotherapy for the first time. First, a meeting was arranged with the authorized personnel in the clinic and a room was reserved that was suitable, silent, comfortable, and away from external stimuli, which would be used for the education session. Prior to the education sessions, we met with the patients' families and other team members to determine the educational need of each patient selected according to the sample criteria, reviewed the medical and nursing records, and collected patient data. In the light of these findings, a personalized, planned educational program was organized for each patient. This educational program was performed as follows.

First educational session: PIFs were distributed to the patients and were completed prior to the educational session. Considering the chemotherapy plan organized by the oncologist, the first session of this personalized and planned educational session was performed prior to the first chemotherapy cycle. Considering the possible side effects of the chemotherapy, during the first educational session the patients were given information on topics including symptoms, underlying causes, prevention, and control. A family member responsible for primary patient care also attended the training sessions. This session lasted for 40–45 min. Patients and family members were encouraged to ask questions during the session, and their questions were answered. A booklet containing the educational topics was provided after the session.

Second educational session: the second training was given to patients and their family members prior to the second chemotherapy cycle, which is generally performed within 30–45 days after the first session. The topics covered during the first session were discussed again. This session lasted for 30–40 min, and emphasis was given to patients' symptoms and their control.

Third educational session: during the third and final educational session, which was given to patients and their relatives prior to the third chemotherapy cycle, the topics covered within the first and second education session were discussed again according to the