The Effect of an Illness Representation-based Education Program (IREP) on Medication Adherence Among Adult Patients with Bipolar Disorder in Medan, Indonesia

Fardelin Hacky Irawani*  Weena Chanchong **  Wandee Suttharangsee ***

Abstract

This one-group pretest posttest experimental study aimed to examine the effect of an Illness Representation-based Education Program (IREP) on medication adherence among adult patients with bipolar disorder. Thirty participants who met the inclusion criteria were recruited from the out-patients department (OPD) of a psychiatric hospital in Medan, Indonesia. The IREP is an individualized intervention which consists of 7 major processes; (1) representation assessment, (2) identifying and exploring the gaps, misconceptions and confusion related to bipolar disorder, (3) creating conditions for conceptual change, (4) introducing replacement information, (5) summarizing, (6) goal setting and planning regarding enhancing medication adherence, and (7) following-up the goal and the strategies. Medication adherence was measured by using the Medication Adherence Behavior Questionnaire (MABQ), a self-report questionnaire composed of four subscales, developed by the researcher. The MABQ was content validated by three experts and its reliability was examined using Cronbach’s alpha coefficient giving values of .91 for voluntarily taking medication, 0.86 for continuously taking medication, .67 for actively taking medication, .84 for correctly as prescribed taking medication, and .94 for the total scales. Paired t-test was used to analyze changes in medication adherence after the intervention.

The result showed that after receiving the IREP, the participants reported a significant improvement in medication adherence behavior (t = -5.0, p < .01). This study provides empirical evidence on the effectiveness of a representational approach to patient education on the medication adherence behaviors of patients with bipolar disorder. Thus, IREP is highly recommended to be implemented in nursing practice in order to enhance medication adherence among adult patients with bipolar disorder. Nurses can combine the practice of IREP with pharmacological management to help the patients who are non-adherent to their medication to change their behavior to be adherent to medication.

Keywords: medication adherence, a representation approach to patient education, Bipolar disorder, Indonesia

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Background

Bipolar disorder is one of the chronic mental health disorders. It is estimated to be the seventh leading cause of non-fatal burden in the world (Ayuso-Mateos, 2001). Globally, the lifetime prevalence of bipolar spectrum disorder is approximately 3% to 7% of the population (Malhi as cited in Williams, Ruekert, & Lum, 2011) and approximately 0.5% to 5% for prevalence in any type of bipolar disorder (Vieta et al., 2011), with the average age of onset being 15 to 30 years (Stovall as cited in Williams et al., 2011). Despite not being ranked the first among mental health disorders, bipolar disorder causes a significant burden (Vieta, 2005), such as relapse, re-hospitalization, suicidal behavior, and a greater cost to caring (Adam & Scott, 2000; Colom, Vieta, Tacchi, Sanchez-Moreno, & Scott, 2005; Depp, Lebowits, Patterson, Lacro, & Jeste 2007; Sajatovic, Bauer, Kilbourne, Vertrees, & Williford, 2006; Scott & Tacchi, 2002) which ultimately affects functioning in everyday life (Nieng, 2011). Medication is one of the treatment approaches in bipolar disorder. If individuals get the proper medication, they would be able to regain a productive life like others (National Institute of Mental Health, 2009). However, non-adherence with medication in bipolar disorder is a common problem (Lingam & Scott, 2002), with the incident rate ranging from 20% to 60% (Berk, Berk & Castle, 2004; Colom & Lam, 2005; Lingam & Scott, 2002).

Many research studies conducted for bipolar disorder have aimed to enhance medication adherence. However, despite the effectiveness of these studies, some of the studies are not feasible to bring into regular nursing practice because of the cost-effectiveness issue due to the amount of time consumed and the need for an expert for the therapies (Berk et al., 2010; Scott & Tacchi, 2002). Furthermore, it has been demonstrated that only providing the information by an educational intervention, as shown in another study (Dogan and Sabaciogullari, 2003), is not enough to make individuals become adherent to medication. Following that, Donovan and Ward (2001) have criticized education programs in that there is a lack of participant input, especially when it comes to changing individuals’ behavior. Traditional educational interventions are designed to teach persons without establishing beliefs about something that has been firmly embedded in one’s mind. Thus, to make an education program theoretically sound, Donovan and Ward (2001) developed a representational approach based on the Common Sense Model (Leventhal, Meyer, & Nerenz, 1980) and the learning process of the Conceptual Change Model (Hewson & Hewson, 1981; Hewson, 1992; Posner, Strike, Hewson & Gertzog, 1982). This educational approach focuses on modifying the existing cognitive illness representation or illness perception into the one that is beneficial for a person to have a healthy response to her/his illness or health problems.

According to Leventhal et al. (1980), information from the external social environment such as culture is one of the basic sources of information influencing cognitive illness representation. This cognitive illness representation can be reflected differently based on different cultural backgrounds (Karazs, 2005), including the beliefs about mental illness that are also based on prevailing local culture (Asuni as cited in Kabir, Ilyasu, Abubakar, & Aliyu, 2004). This is so in Indonesia where there are a number of beliefs related to mental illness. Indonesian people believe that their illness
comes from God (Allah), black magic and the misuse of drugs, and this may affect their health behavior, in particular medication adherence. In Medan, which is located in North Sumatera, there is no known specific intervention study that can enhance medication adherence, especially in patients with bipolar disorder. Nurses and health care professionals usually use routine care procedures in the hospital to enhance a patient's medication adherence. Based on the researcher's work experience, patients follow this routine care and take medication because of an order from the nurse or another health care professional. The patient's behaviors may have changed due to an external force, therefore, the sustainability of the changed behaviors may only be temporary. For these reasons, it is necessary to conduct a study of the effect of an Illness Representation-based Education Program (IREP) on medication adherence among adult patients with bipolar disorder in Medan, Indonesia. Doing IREP might be useful to set a guideline for taking care of patients with bipolar disorder both at the hospital and at home.

**Purpose**

The purposes of this study were (1) to compare the medication adherence among adult patients with bipolar disorder before and after receiving an Illness Representation-based Education Program, and (2) to compare cognitive illness representation among patients with bipolar disorder before and after receiving an Illness Representation-based Education Program.

**Conceptual Framework**

The Illness Representation-based Education Program (IREP) for Bipolar Disorder is developed by applying the representational approach to patient education proposed by Donovan et al. (2007), in order to enhance medication adherence among patients with bipolar disorder. The essence of this education approach is to understand the patient’s pre-existing conceptions before giving the new information. It is developed based on the Common Sense Model (CSM) proposed by Leventhal et al. (1980) and the Conceptual Change Model proposed by Hewson and Hewson (1981) and Posner et al. (1982).

The Common Sense Model focuses on thoughts/beliefs regarding health problems (cognitive illness representation) used to organize, analyze and interpret any information and the influence of those representations on coping and outcomes. Cognitive illness presentation can be explicitly assessed through people's perception of illness along the five dimensions of cognitive illness representation which are identity, cause, timeline, consequences, and cure/control. In the conceptual change model (Hewson & Hewson, 1981; Posner et al., 1982), the learning process involves changing a person’s conception by an interaction between the new and existing conception. If the new conception is not contradictory with their existing conceptions, the learning process will go on without any difficulty. However, when the new conception is not compatible, change can occur when a person is dissatisfied with his/her existing conceptions, and the offered alternative conceptions are perceived as intelligible (sounds scientific/logic), plausible (believable) and beneficial (useful).
Based on both cognitive illness representation and the learning process of conceptual change, Donovan and colleagues (2007) proposed a representational approach to patient education which is based on seven process components; (1) representational assessment (2) exploring misconception, such as gaps, errors, and confusion, (3) creating conditions for conceptual change (4) introducing replacement information, (5) summarizing, (6) goal setting and planning, and (7) follow-up contact. Thus, representation education programs are expected not only to modify illness perception but, ultimately to set new behaviors.

Medication adherence, according to Leventhal et al. (1980), is considered as coping and has been defined somewhat differently across researchers and health care professionals (Brawley & Culos-Reed, 2000; Cohen, 2009; Home, 2006; Luthfey & Whisner, 1999; Patel & David, 2007; Velligan et al., 2006). Overall, medication adherence is considered as consisting of four attributes which are (1) taking medication voluntarily, (2) taking medication continuously, (3) taking medication actively, and (4) taking medication correctly as prescribed.

Methodology

Sample and sampling

The sample of this study was patients who have been diagnosed with bipolar disorder. This study used a one-group pretest-posttest only design examining whether implementing this representational approach of patient education in the local context of Medan, Indonesia, with a group of patients with bipolar disorder is feasible. Thus, at least 30 participants who met the inclusion criteria were recruited from the OPD. The inclusion criteria used to recruit participants in this study was as follows: (1), the age is no more than 60 years old, (2) has been diagnosed with bipolar disorder by the psychiatrists, (3) Score of Brief Psychiatric Rating Scale (BPRS) is less than 40 (considered as normal to mildly ill range), (4) able to communicate well with the researcher, (5) able to read, (6) able to participate in this study from the beginning to end, and (7) has phone access. In cases when the participants had psychological discomfort, the researcher stopped the intervention and provided assessment and psychological first aid. If the participant still felt out of control and needed more intensive care, the researcher referred them to an expert.

Instruments

Four instruments were employed for data collection in this research study: Brief Psychiatric Rating Scale (BPRS) was used for screening test only, the Demographic Data Questionnaire (DDQ), the Cognitive Illness Representation Questionnaire for Bipolar Disorder (CIRQBD), and the Medication Adherence Behavior Questionnaire (MABQ). DDQ consists of; initials of the participant’s name, age, gender, marital status, ethnicity, religion, education level, occupation, income, previous hospitalization, current medication, and experiences of the side effects of medication. CIRQBD was modified by the researcher based on the Illness Perception Questionnaire for Schizophrenia (IPQS) developed by Lobban, Barroclough, and Jones (2005). The CIRQBD consists of identity (symptoms have 20 items while labelling has 4 items), causes (13 items), timeline (10 items),
consequences (13 items), and cure/control/treatment (5 items). It yields a total of 65 items. The format of the CIRQBD is a combination between a dichotomous scale and the Likert scale. The higher score indicates the strong perception toward CIRQBD dimensions as: Identity of symptoms; Identity of labeling; Causes; Chronic/acute of timeline; Cyclic of timeline; Consequence; Controllability. MABQ was developed by the researcher based on the literature reviews. It consists of four sub-scales which are; taking medication voluntarily (3 items), taking medication continuously (6 items), taking medication actively (3 items), and taking medication correctly as prescribed (3 items). It yields a total of 15 items. A higher score of MABQ indicates higher medication adherence behavior.

Validity and Reliability

The IREP was validated by three experts comprised of two lecturers from the Faculty of Nursing, Prince of Songkla University, Thailand, one who has expertise in the Common Sense Model and a psychiatric nurse, and one lecturer from the Faculty of Nursing, Sumatera Utara University (USU), Indonesia who has expertise in psychiatric nursing. The instruments of this study were tested for reliability using Kappa Coefficient for test-re-test of symptoms questions with the dichotomous scale and Cronbach’s alpha coefficient for the Likert scale questions. The researcher examined 20 participants with bipolar disorder at the psychiatric hospital, Medan, Indonesia, who met the inclusion criteria. The MABQ was accepted due to the value of the reliability being greater than .70. However, in regards to the CIRQBD testing along the five dimensions of cognitive illness representation, there was only one dimension (controllability) that showed a value that was greater than .70 (.81), and the rest of the values were lower than the acceptable value. For the symptoms of the CIRQBD, the kappa value was .77-1 (test and re-test). This was accepted because it was in a substantial agreement range between the first test and second test (test-retest). The time elapsed between test and re-test was one week.

Pilot Study

The pilot study was conducted to try out the IREP and to establish that the CIRQBD and the MABQ were well understood by the subjects, and that the proposed program was feasible. Three participants who met the inclusion criteria were recruited for this pilot study. They received the planned intervention. The result of the pilot study showed that all participants were able to follow all process components provided by the researcher, they understood with the explanation of the program and it was appropriate for them.

Intervention

The Illness Representation-based Education Program (IREP) was a two-week program that assisted the participants regarding medication adherence. This program was conducted by face-to-face individual intervention and telephone follow up divided into two phases. All phases of the intervention were undertaken at the participants’ home. The description of the program is included in table 1.
Table 1.
The description of Illness Representation-based Education Program

<table>
<thead>
<tr>
<th>Week</th>
<th>Representational Approach</th>
<th>Researcher activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Representational assessment</td>
<td>Ask the participant to describe his or her perception about bipolar disorder regarding identity, cause, timeline, consequences, and cure/controll ability.</td>
</tr>
<tr>
<td>(70 minutes)</td>
<td>Identifying and exploring the gaps, misconceptions, and confusions</td>
<td>Encourage the participant to think and describe about his/her experience that led him/her have any thoughts that are a misconception, confusion, or error.</td>
</tr>
<tr>
<td></td>
<td>Creating conditions for conceptual change</td>
<td>Encourage the participant to think about the negative effects of his/her current perception that are a misconception, gaps and confusion especially on medication adherence behavior and the consequences.</td>
</tr>
<tr>
<td></td>
<td>Introducing replacement</td>
<td>Give information on bipolar disorder to fill gaps of knowledge, clarify confusions and replace any misconception.</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
<td>a. Ask the participant to summarize the new information he/she has learned</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Discuss the benefits expected from acting on the new information.</td>
</tr>
<tr>
<td></td>
<td>Goal setting and planning</td>
<td>Assist the participant in developing his/her goal and strategies to enhance medication adherence behavior.</td>
</tr>
<tr>
<td>2nd week</td>
<td>Follow-up</td>
<td>a. Ask the participant to reflect on his/her medication adherence behavior during the previous week by using the goal setting form.</td>
</tr>
<tr>
<td>(30 minutes)</td>
<td></td>
<td>b. Discuss further plans to continue the medication.</td>
</tr>
</tbody>
</table>

Data Collection

After identifying the eligible participants, asking the participant’s willingness to join to the program, and assuring the protection of human rights of the participants, the researcher helped the participants to understand the program by presenting the detail explanations about the program. After that they were asked to fill the informed consent. Then the participants were asked to complete the DDQ, ICQBD and MABQ. Build a trusting relationship between the researcher and the participants was established during this pre-test data collection. After completing the pre-test data, the participants were provided with the first six components of IREP which was undertaken at the participants’ home. This process took approximately 70 minutes. In the following week, the researcher provided the follow up session which was the seven-process component of the IREP, by phone contact. It took approximately 30 minutes and conversations between the researcher and the participants were recorded. One week after that, the post-test data was collected. Pre-test and post-test data was collected by two trained research assistants (RA) with the first research assistants.
assistant, who is working in the psychiatric hospital, helped the researcher when collecting the pre-test data and the second research assistant, who is a nurse graduated, helped the researcher with the post-test data collection. The researcher needed two research assistants because the researcher worked at both OPD and participant’s home while one RA helped in pre-test data collection only and another one helped during post-test.

Data Analysis

Descriptive statistics and inferential statistics were used for the data analysis in this study. The descriptive statistics were used to describe the participant’s demographic characteristics and health information which included frequency, percentage, mean, and standard deviation (SD). Inferential statistics were used to compare the significant differences of medication adherence behavior and cognitive illness representation before and after the intervention. Based on the analysis of the normality, pre-test and post-test medication behavior met the assumptions by skewness presenting and kurtosis ratios less than 3, thus the paired t-test was used. The paired t-test was also used to analyze the cognitive illness representation that met the assumptions. From the five domains of cognitive illness representation, only the labeling (sub-domain of the identity) did not meet the assumption, thus, the researcher used Wilcoxon signed-rank Test to test the perceived illness labeling of the participants.

Results

The mean age of the participants was 35.83 years (SD = 11.29). Most of the participants were single (53.3%) and female (57.7%). Both religions, Islam and Christianity had the same percentage (Islam 50% and Christian 50%). Most of the participants had senior high school education (63.3%). Half of the participants (50.0%) had no job and did not have any income. Regarding clinical status, the mean score of the hospitalization was .97 times (SD = 1.33). The participants have been diagnosed with bipolar disorder on an average of 5.87 years (SD = 4.953). Most of the participants did not drink alcohol (90.0%) and/or misuse drugs (96.7%). Most of the participants (70.0%) in this study came to take their medication at the hospital without family members’ accompaniment. The common side effects the participants experienced were weight gain (43.3%) and insomnia (43.3%). Other side effects that participants had experienced were headache, dry mouth, sleepiness, laziness, agitation, nausea, and dizziness. Antidepressants were the mostly used medication (90%) by the participants. The mean score of medication adherence at post-test were significantly higher than mean score at pre-test (M = 59.60, SD = 10.01) (t = -5.04, p < .01) as shown in Table 2.
Table 2

Comparison of Mean Score of Medication Adherence of the participants (N = 30)

<table>
<thead>
<tr>
<th>Medication Adherence</th>
<th>Before Intervention</th>
<th>After Intervention</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total</td>
<td>54.47</td>
<td>11.34</td>
<td>59.60</td>
<td>10.01</td>
</tr>
<tr>
<td>Voluntarily</td>
<td>10.83</td>
<td>2.78</td>
<td>12.10</td>
<td>2.47</td>
</tr>
<tr>
<td>Continuously</td>
<td>20.07</td>
<td>4.89</td>
<td>22.33</td>
<td>4.33</td>
</tr>
<tr>
<td>Actively</td>
<td>11.40</td>
<td>2.57</td>
<td>12.40</td>
<td>2.43</td>
</tr>
<tr>
<td>As prescribed</td>
<td>12.17</td>
<td>2.49</td>
<td>12.77</td>
<td>2.46</td>
</tr>
</tbody>
</table>

With regard to the cognitive illness representation, highest scores of the symptoms that the participants had experienced were for: ‘Sometimes I cannot concentrate well’ symptom (96.6), followed by ‘My self-esteem fluctuates; sometimes it is high, sometimes it is low’ symptom (93.3%), ‘Sometimes I feel unhappy and sad for no reason’ symptom (90.0%), and ‘I have a big appetite’ symptom (90.0%). The mean rank of the label of illness were increasing after the intervention (6.31 to 6.88), however, there was no significant difference of the label of illness after the intervention (Table 3).

Table 3

Comparison of Label of Illness by the Participants (n = 30)

<table>
<thead>
<tr>
<th>Label of Illness</th>
<th>Before Intervention</th>
<th>After Intervention</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Rank</td>
<td>Sum Ranks</td>
<td>Mean Rank</td>
<td>Sum Ranks</td>
</tr>
<tr>
<td>Total</td>
<td>6.31</td>
<td>50.50</td>
<td>6.88</td>
<td>27.50</td>
</tr>
</tbody>
</table>

After the intervention, the four highest mean score of causes domain were thinking about things too much (M = 4.27, SD = 0.79), stress or worry (M = 4.07, SD = 1.14), lack of sleep (M = 3.97, SD = 1.09), and their mental attitude related to thinking negatively about life (M = 3.83, SD = 1.15). The dependent t-test showed that stress or worry (t = -2.97, p < .05) and taking illicit drugs (t = 2.41, p < .05) were significantly different after the intervention. The mean scores of the timeline domain (both acute/chronic and cyclic sub-domain) were no significantly different in acute/chronic condition before and after receiving the intervention, however, there was a significant different in the cyclic condition before and after receiving the intervention (t = -2.06, p < .05). The mean scores of consequences pre-test and post-test were 44.20 (SD = 8.18) and 44.60 (SD = 8.29). There was no significant difference in consequences before and after receiving the intervention. However, the controllability dimension shows that there was a significantly difference before and after receiving the intervention (M=18.30, SD = 3.23) (t = -2.64, p < .05) (Table 4).
Table 4
Comparison Mean Score of Timeline Dimension, Consequences Dimension and Controllability Dimension of the Participants (n = 30)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Before Intervention</th>
<th>After Intervention</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Timeline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute/chronic</td>
<td>12.77</td>
<td>4.68</td>
<td>12.07</td>
<td>4.86</td>
</tr>
<tr>
<td>Cyclic</td>
<td>14.80</td>
<td>3.63</td>
<td>15.70</td>
<td>4.02</td>
</tr>
<tr>
<td>Consequences</td>
<td>44.20</td>
<td>8.18</td>
<td>44.60</td>
<td>8.29</td>
</tr>
<tr>
<td>Controllability</td>
<td>17.53</td>
<td>2.47</td>
<td>18.30</td>
<td>3.23</td>
</tr>
</tbody>
</table>

Discussion

The result of this study showed that the mean scores of medication adherence among patients with bipolar disorder were significantly higher after receiving the intervention (t = -5.04, p < .01). This result supported that IREP improved medication adherence in patients with bipolar disorder. Patients' perceptions toward their illness influenced their behavior to take their medication. Changing the perception of the disease will lead to changes the behaviors, as Posner et al. (1982) stated that changes can only occur under the impact of new conceptions. The participants accommodated some existing perceptions which were misconceptions, gaps, and/or confusion. For instance, patients had an unpleasant experience with the medicine, whether because of the side effects from the medications or other factors, and this influenced their perception that medication is not good in dealing with their health problem. This belief leads the participants to stop their medication even though they know that medication is important to manage the symptoms. Awareness of negative consequences and limitations of current perceptions were raised after they were encouraged to think that those perceptions could affect the healing of the disease. Ultimately, the participants faced the new information which seems to be logical compared to their current perceptions. A new perception was formed after receiving new information that was intelligible, plausible, and fruitful.

Enhancing medication adherence among participants was contributed to by the subjects' perceptions about cause (two causes), timeline (cyclic) and the controllability dimension of the illness. Firstly, in regards to the causes; the participants had experienced causes of the illness while they had the illness. However, in fact, not all of participants’ existing perceptions could be interpreted as an error. When the participants’ answers are stress or pressures of life, or economic problems; those are in line with what the theory says that the causes of bipolar disorder, especially in the part of psychological causes, which are unbalanced emotions, stressful life events, or low self-esteem (Macneil, Hasty, Conus, Berk, & Scott, 2009). The reason that patients were more
likely to adhere to medication after the IREP was because they found the new conception to be consistent with their past experience. According to Posner et al. (1982), one of the five ways that conceptions become initially plausibility (believing it to be true) is the participant finds the new conception to be consistent with their past experience.

Secondly, the timeline; most of the participants perceived bipolar disorder as a cyclic illness rather than as an acute/chronic illness after the intervention. Seeing the theory of bipolar disorder that states that bipolar disorder in patients is usually manifested by an elevated mood from mania to depression (Macneil et al., 2009), this is also consistent with patients’ past experience as well. Thirdly, controllability; the positive perception of controllability about the treatment was significantly different after receiving the intervention. At the beginning, the participants perceived that there was no medication that can help manage their illness, or not much hope in the medication that had been prescribed by the doctor. They thought that since they have the illness, they have been treated but the medication does not seem to work well. Awareness of negative consequences and limitations of those current perceptions were raised after they were encouraged to think about ‘what are the negative effects of their current conceptions? or, ‘what will happen if they still maintain their current conceptions in the future?’ When the individuals think that the existing conceptions are no longer necessary, the individual will be faced with the dissatisfaction of their existing conceptions. Therefore, the result of controllability was significantly different after the intervention.

This study provides the effectiveness of the IREP on medication adherence among adult patients with bipolar disorder. The strengths of this study are, firstly, this intervention was developed based on the support from the theories of cognitive illness representation of the Common Sense Model (Leventhal, Meyer, & Nerenz, 1980) and the learning process of the Conceptual Change Model (Hewson & Hewson, 1981; Hewson, 1992; Posner, Strike, Hewson & Gertzog, 1982). This representational approach has been strongly evident in that it can change individual behavior when dealing with a patient’s illness by changing her/his perceptions/beliefs. Secondly, this study measured the cognitive illness representation before measuring the behavior of the medication adherence in which Leventhal et al. stated that when the perceptions change then the behaviors change. In addition, the effectiveness of the IREP might also be influenced by the therapeutic alliance between the researcher and the participant. Before and during the intervention, the researcher and all of the participants had built a good relationship. Therapeutic alliance is one of factors influencing medication adherence among patients with bipolar disorder (Berk et al., 2010; Lingam and Scott, 2002). However, since this study was conducted only in one group, the researcher cannot detect that nurse-patient relationship is a factor influencing the effectiveness of the program. In regards to the limitations of this study, the first was related to internal validity because the effectiveness of this program was based on pre and post-test only and cannot compare the
effective result to another group. The second limitation was the measurement had been used for the first time, especially in Indonesia. Some results of the reliability value, in particular some dimensions of cognitive illness representation, were lower than the acceptable value. The third limitation was that the findings of this study cannot be generalized to all populations of patients with bipolar disorder, but only for those who are in a stable condition.

**Conclusion and Recommendation**

Medication adherence improvement among patients with bipolar disorder undergoing the IREP is evident in this study. Medication adherence is obviously influenced by an individual’s cognitive illness representation, especially the representation of the cause, timeline and controllability of bipolar disorder. Through the IREP, a new insight could be created and become part of an individual’s perceptions by being intelligible, plausible and fruitful, which then eventually can change behavior. Thus, it is important for nurses to understand the individual’s perceptions along the five dimensions of cognitive illness representation. The findings of this study have important implications for the nursing profession and health care professionals in order to enhance medication adherence. Nurses can combine the practice of Illness Representation-based Education Program with pharmacological management to help the patients who are non-adherent to their medication to change their behavior to be adherent to medication. IREP should be included in the nursing practice because this program is easy and an applicably practical to apply to all psychiatric patients with any diagnosis of the disease. The nurses do not need to provide or to set up any equipment in applying this practice. However, for the nurses who will apply this program into nursing practice they should understand the program in detail from the representation assessment to the patient’s follow-up. A simple training session before applying the intervention to the patients is necessary. In addition, further research need to conduct a two-group (experimental and control group) study with more than one follow-up in order to see whether or not the medication adherence behavior is still effective.

**References**


ผลของโปรแกรมการให้ความรู้พื้นฐานความเข้าใจเกี่ยวกับการเจ็บป่วยต่อการยึดติดกับการรับประทานยาในผู้ป่วยโรคอารมณ์สองขั้ว เมืองเมดาน ประเทศอินโดนีเซีย

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บทคัดย่อ

การวิจัยทดลองแบบกลุ่มเดียววัดก่อนและหลังทดลอง มีวัตถุประสงค์เพื่อประเมินผลของโปรแกรมการให้ความรู้พื้นฐานความเข้าใจเกี่ยวกับการเจ็บป่วยต่อการยึดติดกับการรับประทานยาของผู้ป่วยโรคอารมณ์สองขั้ว ผู้ให้ข้อมูลประกอบด้วยผู้ที่มีการรักษาที่แผนกผู้ป่วยโรคอารมณ์สองขั้วในเมืองเมดาน ประเทศอินโดนีเซีย จำนวน 30 คนที่มีคุณสมบัติตามเกณฑ์การเข้าโปรแกรมเป็นการบริบูรณ์อยู่ครบ 7 ขั้นตอน คือ (1) การประเมินความเข้าใจ (2) การค้นหาและระบุความเข้าใจผิดและความสับสนเกี่ยวกับโรค (3) การสร้างเสริมการรับประทานยา (4) การให้ข้อมูลที่เหมาะสม (5) การสรุป (6) การทำหน้าที่ผู้ให้ข้อมูลและการปรับเปลี่ยนแนวคิด (7) การติดตามผลการปรับเปลี่ยนแนวคิดการให้ข้อมูล การยึดติดกับการรับประทานยา ซึ่งเป็นแบบประเมินแบบสอบถามพฤติกรรมการยึดติดกับการรับประทานยา จำนวน 4 ด้าน คือการรับประทานยาอย่างต่อเนื่อง การรับประทานยาอย่างกระตือรือร้น การรับประทานยาถูกต้อง และการรับประทานยาอย่างทั่วถึง ผู้วิจัยวิเคราะห์ข้อมูลการเปลี่ยนแปลงการยึดติดกับการรับประทานยาด้วยสถิติที่คุ้น

ผลการวิจัยพบว่า ภายหลังเข้าร่วมโปรแกรม ผู้ให้ข้อมูลมีพฤติกรรมการรับประทานยาในทางที่ดีขึ้นอัตราการเปลี่ยนแปลงสถิติที่ (t = -5.0, p < .01) ผลการวิเคราะห์แสดงให้เห็นว่านักรักษาต่างมีค่าความเข้าใจเกี่ยวกับโปรแกรมการให้ความรู้พื้นฐานความเข้าใจเกี่ยวกับการเจ็บป่วยตามแบบสอบถามพฤติกรรมการยึดติดกับการรับประทานยา จำนวน 30 คนมีค่าความเข้าใจเกี่ยวกับการติดกับการรับประทานยาในทางที่ดีขึ้นทั้ง 4 ด้าน

คำสำคัญ: การยึดติดกับการรับประทานยา; การให้ความรู้พื้นฐานความเข้าใจเกี่ยวกับความเจ็บป่วย; โรคอารมณ์สองขั้ว; อินโดนีเซีย

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