RESEARCH ARTICLE

Development and Application of Telephone Counseling Services for Care of Patients with Colorectal Cancer

Wen-Li Lin[1], Jia-Ling Sun[2]*, Shu-Chan Chang[1], Pei-Hua Wu[1], Tsung-Chih Tsai[3],Wen-Tsung Huang[4], Chao-Jung Tsao[4]

Abstract

Background: The number of colorectal cancer (CRC) patients in Taiwan has increased in recent years; therefore, the effective dissemination of information related to symptom care has become especially important. Previous studies indicated that the physical and psychological status of cancer patients can be effectively improved by telephone counseling services (TCS). Thus, determining the most effective means of establishing a TCS to support the clinical practice of oncology has become a crucial goal for nursing. The purposes of this study were to analysis the content of the TCS for CRC and explore stratification of the TCS. Materials and Methods: The study design was retrospective. A total of 850 calls were made to CRC patients in the cancer center of Southern Taiwan during the period of January 2007- December 2011. A structure questionnaire was adopted to analysis satisfaction. Results: Responses provided by the TCS included information regarding nutrition, side effects resulting from chemotherapy and pain. Moreover, 28.7% of CRC patients needed advanced treatment. More than 90% satisfaction with all aspects of the calls was found. Conclusions: The TCS coulkd be shown to provide an effective means by which to expand the reach of nursing care to different times, places and patients, allowing for greater cost efficiency and more rapid service.

Keywords: Colorectal cancer - telephone counseling service - nursing care - cost efficiency

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Introduction

Cancer is the leading cause of death among the top 10 causes in Taiwan. Colorectal cancer (CRC) has the highest prevalence among all cancer types, with 14,040 persons diagnosed with CRC in 2010 (Ministry of Health and Welfare, 2013a) and a total of 5,131 persons who died of CRC in 2011 (Ministry of Health and Welfare, 2013b). Patients with CRC are faced with all kinds of symptoms and conditions caused by the disease and its treatment, as well as major challenges and adjustments of a physical, mental, and spiritual nature (Jefford et al., 2011). Clinical medical personnel provide proper nursing care and fulfill the needs of patients. Providing cancer patients with updated information helps patients understand their disease, enhances their participation in the treatment selection process, and results in higher treatment satisfaction rates (Polly et al., 2011).

Providing cancer patients with long-term supportive listening boosts their confidence and sense of safety. Mental support helps reduce mental challenges faced by patients and enhances adaptability, thus enhancing quality of life (Jakobsson et al., 2008).

The traditional providing medical care and nursing care can no longer satisfy the immediate needs of patients (White et al., 2012). A study by McEwan et al. (2009) has shown that a telephone counseling service (TCS) is an effective way of communicating with patients. It provides patients with safe and efficient nursing care, and other countries have already used TCS systems widely with cancer patients (Livingston et al., 2010; White et al., 2012). A TCS system provides patients with prompt support and can prevent unnecessary accidents and emergencies requiring hospitalization (Dodd et al., 2007). It is the fastest way to answer a patient's questions and conduct a preliminary evaluation.

Evaluating the Needs of CRC Patients to Receive Telephone Counseling Service (TCS)

CRC patients may be disturbed by all sorts of symptoms and discomforts during treatment. A TCS system allows medical personnel to manage and monitor health conditions of patients promptly, enhances the health and quality of life of patients, and in turn improves the medical care satisfaction rate (Cusack et al., 2010). Cox et al. (2003) compiled and analyzed 37 studies on TCS, and the results show that not only can TCS provide physical and mental support to patients and fulfill patients' needs for

*[1]Cancer Center, Chi Mei Medical Center, [3]Department of Surgery, Chi Mei Medical Center, [4]Department of Hematology and Oncology, Chi Mei Medical Center, Liouying, [2]Department of Nursing, Yuanpei University, Hsinchu, Taiwan *For correspondence: ling5966@yahoo.com.tw*

relevant information, it can also enhance the performance and cost effectiveness of medical treatment services.

A TCS can fulfill the needs of patients and satisfy their needs for physical, mental, and social care. An evaluation of this hospital found that no counseling hotline is made available for cancer patients and that CRC patients are unable to receive proper professional counseling and care when they are faced with conditions resulted from the disease or the treatment after they are discharged from the hospital, which in turn results in lack of resources being available to respond to multiple problems when they stay at home during their treatment period and recovery period. In view of this, it is advisable that the hospital set up a TCS to provide timely evaluations and support to cancer patients, enhancing the medical satisfaction level and quality of life of patients. The importance of having a TCS should not be underestimated.

Relating Clinical Problems of Cancer Patients to TCS Intervention and Outcome

A study by Gift et al. (2003) shows that cancer patients often experience challenges such as cognitive function impairments, psychological disturbances, changes in lifestyle, fears of relapse, and uncertainty about the disease. Treatments are often interrupted due to symptoms and conditions caused by the treatment, affecting the completion of treatment, functions of the body, quality of life, and survival rates. The physical and mental problems of cancer patients may be improved and symptoms relieved if medical staffs can provide patients with sufficient information related to care and support systems to perform self-care (Ruland et al., 2013).

Via TCS, the needs of cancer patients or their primary caregivers can be known. It helps patients understand the disease and learn how to manage it, receives mental and emotional support, and enhances patient satisfaction level towards medical caregivers (Jeffordet al., 2005). Hseish et al. (2005) conducted a study on 44 cancer patients on chemotherapy and found that telephone counseling and home care guide can effectively enhance self-care abilities, and reduce symptom severity and 15.7% of re-hospitalization rate.

With TCS, the person receiving the counseling can better understand the disease, correct wrong concepts, be made known to treatment choices, and receive support, lowering cognitive impairment and conflicts in decisions (Stacey et al., 2008). Medical personnel may help patients manage mental stress by guiding them to release their emotions, provide emotional support, and help patients adapt to the disease (Goldman et al., 2007). A study by Jefford, Kirke et al. (2005) shows that, of the 76000 telephone counseling conducted, more than 50% of the calls were made by the general public inquiring about cancer prevention and most of the questions posed by the cancer patients and their family members were related to cancer treatment and management. A retrospective study by Jeffordet al. (2005) evaluated 27480 telephone counseling and found that in average, each call lasted for about 4 minutes and 70% of the calls lasted less than 7 minutes, and calls by cancer patients and their family members were usually made to inquire about cancer related matters such as cancer treatment, management of side effects, and tests and examinations. Therefore, TCS can help monitor the status of patients and provide disease-related counseling and timely physical, mental, and emotional support. Reid et al. (2011) recorded the outcome of providing 7,498 24-hour "chemotherapy telephone counseling service" to cancer patients on chemotherapy with statistical analysis showing that 25.6% of the calls came in between 8 am and 4 pm. It was found that 45.8% of the callers were patients, 31% were primary caregivers, and 20.5% were medical care institutions. Most of the questions were medical related (36.8%). Past studies conducting surveys to assess cancer patient satisfaction on TCS show that service receivers have high satisfaction level towards TCS and that practical information and emotional support can be provided (Livingston et al., 2010; Dean et al., 2011).

Effectiveness of TCS

Cusack et al. (2010) conducted a literature review on CRC patients who have received TCS and finds that telephone counseling helps patients manage their symptoms timely and the service satisfaction level was effectively increased by over 90%; patient compliance with outpatient treatment was increased and medical service costs were reduced. The functions of TCS include providing necessary information, conducting need assessment, maintaining communication with other medical staffs, and providing personalized service (Rainey, 1985). Literature analysis shows that TCS can help relieve physical and psychological disturbances experienced by CRC patients and can meet the needs of different individuals (Livingston et al., 2010; White et al., 2012; Pinto et al., 2013).

Materials and Methods

Design

This is a retrospective study on CRC patients and their family members from January 1, 2007 to December 31, 2011. The study was divided into 2 parts; part 1 analyzed the need for telephone counseling and part 2 investigated the satisfaction level of the person making the call towards the telephone counseling by sending the structured questionnaire by post to the person making the inquiry and then analyzing the satisfaction level.

Subjects

The TCS of this study was set up in the cancer center of a medical center in southern Taiwan to provide service to CRC patients receiving treatment at the medical center, as well as to their family members.

Process

A CRC case manager was placed at the recruiting site to set up files on CRC patients and conduct follow-up. The prerequisites for setting up the TCS were made available, and the TCS method used for the CRC patients is described below:

1. Telephone counseling experts on cancer and service targets: Counseling is given to CRC patients by CRC

Table 1. Service Calls Basic Data (N=850)

Items	Number	%
Callers		
CRC patients	365	42.9
Family members	316	37.2
Institution of care	169	19.9
Sex		
Male	284	33.4
Female	566	66.6
Time of calls		
8AM~1PM	369	43.4
1PM~12midnight	300	35.3
12midnight~8AM	181	21.3

case managers who have had at least 5 years experience in taking care of cancer patients. The CRC patients are referred by physicians. This is a 24-hour counseling hotline.

2. The design of the Telephone Counseling Service Form: The Telephone Service Operational Manual states in detail the implementation steps to ensure that the implementation procedures are standardized before they are used. The Telephone Counseling Service Form was designed to record information regarding needs.

3. Steps to perform cancer telephone counseling service: The counselor responds to the questions/inquiries of the caller and records the management outcome in the Cancer Patient Counseling Service Record Form. The counselor assists in referring the patient to a suitable department, whenever necessary. Conditions of patients are followed up later and the case will only be closed after the problem of the caller is solved.

4. Corrections to cancer telephone counseling implementation procedure: CRC patients normally have complicated problems related to nutrition and social welfare. Therefore, the cancer center has decided to set up a "hospital back-end support team" comprises of dietitians, social workers, physicians from Department of Hematology and Oncology, and pharmacists working on shifts to promptly assist the caller in managing his/her problem or make referrals.

Instruments

1. Basic data such as gender and time of call of the target of service is recorded.

2. Counseling Service Record Form: The Counseling Service Record Form records and then categorizes the questions/problems of the caller.

3. Satisfaction level towards counseling: The TCS satisfaction level is evaluated via a questionnaire of 5 questions. These 5 questions investigate whether the caller is satisfy with the attitude of the counselor, the professional ability of the counselor, the problem-solving ability of the counselor, the level of practicality of the advice, and the overall counseling service. The answer to each question is separated into 5 different level of choices from very satisfy, to satisfy, normal, dissatisfied, and very dissatisfied. The caller is only allowed to pick one answer for each question and the answers are rated as 100%, 80%, 60%, 20%, and 0% respectively. The questionnaire is mailed to the caller by the case manager.

Table 2. Analysis of Consults Questions (N=850)

Items	Number	%
Referral to emergency clinic for further evaluation	244	28.7
Nutrition	180	21.1
Side effects of chemotherapy	160	18.8
Pain management	128	15.1
Infection	110	13
Colostomy	20	2.4
Others	8	0.9

Table 3. Analysis of Satisfactions of the TCS (N=205)

Items	%
Satisfy with the attitude of the counselor	94
Professional ability of the counselor	92
Problem-solving ability of the counselor	94
Level of practicality of the advice	94
Overall counseling service	90

Analysis

The basic data and problems/questions of the caller were coded and keyed into the computer to be filed and analyzed statistically by the SPSS 19.0 software. The results were presented in percentage and rate of recurrence.

Results

Service Calls Basic data

From January 1, 2007 to December 31, 2011, a total of 975 CRC patients were recruited by the case managers. The cancer patient counseling service record form showed that a total of 850 TCS were provided to the CRC patients. Some patients called more than once regarding the same condition. Different calls were also made by different family members of a same patient. During this period, the average calls made by each subject were 0.87 times. Most of the callers were female (66.6%) and 43.4% of the calls came in from 8 am to 1 pm; 42.9% of the callers were the patients themselves and 37.2% were the primary caregivers (Table 1).

Analysis of the Questions Asked

Majority of the calls were made by the cancer patients to inquire about the need for referral to emergency clinic for further evaluation (28.7%). Other questions were related to nutrition (21.2%), side effects of chemotherapy (19%), and pain management (15.1%) (Table 2).

Analysis of Level of Satisfaction

A total of 800 questionnaires were distributed and 300 were retrieved. The response rate was 37.5% and a total of 205 questionnaires were valid. The valid questionnaire response rate was 68.33%. The average satisfaction level of each question was 90% and the overall satisfaction level was 92.8% (Table 3).

Discussion

From being diagnosed with CRC, to the treatment and subsequent care, patients have to face all kinds of anxiety

and stress. They often choose to discontinue the treatment due to the pain caused by it. If the case manager can understand the needs of patients timely and provide proper resources, discontinuation of treatment, which may lead to cancer relapse and passing of the golden hour of treatment, may be avoided. According to literatures, cancer patients who have had chemotherapy often lack self-care and are often tired out by the treatment itself (Spichiger et al., 2012). Returning to the hospital for examination is too tiring for them and not so economical. The development of the new concept, "telephone counseling service," led by nurses in the recent years aims to probe into the need and care-related issues of the CRC patient to effectively minimize the physical, mental, and spiritual disturbances experienced by the patient. Results of this study can also serve as a reference for the development of medical institution care policies and amendments of health education strategies for the enhancement of medical service quality (Beaver et al., 2012).

The personnel in charge of the cancer counseling hotline need to have at least 5 years of clinical experience in cancer care and good communication skills and problem-solving abilities and is able to participate in cancer-related trainings regularly to enhance his/her care-related knowledge (Jeffordet al., 2005). CRC patients have rather complicated problems and require the care of a healthcare team (Taylor, 2012). Professional case managers on tumor selected to be telephone counseling service staffs in this study have the abovementioned abilities. Other than receiving and responding to calls, they are able to refer the patient to the relevant departments timely, playing the unique nursing roles of a counselor, educator, helper, and coordinator. Due to its professionalism and uniqueness, responses to the CRC patients and their family members can effectively provide resources and practical care.

CRC has already developed to be the cancer with the highest prevalence in our country. Patients have the possibility of experiencing post-surgical complications caused by stoma and continuous chemotherapy. The study on TCS is important as the "cancer telephone counseling service" provides a channel for patients to voice their problems, seek resources, and manage their physical, mental, and spiritual problems. Through the medical team support system, a total of 850 TCS were provided to CRC patients in this study. As most of the problems presented are related to clinical care, it is recommended that the medical team may develop a manual based on the frequently asked questions to be used as a home-based guide for improving quality of life of CRC patients.

The problems most commonly encountered by CRC patients and their family members at home are nutrition care problem (21.2%), side effects of chemotherapy (19%), and pain (15.1%). This finding is consistent with findings of Reid et al. (2011) in a study that provided a 24-hour "chemotherapy telephone counseling service" to patients. Of the 7,498 telephone counseling services, most of the inquiries (36.8%) are medical related and this is consistent with findings of our study. Harrison et al. (2011) suggests that CRC patients require support from time to time and about 50% of these patients have physical problems. 26% of the patients require frequent support within the first week after discharge. Some patients (21%) have special needs up to 6 months. Interactive communication is advisable to provide support for the patient. In this study, more than 50% of the questions raised in TCS are physical problems. This shows that care-related information provided by clinical staffs during hospitalization is insufficient and therefore, home-care TCS is necessary.

Professional medical assistants can provide the patient and his/her family member with physical, mental, and emotional support and correct medical-care concepts. The overall satisfaction level is 92.8% and supports the need to set up TCS in the oncology department of this hospital. It also shows that TCS yields actual clinical care benefits. It is recommended that the outcome of TCS in cancer care should be statistically analyzed in the future to serve as a reference for review and improvements of various departments in the hospital. Based on the questions asked by the callers, suitable medical care activities can be organized. In the long run, TCS can become the best support system for cancer patients and their family members. Study by Livingston et al. (2010) shows that TCS can help improve cancer-related symptoms, post-surgical discomfort, anxiety, and depression. It is recommended that clinical medical staffs should review whether clinical care information provided in nursing health education sessions is sufficient for home-care to enhance quality of life of the patient after the patient is discharged from the hospital. Besides, changes experience by the patient after he/she has returned home are fluctuating and nursing care should include follow-up care to minimize complications and frequency of repeated hospitalization. Clinical health education projects should be constructed based on empirical studies. Via telephone counseling, a two-way feedback mechanism can be developed, the design of clinical health education projects of respective hospitals can be improved, and professional patient-oriented nursing care can be provided. In this study, the target of service shows very high satisfaction level towards TCS. With TCS, medical staffs can respond quickly to the target of service and meet callers' needs. As 28.7% of the target of service is referred to emergency clinic for continuous medical management, it is recommended that the long-term medical management outcome of these patients be followed up. The physical and mental effects of TCS on cancer patients should also be monitored to serve as a reference for the development of care policies by medical institution and clinical health education strategies.

This study performed a retrospective analysis on a TCS provided by CRC case managers to CRC patients and is therefore unable to be used for inferences regarding the performance of TCS for other types of cancer patients. The response rate to the survey used in this study was 37.5%. The satisfaction level of callers requires further objective evaluation. Analysis shows that the needs raised by CRC patients via the TCS were mainly related to emergency physical problems and that any psychological benefits cannot be measured easily. It is recommended that future studies explore the effects of TCS on the psychological and emotional factors affecting patients.

In conclusion, a TCS for cancer patients can provide timely and relevant information to the cancer patient and his/her primary caregiver, assisting the patient and his/her primary caregiver in taking effective countermeasures. It can provide immediate and effective feedback to the patient to help manage the existing crisis faced by the patient, sort out the potential and common medical problems experienced by the patient, while also providing feedback to clinical medical institutions or hospitals to serve as a reference for educational and policy development, and to further enhance the quality of medical care and level of satisfaction.

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