Acceptance and commitment therapy and family psychoeducation for clients with schizophrenia

Encik Putri Ema Komala\textsuperscript{a}, Budi Anna Keliat\textsuperscript{b,*} and Ice Yulia Wardani\textsuperscript{b}

\textsuperscript{a} Soeprapto Mental Health Hospital, Bengkulu, Indonesia
\textsuperscript{b} Faculty of Nursing, Universitas Indonesia, Depok, Indonesia

KEYWORDS
Acceptance and commitment therapy; Family psychoeducation; Insight; Schizophrenia; Violent behavior

Abstract
Objective: This study aims to determine the effectiveness of combining acceptance and commitment therapy with family psychoeducation on increased insight, diminished symptoms, and the client’s improved ability to control violent behavior.
Method: The design of this study was a quasi-experimental pretest-posttest utilizing intervention and control groups. The intervention group consisted of 33 people, and the control group was composed of 33 people. Data was collected before and after respondents received both acceptance and commitment therapy and family psychoeducation.
Results: The study showed that patient insight improved significantly, the signs and symptoms of violent behavior decreased, and the client’s ability to control such behavior improved with a p value < 0.05 in the intervention group after they received acceptance and commitment therapy and family psychoeducation. In the control group, patient insight did not improve significantly, showing a p value > 0.05. Therefore, our study recommends that acceptance and commitment therapy and family psychoeducation should be given to patients with schizophrenia to improve insight into their disease, decrease signs and symptoms of violent behavior and improve their ability to control violent behavior.

Introduction
Schizophrenia is a severe mental disorder. The prevalence of schizophrenia is high, with approximately 24 million people worldwide suffering from the disease\textsuperscript{1}. In Indonesia, it is found that 1.7 people per mile are diagnosed with schizophrenia\textsuperscript{2}. While the causes of the disorder are not exactly known, factors believed to contribute to the incidence of it include abnormal neurotransmitter activity in the brain, a brain virus infection\textsuperscript{3}, or genetic factors\textsuperscript{4}. Scientists believe that environmental and behavioral factors may also increase one’s chances of developing schizophrenia.

Symptoms of poor insight into one’s illness and violent behavior are dominant characteristics of patients with schizophrenia. The majority of patients with schizophrenia had poor insight\textsuperscript{5}. The Mental Hospital of Malang states that 92% of their patients diagnosed with schizophrenia experience poor insight\textsuperscript{6}. Further, studies have found that 8.4% of patients with schizophrenia display violent behavior\textsuperscript{7}.

*Corresponding author.
Email: budianna_keliat@yahoo.com (B.A. Keliat)
Both of these symptoms significantly impact a patient’s quality of life. Poor insight into the disease results in a decrease of cognitive abilities, causing patients to reject their diagnosis since they are not aware of the signs and symptoms of the disease that they display. Patients who display this rejection typically do poorly in treatment programs, increasing their risk of recurrence and diminishing their quality of life. Violent behavior brought on by schizophrenia often results in clients injuring or even killing themselves and others. Efforts to treat schizophrenia typically include treatment and care. The administration of either typical or atypical antipsychotic group therapy is not able to increase patient insight or decrease positive and negative symptoms in those diagnosed with schizophrenia. This difficulty is partly because patients often exhibit non-compliance in taking their medication, requiring nursing actions to help maximize the function of medicine.

This research was conducted at the Soeprapto Psychiatric Hospital of Bengkulu Province, a facility at which the prevalence of clients with schizophrenia who experience violent behavior has increased from year to year. The Soeprapto Psychiatric Hospital’s 2014 records showed that out of 1663 patients diagnosed with schizophrenia, as many as 1247 (75%) had poor insight into their disease and 1080 (65%) exhibited violent behavior. A combination of acceptance and commitment therapy and family psycho education was administered to patients with schizophrenia to improve insight, decrease signs and symptoms of violent behavior, and increase the patient’s ability to control such behavior.

Method
This study used quantitative methods with the design of a quasi-experimental pretest-posttest with a control group. The study involved 66 respondents without randomization who were selected by accidental sampling. Measurements were performed twice on the respondents; the pre-test was performed before respondents were given acceptance and commitment therapy and family psycho education, and the posttest was given after respondents are given acceptance and commitment therapy and family psycho education. The samples in this study were patients with schizophrenia who were selected by accidental sampling. Measurements were performed twice on the respondents; the pre-test was performed before respondents were given acceptance and commitment therapy and family psycho education, and the posttest was given after respondents are given acceptance and commitment therapy and family psycho education. The samples in this study were patients with schizophrenia who displayed violent behavior and were being treated at the Soeprapto Psychiatric Hospital in Bengkulu province at the time of the study.

The instrument used in this study was a questionnaire taken from the Birchwood Insight Scale that was translated into Bahasa Indonesia and tested for validity with the value of r results of < r table (0.396). The reliability test showed a value of 0.87. Questionnaires designed to measure signs of violent behavior in patients and their ability to control that behavior were developed by the Department of Mental Nursing at the Universitas Indonesia in 2014 and used in this study. The validity of signs and symptoms of violent behavior in the cognitive, affective, physiological, behavioral and social aspects of each component had a value of r results < r table (0.396). The reliability test showed that the value of symptoms in each area varied slightly: cognitive = 0.908, affective = 0.882, physiological = 0.925, behavioral = 0.923 and social = 0.788. The validity test regarding the patient’s ability to control his or her violent behavior had a value of r results < r table (0.396). The reliability test showed that value to be 0.895.

In the intervention group, patients were given acceptance and commitment therapy for two sessions, each lasting 45-60 minutes, and the patients’ families were given psycho family education for three sessions, each lasting 45-60 minutes. In the control group, patients were enrolled in a patient education program only. The data was collected and analyzed using a computerized program. Data collection was done after the researcher offered a detailed explanation of the study’s procedures to the Soeprapto Psychiatric Hospital’s staff and prospective respondents. Research was undertaken only after respondents agreed to participate in the study and gave their informed consent. Furthermore, the proposal of this study was validated by the Ethics Committee of Faculty of Nursing, Universitas Indonesia.

Results
Characteristics of patients
The results of this study showed the value of central tendency on the variables of age, sex, length experience of mental illness, frequency of hospitalizations, and current length of stay before getting therapy (Table 1). The average age of patients participating in the study was 32.17 years, with the youngest being 18 and the oldest being 49 years of age. The average length that respondents had been experiencing mental illness was 5.74 years, ranging from 0.2 years (6 months) to 21 years. Among participants, the average frequency of hospitalization was 3.23 times, with respondents experiencing from 1 to 12 hospitalizations in their lifetimes. The test results showed that variables of age, mental disorder period, and hospitalization frequency between the intervention and control groups were similar with p value > 0.05. The average length of stay when the therapy was given was 3.97 weeks with a minimum stay of 1 week and a maximum stay of 32 weeks. The results showed that the lengths of stay between the intervention and control groups were not similar with p value < 0.05.

The results of the study also showed a data distribution of the variables of sex, education, occupation, marital status, medical therapy, drug withdrawal and family visit history (Table 2). Males made up 60, or 90.9%, of the study’s participants, and 29, or 43.9%, of respondents stated that their highest level of education was the primary or elementary level. Most of the patients studied were not working, with 36 (54.5%) of participants claiming to be unemployed. Fifty-five patients, or 83.3% of respondents, were single and, as many as 64 people, or 97% of participants, accepted a combination of medical therapies. A history of drug withdrawal was experienced by 42 people, while a history of family visits during the process of hospital care was experienced by 36 people (54.5%).

Changes observed in patients
Changes observed in patient insight, signs and symptoms of violent behavior, and patients’ ability to control violent behavior before and after being given acceptance and commitment therapy and family psycho education can be seen
Table 1  Characteristics of treated clients with violent behavior in inpatient room of Soeprapto Psychiatric Hospital in Bengkulu Province (n = 66)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Min-max</th>
<th>95%CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Control</td>
<td>33</td>
<td>31.42</td>
<td>9.220</td>
<td>18-49</td>
<td>28.16-34.69</td>
<td>0.086</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>33</td>
<td>32.91</td>
<td>7.601</td>
<td>18-46</td>
<td>30.21-35.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>66</td>
<td>32.17</td>
<td>8.417</td>
<td>18-49</td>
<td>30.10-34.24</td>
<td></td>
</tr>
<tr>
<td>Mental disorder period</td>
<td>Control</td>
<td>33</td>
<td>3.92</td>
<td>4.104</td>
<td>0.2-17</td>
<td>2.47-5.38</td>
<td>0.027</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>33</td>
<td>7.56</td>
<td>5.954</td>
<td>0.4-21</td>
<td>5.45-9.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>66</td>
<td>5.74</td>
<td>5.394</td>
<td>0.2-21</td>
<td>4.42-7.07</td>
<td></td>
</tr>
<tr>
<td>In care frequency</td>
<td>Control</td>
<td>33</td>
<td>2.55</td>
<td>2.223</td>
<td>1-12</td>
<td>1.76-3.33</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>33</td>
<td>3.91</td>
<td>2.554</td>
<td>1-10</td>
<td>3.00-4.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>66</td>
<td>3.23</td>
<td>2.473</td>
<td>1-12</td>
<td>2.62-3.84</td>
<td></td>
</tr>
<tr>
<td>Length of stay</td>
<td>Control</td>
<td>33</td>
<td>1.85</td>
<td>1.603</td>
<td>1-8</td>
<td>1.28-2.42</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>33</td>
<td>6.09</td>
<td>8.889</td>
<td>1-32</td>
<td>2.94-9.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>66</td>
<td>3.97</td>
<td>6.689</td>
<td>1-32</td>
<td>2.33-5.61</td>
<td></td>
</tr>
</tbody>
</table>

Table 2  The characteristics of treated clients with violent behavior in inpatient room of Soeprapto Psychiatric Hospital, Bengkulu Province (n = 66)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Control group (n = 33)</th>
<th>Intervention group (n = 33)</th>
<th>Amount (n = 66)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>a. Female</td>
<td>3</td>
<td>9.1</td>
<td>3</td>
<td>9.1</td>
</tr>
<tr>
<td>b. Male</td>
<td>30</td>
<td>90.9</td>
<td>30</td>
<td>90.9</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Elementary</td>
<td>17</td>
<td>51.5</td>
<td>12</td>
<td>36.4</td>
</tr>
<tr>
<td>b. Secondary</td>
<td>8</td>
<td>24.2</td>
<td>11</td>
<td>33.3</td>
</tr>
<tr>
<td>c. High School</td>
<td>8</td>
<td>24.2</td>
<td>9</td>
<td>27.3</td>
</tr>
<tr>
<td>d. Academy/College</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Not working</td>
<td>20</td>
<td>60.6</td>
<td>16</td>
<td>48.5</td>
</tr>
<tr>
<td>b. Labor</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>c. Trade</td>
<td>1</td>
<td>3.0</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>d. Farmer</td>
<td>10</td>
<td>30.3</td>
<td>11</td>
<td>33.3</td>
</tr>
<tr>
<td>e. Entrepreneur</td>
<td>2</td>
<td>6.1</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Not married</td>
<td>27</td>
<td>81.8</td>
<td>28</td>
<td>84.8</td>
</tr>
<tr>
<td>b. Married</td>
<td>6</td>
<td>18.2</td>
<td>5</td>
<td>15.2</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Medical therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Single</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>b. Combination</td>
<td>33</td>
<td>100</td>
<td>31</td>
<td>93.9</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Drug withdrawal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Ever</td>
<td>20</td>
<td>60.6</td>
<td>22</td>
<td>66.7</td>
</tr>
<tr>
<td>b. Never</td>
<td>13</td>
<td>39.4</td>
<td>11</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
<tr>
<td>Family visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. No</td>
<td>15</td>
<td>45.5</td>
<td>15</td>
<td>45.5</td>
</tr>
<tr>
<td>b. Yes</td>
<td>18</td>
<td>54.5</td>
<td>18</td>
<td>54.5</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100</td>
<td>33</td>
<td>100</td>
</tr>
</tbody>
</table>
in Table 3. In the intervention group, patient insight grew from 49.25% before acceptance and commitments therapy and family psycho education was given to 67.25% after such treatment. Signs and symptoms of violent behavior prior to therapy was 39.59% and decreased to 18.43% after therapy. The patient’s ability to control his or her violent behavior prior to acceptance and commitment therapy and family psycho education was 54.61% and increased to 82.077% after therapy. The results of the analysis clearly show significant improvement in patients after acceptance and commitment therapy and family psycho education were given to the intervention group (p value < 0.05).

Discussion

Characteristics of patients

The average age of patients participating in this study was 32.17 years, and the average age at diagnosis was 38 years old5. We found that respondents in this study experienced schizophrenia for an average of 5.74 years. The period of clients experiencing mental disorders is 11.22 weeks11. The average frequency of clients treated at the psychiatric hospital is 3.23 times while a study shows the average frequency of clients treated at Mental Hospital is 4.37 times4. Previous studies shows certain characteristics of clients with schizophrenia: have low and middle educational background (60%)14, do not (64%)8, and are not married (70%)14. The study showed that 97% of patients with schizophrenia receive atypical and antipsychotic typical drugs, while as much as 6% of patients continued to receive a combination of typical and atypical antipsychotics drugs13.

The effectiveness of acceptance and commitment therapy and family psycho education on insight

As we have seen, patient insight in the intervention group increased after receiving acceptance and commitment therapy and family psycho education, rising from 49.25% to 67.25%. Many unpleasant incidents related to a schizophrenia diagnosis were reported by patients involved in this study; such experiences included being restrained or isolated, confined at home, handcuffed, abandoned, abused by a family member, and neglected by family while hospitalized. Patients also reported past suicide attempts, drug withdrawals, and drug relapses directly or indirectly caused by their schizophrenia diagnoses. These traumatic events create feelings of depression, anger, and isolation in patients, resulting in rebellious behavior like tantrums and the refusal to take prescribed psychiatric medication. Many patients also reported feelings of powerlessness regarding the treatment they receive. In acceptance and commitment therapy, therapists help patients understand that family members often behave out of fear or frustration regarding the patient’s disease; the therapy ultimately reinforces the value of family for the patient by exploring relatives’ inadvertently hurtful behavior. Therefore, we saw an improvement in patient insight after acceptance and commitment therapy was administered6. Acceptance commitment therapy helped patients’ better deal with unpleasant events, increase psychological flexibility, and make a commitment to overcome problems encountered while establishing new good behaviors16. This process also improved how patients rated themselves so that they were slowly able to create new behaviors in an effort to improve themselves and their abilities to resolve the problems encountered.

Poor patient insight inhibits management of schizophrenia5. Patients who received acceptance and commitment therapy experienced a significant decrease in the severity of psychiatric symptoms, improved quality of life, and betterment in the self-awareness component17. The combination of ACT (Acceptance and Commitment Therapy) and Family Psycho Education (FPE) for patients with violent behavior aims to train clients to stop releasing or nurturing anger that makes them feel inferior in their daily routines18.

The effectiveness of acceptance and commitment therapy and family psycho education on the signs and symptoms of violent behavior

Signs and symptoms of violent behavior decreased from 39.59% to 18.43% after patients received acceptance and commitment therapy and family psycho education. Family stands as one of the most important factors in providing support to patients with schizophrenia. Additionally, most families desire to support a relative with schizophrenia, though they often feel that they lack knowledge of the disease and how to care for those suffering from it. Most families expressed confusion regarding the diagnosis and care of those with the disease and report bringing afflicted relatives to the hospital only after alternative and traditional treatments have been exhausted. This process of family psycho education helps patients understand that family members often behave out of fear or frustration regarding the patient’s disease; the therapy ultimately reinforces the value of family for the patient by exploring relatives’ inadvertently hurtful behavior. Therefore, we saw an improvement in patient insight after acceptance and commitment therapy was administered6. Acceptance commitment therapy helped patients’ better deal with unpleasant events, increase psychological flexibility, and make a commitment to overcome problems encountered while establishing new good behaviors16. This process also improved how patients rated themselves so that they were slowly able to create new behaviors in an effort to improve themselves and their abilities to resolve the problems encountered.

The effectiveness of acceptance and commitment therapy and family psycho education on the signs and symptoms of violent behavior

Table 3 Changes in insight, signs and symptoms of violent behavior, and patient ability to control violence before and after being given acceptance and commitment therapy (ACT) and family psycho education (FPE) in the intervention and the control groups (n = 33)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean before ACT, FPE (pre-test)</th>
<th>Mean after ACT, FPE (post-test)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insight</td>
<td>Intervention</td>
<td>49.25</td>
<td>67.25</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>54.4</td>
<td>54.75</td>
<td>0.160</td>
</tr>
<tr>
<td>Signs and symptoms of violent behavior</td>
<td>Intervention</td>
<td>39.59</td>
<td>18.43</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>50.3</td>
<td>48.54</td>
<td>0.000</td>
</tr>
<tr>
<td>Patient ability to control violent behavior</td>
<td>Intervention</td>
<td>74.61</td>
<td>82.077</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>56.62</td>
<td>59.5</td>
<td>0.000</td>
</tr>
</tbody>
</table>
medicine has failed. The resulting delay of medical treat-
ment for the patient aggravates symptoms of the disease.
Therefore, knowledge is a key in helping patients avoid mis-
guided treatment by their own families.

Family psycho education seeks to change a family’s way of
dealing with a relative who suffers from schizophrenia.
Therapists teach families that patients are not to blame for
their disease and help the family understand signs of relapse
so that the patient’s illness can be better controlled16. Fam-
ily psycho education can effectively lower the frustration of
family members when caring patients20. An increase in the
family’s knowledge and understanding of the disease and
diagnosis will improve their ability to care for patients, in-
creasing his or her quality of life and raising the standard of
his or her care by family. The decrease in frustration and
violent behavior directed at patients by family members will
significantly reduce resulting violent behavior shown on the
patient’s part.

The effectiveness of acceptance and commitment
therapy and family psycho education on patient
ability to control violent behavior

The patient’s ability to control violent behavior in the inter-
vention group increased from 74.61% to 82.077% after the
administration of ACT and FPE. Family psycho education was
seen to positively impact both on families and patients21. Ben-
efits obtained by patients included getting optimal care
from family members, improved treatment adherence by
patients, and improved patient mental status. The study
found that while positive signs and symptoms seen in pa-
tients did not directly increase the burden on family mem-
bers, a patient’s negative signs and symptoms directly
impacted families by increasing patient dependency. This
dependency resulted in a disruption in family economic cir-
cumstances, changes in habits, and a decrease in social
functions22. Therefore, adequate information is required in
order for a patient’s family to adequately cope with the
burdens experienced by caregivers.

Acceptance and commitment therapy accommodated cog-
nitive and behavioral changes for patients. These changes
occurred through recognizing unpleasant incidents which
have been experienced and finding the values of such un-
pleasant associated event. Patients then chose which value
was good and not, decided on actions for good and bad
values, chose which values to take, and made a commitment
to change and become better.

Based on the discussion above, the researcher concludes
that the acceptance and commitments therapy and family
psycho education effectively improve insight, lower the
signs and symptoms of violent behavior and improve the
client’s ability to control violent behavior. Suggestions that
can be submitted through this study is that the acceptance
and commitments therapy and family psycho education can
be used as choice to overcome insight and violent behavior
in schizophrenia clients.

Acknowledgement

Thanks are given to the Suprapto Psychiatric Hospital in
Bengkulu Province for the assistance in this study, to the pa-
tients and families who have been willing to become respon-
dents in this study, and to DRPM of the Universitas Indonesia
who have provided financial assistance to conduct this study.

References

1. World Health Organization. Improving health systems and ser-
dices for mental health (Mental health policy and service guid-
2. Basic Health Research Indonesia. Laporan nasional riset kese-
hatan dasar tahun. Jakarta. Badan Penelitian dan Pengemban-
2013.
3. Townsend AC. Essentials of psychiatric mental health nursing
concepts of care in oeductional intervention?. Procedia-social
and behavioral sciences (2014);30:2468-76.
4. Black DS, Semple RJ, Pokhrel P, Grenard JL. Component Process-
es of executive function — mindfulness, self-control, and work-
ning memory—and their relationships with mental and behavioral
5. Johnson S, Sathyaseelan M, Charles H, Jeyaseelan V, Jacob KS.
Insight, psychopathology, explanatory models and outcome of
schizophrenia in India: a prospective 5-year cohort study. BMC
komitmen (TPK) dan program edukasi pasien (PEP) terhadap in-
sight dan efikasi diri klien skizofrenia di RSJ Prof. Dr. Soeroyo
7. Volavka J. Violence in schizophrenia and bipolar disorder.
Hindawi Publishing Corporation Advance In Psychiatry, 2013;
8. Nuraenah, Mustikasari, Putri YS. Hubungan dukungan keluarga
dan beban keluarga dalam merawat anggota dengan riwayat
perlakuan kekerasan di RS Jiwa Islam klender Jakarta Timur ta-
10. Videbeck SL. Psychiatric-mental health nursing (5th ed.). Am-
keny, Iowa: Lippincott Williams & Wilkins; 2011.
11. Harrow M, Jobe TH, Faull RN. Does treatment of schizophrenia
with antipsychotic medications eliminate or reduce psychosis?
2014;1-10.
12. Medical Record of Bengkulu Mental Hospital. Laporan tahunan
2015.
13. Bhattacharjee D, Rai AK, Singh NK, Kumar P, Munda SK, Das B.
Psychoeducation: A Measure to Strengthen Psychiatric Treat-
14. Al-Yahya NM. Effects of psycho education intervention in im-
proving insight and medication compliance of schizophrenic
clients, Riyadh, Saudi Arabia. World Journal of Medical Scienc-
15. Mcwilliams S, Hill S, Mannion N, Fetherston A, Kinsella A, Cal-
laghan EO. Schizophrenia. A five-year follow-up of patient out-
come following psycho-education for caregivers. European Psy-
16. Hayes JA, Davis DM. What are the benefits of mindfulness?
A practice review of psychotherapy related research. American
17. Morsli NA, Elsayed HE, Sabra AI, Harfush SA. Impact of educa-
tional program on the quality of life of patients with schizo-
9249-57.
18. Effert GH, Forsyth JP. The application of acceptance and com-
mmitment therapy to problem anger. Cognitive and Behavioral

