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Examining Taiwanese Psychiatric Nurses’ Knowledge and Confidence in Case Management

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Mental health authorities in Taiwan have promoted case management as a policy for continuity of care. Additionally, the Mental Health Law has been amended to include clauses that mandate compulsory community treatment for people with mental illness, designating case management as the method of service delivery (Ministry of Health and Welfare, Taiwan, ROC, 2008). Case management is defined as “a collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual’s or family’s health needs through communication and available resources that promote quality cost-effective outcomes” (Case Management Society of America, 2010, p. 6). In this service model, the role of case manager is primarily assumed by nurses.

Because education in case management ensures that nurses possess relevant professional capabilities to perform the expected role functions, such education is crucial for successful case management (Henning & Cohen, 2008; Oshima, Cho, & Takahashi, 2004; Tahan & Campagna, 2010). Psychiatric nurses who do not have practical knowledge and skills in case management experience difficulty performing the core functions of case management, which include conducting overall needs assessments, formulating individualized treatment plans, linking patients to necessary resources. Additionally, 87% of the nurses had no previous education in case management.

Conclusion: Strategies for enhancing continuing education in case management are required to improve nurses’ knowledge of case management, address their unmet educational needs, and prepare them to serve as case managers.

to related services or referrals, and coordinating resources. Thus, the tangible effects of case management are jeopardized (Liu, Edwards, & Courtney, 2008). To achieve effective outcomes, psychiatric nurses must acquire new knowledge and skills in case management.

However, education in case management is inadequate. Additionally, although public health nurses in Taiwan have long served as case managers, 82% report no previous continuing education in case management (Chuang, Chung, & Liu, in press). Nurses have limited knowledge of case management and lack confidence in executing the needed skills (Chuang et al., in press; Liu, Edwards, & Courtney, 2010). However, nurses are not entirely unfamiliar with the processes of case management because they are similar to nursing processes. Therefore, nurses’ educational needs for knowledge and skills in case management must be identified.

CASE MANAGEMENT EDUCATION IN NURSING

Education in case management equips nurses with the necessary knowledge and skills to ensure that they can perform the role functions required of case managers. A review of the relevant literature identified knowledge and skills in case management that are essential for nurse case managers. The professional knowledge necessary to perform case management includes the basic concepts, objectives, models, principles, and processes of case management, as well as resource linking and service integration methods, as shown in the Sidebar (Case Management Society of America, 2010; Park, Huber, and Tahan, 2009; Tahan and Campagna, 2010).

Additionally, case managers need specific skills to successfully accomplish the responsibilities of this role. Generally, case managers must have the skills needed to execute case management processes as well as communication and leadership skills. Specifically, the skills necessary to execute clinical case management processes include the following: (1) case screening, (2) comprehensive needs assessment, (3) management plan formulation, (4) resource linking and referral provision, (5) service monitoring, and (6) management of effectiveness evaluation skills (Henning & Cohen, 2008). Essential communication skills include building good client relationships, facilitation, and collaboration (Henning & Cohen, 2008; Powell & Tahan, 2010).

Professional case management organizations and licensing systems have been established to promote the necessary knowledge and skills training for case managers (Case Management Society of America, 2010; Muller, 2012; Tahan, Huber, & Downey, 2006). Furthermore, some nursing schools offer formal courses to prepare nurses for the case manager role (Fletcher & Coffman, 1999; Kuric & White, 2005; Scheyett & Blyler, 2002; Tholcken, Clark, & Tschirch, 2004). Several scholars have recommended including case management education in university-level nursing education and providing relevant educational training to nurses (Liu et al., 2008; Stanton, 2009).

However, fewer than 20% of nurses have the opportunity to receive continuing education in this area. Despite insufficient training, these nurses are often required to perform case management. To reduce the disparity between nursing education and case management practice, the gaps in psychiatric nurses’ knowledge of case management and the causes of nurses’ insufficient confidence in their skills must be thoroughly understood. Based on this information, nurses’ unmet educational needs in the area of case management can be identified and continuing education can be offered to prepare nurses to serve as case managers.

METHODS

Design

A national survey with a cross-sectional design was adopted to explore the knowledge and confidence of Taiwanese psychiatric nurses in applying case management skills. At the time of the study, there were approximately 4,791 psychiatric nurses in Taiwan. These nurses were invited to participate in this study. With the use of G*power to calculate the sample size, with alpha = .05, beta = 0.80, and effect size $\eta^2 = 0.05$ (small), six predictors and 395 samples were required.

Instrument Validity and Reliability

The research tools used for this study were two structured questionnaires and one demographic survey. The first questionnaire was a case management knowledge index that included 20 multiple-choice items that were adapted to address the basic concepts and processes of
case management. The multiple-choice items were modified from those presented in *A Case Manager’s Study Guide* (Fattorusso & Quinn, 2012). The second questionnaire included 11 items on case management skills. These case management skills included five items developed by O’Hare, Collins, and Walsh (1998), combined with six items developed by the study researchers. Approval was obtained from the instrument developer to use and modify the items as necessary.

An expert panel of six experts constructed a content validity index. The results indicated that the adapted versions of the knowledge index and skills scales achieved content validity index scores of 0.87 and 0.97, respectively. The result of the Kuder-Richardson formula 20 for the knowledge index was 0.78, and the Cronbach’s alpha coefficient for the skills scale was 0.90. Thus, the adapted version of the knowledge index and skills scale showed satisfactory validity and reliability.

**Data Collection and Analysis**

The Psychiatric Mental Health Nurses’ Association website was used to recruit participants. Individuals who were willing to participate were instructed to reply to the research team via e-mail. After the participants’ consent was obtained, the researchers distributed the questionnaires for data collection. The participants recruited through the website were required to complete electronic questionnaires made available through Google.

Data analysis was conducted with SPSS software, version 19.0. Mean and standard deviation were calculated for all continuous variables, including participant age, years of nursing practice, years of experience in psychiatric nursing, knowledge of case management, and confidence in personal skills. Percentages for dichotomous or categorical variables, including gender, previous training in case management, and highest educational level in nursing, were also calculated. Furthermore, t tests, one-way analysis of variance, and Pearson’s correlation were used to examine the participants’ characteristics in relation to each variable (alpha = .05 indicated statistical significance). Regression analysis was conducted to determine the characteristics influencing the factors of each variable.

**Ethical Considerations**

Ethical approval was obtained from the Research Ethics Committee of National Taiwan University. Psychiatric nurses were given information sheets that provided details about the study. Furthermore, written consent was obtained from each participant. The participants were also assured that their contribution to this research would remain confidential and anonymous.

**RESULTS**

**Participant Characteristics**

A total of 424 participants completed the questionnaires, for a recovery rate of 99%. The participants were 21 to 60 years of age (M = 36 years) and had an average of 12 years of nursing experience. However, the differences in individual experience were significant, ranging from 0.08 year to 34 years. In addition, the participants had an average of 10 years of experience in psychiatric units (range, 0 to 34 years). Of the participants, 94% were female and the remaining 6% were male. Of all of the participants, 37% held diplomas and 50% had achieved a bachelor’s degree in nursing. Most of the participants (87%) had not received training in case management.

A summary of participant characteristics is provided in Table 1.

**Knowledge of Case Management**

A score of 1 was given for correct responses, with a score of 0 given for incorrect responses. To obtain a total knowledge score, the participants’ scores for the 20 items were totaled. Therefore, the possible range of total knowledge scores was 0 to 20. The mean participant knowledge score was 12 (60%), with a range of 3 to 20. The results showed that the participants initially possessed limited knowledge of case management.

The lowest-scoring items for knowledge, shown in Table 2, were as follows:

1. What is a system of cost containment programs? (4% accuracy rate)
2. The early roots of community case management can be traced to? (25% accuracy rate)
3. Case managers work in a variety of settings. Which of the following are examples of the community-based sector? (42% accuracy rate)
4. Which management skill is emphasized by the case manager role in the community-based case management model? (48% accuracy rate)
5. A community case management plan is? (49% accuracy rate)

**Confidence in Case Management Skills**

The lowest-scoring items for confidence in case management skills, shown in Table 3, were as follows:

1. Assessing clients’ resource needs (M = 3.17; SD = 0.7)
2. Networking with agencies to coordinate services (M = 3.19; SD = 0.7)
3. Making referrals to other services (M = 3.32; SD = 0.7)
4. Advocating on behalf of clients (M = 3.34; SD = 0.7)
5. Collaborating with other service providers \( (M = 3.34; SD = 0.7) \)

**Characteristics Related to Nurses’ Knowledge and Confidence in Skills**

Characteristics of the psychiatric nurses, including age, years of nursing experience, years of experience in psychiatric nursing, and previous training, were significantly related to their knowledge and skills in case management, as shown in Table 1. However, the relationships to gender and educational level (above a bachelor’s degree vs. diploma) were not significant.

The results of multiple regression analysis showed that psychiatric nurses’ knowledge of case management was

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**TABLE 1**

**PARTICIPANT CHARACTERISTICS AND OUTCOME VARIABLES \( (N = 424) \)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>( M (SD) )</th>
<th>( N )</th>
<th>%</th>
<th>Knowledge Pearson t/F</th>
<th>( p )</th>
<th>Skill Confidence Pearson t/F</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>36 (8.4)</td>
<td></td>
<td></td>
<td>0.2</td>
<td>.00*</td>
<td>0.2</td>
<td>.00*</td>
</tr>
<tr>
<td>Minimum</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Years of nursing practice</td>
<td>12.5 (8.3)</td>
<td></td>
<td></td>
<td>0.2</td>
<td>.00*</td>
<td>0.2</td>
<td>.00*</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of experience in psychiatric nursing</td>
<td>9.7 (7.6)</td>
<td></td>
<td></td>
<td>0.2</td>
<td>.001*</td>
<td>0.1</td>
<td>.04*</td>
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<tr>
<td>Minimum</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>399</td>
<td>94</td>
<td></td>
<td>( t = 1.1 )</td>
<td>.3</td>
<td>( t = 1.2 )</td>
<td>.2</td>
</tr>
<tr>
<td>Male</td>
<td>25</td>
<td>6</td>
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<td></td>
<td></td>
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<tr>
<td>Level of education</td>
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<td></td>
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<tr>
<td>High school</td>
<td>11</td>
<td>3</td>
<td></td>
<td>( F = 1.1 )</td>
<td>.4</td>
<td>( F = 1.0 )</td>
<td>.4</td>
</tr>
<tr>
<td>Diploma</td>
<td>158</td>
<td>37</td>
<td></td>
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<tr>
<td>Bachelor’s degree</td>
<td>210</td>
<td>50</td>
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<tr>
<td>Master’s degree</td>
<td>42</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous education in case management</td>
<td></td>
<td></td>
<td></td>
<td>( t = -2.0 )</td>
<td>.048*</td>
<td>( t = -3.3 )</td>
<td>.001*</td>
</tr>
<tr>
<td>Yes</td>
<td>57</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>367</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note. *\( \alpha < .05 \).
not significantly related to their age, years of nursing experience, or participation in relevant continuing education. Nevertheless, the only factor that could predict participants’ confidence in their case management skills was participation in continuing education. Before this study, only 13% of the participants had received case management training; however, these courses (average duration of 2 hours) did not sufficiently enhance nurses’ knowledge of case management. By contrast, continuing education noticeably affected participants’ confidence in their case management skills. Surprisingly, 87% of the psychiatric nurses had no previous training in case management.

**DISCUSSION**

This study was conducted to investigate psychiatric nurses’ knowledge of case management and confidence in their case management skills. Participants’ knowledge scores reflected substantial gaps in knowledge of the theoretical foundation of case management, especially knowledge of basic concepts and case management processes. Similarly, participants showed insufficient confidence in their skills in executing case management and performing specific roles, such as assessing resource requirements, networking, conducting referrals, and collaborating with service providers.

This is one of the few studies of psychiatric nurses’ knowledge of case management and confidence in their skills; therefore, comparability is low. One reason for the scarcity of studies in this field may be that case management certification programs are available in the United States. In addition, nursing schools in the United States are already offering formal case management courses (Fletcher & Coffman, 1999; Haw, 1996; Scheyett & Blyler, 2002).

Few studies have evaluated nurses’ knowledge and skills in case management. Educational preparation is important to the success of a case manager and the continuation of this role in the health care system (Kulbok & Williams, 1999). When nurses’ caregiving roles are transformed into case management roles, they need appropriate preparation and training (Schmitt, 2006). Highlighting similar topics as essential for case managers, Nolan, Harris, Kufta, Opfer, and Turner (1998) explored the educational needs identified for case managers.

The gaps in nurses’ knowledge and confidence in their skills that were identified in this study are particularly relevant to the differences between nursing processes and case management processes. The study findings supported the idea that unmet educational needs are related to performance in the case manager role. Compared with the nursing process, nursing case management places greater focus on cooperation between professionals, coordination, links to resources, and role integration. Nurse case managers emphasize resource use and integration to ensure the integrity of care (Liu et al., 2008). Only 13% of the psychiatric nurses in this study had received continuing education in case management, and the average duration of such courses was only 2 hours. Insufficient training may have contributed to the demand for education in case management. Because of the differences between case management processes and nursing processes, most Taiwanese nursing schools do not offer formal courses in case management. Thus, additional continuing education is necessary. The results of this study showed that nurses’ knowledge of case management and confidence in their skills are unrelated.

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**TABLE 3**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Content</th>
<th>M (SD)</th>
<th>Lowest Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assessing clients’ resource needs</td>
<td>3.17 (0.7)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Networking with agencies to coordinate services</td>
<td>3.19 (0.7)</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Making referrals to other services</td>
<td>3.32 (0.7)</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Advocating on behalf of clients</td>
<td>3.34 (0.7)</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Collaborating with other service providers</td>
<td>3.34 (0.7)</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Linking needed services to clients</td>
<td>3.35 (0.7)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Providing information about other services available to clients</td>
<td>3.40 (0.7)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Interviewing clients’ families</td>
<td>3.57 (0.7)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Interviewing clients</td>
<td>3.59 (0.7)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Developing partnerships with clients’ families</td>
<td>3.59 (0.7)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Developing partnerships with clients</td>
<td>3.74 (0.7)</td>
<td></td>
</tr>
</tbody>
</table>
key points

Case Management

1 Nurse case managers must acquire new knowledge and skills in preparation for the responsibilities of case management. The gaps in psychiatric nurses’ current knowledge and skills must be identified as unmet educational needs.

2 The participants’ knowledge gaps included basic concepts and case management processes. The participants showed insufficient confidence in assessing resource requirements, networking, conducting referrals, and collaborating with service providers. The gaps in knowledge and skills that were identified in this study are particularly relevant to the differences between nursing processes and case management processes.

3 Nurses may not acquire essential knowledge and skills in case management through experience alone. Instead, further continuing education with longer courses is required to enhance nurses’ readiness for case management.

Research Limitations
The primary limitation of this research was that the study analyzed only nurses’ self-reported confidence in their case management skills. Their actual skills and practice were not examined. Thus, further exploration of the relationship between the case management education and case management practice of psychiatric nurses is required. Furthermore, most of the participants had the title of psychiatric nurse rather than case manager. Nurse case managers may have different levels of knowledge or confidence in their skills.

CONCLUSION
Nurses may not acquire essential knowledge and skills in case management through experience alone. Instead, further continuing education with longer courses is required to enhance nurses’ readiness for the case manager role. The contribution of this study to research is the identification of unmet needs for education in case management, specifically, knowledge and skills. The lowest-scoring items should be addressed in formal nursing education or continuing education programs. Further research is needed to develop educational programs to meet nurses’ needs for education in case management.

REFERENCES
Muller, L. S. (2012). Standards of practice: The essence of a profes-


