Review Article

The Past, Present, and Future of Discharge Planning in Taiwan

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SUMMARY

Discharge planning is an interdisciplinary approach to provide continuity of care; it is a process that includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation. Discharge planning has been viewed as a major way to enhance a smooth transition for patients from the hospital to home or other chronic care units and as a solution to solve problems associated with postdischarge care. The promotion of discharge planning began in the United States in the 1960s. Nursing scholars from Taiwan learned about the concept of discharge planning from the United States in the early 1980s and subsequently introduced it to Taiwanese medical institutions in 1985. A policy to promote discharge planning in Taiwan was announced by the Executive Yuan, Department of Health in 1993. Following the healthcare reforms in 1995, discharge planning has since been strongly promoted. Studies concerning discharge planning in Taiwan showed some promising results, including increased satisfaction of patients and their families, improved preparation of caregivers, and improved quality of life for patients. However, patients receiving interdisciplinary discharge planning services were still in the minority. There was no standard evaluation procedure for interdisciplinary discharge planning, and a high percentage of patients thought that hospitals handled the postdischarge long-term care services referral procedure inadequately. Despite the positive attitudes toward discharge planning, many physicians still demonstrate an unsatisfactory level of knowledge and behaviors with regard to discharge planning. To enhance the implementation of discharge planning, a standard evaluation procedure for interdisciplinary discharge planning and improved physician awareness concerning the importance of discharge planning are needed. In Taiwan, the improvement of discharge planning in the foreseeable future is promising with the accreditation of the procedure and the participation of doctors in efforts to ensure the continuity of postdischarge care for patients.

1. Introduction

Discharge planning is an interdisciplinary approach to provide continuity of care. It is a process that includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation1 and is the quality link among hospitals, community-based services, nongovernment organizations, and caregivers2.

The literature indicates that hospitals often discharge patients with insufficient planning, poor instruction, inadequate information, lack of coordination among members of the healthcare team, and poor communication between the hospital and community3. Discharge planning for hospital patients became an issue of great concern, with an emphasis on continuous postdischarge community care in addition to shortened hospital stay, decreased healthcare costs, increased patient and family satisfaction, increased postdischarge quality of life, decreased readmission rate, and decreased mortality.

The promotion of discharge planning began in the United States in the 1960s. In this article, we will review the past and present, and predict the future development of discharge planning in Taiwan.
2. Past discharge planning in Taiwan

2.1. Period from 1980 to 1992

In Taiwan, under the traditional model of discharge service, discharge instructions were provided by primary nurses according to their own professional judgment.

In the early 1980s, nursing scholars from Taiwan acquired the knowledge of discharge planning from the United States and subsequently introduced the concept to their nursing colleagues in Taiwan in 1985.

The earliest article related to discharge planning in Taiwan was published in the Journal of Nursing in the year 1985 by Change M under the title “The conceptual framework of discharge planning and its application”5. This article introduced the framework of discharge planning, which is composed of four important factors: (1) the patient and the significant other, (2) available sources for chronic continuing care, (3) regulations of chronic care, and (4) primary providers of health care, discharge planning consultant, or coordinator of discharge planning. The focus of this framework was centered around the individualized patient and the primary providers of health care, which have been advocated as key factors in the success of discharge planning.

During this period, the lack of available sources for continuing care for chronic conditions and the lack of regulation for out-of-hospital care were the main problems with regard to post-discharge care for chronic conditions. In addition, many of the primary providers were primary nurses, who also lack the power of coordination.

Well-organized discharge planning was not implemented until 1993.

2.2. Period from 1993 to 2003

In 1993, a policy to promote the implementation of discharge planning in Taiwan was announced by the Executive Yuan, Department of Health. In the following year, grants were issued to four hospitals to develop projects for discharge planning over a 3-year period. The goal was to create a network of continual health care through the collaboration of interdisciplinary teams and the integration of acute and chronic care systems; therefore, patients could be successfully discharged or referred after acute care in order to receive appropriate continuing care6.

Upon the implementation of National Health Insurance (NHI) in Taiwan in 1995, discharge planning was strongly promoted. Under the NHI Bureau In-hospital Control Plan, the term discharge planning was changed to discharge preparing service7. An additional 25 and 36 hospitals joined this project in the years 1995 and 1996, respectively8.

In 1998, the results of the 3-year discharge planning project were published from four hospitals7. All demonstrated a reduction in the average length of stay at the initial stage of the project, but a small increase was observed in two hospitals after the NHI was implemented. The rate of readmission was decreased in one hospital and remained unchanged in the other. The level of patient satisfaction with regard to discharge planning was measured in only one hospital, which revealed an increase in patient satisfaction. The promotion of discharge planning had faced many obstacles, including lack of comprehensive and standardized discharge planning procedure, inadequate communication and coordination between medical team members, and unwillingness of the patients and/or their families to participate. Discharge planning still conforms to the traditional model, with the nursing staffs providing discharge services and instructions according to their own professional judgment.

During the study period, most of the discharge planners were primary nurses, and only a small number of manuscripts on the subject of discharge planning were published. These publications attempted to establish useful evaluation forms and tools for discharge planning6,7, explain the effectiveness of discharge planning1–10, and provide a detailed illustration of the process of establishing discharge planning11.

2.3. Period from 2004 to 2010

Throughout the 10-year project entitled “New Generation Health Navigation”, NHI promoted the discharge preparing service at more than 250 teaching hospitals in 200413 and the performance evaluation of the discharge preparing service was integrated into the Local Sanitation Bureau’s achievement score since 2005. In the following year, conferences that focused on the promotion and observation of the discharge preparing service were organized throughout Taiwan14.

During this period, although the publications related to the topic of discharge planning were still few in number, discharge planners have been expanded from primary nurses to home care nurses15,16, geriatric nurses17,18, hospice nurses19, and unit-base case managers20. The topics ranged from evaluating the usefulness of screening tools15,21,22 and the usefulness of discharge planning23 to the effectiveness of discharge planning for different fields, including orthopedic patients17,18,20,24, stroke patients15,23, and palliative care patients19. In addition, an assessment was made of the emergency nurses’ understanding and experiences with discharge planning25.

2.4. The published manuscripts related to discharge planning in Taiwan from 1998 to 2010

2.4.1. Studies related to the methods and the screening tools

Since 1996, for one of the tertiary referral centers in northern Taiwan that developed a protocol of discharge planning, the referral rate for discharge planning increased from 11.2 patients per month to 41.6 patients per month in 4 years8.

There are several useful screening tools or method for discharge planning, including:

1. Blaylock Risk Assessment Screen (BRASS)9. BRASS is a time-saving tool that offers a reliable prediction of the length of hospital stay and evaluates whether postdischarge continuous care is required, especially for patients older than 65 years with cardiovascular, respiratory, or neurologic disease.

2. Discharge assessment tool for a hospital-based palliative care unit19. With this discharge assessment tool the completion rate of written discharge records in a hospital-based palliative care unit increased significantly, from 38.3% to 88.4%.

3. Seven-item high-risk screening form for orthopedic patients20.

This screening form was designed to gather information such as patient age, housing status, self-care ability, walking ability, financial status, medical history, and admission times in the past years. With a score from zero to two for each item, high-risk patients are classified as those with a total score of seven or higher.


This simple screening form includes three items: (1) cancer or noncancer patient, (2) activity status, and (3) type of indwelling catheters on the patient. With a score from 0 to 2 for each item, a total score of 2 or higher was classified as high risk. The report rate of high-risk patients was found to improved substantially, from 11.9% to 95.4%, after (1) establishing this simple high-risk patient
screening form, (2) modifying the discharge planning protocol, and (3) providing education on the application of this high-risk patient screening form and the discharge planning protocol for nursing staff.

5. Patient Needs Rank Assessment Scale for Discharge Planning\(^{22}\).
   After being applied to 300 patients within a 1-month trial period taking place in one medical center in northern Taiwan, this assessment scale accurately screened the degree of patient need for discharge planning and users were satisfied with its use.

2.4.2. Studies on the length of hospital stay and patient satisfaction
   A study focus on the length of hospital stay for stroke patients \((n = 171)\) and craniotomy patients \((n = 112)\) with a nurse-designed discharge planning project at one medical center in Taipei City showed that the length of hospital stay was shorter in the intervention group of stroke patients. In the craniotomy group, unplanned readmission was less frequent in the intervention group\(^{10}\).

Yin and Duh\(^{11}\) found that the most satisfactory service for 46 patients discharged with tracheotomy was telephone monitoring, and the most demanding service for patient’s families is to provide education on the care technique.

In the study on the promotion of the efficacy of discharge planning through the case management model, Ko et al\(^{25}\) found that with a case manager and the use of the five-item simple screening form (including age, conscious level, bladder and anus control/function, caregiver supply, and readmission period [a score from 0 to 2 for each item, the total score of 5 or higher was classified as high risk]), the authors were able to identify potential care problems and needs of patients after discharge as early as possible, which not only improved the quality of nursing care and the nurse-patient relationship, but also dramatically increased the number of patients receiving discharge planning (from 31 to 74, an increase rate of 138%) and telephone monitoring (from 31 to 253, an increased rate of 716%). Concurrently, the satisfaction rating for discharge planning also showed a marked improvement from 2.8% to 44% and the readmission rate was decreased from 12.1% to 4.5%.

Tsai et al\(^{27}\) explored the perception of discharge planning in 489 stroke patients at seven different hospitals in Taipei City. The results showed that more than 70.0% of patients perceived that the hospital staff had discussed postdischarge care with them carefully, or health education had been provided. More than three-fourths of patients thought that hospitals handled the referral of post-discharge long-term care services inadequately. Up to 94.1% of patients perceived no follow-up after discharge.

With the early discharge planning services emphasis on assistive technology services, Lin et al\(^{28}\) showed that 50 clients receiving this service had a higher satisfaction score than the control group.

With the home care nurse-centered discharge planner and home follow-up protocol among 100 high-risk patients, Hsu et al\(^{15}\) pointed out that the major factor affecting the discharge care model was the patients’ physical function. Discharge planning did not shorten the length of hospital stay, but it did increase the satisfaction rate of the patients and their families when continuous care at home was carried out and social resources were used\(^{15}\).

With an emphasis on individualized health education and home visits following discharge, Shyu et al\(^{13}\) showed that the caregiver-oriented discharge planning program may improve caregivers’ preparation and the satisfaction of their needs among 76 stroke survivors’ family caregivers 1 month after discharge.

2.4.3. Studies on the discharge planner
   In 2004, a study that looked into the job contents and work conditions of the discharge planner in Taiwan was published by Yang et al\(^{16}\). The study showed that more than 88 hospitals provide discharge planning, with nurses assigned as discharge planners. Among the six different types of job descriptions, the two items performed least often were the quality of care of the referred agency and resources utilization and management. The most important predicting factors for better job performance were integrated resources and information network, the discharge planner selection with personality consideration, receipt of education in discharge planning, and establishment of a multidisciplinary team.

In the following year, Han et al\(^{25}\) studied 32 emergency nurses regarding their understanding of and experiences with implementing discharge planning in the emergency department setting. The results showed that the key requirements for the provision of manageable discharge services include adequate workloads, sufficient time, clear policies, standards of discharge planning, and enhancement of professional commitment.

2.4.4. Studies on the clinical outcome and readmission rate
   In early 1999, it was found that with the implementation of discharge planning, 81% of patients discharged from the hospital after tracheotomy could maintain the same or demonstrate improved activity and physical capability 4 weeks after discharge\(^{11}\).

An investigation looked at the short-term effects of an interdisciplinary intervention program on elderly patients with hip fracture done from September 2001 to November 2003, totaling 159 cases with 72 cases in the experimental group. The results showed that when the interdisciplinary program included geriatric assessment, early rehabilitation, in-home rehabilitation, and discharge planning provided by the geriatric nurse, older people with hip fractures showed fewer depressive symptoms in addition to improved clinical outcomes, self-care abilities, and health-related quality of life within 3 months after discharge\(^{17}\).

During the same period, 126 cases of hip fracture resulting from a fall were studied for the effectiveness of discharge planning intervention. The 63 intervention cases demonstrated the benefits of appropriate discharge planning on improving quality of life, survival, and the ability to perform activities of daily living while reducing readmission rates and length of hospital stay\(^{18}\).

The goal of the study by Lin et al\(^{24}\) was to evaluate the effectiveness of a discharge planning program on length of stay, functional status, self-care knowledge, and quality of life for 25 patients with hip fracture. Self-care knowledge and quality of life were improved with comprehensive discharge planning.

3. The current state of discharge planning in Taiwan
   Since 2011, discharge planning has been integrated into and become an important part of hospital performance evaluation. One aspect of accreditation is that hospitals must undertake discharge planning and ensure continuity of care for their patients. Hospitals are evaluated on the basis of the level of personnel training, facilities, hospital management, discharge planning, and community services as well as the quality of medical care they provide.

From 2009 to 2012, setting up the computerized system of discharge planning was included in the project of the 4-year New Generation Health Navigation Planning\(^{14}\).

Two of the three articles published on the topic of discharge planning in 2011 were written by physicians with expertise in unrelated fields\(^{20–31}\). One study, conducted in the period between December 2009 to May 2010, which looked at 219 patients admitted from the emergency department to the general ward and subsequently discharged to home at one tertiary care referral

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center in northern Taiwan, showed that integrated postdischarge transitional care using disease-specific care, telephone monitoring, hotline counseling, and a hospitalist-run clinic could reduce rates of postdischarge readmission and death. The other study focused on the physician’s knowledge, attitude, and behaviors toward discharge planning in one referral center in Southern Taiwan and showed that (1) based on a total score of 100, the average score of physicians’ knowledge on discharge planning was 56.7; (2) physicians have mostly positive attitudes toward discharge planning; (3) with a total score of 5, the average score of physicians behaviors on discharge planning was 3.5; and (4) the logistic regression analysis showed that physicians’ attitudes and whether they had received discharge planning educational training were significant predictors of physicians behaviors. The author suggested that to enhance awareness of the implementation of discharge planning, physicians should be made aware of the importance of discharge planning upon entering the medical profession, namely, by integrating this topic into the medical school education curriculum.

The latest published study was performed by Su et al. and was funded by Taiwan’s Ministry of Economic Affairs in 2009 for developing the intelligent health information management system platform for telehealth care. With this system, the authors demonstrated that discharged patients could have better access to health care services when they return to their homes or communities. The quality of health care is improved, and case managers are able to monitor patients’ vital signs and other related health information and to link the significant data in providing the online health consultations and further referral services. In this manner, comprehensive and continuous health care is achieved.

4. The future of discharge planning in Taiwan

With the recent implementation of discharge planning policy by the Executive Yuan, Department of Health, and the integration of discharge planning into the Local Sanitation Bureau’s achievement score, discharge planning is set to become an important part of hospital performance evaluation since 2011. In addition, the recent participation of medical doctors in discharge planning studies and the improvement of the quality of discharge planning in Taiwan in the near future are promising developments.

5. Summary

Discharge planning in Taiwan was started in 1993 after the implementation of the policy of discharge planning by the Executive Yuan, Department of Health. Within these 20 years, hospitals in Taiwan adopted discharge planning and several studies were published. The most promising results include higher rates of satisfaction among patients and families, improved preparation of caregivers, and improved quality of life for patients. Some controversial findings include the possibility that discharge planning could shorten the hospital stay and unplanned readmission may occur less often. However, the number of patients being served with standard discharge planning and included in the reported studies remained small. Generally, almost all of the discharge planners were nursing staff who lacked a standard evaluation procedure for interdisciplinary discharge planning. More than three-fourths of patients determined that hospitals handled the referral of postdischarge long-term care services inadequately, and up to 94.1% of patients perceived no follow-up after discharge. Although physicians have positive attitudes toward discharge planning, based on a total score of 100, the average score of physician knowledge about discharge planning was 56.7, and the average score of physician behavior about discharge planning was 70.0.

To enhance the implementation of discharge planning in Taiwan, development of a standard evaluation procedure for interdisciplinary discharge planning and improved physician realization concerning the importance of discharge planning are needed.

Because of the requirement for every hospital to undertake discharge planning to ensure continuity of postdischarge care for patients in addition to quality of medical care, quality of medical professionals, facilities, hospital management, and community services, the improvement of the quality of discharge planning in Taiwan in the near future is promising.

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