

# An Approach to Maximizing Treatment Adherence of Children and Adolescents with Psychotic Disorders and Major Mood Disorders

Robin Edward Gearing, MSW<sup>1</sup> and Irfan A. Mian, MD<sup>1</sup>

## ABSTRACT

**Introduction:** Mental health research has consistently focused on high rates of treatment non-adherence, and how inpatient programs and health professionals can effectively confront this reality. The literature has centred almost exclusively on adult populations. Unfortunately, psychotic and major mood disorders are serious and persistent mental health problems that are increasingly recognized as having an early onset, affecting children and adolescents. **Method:** This article draws on a review of the literature and Habermas's three domains of knowledge: technical, practical, and emancipatory. This article has incorporated current research, adherence theories, and the facilitation of the unique local expertise of health professionals to generate a framework. This framework is designed to teach health professionals working in child and adolescent psychiatric inpatient units how they and the larger unit can practice to enhance patient treatment adherence during and after admission. **Results:** A five-step approach to teach health professionals to enhance treatment adherence has been developed based on current research and educational theories and principles. **Conclusion:** Health professionals working in child and adolescent psychiatry can practice to enhance patient treatment adherence, and improve patient and family outcomes.

**Key Words:** treatment adherence, psychosis, mood disorder, hospitalization, learning theory

## RÉSUMÉ

**Introduction:** Les recherches en santé mentale démontrent que plusieurs patients ne prennent pas leur médication; ces mêmes recherches suggèrent comment aborder efficacement ce problème lorsque le patient est hospitalisé. La littérature s'est surtout centrée sur le patient adulte. Nous reconnaissons davantage aujourd'hui que les troubles psychiatriques et les dépressions majeures peuvent se produire plus tôt qu'on le croyait précédemment, c'est-à-dire qu'ils touchent les enfants et les adolescents, et qu'ils sont sévères et chroniques. **Méthodologie:** Cette étude s'appuie sur des données de la littérature et les trois domaines de la connaissance selon Habermas: le technique, le pratique et l'émancipation. Nous avons intégré dans cette étude les recherches actuelles, les théories en vue de faciliter l'adhésion à ce qui doit être fait et les habiletés des praticiens eux-mêmes à mettre en place un cadre facilitant. Ce cadre a pour objectif d'enseigner aux professionnels au sein des unités d'hospitalisation pour enfants et adolescents comment élaborer une démarche susceptible d'aider les jeunes patients à prendre leur médication en cours d'hospitalisation et en postcure. **Résultats:** Nous avons développé une démarche en cinq points basée sur les recherches actuelles, des théories et des principes éducatifs, et ce, pour enseigner aux professionnels comment aider et motiver le jeune à prendre sa médication aussi longtemps que nécessaire. **Conclusion:** À force de pratiquer et de développer les habiletés nécessaires, le professionnel en arrive à aider le jeune patient et sa famille à comprendre l'importance de prendre et de continuer à prendre sa médication.

**Mots clefs:** poursuite du traitement, psychose, maladie affective, hospitalisation, théories d'apprentissage

## INTRODUCTION

Treatment adherence is an important issue for healthcare professionals and consequently has been studied for over fifty years (Kyngas et al., 2000). Treatment adherence has been researched in a variety of fields and with numerous conditions, in efforts to better educate health professionals treating those specific populations and to ultimately improve patient adherence rates. While adult psychiatric conditions have received intense scientific scrutiny, very little research or attention has been focused on educating and teaching health professionals working with child and adolescent psychiatric populations. This article will address this gap in knowledge by applying educational theories and principles to health professionals. This will be accomplished by applying Habermas model of knowledge in adult learning to this phenomenon, which requires learners to know the information related to that phenomenon, appreciate

related understandings and meanings, and to synthesize this knowledge into new learning opportunities developed with critical self-reflection and local expertise.

The article will review the literature to clearly outline the importance and magnitude of treatment adherence related to children and adolescents with severe and persistent mental health disorders. Second, the adult learning theory associated with Habermas's three domains of knowledge will be described. Third, a synopsis of treatment adherence research within this field will be summarized along a biomedical, psychological, and social schema. Fourth, an account of the dominant adherence theories will be discussed. The last, and largest section, will encourage health professionals to incorporate this information with their own local expertise into a five-step approach that facilitates critical self-reflection and learning. Consequently, this article will provide a forum for health professionals to learn and

<sup>1</sup>Hospital for Sick Children, Department of Psychiatry, Toronto, Ontario  
robin.gearing@sickkids.ca

subsequently change their approach in working with children and adolescents afflicted with psychiatric disorders, and ultimately to enhance treatment adherence.

Millions of children under the age of 19 years suffer with mental health disorders, including over 12 million in the United States alone (Scharer, 2002). Prevalence rates of North American children with mental illnesses range from 16% to 22% (Roberts et al., 1998; Rosenblatt & Attkinsson, 1993). It is estimated that over 2% of children have serious and persistent mental health disorders.

A literature review of treatment adherence with patients suffering with schizophrenia, other psychotic disorders, or major mood disorders uncovered no study or article that focused exclusively on children and/or adolescents with these conditions, despite well published prevalence rates. While a burgeoning field has developed in this area, only a limited number of adherence studies included patients under the age of 18 years (Svedberg et al., 2001; Verdoux et al., 2000). Unfortunately, the treatment of children and adolescents with mood disorders and psychosis has been distinctly underrepresented in the studies in this field (Wrate et al., 1994). This is of further concern as it is estimated that 75% of 21 year olds with psychiatric conditions had mental health issues as a child (Scharer, 2002). While these psychiatric conditions are more recognizable and have greater prevalence rates in adults, the seriousness, younger age of onset, and acuity of these conditions in children are increasing. Furthermore, these diagnoses are recognized as the most serious and persistent conditions. They have immediate and lasting impacts on adolescents and families, and on public resources, health care support, and communities.

Psychiatric inpatient units have been a mainstay in the treatment of adolescents for decades, and have become a preferred source of stabilization for individuals suffering from schizophrenia, other psychotic features, and major mood disorders. The number of children admitted into adolescent inpatient units is rising, as are the acuity and seriousness of their conditions (Rosenblatt & Attkinsson, 1993). These trends, which have exerted an increasing demand for intensive inpatient treatment, are costly. Mental illness currently "ranks first among the causes of disability in the United States, Canada, and Western Europe, according to the World Health Organization" (Iglehart, 2004). The total annual direct costs associated with schizophrenia range from 19 to 33 billion U.S. dollars, with the readmission costs associated with schizophrenia topping 2.3 billion U.S. dollars annually (Buchanan & Carpenter, 2000; Weiden & Olfson, 1995). While specific costs associated with childhood mental health inpatient admission (and readmission) rates are not available, it is recognized that no other health condition in childhood is more costly (Blanz & Schmidt, 2000; Davidson et al., 1997; Scharer, 2002; Sourander & Leijala, 2002; Woolston, 1996). "Because schizophrenia begins early in life; causes significant and long-lasting impairments; making heavy demands for hospital care; and requires ongoing clinical care, rehabilitation, and support services, the financial cost of the illness in the United States is estimated to exceed that of all cancers combined" (Buchanan & Carpenter, 2000, p. 1097). Furthermore, these figures do not include the indirect costs,

such as the devastating human dimensions of the illness, loss of productivity, losses due to premature deaths, or impact on family and caregiver resources (Weiden & Olfson, 1995). Consequently, prevention is a major challenge at a societal level and to the ongoing care of patients, specifically children and adolescents, with schizophrenia, psychosis, and mood disorders with psychotic features (Geller et al., 2002; Robinson et al., 1999; Rosenfarb et al., 2001; Zipursky & Schultz, 2002).

Typically, adolescents with these serious diagnoses require assessment and treatment services on an inpatient unit (Green & Burke, 1998; Kolko, 1992; Wrate et al., 1994). Generally, hospitalization has a positive and dramatic impact on the stabilization of major psychiatric illnesses. However, financial costs and deinstitutionalization have resulted in a steady, but distinct, decline in the average length of stay in hospitals (Mayes et al., 2001; Sourander & Leijala, 2002). The average length of stay on a psychiatric inpatient unit is currently less than 30 days, down from 54 days in the 1980s and 74 days in the 1970s (Mayes et al., 2001; Shi, 1996; Sourander & Leijala, 2002). This reality of reduced inpatient admissions reinforces the importance of medication adherence.

Following inpatient assessment, stabilization, and treatment, patients are discharged from the hospital. Current statistics state that 30 to 50% of patients with schizophrenia, other psychotic disorders, or major mood disorders are readmitted within 1 year of discharge (Davidson et al., 1997; Favre et al., 1997; Verdoux et al., 2000). Further, 25% of people with chronic schizophrenia will be readmitted within three months (Caton et al., 1984). In study after study the predominant rationale for readmission is patient non-adherence with their recommended clinical treatment, which is typically comprised of medication and clinical therapeutic interventions. According to Verdoux and associates (2000/2002) between 33 and 44% of patients with psychosis adhere poorly to their medications and clinical treatment and, consequently, are 6 times more likely to be readmitted to hospital. Non-adherence with patients managing schizophrenia ranges from 33% to 60% (Bergen et al., 1998; Garlach & Larsen, 1999; Svedberg et al., 2001). Individuals diagnosed with major mood disorders have a non-adherence range near 50% (Pope & Scott, 2003). Many patients do recognize that treatment adherence reduces adverse symptoms and continue treatment (Robinson et al., 2002). There appears to be a distinct correlation between the risk of hospitalization and the period of non-adherence to medication (Weiden et al., 2004).

Clearly, patient treatment adherence is a problematic, confounding, and understudied experience for mental health professionals working in child and adolescent psychiatric inpatient units. This article is designed to educate health professionals working in child and adolescent psychiatric programs about how they can practice to enhance patient treatment adherence. This will be assisted by applying Habermas's three domains of knowledge to this phenomenon.

#### **HABERMAS'S THREE DOMAINS OF KNOWLEDGE**

In educating and teaching adult learners in health professions, facilitation of critical thinking and reflection on their knowledge can fundamentally enrich the learning experience.

Jurgen Habermas, and later Mezirow, proposed three domains of knowledge that provide a basis for transformative adult learning experience (Cranton, 1994; Habermas, 1974; Mezirow, 1991).

In Habermas's three domains of knowledge, technical knowledge is the first domain and centres on information about the cause and effect in relationships. This correlates to the biomedical, psychological, and social factors associated with the treatment adherence of patients diagnosed with major mood and psychotic disorders. This is derived from scientific study, research, and clinical knowledge. Acquisition of such technical knowledge is fundamental to every learner.

The second domain of knowledge, practical knowledge, furnishes the learner with meaning and understanding associated with, and expanded from the earlier acquired technical knowledge (Cranton, 1994). Here the meanings and understandings of treatment non-adherence are explored in a review of the similarities that underpin the dominant adherence theories. Consequently, this practical knowledge, along with the earlier technical knowledge, provides a wider understanding to springboard the learner with their local understanding into emancipatory knowledge.

The third domain, emancipatory knowledge, is gained through critical self-reflection. Emancipatory knowledge can be supported in specific medical environments, after technical and practical knowledge are provided. This article forwards that emancipatory knowledge, which incorporates current research and adherence theories along with their own unique local expertise, can assist health professionals' abilities to maximize treatment adherence of children and adolescents with psychotic and major mood disorders, and decrease inpatient recidivism. This unique local expertise is gained over time as professionals learn what does not work and why with a specific population,

while appreciating what local interventions and processes are effective and why.

### **BIOMEDICAL, PSYCHOLOGICAL, AND SOCIAL FACTORS ASSOCIATED WITH TREATMENT ADHERENCE**

Health professionals are familiar with their specific components of treatment and care, but due to specialization can lack a larger understanding of the protective and the precipitating treatment factors to inpatient readmission. The following section details the technical knowledge involving the biomedical, psychological, and social factors that impact and predict adherence of individuals managing the most serious and persistent mental health conditions, specifically schizophrenia, other psychotic disorders, and major mood disorders (see table 1).

Based on the lack of evidence of children and adolescents with psychosis and major mood disorders, this article will draw upon studies from adult populations. It is understood that differences may exist between the adult populations and the child and adolescent population, but that the available research is distinctly limited. Existing studies that have included children and adolescents will be incorporated.

#### **(I) Biomedical Factors**

Non-adherence rates range between 30 and 60% with patients managing severe and persistent mental health disorders. Treatment non-adherence is highly correlated with readmission to hospital inpatient units and can result in multi-episode admissions, often termed the "revolving door" cycle (Bergen et al., 1998; Caton et al., 1984; Olfson et al., 2000; Sullivan et al., 1995; Verdoux et al., 2000; Weiden & Olfson, 1995).

The most common biomedical predictor of non-adherence is the development of side effects from the prescribed psychiatric

**Table 1  
Factors Associated with Decreased Treatment Adherence in Children and Adolescents  
Diagnosed with Major Psychiatric Disorders**

<b>Biomedical Factors</b>	<b>Psychological Factors</b>	<b>Social Factors</b>
<ul style="list-style-type: none"> <li>- Medication side effects</li> <li>- Sub-therapeutic dosage of medication</li> <li>- Oral (rather than depot) medication</li> <li>- Older (rather than newer) medications</li> <li>- Complicated dosing schedules</li> <li>- Comorbid conditions (specifically, substance abuse, behaviour problems, and double depression)</li> <li>- Severity of symptoms (e.g., delusions, suspiciousness)</li> <li>- Persistence of symptoms</li> <li>- Harder to treat symptoms</li> <li>- Poorer prognosis</li> <li>- Genetics</li> <li>- Other</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of insight</li> <li>- Cultural beliefs</li> <li>- Religious beliefs</li> <li>- Poor memory</li> <li>- Feelings of helplessness</li> <li>- Feelings of hopelessness</li> <li>- Stress (real/perceived)</li> <li>- Low self-esteem</li> <li>- Other</li> </ul>	<ul style="list-style-type: none"> <li>- Poor family adhesiveness</li> <li>- Poor family support/involvement in treatment</li> <li>- Family rejection</li> <li>- Family attitude toward illness and treatment</li> <li>- Family criticism/expressed emotion</li> <li>- Less social support</li> <li>- Lack of appropriate follow-up</li> <li>- Missing follow-up appointments</li> <li>- Poor therapeutic alliance with treating healthcare professionals</li> <li>- Limited financial resources</li> <li>- Cost of treatment</li> <li>- Loss or change in discharge accommodations</li> <li>- Other</li> </ul>

medication (Bergen et al., 1998; Bordenave-Gabriel et al., 2003; Loffler et al., 2003). Four other predictors are related to medications. One, a patient receiving inadequate or a sub-therapeutic dose is at greater risk for non-adherence. This is specifically relevant with individuals with major mood disorders (Favre et al., 1997; Ramana et al., 1999; Scott & Pope, 2002). Two, patients that receive oral medications instead of depot are at an increased risk of non-adherence (Sullivan et al., 1995). Three, patients on newer medications (SSRI's and novel antipsychotic) have higher adherence rates (Ramana et al., 1999), while those on older medications have lower adherence rates (Olfson et al., 2000). Four, others suggest that adherence may be promoted by more simplified dosing schedules (Keller, 2004).

Another biomedical factor is that patients with comorbid conditions are more likely to be noncompliant with recommended medical and clinical treatment (Brent, 2002). The single largest comorbidity associated with treatment non-adherence and hospital readmission is substance abuse; others include behaviour problems and double depression (Bergen et al., 1998; Olfson et al., 1998; Robinson et al., 2002; Sullivan et al., 1995; Verdoux et al., 2000). Severity of symptoms, harder to treat symptoms, and persistent symptoms are also likely to increase risk of treatment non-adherence (Brent, 2002; Robinson et al., 2002; Verdoux et al., 2000).

## **(II) Psychological Factors**

The most cited and studied psychological predictor that is highly correlated with medication and clinical non-adherence is lack of insight (Bergen et al., 1998; Mutsatsa et al., 2003; Olfson et al., 1998; Robinson et al., 2002; Sullivan et al., 1995). Conversely, improved insight positively impacts on adherence (Ghaemi & Pope, 1994), as does positive attitude towards one's medication typically increases adherence (Bordenave-Gabriel et al., 2003; Loffler et al., 2003). Also, poor insight can persist even if other clinical features in psychotic illnesses improve (Ghaemi & Pope, 1994).

Other psychological factors connected to adherence include the patient's internalization of their culture and religion, which can result in non-adherence (Sayre, 2000). Poorer memory performance has also been found to increase a patient's risk of non-adherence; however, cognitive functioning has been found to have little or no effect (Verdoux et al., 2002). Feelings of helplessness or hopelessness negatively effect adherence (Brent, 2002). Also, the perception or reality of increased stress impacts treatment adherence (Bergen et al., 1998). Finally, decreased self-esteem has been a predictor associated with non-adherence.

## **(III) Social Factors**

The single largest social factor impacting treatment adherence with patients suffering from severe and persistent mental health disorders is their family.

Family adhesiveness, family members' support, and shared values have been found to have inordinate influence on patients and their adherence to treatment (Robinson et al., 2002). Negative attitude of relatives, family rejection, or high levels of criticism and expressed emotion are powerful predictors of non-adherence and relapse (Brent, 2002; Giron & Gomez-Beneyto, 1995; Sellwood et al., 2003; Sullivan et al., 1995).

Opposition of family or friends to medication treatment has a negative influence on treatment adherence (Bordenave-Gabriel et al., 2003). Furthermore, in a study conducted by Favre and associates (1997), only 20% of the relatives of first episode patients with schizophrenia consider medication necessary. Also, patients have lower adherence if family members do not want to be involved in treatment or aftercare (Olfson et al., 1998). Conversely, treatment adherence is increased if both parents of younger patients are involved (Robinson et al., 2002).

General social support is another well studied social factor, with higher support correlating with higher adherence, and decreased or poor social support a predictor on non-adherence (Bergen et al., 1998; Robinson et al., 2002). Patients discharged with appropriate and available clinical follow-up is another factor associated with treatment adherence (Caton et al., 1984; Svedberg et al., 2001). Similarly, patients' missing outpatient appointments increases the risk of non-adherence (Caton et al., 1984; Robinson et al., 2002; Sullivan et al., 1995). Also, patients with a positive and well formed therapeutic alliance are more likely to remain compliant, while patients that feel professionals do not listen to them or experience relationship discord are at higher risk for non-adherence (Bordenave-Gabriel et al., 2003; Pope & Scott, 2003; Sayre, 2000).

Financial constraints of treatment and/or the cost of medication place some patients at an increased risk for non-adherence (Sullivan et al., 1995). Another negative social factor is the loss of or poor accommodations (Bergen et al., 1998; Kozuki & Froelicher, 2003). A final important social factor associated with treatment non-adherence is the negative reaction to hospitalization (Sayre, 2000). Further, past hospitalization is a strong predictor of future hospitalizations (Sullivan et al., 1995).

## **ADHERENCE THEORIES**

It is important for health professionals to have some understanding of the underlying theoretical constructs of adherence in order to effectively enhance treatment adherence and engage with patients (Fisher, 1992, pp. 266-7). This understanding parallels Habermas's second domain of knowledge—practical knowledge. Practical knowledge provides the learner with meaning and understanding associated with the technical knowledge of the phenomenon.

Most health professionals understand treatment adherence issues based on their direct patient practice within their respective practice sites. While the concept has received significant attention across medical fields, there is little consistency in regards to its application or definition (Kyngas et al., 2000). There are several terms associated with this concept of adherence: including compliance, therapeutic alliance, mutuality, cooperation, and collaboration. Each term may have some subtle differences in nuances, but the core meaning centres on a patient's ability to engage and abide by the agreed upon treatment recommendations co-developed with their health professionals.

Like the definitions of adherence, the different theoretical models lack uniformity or standardization. Some writers have sought to consolidate the vast array of information on adherence theories into digestible taxonomies (Eraker et al., 1984;

Leventhal & Cameron 1987). However, they are informative but arbitrary. The adherence theory models described by Richard Fisher (1992), encompass the dominant models associated with the medical professions. According to Fisher, adherence theories are reflected in five models. One, the biomedical model, identifies factors that may cause adherence and seeks to use this information to address patient adherence. Two, the behavioural/social learning model, constructs adherence as a behaviour which is learned. Subsequently, it can be relearned to improve patient adherence. Three, the communication model, associates poor adherence with a breakdown in doctor-patient communication. Consequently, it seeks to enhance communication between the patient and health professionals in order to increase adherence (Dickey et al., 1975, Fisher, 1992). Four, the rational belief model or health belief model, hypothesizes that adherence can be modified on the basis of rational thought. If a patient provided with the logical breakdown of risks and benefits, he or she will become more adherent to treatment recommendations. Five, the last model, is the self-regulatory system model and relies on patient cognitive factors and planning. Patients are seen as problem solvers and will develop compliant behaviour.

Adherence theories seek to enhance understanding associated with patient adherence. While these models reflect different aspects that impact upon treatment adherence, no single model incorporates all the constructs underpinning adherence and can be applied to every patient across specific medical conditions and contexts. However, an appreciation of these models can facilitate opportunities for professionals to synthesize this practical knowledge with technical knowledge to better address treatment adherence. This is achieved in Habermas's third domain of knowledge – emancipatory knowledge.

#### **IMPACTING ON TREATMENT ADHERENCE**

In teaching health professionals to enhance treatment adherence, a five-step approach incorporating educational theory and principles that are congruent with emancipatory knowledge is proposed. According to Habermas, the learner gains

emancipatory knowledge after they have received technical and practical knowledge. Habermas depicted that a learner reaching this third domain would be free to critically evaluate the specific situation and adapt their own knowledge to the situation.

These steps are not developmental or linear in structure, but reflect separate yet interconnected components that encapsulate an approach to enhance treatment adherence (see Table 2: A Five-Step Approach). The first step is to encourage the health professional to become a reflective practitioner. Based on the work of Donald Schorn, reflective practitioners need to reflect in action and reflect on action (1983/1987). It is suggested that two levels of reflective practice are required, a macro and a micro level. The macro level encourages the learner to critically reflect on the larger phenomenon, specifically treatment adherence in psychiatry. Treatment adherence with adult patients suffering from major psychiatric conditions has remained virtually unchanged in the range between 30% and 60% for over two decades. Davidson and colleagues (1997) critically concluded that the traditional medical model approach is insufficient to address this reality of psychiatric non-adherence. The ineffectiveness of existing practice requires change and new learning. Emancipatory knowledge fosters critical thinking. Fisher's (1992) analysis on medication adherence recognizes that improvement requires adherence initiatives, patient education, and treatment collaborations to be "practice-site dependant" (p. 263). Consequently, health professionals need to look beyond traditional practice and to adjust their learning based on technical and practical knowledge that incorporates their local expertise. The macro level recognizes that more needs to be done by health professionals in psychiatry, if treatment adherence is to be improved.

The micro level of reflective practice encourages health professionals to focus in on their practice within their specific site. This level can be achieved with other health professionals in peer debriefings, seeking feedback, or journal writing (Kaufman, 2003, p. 214). Specifically, health professions may need to

**Table 2**  
**A Five-Step Approach to Teach Health Professionals to Enhance Treatment Adherence in Children and Adolescents Diagnosed with Major Psychiatric Disorders**

Step	Component	Composition
1	<b>Reflective Practice</b>	- Macro level: Reflect on large phenomenon of treatment adherence in psychiatry - Micro level: Focus on individual practice within specific site
2	<b>Critical Thinking</b>	- To critically think about management and treatment of child and adolescent populations - To critically think about the differences between adult and child psychiatric populations
3	<b>Planning Family Collaboration</b>	- Plan to involve families in practice and treatment recommendations - Recognize and incorporate this unique resource
4	<b>Evaluation</b>	- Evaluate individual practices - Evaluate team practices
5	<b>Research</b>	- Promote and foster research with children and adolescents managing major psychiatric conditions

reflect on the nuances of their everyday practice to reassess any implications that may negatively impact patient adherence. For example, many professionals may become desensitized over time and forget the impact of medication and the issue treatment adherence (Pope & Scott, 2003). They may not explore patients' points of view; patients often do not believe their illness or diagnosis (Sayre, 2000). In recognizing the importance of reflective practice, professionals remain open to critical self-appraisal that can foster ongoing learning. Typically in child and adolescent psychiatry, professionals practice within teams, which can enhance the learning available in reflective practice (Knowles, 1984). This step supports what Dr. Knapper referred to as "deep" learning, in which learners incorporate new ideas "with existing knowledge and personal experience" (Campbell, 1998, p. 1).

The second step centres on the health professionals' ability to critically think about the differences between treating adults and children. Habermas described critical thinking as a process in which the learner can remove constraints. Health professionals need to critically evaluate existing research and practice guidelines that have been established for treating adults, but are being applied to children and adolescents. However, the paucity of research on children with major mental health disorders has left professionals to attempt to apply adult treatment protocols to a younger population.

This gap in the field is becoming ever more poignant as psychotic and major mood disorders are increasingly being recognized as having earlier onset and increased acuity (Blanz & Schmidt, 2000; Mayes et al., 2001). For example, there do not exist approved medication protocols for prescribing newer antipsychotics and antidepressant medications to children under the age of eighteen years. However, family doctors, pediatricians, and psychiatrists are critically evaluating standard protocols in relation to their individual and collective clinical practice expertise to effectively treat younger populations with newer medications. Furthermore, it is this critical thinking of the health professional which they have synthesized with their local expertise to encourage the expansion of research to incorporate child and adolescents populations.

Health professionals are required to critically think of how to most effectively treat this younger population. This is especially relevant as early treatment in the course of these conditions has increased positive impacts (Svedberg et al., 2001; Verdoux et al., 2000), specifically as adherence rates can improve over time (Robinson et al., 2002). This is clearly associated with the behavioural/learning model of adherence. Consequently this example illustrates that health professionals who are learning to synthesize existing information with clinical expertise and local knowledge are more able to provide effective treatment with this population.

The third step is to plan family collaboration. Family collaboration seeks to enhance treatment adherence with children and adolescents by encouraging health professionals to maximize family involvement. In working with children and adolescents it has been recognized that professionals may need to look for more systemic plans and interventions (Pope & Scott, 2003). This is especially important with younger psychiatric patients,

as they are often influenced, supported, and protected by their family system. Families distinctly impact child and adolescent treatment adherence, either negatively or positively.

To maximize positive family involvement, professionals, both as self-learners and in clinical teams, need to establish family participation as a need and a learning objective. Existing knowledge informs that initial and early involvement of family improves adolescent treatment adherence rates (Scharer, 2000). Furthermore, ongoing parental support, family educational programs, and access and interaction with professionals help maintain higher levels of positive family involvement (Brent, 2002; Ran et al., 2003). Maximizing family involvement requires professionals to support the family as a system. Professionals need to recognize that parents and families are often traumatized by the illness and hospitalization of their child and the resulting changes in their lives (Scharer, 2000). Parents frequently feel blame or shame, which can be relieved by providing support and incorporating their strengths into mutual treatment planning. Every inpatient unit is unique with its own complement of professional resources, policies, and procedures, and health professionals with their local expertise can incorporate "site-dependent" objectives that support and encourage family involvement.

The next component in this five-step approach centers on evaluation. While evaluation has a multitude of essential educational benefits to the learner, it specifically allows self-assessment that can enable the learner to reengage in the learning process by building on their strengths and by contracting to develop areas that continue to require growth. Further, evaluation can benefit medical programs, multidisciplinary teams, and treatment units if evaluation is encouraged in all professionals and the psychiatric units. Ultimately, patients benefit if individual and team/unit evaluations remain a standard component in learning.

The last component is research. Research supports best practices, including treatment adherence. It has been clearly recognized in the existing literature that there exist distinct gaps in the research on children and adolescents with severe and persistent mental health conditions, specifically psychotic and major mood disorders. In relation to treatment adherence this research gap is further exacerbated, as there exists little information on the subjective experiences of these patients with mental illnesses (Sayre, 2000). Consequently, professionals working with these populations are calling for the necessity of on-going research (Sullivan et al., 1995).

## **CONCLUSION**

Treatment non-adherence has distinct and negative impacts on the health and prognosis of patients afflicted with psychiatric conditions (Brent, 2002). While treatment non-adherence has remained a concerning issue for health professionals, the high rates have unfortunately continued unabated. Addressing this oversight, this article has sought to educate health professionals working in child and adolescent psychiatric inpatient units to enhance patient treatment adherence. Toward this end, a focus on Habermas's three domains of knowledge has been employed. Technical knowledge provided detailed descriptions of the

biomedical, psychological, and social factors associated with non-adherence in children and adolescents managing psychotic and major mood disorders. Practical knowledge furnished understanding of the dominant adherence theories. Grounded in technical and practical knowledge, emancipatory knowledge enables the learner through critical self-reflection to develop new ideas. Working with Habermas's model has facilitated the development of a five-step adult learning approach to help health professionals to enhance treatment adherence in children and adolescents managing serious and persistent mental health disorders. This five-step approach derived from educational theory and principles incorporated reflective practice, critical thinking, family collaboration, evaluation, and research.

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