1-1-2015

Identification Of Essential Content On Caring For Persons With Schizophrenia And Medical Comorbidities For Non-Psychiatric Nurses

Juraj Melek
Yale University, juraj.melek@yale.edu

Follow this and additional works at: https://elischolar.library.yale.edu/ysndt

IDENTIFICATION OF ESSENTIAL CONTENT ON CARING FOR PERSONS WITH
SCHIZOPHRENIA AND MEDICAL COMORBIDITIES FOR NON-PSYCHIATRIC NURSES

Submitted to the Faculty
Yale University School of Nursing

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Nursing Practice

Juraj Melek

May 18, 2015

The capstone is accepted in partial fulfillment of the requirements for the degree Doctor of

Nursing Practice.

Joanne Iennaco, PhD, MS, RN

May 18, 2015

Ruth McCorkle, PhD, FAAN

May 18, 2015

Jessica Coviello, DNP, APRN, ANP-BC

May 18, 2015

Brief quotations are allowable without special permission, provided that accurate

acknowledgement of source is made. Requests for permission for extended quotation from or

reproduction of this manuscript in whole or in part must be granted by the copyright holder.

<div align="right">

Signed:_Juraj Melek_____

May 18, 2015

</div>

Identification of Essential Content on Caring for Persons with Schizophrenia and Medical Comorbidities for Non-Psychiatric Nurses

JURAJ MELEK, MSN, PMHNP-BC

JOANNE DESANTO IENNACO, PhD, APRN, PMHNP-BC, PMHCNS-BC

ABSTRACT

Aim. To identify essential content for a learning program on caring for persons with schizophrenia and medical comorbidities for non-psychiatric nurses.

Background. Approximately 30-40% of medically hospitalized patients carry psychiatric diagnoses. They have complex medical needs and higher rates of morbidity and mortality, yet more restricted access to health care services. Non-psychiatric nurses may perceive those suffering from schizophrenia as difficult and often respond differently to acute medical problems when aware of a patient's psychiatric diagnosis. Hospital nurses working in general or other non-psychiatric units may lack the competency to manage the disruptive behaviors associated with mental illness.

Data Sources. A search of CINAHL, PUBMED, EBSCO, Orbis, and Google Scholar was conducted for literature published between 2000 and 2015. Literature published by relevant professional organizations was also included. Content validation was performed using a focus group.

Implications for Nursing. As nursing practice becomes increasingly complex, creating evidence-based education programs to raise the competency of non-psychiatric nurses will help them adapt to the changing demands of their patients.

Results. The literature review yielded five main categories including: Clinical Presentation and Assessment; Pathophysiological Mechanism; Treatment; Core Competencies and Vignettes. All of these were retained based on nurses' identification of their own learning needs.

Conclusion. As the largest workforce in America, nurses play a crucial role in the health care system. Educating them to better provide for individuals with mental illness will clearly benefit hospitals, communities, care providers, and most importantly, a hitherto underserved patient population.

Keywords: schizophrenia, education, comorbidity, nursing, clinical competency, outcomes, knowledge.

SUMMARY STATEMENT

Why is this research or review needed?

- The relative decrease in resources for the treatment of mental illness has created an increased need to provide care in medical settings for patients with schizophrenia and comorbid physical conditions.

- Patients with mental illness have complex care needs. In particular, the unusual behaviors demonstrated by those with schizophrenia may cause nurses to feel inadequate and question their competence.

- Nurses' perceptions of patients suffering from schizophrenia as difficult may affect their responsiveness to medical problems and, consequently, patient outcomes.

What are the key findings?

- Key learning needs for non-psychiatric nurses in caring for patients with schizophrenia are related to clinical presentation and assessment, the pathophysiological mechanism of schizophrenia, treatment, core competencies, and vignettes or case studies relevant to their situation.

- Nurses feel that having access to more exposure and discussion forums and working with experienced psychiatric nurses would help them overcome their fears.

How should the findings be used to influence policy/practice/research/education?

- More emphasis should be placed on psychiatric education during general nursing training.

- Psychiatric nursing should be incorporated into entry-level nursing and hospital orientations.

- Future research should address nurses' perceptions of their preparedness to care for

complex patients with schizophrenia and education programs should be developed.

INTRODUCTION

In the past decade, the United States has become increasingly aware of the personal suffering, chronic disabilities, and cost associated with psychiatric illnesses, particularly schizophrenia. According to the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association [APA], 2013), schizophrenia involves chronic or recurrent psychosis and is commonly associated with impairments in social and occupational functioning. The schizophrenia spectrum includes schizophrenia, schizotypal (personality) disorder, and other psychotic disorders. These conditions are defined by neurobiological abnormalities in one or more of the following five domains: cognition (delusions, disorganized thinking manifested by changes in speech), perceptions (hallucinations, illusions), emotion (inability to read social cues, withdrawal, inappropriate responses to others), behavior (grossly disorganized or abnormal motor behavior, including catatonia), and socialization resulting from negative symptoms (apathy, anhedonia, amotivation, alogia). The World Health Organization ranks schizophrenia as one of the top ten illnesses contributing to the global burden of disease (World Health Organization, 2004).

It is estimated that around 45% of people in developed countries will experience a mental illness at some point in their lives and that more than 58% of these individuals will have a comorbid chronic physical condition (Jacobi, Wittchen, & Holting, 2004; Kessler, Berglund, Demler, Merikangas & Walters, 2005). According to the National Institute of Mental Health (NIMH, 2010), approximately 20% of American adults are living with psychiatric diagnoses. Around 6% of the population suffers from severe mental illness, such as schizophrenia, bipolar disorder, and major depression, which is often intractable to treatment and results in functional impairment and disability (Zolnierek, 2009). Schizophrenia alone affects approximately 2.6

million American adults (NIMH, 2010), or between 0.5% and 2.0% of the population (Zolnierek, 2009; Laruelle, 2014).

PROBLEM AND BACKGROUND

In the current environment of escalating health care costs, decreasing both length of stay (LOS) and re-hospitalization has attracted the attention of stakeholders, including the public, medical institution leaders, and policy makers, as a way to raise the quality of care, improve patient outcomes, and ultimately, reduce financial strain. Psychiatric comorbidity has repeatedly been shown to strongly predict increased LOS, readmission rates, and expenditure (Bressi, Marcus & Solomon, 2006). The increase in LOS due to a psychiatric comorbidity in general hospitals ranges from one to three days for the same diagnostic group (Bronheim, Fulop & Kunkel, 1998; Desan, Zimbrean & Weinstein, 2011). A large body of evidence also shows a higher rate of readmission for medical reasons in patients with a primary psychiatric diagnosis (Bressi *et al.,* 2006; Jencks & Williams, 2009).

Because of the often disruptive behaviors associated with symptoms of schizophrenia, patients generally require evaluation and treatment in specialized psychiatric units. Although few registered nurses (RNs) on such units possess advanced certification in psychiatric nursing (Morris, Goplerud & Hoge, 2004), they usually have gained the experience required to manage these behaviors, which include aggression, agitation, and psychosis (Hanrahan, 2009; Institute of Medicine [IOM], 2010). These nurses can reliably assess patients for predictors of escalation (Mackay, 2005) and intervene with treatment and resources before adverse events occur (Zolnierek, 2009, 2012). When patients with schizophrenia are hospitalized for non-psychiatric

illness, however, they may be admitted to general medical units staffed by nurses who have

limited psychiatric experience and no mental health training other than what was received during

their basic registered nurse pre-licensure preparation. Although all 2.8 million RNs currently

practicing in the United States possess this basic education, caring for patients with mental

illness and disruptive symptoms without additional training and experience may pose significant

challenges (Hanrahan, 2009; Zolnierek, 2009, 2012). The unpredictable, unusual, and at times

aggressive behaviors associated with schizophrenia may hamper the patient's safety, physical

care, and treatment and cause nurses to feel inadequate and question their competency (Rutledge,

Wickman & Drake, 2012).

Non-psychiatric nurses who feel uncomfortable with the unusual behaviors brought on by

schizophrenia may identify individuals with the disease as more complex (Jonge, Zomerdijk,

Huyse, & Fink, 2001) and may label them as difficult, problematic (Priami *et al.,* 1998,

Zolnierek 2009, 2012), disruptive (Atkins, Holmes & Martin, 2005; Zolnierek 2009, 2012), and

unpredictable (Lethoba, Netswera & Rankhumise, 2006). In fact, a psychiatric diagnosis alone is

enough to earn patients these labels in medical-surgical settings (Morrison *et al.,* 2000; Manos,

2007).

Although this difficulty is most often ascribed to the patient, several authors have

suggested that it is also applied to the nurse-patient encounter as well as to the system and

environment, or context of care, within which the relationship is embedded. These perceptions

are consistent with harmful stereotypes of persons with mental illness and have been shown to

affect nurses' responsiveness to medical symptoms. Of significance is the fact that these terms

negatively influence the quality of nursing care (Carveth, 1995; Reed & Fitzgerald, 2005) and

may therefore worsen patient outcomes (Montalvo, 2007; Zolnierek, 2009). In one study, nurses

reported prioritizing essential physical needs over mental health needs due to time constraints (Reed & Fitzgerald, 2005). The complexity of factors within the hospital environment, together with the characteristics of the nurse, the patient, and the nurse-patient relationship, may give rise to an experience of difficulty, which may further affect the outcomes (Zolnierek, 2009, 2012; Rutledge *et al.,* 2012).

INSTITUTE OF MEDICINE REPORTS

In 2005, the Institute of Medicine (IOM), one of the most respected analytical bodies in the United States, released a study titled *Improving the Quality of Health Care of Mental and Substance-Use Conditions*, which indicated that mental illness and substance-use problems do not occur in isolation but often accompany other medical illnesses such as heart disease, cancer, diabetes, and neurological conditions. The report maintained that since mental and general health problems are frequently intertwined, coordinating the treatment of all of these illnesses is essential for improved patient outcomes. Enhancing the quality of mental and substance-use treatment, and indeed, of general health care, depends upon effective collaboration among providers of mental, substance-use, and general health care as well as providers of other human services.

One of the obstacles to achieving this outcome, as identified in the report, is the separation that exists between the "silos" of mental and general health (IOM, 2005). For health care institutions to better serve persons with mental illness, mental health must be integrated into the concept of general health. Yet to date, multispecialty training that includes both mental health and other disciplines remains rare (IOM, 2005). According to this document, achieving care that

is safe, timely, effective, efficient, equitable, and patient-focused requires coordination across conditions, providers, settings, and time.

In 2010, the IOM released another major study, *The Future of Nursing: Leading Change, Advancing Health*, which provided recommendations for transforming the nursing profession to better meet the immense health care needs of all Americans. It advised that nurses should engage in continuing education and that all health care organizations "should foster a culture of lifelong learning and provide resources of inter-professional continuing competency programs" (IOM, 2010, p. 11). The study emphasized that health care and other organizations "should regular[ly] evaluate their programs for adaptability, flexibility, accessibility, and impact on clinical outcomes and update the programs accordingly" (p. 12).

MENTAL DISORDERS IN THE GENERAL INPATIENT POPULATION

Psychiatric comorbidities among medical inpatients are common, though often misdiagnosed, with 20–55% of individuals having at least one (Hansen, Fink & Eriksen, 2001; Furlanetto 2003; Bressi *et al.,* 2006; Desan *et al.,* 2011). This rate of mental illness far exceeds that in the general population (Silverstone 1996; Bronheim *et al.,* 1998; NIMH, 2014). Moreover, the treatment of schizophrenia and other psychiatric disorders is becoming more common in non-psychiatric settings. Patients with these illnesses often need more complex care and longer hospital stays than those without comorbid mental health conditions (Bronheim *et al.,* 1998; Desan *et al.,* 2011).

NURSES' PERCEIVED COMPLEXITY OF PATIENTS

Schizophrenia's neurobiological underpinnings, which result in a sedentary lifestyle, unhealthy eating habits, and other behavioral and environmental risk factors, contribute to patients' poorer physical well-being (Dickey, 2002; Leucht, 2007). The prevalence of chronic respiratory illness among this population may be due to their excessive rates of smoking (Lyon, 1999). There is also an unusually high incidence of diabetes, which is consistent with conclusions from studies on the diabetogenic impact of both schizophrenia and its treatment with antipsychotics. When these illnesses become acute, patients require treatment in non-psychiatric settings, where medical-surgical nurses may find themselves lacking the skills to identify and manage the associated symptoms (Atkins *et al.,* 2005; Zolnierek, 2009).

Jonge *et al.* (2001) evaluated the perceived care complexity of patients with psychiatric illnesses admitted to general hospitals. Although their specific diagnoses were not identified, those with high scores for anxiety, depression, and somatization were rated as more complex than those with low scores. The actual intensity of care, determined through a review of medical records, could not explain the higher complexity scores. Thus, Jonge *et al.* (2001) concluded that nurses perceived patients with mental disturbances to have complex care needs, even though these needs were not objectively validated (Zolnierek, 2009).

SOLUTION

The solution presented in the present article is the identification of an evidence-based curriculum for non-psychiatric nurses. The outline was identified with two specific aims:

1. To describe and synthesize evidence about essential aspects of caring for patients with

schizophrenia and medical comorbidities;

2. To compare these findings with the learning needs of nurses on a general medical

   unit.

METHODOLOGY

The learning program, designed for medical-surgical registered nurses in non-psychiatric

inpatient settings, is intended to inform them about schizophrenia symptoms and medications,

enhance their detection of the condition in patients with existing medical illnesses, assist in the

prevention and management of problematic behaviors, and help them with discharge education.

It seeks to provide not only training and support but also positive exposure to medically ill

patients with psychiatric diagnoses. These aspects of the learning program should reduce the

uncertainty that registered nurses experience around patients with schizophrenia and enhance

their effective management of the complex needs of this population. By empowering nurses

through evidence-based education and support, positive exposure, increased comfort levels, and

higher competencies, the program will potentially bridge the gap between non-psychiatric staff

and patients with severe mental illness on medical-surgical floors.

The identification of the schizophrenia education content involved two steps: (1) a

literature review to determine the domains for the curriculum and (2) a comparison of these

domains with nurses' learning needs on one general medical floor. A final step will involve

validation of the curriculum content by an expert panel.

The first step entailed identifying the content for the education program and producing a

list of potential domains through a systematic review of the literature. The sources were found

using multiple databases and search engines, including the Cumulative Index of Nursing and

Allied Health Literature (CINAHL), the U.S. National Library of Medicine (PUBMED), the

EBSCO Database, the Orbis Catalog, and Google Scholar. Schizophrenia, competency, and

psychiatric comorbidity were entered as keywords. This review yielded more than 50 articles

from domestic and international journals on clinical competency and education. Additional

literature on schizophrenia was identified with the assistance of mental health care professionals,

including clinical educators. The American Nurses Credentialing Center's certification materials

for psychiatric certification were also included. The results were presented in a table listing the

author or authors, journal, place of publication, title, purpose of the study, and content. The

potential subjects that emerged were grouped into five broad categories, each with several

subcategories.

In the second step, the content domains synthesized from the literature review were

presented to the nursing staff on one medical unit to assess which categories they perceived to be

most important. The meeting with the RNs lasted approximately 1.5 hours. The ten nurses in

attendance differed in age, length of employment (1–10+ years), and experience in the field (<1–

37 years). None of the nursing staff had any professional experience in psychiatry.

RESULTS

The literature review included research studies as well as material from the World

Psychiatric Association (WPA) and the American Nurses Credentialing Center (ANCC). Five

broad content domains were identified: (1) clinical presentation and assessment, (2)

pathophysiological mechanism, (3) treatment, (4) core competencies, and (5) vignettes. For each

of these core domains, several subcategories were identified from the literature. When these were

presented to the focus group of nurses, all participating nurses agreed that all core categories

should be included in the learning program (Table 1).

Table 1

Curriculum Content Domains: Nursing Staff Needs Assessment

Category	Inclusion of Category in Curriculum
	% Nursing Staff
Clinical Presentation and Assessment	100%
Pathophysiological Mechanism	100%
Treatment	100%
Core Competencies	100%
Vignettes	100%

The three most important subcategories for each core domain were also identified

through the needs assessment conducted with the nurse focus group. The content domains

including subcategories as well as validation of learning needs in each area by nursing staff are

described below (Table 2).

Table 2

Curriculum Content Domains and Subcategories Identified by the Nursing Staff

Category	Top Three Subcategories	% Nursing Staff
Clinical Presentation and Assessment	Symptoms of schizophrenia	100%
	Differential diagnoses	80%
	Course and outcomes	80%
Pathophysiological Mechanism	Epidemiology	100%
	Disease phases	80%
	Neuroimaging	60%
Treatment	Dosage	100%
	Side effects	100%
	Target symptoms	100%
Core Competencies	De-escalation techniques	100%
	Communication techniques	100%
Vignettes	Three vignettes to be determined	100%

1. Clinical Presentation and Assessment

Domain Selection: This content domain encompasses education on the symptoms, differential diagnoses, and outcomes of schizophrenia. It reviews the typical characteristics of the disorder: positive symptoms (i.e., hallucinations, delusions), negative symptoms (i.e., flat affect, alogia), and cognitive impairment (i.e., attention, memory, executive function) (Tusaie & Fitzgerald, 2012; Sadock & Sadock, 2014). It discusses the diagnostic criteria (the presence of symptoms, coupled with social or occupational dysfunction, for at least six months [APA, 2013]) and the difficulty of diagnosis due to lack of clear physical symptoms or laboratory results indicative of schizophrenia. The impact of risk factors, such as premorbid social isolation, lower

education and socioeconomic status, and negative symptoms, on prognosis and clinical outcomes

(Sadock & Sadock, 2014) are addressed. This content area also covers the effect of cultural and

familial factors on symptom presentation (Tusaie & Fitzgerald, 2012; Sadock & Sadock, 2014)

and patient outcomes (WPA, 2015).

Nursing Staff Needs Assessment: The needs assessment confirmed that education on the

symptoms, differential diagnoses, and outcomes of schizophrenia would be beneficial. The

interviewed nurses expressed frustration with their inability to detect symptoms of schizophrenia

and distinguish it from other mental illnesses. Additionally, they were unsure about the course

and outcomes of this condition. The RNs noted that, at present, they are able to identify

schizophrenia only if it is listed in a patient's medical records, can be inferred from the

medication administered (e.g., Risperidone or Zyprexa), or is self-identified during the admission

process. Nurses with one year of experience or less expressed discomfort caring for patients with

schizophrenia and tried to change the assignment with their senior colleagues.

2. Pathophysiological Mechanism

Domain Selection: This content area addresses the epidemiology and pathophysiology of

schizophrenia. Prevalence, risk factors, and comorbidities are included, as well as evidence that

some individuals with schizophrenia have abnormal brain morphology at the time of the first

episode. Established theories regarding the role of the neurotransmitters dopamine and serotonin

in the disorder (Tusaie & Fitzgerald, 2012; Sadock & Sadock, 2014; WPA, 2015) are presented

alongside more recent models that implicate glutamate in the pathophysiology of schizophrenia

(Sadock & Sadock, 2014).

Nursing Staff Needs Assessment: The RNs expressed only moderate interest in this category, although they were surprised by the relatively high incidence rates. They felt that while it was important to know about genetics and neurotransmitters, other areas were more relevant to their current practice. Of the five subcategories, epidemiology, disease phases, and neuroimaging were deemed the most valuable.

3. Treatment

Domain Selection: This module summarizes the history of the development of somatic therapies for psychotic disorders; reviews the basic pharmacology and mechanisms of action for commonly used medications; and cites the data supporting their efficacy in psychiatric emergencies, acute psychosis, and chronic maintenance therapy. The older "typical" neuroleptics are described, and the relative advantages of the newer "atypical" or "second-generation" antipsychotics are discussed, including frequency and management of adverse effects, and the use of oral versus depot compounds (Tusaie & Fitzgerald, 2012; Sadock & Sadock, 2014; WPA, 2015).

Nursing Staff Needs Assessment: The nurses expressed uncertainty about medication management (targeted symptoms, usage, dosage, and side effects) for patients suffering from schizophrenia. Additionally, they indicated insufficient knowledge of the pharmacological interactions of antipsychotics with other medications and treatments for medically compromised patients. They suggested that a one-page information chart (cheat sheet) would be a helpful tool.

4. Core Competencies

Domain Selection: This category describes core competencies for nursing staff caring for medical patients with schizophrenia, including effective communication, patient guidance, the maintenance of safety and therapeutic relationships, and crisis de-escalation (Tusaie & Fitzgerald, 2012; Sadock & Sadock, 2014).

Nursing Staff Needs Assessment: The nurses agreed unanimously that they would like to enhance their use of de-escalation and communication techniques. They described numerous examples from their current practice of their lack of skill in this area. They spoke at length about their uncertainty about how to approach patients with schizophrenia, how to communicate with them, and how to offer care. The nursing staff felt that mastery of core competencies would be highly beneficial to their work.

5. Vignettes

Domain Selection: Clinical vignettes are patient-related cases and scenarios that have educational value for a wider audience, including nursing staff. The vignettes should be from "real life" and be based on patients for whom the nurses have cared. The World Psychiatric Association presents multiple vignettes that can be used in the program (WPA, 2015).

Nursing Staff Needs Assessment: The RNs all felt that real-world examples would help them care for this population more effectively and suggested that vignettes and follow-up discussions may be the best way of learning.

DISCUSSION

The literature focuses on describing the occurrence of schizophrenia in people with medical conditions and investigating various correlations such as psychiatric comorbidity and length of stay. However, limited research exists on the needs of medical personnel in caring for people with schizophrenia and what there is pertains to non-nursing disciplines. At present, no studies describe the educational content required for non-psychiatric nurses, such as those in medical-surgical units, who interact with patients with schizophrenia. The absence of such content is striking, considering the integrated multidisciplinary approach that generally characterizes mental health practice.

The RNs who participated in the focus group strongly believed they would benefit from an education program on interacting with patients with mental illness. They cited schizophrenia and bipolar disorder, in particular, as the diagnoses about which they were most uncertain. All focus group participants, especially nurses who were younger and less experienced, expressed two primary learning needs: for education on the treatment and management of patients suffering from schizophrenia and the use of appropriate interventions. They also requested access to a psychiatric nurse (or at least an experienced RN on the floor) as a schizophrenia "consultant."

The present study has several limitations. One is that the focus group was comprised of nurses from a single unit in one hospital. While the participants represented a broad range of ages and experience levels, the essential curriculum content they identified applies to this single unit. Another limitation is the lack of other techniques to assess nurses' learning needs. For this reason, the next step will be to validate this content with an expert panel of scholars (Table 3). This panel will include up to six nursing and non-nursing experts on schizophrenia and other

serious mental illness. After expert validation, the education program will be developed for use in a hospital setting.

CONCLUSION

Nurses play a pivotal role in advancing health care and improving patient outcomes nationwide. With the decreasing availability of mental health resources and the consequent need to treat patients with mental illness in medical-surgical units, nurses who often lack specialized psychiatric training may struggle to care for more complex populations, such as medical patients with psychiatric comorbidities. Research is therefore needed to determine the best ways to promote nurses' knowledge, positive attitudes, and self-confidence in dealing with this group. This evidence-based project, with validation by nurses and subject-matter experts, is expected to meet the need for an education program for registered nurses practicing in non-psychiatric settings who care for patients with schizophrenia.

REFERENCES

American Psychiatric Association (2013) *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn. American Psychiatric Publishing, Arlington, Virginia.

Atkins K., Holmes J. & Martin C. (2005) Provision of care for older people with co-morbid mental illness in general hospitals: general nurses' perceptions of their training needs. *International Journal of Geriatric Psychiatry* 20, 1081–1083.

Bressi S.K., Marcus S.C. & Solomon P.L. (2006) The impact of psychiatric comorbidity on general hospital length of stay. *Psychiatric Quarterly* 77, 203–209.

Bronheim H.E., Fulop G.P. & Kunkel E.J. (1998) The Academy of Psychosomatic Medicine practice guidelines for psychiatric consultation in the general medical setting. *Psychosomatics* 39, S8–30.

Carveth J.A. (1995) Perceived patient deviance and avoidance by nurses. *Nursing Research* 44, 173–178.

Desan P.H., Zimbrean P.C. & Weinstein M.A. (2011) Proactive psychiatric consultation services reduce length of stay for admissions to an inpatient medical team. *The Academy of Psychosomatic Medicine* 52, 513–520.

Dickey B.H. (2002) Medical morbidity, mental illness, and substance use disorders. *Psychiatric Services* 5, 861–867.

Furlanetto L.M. (2003) The impact of psychiatric comorbidity on length of stay of medical inpatients. *General Hospital Psychiatry* 25, 14–19.

Hansen M.S., Fink P. & Eriksen M. (2001) Mental disorders in medical inpatients and the association to severity of illness, self-rated physical disability, and health perception. *Psychosomatics* 42, 41–47.

Hanrahan N.P. (2009) Psychiatric-mental health nurse workforce in the United States. *Journal of Psychosocial Nursing* 47, 34–42.

Institute of Medicine (2005) *Improving the Quality of Health Care for Mental and Substance-Use Conditions.* Retrieved from http://www.nap.edu/catalog/11470/improving-the-quality-of-health-care-for-mental-and-substance-use-conditions on 2 June 2014.

Institute of Medicine (2010) *The Future of Nursing: Leading Change, Advancing Health.* Retrieved from http://www.iom.edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx on 2 June 2014.

Jacobi H.F., Wittchen H.U. & Holting C.U. (2004) Prevalence, co-morbidity and correlates of mental disorders in the general population: results from the German Health Interview and Examination Survey. *Journal of Physiological Medicine* 4, 597–611.

Jencks S.F. & Williams M.V. (2009) Re-hospitalizations among patients in the Medicare fee-for-service program. *New England Journal of Medicine* 14, 1418–1428.

Jonge P.D., Zomerdijk M.M., Huyse F.J., Fink P., Herzog T., Lobo A., Slaets J.P.J., Arolt V., Balogh N., Cardoso G. & Rigatelli M. (2001) Mental disturbances and perceived complexity of nursing care in medical inpatients: results from a European study. *Journal of Advanced Nursing* 36, 355–363.

Kessler R.C., Berglund P., Demler O.S., Merikangas K.R. & Walters E.E. (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry* 62, 593–602.

Laruelle L.M. (2014). Schizophrenia: from dopaminergic to glutamatergic interventions. *Current Opinion in Pharmacology* 14, 97–102.

Lethoba K.G., Netswera F.G. & Rankhumise E. (2006) How professional nurses in a general hospital setting perceive mentally ill patients. *Curationis* 29, 4–11.

Leucht S.O. (2007) Physical illness and schizophrenia: a review of the literature. *Acta Psychiatrica Scandinavica* 116, 317–333.

Lyon E.R. (1999) A review of the effects of nicotine on schizophrenia and antipsychotic medications. *Psychiatric Services* 50, 1346–1350.

Mackay I. (2005) Constant or special observations of inpatients presenting a risk of aggression or violence: nurses' perceptions of the rules of engagement. *Journal of Psychiatric and Mental Health Nursing* 12, 464–471.

Manos P.J. (2007) *Care of the Difficult Patient: A Nurse's Guide*. Routledge, New York.

Montalvo I. (2007) The national database of Nursing Quality Indicators (NDNQI). *OJIN: The Online Journal of Issue in Nursing* 12(3). Retrieved from www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume122007/No3Sept07/NursingQualityIndicators.aspx on 10 June 2008.

Morris J.A., Goplerud E.N. & Hoge, M.A. (2004) *Workforce Issues in Behavioral Health*. Washington, DC: White paper commissioned by the Center for Mental Health Services for the Institute of Medicine.

Morrison E.R., Ramsey A. & Synder B.A. (2000) Managing the care of complex, difficult patients in the medical-surgical setting. *MedSurg Nursing* 9, 21–27.

National Institute of Mental Health (2010) *Mental Health Expenditures as a Percent of All Health Care Expenditures.* Retrieved from http://www.nimh.nih.gov/statistics/4EXP2003.shtml on 2 January 2015.

National Institute of Mental Health (2014) *Mental Health Medicines in Development.* Retrieved from http://www.phrma.org/mental-health-medicines-in-development-report-2014 on 2 January 2015.

Priami M.A., Plati C.D. & Mantas J. (1998) Nurses' attitudes towards hospitalized patients with psychological and psychiatric problems. *European Nurse* 3, 105–111.

Reed F. & Fitzgerald L. (2005) The mixed attitudes of nurses to caring for people with mental illness in a rural general hospital. *International Journal of Mental Health Nursing* 14, 249–257.

Rutledge D.N., Wickman M. & Drake D. (2012) Instrument validation: hospital nurse perceptions of their behavioral health care competency. *Journal of Advanced Nursing* 68(12), 2755–2765.

Sadock B. & Sadock V. (2007) *Kaplan & Sadock's Synopsis of Psychiatry*, 10th edn. Lippincott, William and Wilkins, Philadelphia.

Silverstone P.H. (1996) Prevalence of psychiatric disorders in medical inpatients. *Journal of Nervous & Mental Disease* 1, 43–51.

Tusaie K.R. & Fitzpatrick J.J. (2013) *Advanced Practice Psychiatric Nursing*. Springer Publishing, New York.

World Health Organization (2004) *The Global Burden of Disease.* Retrieved from http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf on 20 March 2015.

World Psychiatric Association (2015) *Teaching and Learning About Schizophrenia.* Retrieved from http://www.wpanet.org/detail.php?section_id=8&content_id=130 on 20 March 2015.

Zolnierek C.D. (2009) Non-psychiatric hospitalization of people with mental illness: systematic review. *Journal of Advanced Nursing* 65, 1570–1583.

Zolnierek C.D. (2012) A medical-surgical nurse's perceptions of caring for a person with severe mental illness. *Psychiatric Nurses Association* 18, 226–235.

This page intentionally left blank

APPENDIX
TABLE

Table 3

Categories and Subcategories for Content on Caring for Persons with Schizophrenia and Medical Comorbidities for Non-Psychiatric Nurses

Category *Subcategory*	Should category be included?		Ratings								Suggestions
			Clarity*				Relevance**				
	No	Yes	1	2	3	4	1	2	3	4	
Clinical Presentation & Assessment											
Symptoms of Schizophrenia (DSM)											
Differential Diagnoses											
Laboratory and Workup											
Subdivision and Subtyping											
Rating Scales											
Course and Outcomes											
Cross-Cultural Issues											
Impact on the Family											
Substance Abuse											
Pathophysiological Mechanism											
Epidemiology											
Neurotransmitters											
Genetics											
Neuroimaging											
Disease Phases											
Treatment											
The Dopamine Hypothesis											
First-Generation Antipsychotics											
Second-Generation Antipsychotics											
Dosage											

Side Effects											
Adverse Effects											
Oral vs. Depot											
Target Symptoms											
Psychiatric Emergencies											
Core Competencies											
De-Escalation Techniques											
Communication Techniques											
Vignettes											
Case Study 1											
Case Study 2											

* 1 = Not at all clear; 2 = Somewhat clear; 3 = Moderately clear; 4 = Very clear

** 1 = Not at all relevant; 2 = Somewhat relevant; 3 = Moderately relevant; 4 = Very relevant