A Pilot Study of a Case Management Program for Patients With Chronic Obstructive Pulmonary Disease (COPD)

Chi-Chi Lu • Hui-Fang Su* • Shiow-Luan Tsay** • Hen-I Lin*** • Ting-Ting Lee****

ABSTRACT: The purpose of this study was to develop a case management program for patients with chronic obstructive pulmonary disease (COPD) and to test the effects of the developed program on patient length of stay in the hospital, medical costs, disease knowledge and level of satisfaction with nursing care received. This quasi-experimental study focused on a group of 50 COPD patients (24 in the control group and 26 in the experimental one), all treated in one hospital medical ward in northern Taiwan. The control group received routine care, while those in the experimental group received a COPD case management protocol. Data for the control group was collected between September of 2003 and January 2004. Data for the experimental group was collected between April and December 2004. Data collection instruments included medical records, the COPD Knowledge Measurement scale, and the Patient Satisfaction with Nursing Care Questionnaire. Descriptive and inferential statistical analyses were applied to describe demographics, length of stay, medical cost, patient disease-related knowledge, and patient satisfaction with nursing care. Results indicated that, while the study found no significant difference in length of stay and medical cost between the two groups, the use of case management procedures improved patient disease-related knowledge and satisfaction with nursing care. This conclusion supports the premise that case management improves patient care in these two dimensions and is, thus, an effective approach in the management of patients diagnosed with secondary COPD infections.

Key Words: case management, chronic obstructive pulmonary disease (COPD), medical cost, length of stay, satisfaction.

Introduction

In 2004, chronic obstructive pulmonary disease (COPD) ranked the eleventh major cause of disease-related death in Taiwan, according to the Department of Health, Executive Yuan, Republic of China (Bureau of National Health Insurance [BNHI], 2005). Medical costs for COPD patients have risen steadily in recent years. In 2003, medical costs for admitted COPD patients totaled NT$1.6 billion. However, in 2004, that figure rose to nearly NT$2.0 billion—a NT$0.4 billion in just one year. According to BNHI statistics, respiratory diseases accounted for the highest percentage of medical costs (19.49%), within which, COPD was the second most significant expenditure (7.52%), after pneumonia (BNHI, 2005).

Both domestically and abroad, the medical field is faced with a common challenge to effectively control medical care costs. Research has shown that, in most domestic case management cases, decreased length of stays and enhanced emphasis on nursing quality helped control medical costs. As internal disease-related complications tend to be more complex and multifaceted, case management had...
been implemented only on cases of peptic ulcer with bleeding, cerebral infarction, percutaneous coronary angioplasty, and ischemia cerebral stroke (Lu, Wei, Liao, & Shyu, 1999).

In 1985, various hospital administrative levels in the U.S. began using case management to bring patient hospital stay lengths and resource usage under control without compromising care quality. Since then, case management has been implemented as a routine part of the nursing protocol. Research shows that case management can be effective in providing patients a more timely, organized, and professional nursing experience (Lee, 2001; Lin, Lee, Wu, & Chen, 2000). Case management includes standardization of resource use in order to streamline medical care. Continuously modified evaluation mechanisms and feedback have helped to improve the effectiveness of case management, administration, nursing and services; reduced unnecessary medical resource waste; provided quality health care management; and fostered positive nurse-patient relationships (BNHI, 2002).

In a study on patients and case management, thirty-two COPD patients who had been admitted at least four times within a two-year period and who were subject to case management procedures had an average reduction in hospital stay of 2.1 days (Poole et al., 2001). However, because this study was limited to COPD patients with acute exacerbation, the sample was too small to generalize findings to other COPD patients. In Taiwan, case studies related to COPD are still in the early stages of development. Therefore, there is a great need for in-depth research to determine the effectiveness of case management in COPD patients.

Literature Review

From recent statistics, COPD ranked the eleventh most significant cause of disease-related death in Taiwan. Once the patient’s condition becomes more severe and long-term hospitalization becomes necessary, demand for medical resources, such as beds, increases. Patients admitted with COPD account for about 10% of total bed occupancies each year (Ministry of the Interior, 2002). With the revolution in medical care and an increase in competition as well as rises in cost, standard nursing procedures were in need of an overhaul to reduce length of hospital stays, medical costs, and diminish the occurrence of complications leading to re-admittance (Coulitas, Frederick, Barnett, Singh, & Wludyka, 2005; Huiart, Ernst, & Suissa, 2005).

Chronic obstructive pulmonary disease (COPD)

Chronic obstructive pulmonary disease (COPD) is a respiratory condition of the lungs and airway. COPD patients suffer from reduced airflow and lung volume capacity. COPD includes chronic bronchitis and emphysema and is commonly ranked amongst the top ten disease-related causes of death in developed countries (Murray & Lopez, 1996). In the pulmonary patient category, COPD accounts for 40% of outpatients and 10% of inpatients (Brashers & Huether, 2002; Parnet, 2003).

Risk factors for COPD include smoking, genetic disposition, age, air pollution, occupational exposure, and recurring respiratory infection. Common symptoms consist of persistent coughing with phlegm and dyspnea. Persistent coughing with phlegm is an initial symptom of COPD. Dyspnea becomes more acute and moderate airway obstruction becomes more apparent in patients over the age of fifty. A common indication of a patient’s pulmonary function is diminished airflow speed. Forced expiratory volume in 1 second (FEV1) is commonly used to diagnose COPD severity. In 2000, the Global Initiative for chronic obstructive pulmonary disease defined severity standard as: 1st Stage – FEV1 > 80%; 2nd stage – FEV1 50%~80%; 3rd stage – FEV1 30%~50%; 4th stage FEV1 < 30% (GOLD Executive Committee, 2006). Most COPD patients have multiple risk factors in their medical history, such as long-term smoking at over 20 cigarettes/day for more than 20 years coupled with the development of coughing, phlegm and shortness of breath at 50 to 60 years of age. Indications of acute exacerbation include severe coughing, phlegm, wheezing, shortness of breath, and intermittent fever. Other symptoms include dyspnea, moderate to severe pulmonary obstruction, limited physical activity, hypoxia and fatigue. Although disease severity varies from patient to patient, COPD progress leads to more apparent physical limitations and increasingly frequent occurrence of acute exacerbation (Gadoury et al., 2005; Gross, 2005; Miravitlles et al., 2004; Zielinski & Bednarek, 2003).

Case management

Case management, as defined in 1986 by the American Case Management Association (ACMA), is a comprehensive and cooperative process, which includes assessment, planning, implementation, cooperation, quality control, and service evaluation to determine the level of patient satisfaction with health care provided. Each element of the case management process must be conveyed through com
munication and resource appropriation in order to achieve a higher level of quality care and cost effectiveness (Newell, 1996). Main objectives of case management include achievement of the following: a satisfying nursing experience; effective control on the length of each patient’s hospital stay; efficient use of resources; minimization of inconsistencies in healthcare provision; providing opportunities for mediation and cooperation; and realization of a more streamlined nursing experience. Case management also aims to improve quality of care and patient overall satisfaction with nursing care. At the same time, effective implementation could result in a reduction of average patient length of stay and reduce hospitalization costs (Gadoury et al., 2005; Goode, 1995; Powell, Bentall, Nye, & Edwards, 2001). A study that targeted 381 cesarean mothers with case management showed that their average length of stay was 0.7 days less than the general average, resulting in medical cost savings of US$518 per patient (Belgen, Reiter, Goode, & Murphy, 1995). In several surveys, groups with case management had higher levels of patient satisfaction with nursing care than those without (Goode, 1995; Liao & Lu, 1999).

Case management effectiveness and COPD

For most COPD professional care providers, case management provides the opportunity to balance practical reasoning and medical knowledge. Case management encourages staff to proactively seek out and resolve problems. As a result, COPD patients have reported high levels of satisfaction with provided nursing care. In addition, length of hospital stay is shortened, medical costs reduced, and quality of medical care improved; fully conveying the value of the medical team (Bourbeau et al., 2003; Egan, Clavarino, Burridge, Teuwen, & White, 2002; Lin et al., 2000).

Methods

Data Collection and Sampling Requirements

This research was approved by the target institution, and patients were fully informed regarding the study procedure and their right to withdraw at any time. A consent form was explained to patient participants and signatures were obtained before the study began. The anonymity of data provided by patients was assured and their treatment in the hospital was unaffected regardless of whether they chose to participate or not. Subjects were COPD patients with secondary infection, without any other acute conditions. Patients with diabetes, hypertension, heart diseases, and other chronic conditions were eligible for participation as long as medication for their chronic condition was being regularly administered. Subjects were eliminated from sample if they were transferred to Intensive Care Units (ICUs) due to worsened condition, discharge against the advice of their physician, received a change in diagnosis, or were not in the 2nd stage (FEV1 35%–80%) COPD. COPD patients who were readmitted were also not eligible to participate.

Data Collection Instruments

Research tools for this study comprised of three item groups. The first group, subject personal information, included patient medical history and records, age, sex, marital status, education level, other chronic conditions, smoking habits and number of years smoking, number of times treated for COPD, and FEV1. The second group comprises data gathered using the COPD Care Awareness Evaluation Questionnaire (COPD CAEQ). The COPD CAEQ contained questions on general COPD information, including causes and effects of COPD, and assessed patient knowledge of the disease. The questionnaire contained 10 questions and the responses available for each question were “yes”, “no”, or “don’t know”. Every “yes” response was valued as one (1), while a “no” or “don’t know” was valued at zero (0). The maximum possible score was 10, with scores positively correlated to patient knowledge on COPD self home care. Questionnaire validity was confirmed by a panel of COPD professionals, including two pulmonary specialists, three nursing staff members with extensive COPD experience, and one clinical nursing educator. The Cronbach’s alpha for the questionnaire of this study was .87.

The third group gathered data using the Patient Satisfaction of Nursing Care Questionnaire (PSNCQ). The questionnaire comprised 16 questions in two sections. The first contained 3 questions that assessed a patients’ overall satisfaction with their hospital stay and care experience. Section two contained 13 questions related to nursing staff performance targeting caretaker’s technical and professional knowledge; concern exhibited toward the patient; and COPD patient education. Each question had a scaled response of 1–7, with 1 corresponding to “very unsatisfied” and 7 corresponding to “very satisfied”. The translated version of PSNCQ was used with the permission of the original translator (Jacox, Bausell, & Mahrenholz,
Data Collection Procedure

Control group data was collected between September 2003 and January 2004, and experimental group data was collected between April 2004 and December 2004. Conventional chronic pulmonary inpatient treatment varies with each physician due to differing treatment approach preferences. Nursing style is traditionally passive. Although provided with health care guidelines, there is no clear and objective gauge for evaluating and comparing a patient’s level of self-care comprehension and awareness before and after hospitalization. The procedure used in this study was derived from available case studies sources published both overseas and in Taiwan, and is described in the following sections.

Control Group

Control group subjects received traditional care following routine nursing procedures and protocols. Patients received health education forms and nursing care from nursing staff based on unit care requirements.

Experimental Group

The case manager in this study was a registered nurse with a bachelor’s degree, N4 title, and over five years of nursing experience who had completed more than 20 hours of case management training classes. The case manager was in charge of patient clinical care plans in terms of design, implementation, and monitoring and evaluating progress. A month before case management implementation, the case manager conducted a training course, which included care definition development, inpatient-based case management procedures, case management model evaluation and effectiveness. During unit meetings, the case manager introduced case management procedures, the care intervention process, and sheets and handbooks to team members.

Upon admission, case managers assessed patient physical condition and self-care aptitude. Special needs, the patient’s care plan, and treatment objectives were communicated to the medical team, family members, and the patient. Case management was conducted in order to accomplishing treatment objectives through periodic reevaluations of each patient’s health condition and the adjustment of resources to provide to patients adequate and appropriate care. Over the course of hospitalization, any exceptional patient needs would be communicated immediately to all relevant medical team members, including physicians, nursing staff, and other related medical professionals for timely resolution. A team comprising pulmonary doctors and senior pulmonary specialists, attending physicians and nurses, home-care nurses, nutritionists, the social worker and the spiritual worker collaborated together to provide more comprehensive care to patients. On a weekly basis, the case manager and nurse in charge discussed the patient’s special concerns and re-evaluate the care plan. When appropriate, patient and family members were invited to discuss changes in patient condition and needs, thereby proactively addressing and resolving concerns. During their hospital stay, subjects in the experimental group received care plans specific to their individual condition and implemented evaluation and intervention.

The distribution and collection of questionnaires, as well as other questionnaire-related tasks, were conducted by a research assistant who was not associated with the target hospital. Both groups completed the initial COPD CAEQ within 24 hours of admittance. Once a patient’s condition stabilized, with the approval and order of the primary care physician, a pulmonary function test, including FEV1, was initiated. Any subjects who did not meet the criteria of FEV1 (35% to 80%) were excluded from the study. On the day of discharge, subjects completed the second and final COPD CAEQ and PSNCQ.

Data Analysis

SPSS 10.0 software was used to perform statistical data analysis. Analysis results included data percentage, averages, and standard deviations for demographic descriptions. Chi-square ($\chi^2$) was used to compare data on subject variables including sex, education level, marital status, occupation, medical history, main caregiver, and smoking habit. An independent $t$-test was used to evaluate COPD CAEQ and PSNCQ. All results were key elements to determine case management implementation effectiveness.

Results

Research Subject Demographics

The control group consisted of 24 subjects with an average age of 74.13 years ($SD = 12.92$). The majority
were male \((n = 16, 66.7\%)\) with primary school the subjects’ highest level of education \((n = 17, 70.8\%)\). All were married. Nineteen subjects \((79.2\%)\) had a main caregiver; 14 \((54.2\%)\) were either current smokers or had smoked regularly in the past; 22 \((91.7\%)\) had at least one other chronic disease; the hospital admission of 8 subjects \((28\%)\) was their first for COPD.

The experimental group comprised 26 subjects, with an average age of 73.08 years \((SD = 12.73)\). The majority were male \((n = 22, 84.6\%)\), with 15 \((57.7\%)\) with primary school their highest education level. Most of them were married \((n = 23, 88.5\%)\). Eighteen \((69.2\%)\) had main caregiver; 19 \((74.1\%)\) were smokers; 21 \((80.8\%)\) had at least one other chronic disease; 12 \((46.2\%)\) were first time COPD admissions. Statistical results revealed no difference between the control and experimental groups in terms of key comparison variables (See Table 1).

### Table 1. Subject Demographics \((N = 50)\)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Control ((n = 24))</th>
<th>Experimental ((n = 26))</th>
<th>(\chi^2)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
<td>66.7</td>
<td>22</td>
<td>84.6</td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>33.3</td>
<td>4</td>
<td>15.4</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td>1.16</td>
<td>.56</td>
</tr>
<tr>
<td>Primary</td>
<td>17</td>
<td>70.8</td>
<td>15</td>
<td>57.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>4</td>
<td>16.7</td>
<td>5</td>
<td>19.2</td>
</tr>
<tr>
<td>College</td>
<td>3</td>
<td>12.5</td>
<td>6</td>
<td>23.1</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td>2.95</td>
<td>.09</td>
</tr>
<tr>
<td>Married</td>
<td>24</td>
<td>100</td>
<td>23</td>
<td>88.5</td>
</tr>
<tr>
<td>Single</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11.5</td>
</tr>
<tr>
<td>Main Caregiver</td>
<td></td>
<td></td>
<td>0.42</td>
<td>.64</td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>79.2</td>
<td>18</td>
<td>69.2</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>20.8</td>
<td>8</td>
<td>30.8</td>
</tr>
<tr>
<td>Smoke</td>
<td></td>
<td></td>
<td>1.21</td>
<td>.27</td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>54.2</td>
<td>19</td>
<td>74.1</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>45.8</td>
<td>7</td>
<td>25.9</td>
</tr>
<tr>
<td>Other Chronic Diseases</td>
<td></td>
<td></td>
<td>1.23</td>
<td>.26</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>91.7</td>
<td>21</td>
<td>80.8</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>8.3</td>
<td>5</td>
<td>19.2</td>
</tr>
<tr>
<td>First COPD Hospitalization</td>
<td></td>
<td></td>
<td>1.04</td>
<td>.90</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>28</td>
<td>12</td>
<td>46.2</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>72</td>
<td>14</td>
<td>53.8</td>
</tr>
</tbody>
</table>

**Note.** COPD = chronic obstructive pulmonary disease.

**COPD Case Management, Length of Stay and Medical Costs**

Table 2 shows that the average length of stay for the control group was 12.29 days, with a standard deviation of 8.36 days. The average length of hospital stay for the experimental group was 9.31 days, with a standard deviation of 4.67 days. Although the average stay for the experimental group was 2.98 days less than the control group, the difference was statistically insignificant \((t = -1.57, p = .07)\).

The medical cost standard for this study was determined using the total amount covered by Taiwan’s Bureau of National Health Insurance. The average medical costs for the control and experimental groups were NT$31,109 and NT$26,061, respectively, with respective standard deviations of NT$9,677 and NT$8,377. Average medical costs were NT$5,048 less in the experimental group. However, the independent \(t\)-test considered
the difference statistically insignificant ($t = -1.97, p = .90$; see Table 2).

**Case Management and COPD CAEQ and PSNCQ**

Data comparison for COPD CAEQ responses was performed first by finding the difference between COPD CAEQ scores at discharge and admission. The resulting difference between the control and the experimental groups was then compared. Using an independent $t$-test, results revealed a significant difference in the level of COPD care awareness between the two groups ($t = 3.01, p = .03$; see Table 3).

Again using an independent $t$-test, the results drawn from PSNCQ responses indicated a considerable difference between the two groups ($t = 5.36, p = .00$). The nursing care satisfaction level of patients measured by PSNCQ was sub-categorized by patients’ overall satisfaction and nursing care performance. Results both showed significance (the former $t = 3.15, p = .03$; and the latter $t = 5.30, p = .00$; see Table 3).

### Table 2.

**Length of Stay and Medical Cost (N = 50)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Control ($n = 24$)</th>
<th>Experimental ($n = 26$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Length of hospital stay (days)</td>
<td>12.29</td>
<td>8.36</td>
</tr>
<tr>
<td>Cost covered by Insurance (NT$)</td>
<td>331,109</td>
<td>59,677</td>
</tr>
</tbody>
</table>

### Table 3.

**COPD CAEQ and PSNCQ (N = 50)**

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Control ($n = 24$)</th>
<th>Experimental ($n = 26$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD CAEQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care awareness at admission</td>
<td>6.65</td>
<td>2.51</td>
</tr>
<tr>
<td>Care awareness at discharge</td>
<td>7.83</td>
<td>2.04</td>
</tr>
<tr>
<td>Discharge-admission</td>
<td>1.17</td>
<td>1.81</td>
</tr>
<tr>
<td>PSNCQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total nursing care satisfaction score</td>
<td>90.88</td>
<td>13.78</td>
</tr>
<tr>
<td>(Two sections: 16 questions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>18.04</td>
<td>2.73</td>
</tr>
<tr>
<td>(Section I: 3 questions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing care performance</td>
<td>72.67</td>
<td>12.55</td>
</tr>
<tr>
<td>(Section II: 13 questions)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* COPD CAEQ = Chronic Obstructive Pulmonary Disease Care Awareness Evaluation Questionnaire; PSNCQ = Patient Satisfaction of Nursing Care Questionnaire; N/A = non-assessment.

* $p < .05$. ** $p < .01$.

**Discussion**

**Effect of Case Management on Length of Stay and Medical Cost**

Results from this study showed that, while not statistically significant, implementation of case management did shorten hospital stay lengths by 2.98 day and lowered average medical costs by NT$5,048. These results corresponded with those of other studies (Lin et al., 2000; Poole et al., 2001). Although favorable results were presented in terms of both length of stay and medical cost, the outcome was considered statistically insignificant. This may be due to small sampling size, which resulted from time constraints and stringent sampling criteria (Lin et al., 2000; Poole et al., 2001). Improvements achieved may be attributed to implementation of the streamlined protocol under the case management plan. While slight adjustments were made to accommodate each subject’s unique condition, the overall process, as set by case management, was followed.
Case Management and Patient COPD Care Awareness

This study demonstrates that case management is effective in improving COPD patient awareness regarding his/her disease and condition. There was a significant difference in the level of awareness between the control and experimental groups. Being better informed offered patients emotional support and encouraged proactive involvement in the course of their disease care and treatment which also helped patients better control their own condition. Published results from studies done in Taiwan and elsewhere indicate that, by informing patients about self care as part of discharge process, COPD patients are considerably more aware and the state of their own condition, as it concurs with the results of this study (Bourbeau et al. 2003; Wang, 2000). Improved self awareness evaluation and understanding correct self examination in order to better inform doctors during visits all helped to improve patient understanding of their disease (Endicott, Corsello, Prinzi, Tinkelman, & Schwartz, 2003; Poole et al., 2001).

Effect of Case Management on COPD Patient Care Satisfaction

In this study, PSNCQ measured patients’ nursing care satisfaction and found the difference in results between the two groups to be substantial. PSNCQ had two sections. One section evaluated the overall nursing care satisfaction of patients. The disparity may be explained by the way patients prepared for discharge.

In the control group, nurses followed a traditional care protocol that did not have a clear and concise standard to determine the needs of patient after discharge. Although routine home care instruction was given on the day of discharge, patients and their families were usually overwhelmed by the amount of information received. The information so hastily received usually was ineffective or, in worse cases, caused negative effects.

The COPD patient care plan was applied within 24-hours of hospitalization. As part of the streamlined process, each patient in the experimental group was evaluated to determine any special needs that patients may have after discharge in regards to self-care at home. Resolution and assistance were offered immediately. In all studies, patient satisfaction with nursing care rose with case management. In addition, applying self-management strategies also increased patient satisfaction with nursing care (Endicott et al., 2003; Goode, 1995; Hsu, Tsay, Su, & Lin, 2004; Li et al., 2002). Once again, results affirm that case management is effective in improving nursing care satisfaction in patients.

Conclusions and Recommendations

The use of case management is a trend in the medical field. In this study, case management provides a comprehensive and interactive process. This study used different questionnaires to establish relevant indicators between the use of case management and COPD patients with secondary infections. According to study results, the following conclusion can be drawn: case management may not have much bearing in reducing the length of patient’s hospital stay or have any significant effect on decreasing medical cost. However, case management is effective in raising the awareness of patients to their disease and condition as well as patient satisfaction with nursing care received.

In this study, different from their frontline medical staff colleagues, case managers work mostly behind the scenes. In addition to their normal professional responsibilities, their position scope includes maintaining a positive social environment, communicating efficiently, recognizing potential problem areas, using supporting resources effectively, controlling quality and following up on cases to ensure patients are treated successfully.

In many respects, the effectiveness of case management and the length of stay and medical costs depend on the policies set by the hospital administration and their enforcement. The effectiveness of case management is also dependent upon the level of support given by hospital administrators. Although this study did not find significant statistical improvement in length of stay and medical cost with case management, future studies on these two areas would be of great value, particularly in terms of examining variations in how each unit carries out related policies.

Finally, this study was conducted at a local community hospital for sampling convenience. Due to time and staffing constraints as well as stringent sampling criteria, the sampling population was not representative of the general population. In addition, subjects in the experimental group (patients, nurses, and other care providers) may have behaved in a particular manner largely because they were aware of their participation in a study (i.e., the Hawthorne effect). These flaws may have affected results. Therefore, it is recommended for future researchers to increase the sampling population, use paired random sampling, data collec-
tion with the double blind method, and extend the data collection time frame to include the long-term effects of home care. In addition to investigating the effectiveness of care received, other areas worthy of exploration include patient readmissions and quality of life.

Acknowledgment

This study was supported by a grant from the Cardinal Tien Hospital (CTH92-1-2A08). The author sincerely thanks all participants who helped with data collection for this study.

References


運用個案管理於慢性阻塞性肺疾病患者之初探

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摘 要：本研究旨在比較實施個案管理與傳統照護模式，對慢性阻塞性肺疾病患者，在醫院之住院天數、醫療費用、疾病照護認知程度、護理照護滿意度等做成效探討。本研究採類實驗設計，以方便取樣，於北區某區域醫院之內科病房，挑選慢性阻塞性肺疾病併二度感染之病患共50名（對照組24名，實驗組26名）。對照組資料收集時間為民國92年9月至93年1月，採常規照護；實驗組資料收集時間為民國93年4月至93年12月。研究工具包括：病患基本資料表、慢性阻塞性肺疾病照護認知評估表、護理照護滿意度問卷表。統計方法包括描述性和推論性統計，描述個案背景資料、分析住院天數、醫療費用、疾病認知程度、護理照護滿意度等資料之統計差異。研究結果發現：實施慢性阻塞性肺部疾病個案管理，在縮短住院天數及醫療費用並無統計上顯著差異，但可提升疾病照護認知及護理照護滿意程度。本研究結果顯示個案管理是一個有效的醫療管理方法，它可以提升病患疾病認知程度及提升護理照護滿意度。

關鍵詞：個案管理、慢性阻塞性肺部疾病、醫療費用、住院天數、滿意度。