

The Effect of Rational Emotive Behavior Therapy (REBT) on Antiretroviral Therapeutic Adherence and Mental Health in Women Infected with HIV/AIDS

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ABSTRAK

Tujuan: mengetahui efektifitas terapi berbasis perilaku emosi rasional (berbasis REBT) terhadap perbaikan kesehatan mental dan kepatuhan terapi anti retroviral (ART) pada perempuan yang terinfeksi HIV/AIDS (ODHA perempuan). **Metode:** penelitian ini merupakan uji klinis, randomisasi, tersamar tunggal, pada ODHA perempuan yang berobat jalan di Pokdiksus AIDS RS Cipto Mangunkusumo dan Unit Diagnostik Terpadu AIDS RS Dharmais, Oktober 2011-Maret 2012. Hasil alokasi acak (randomisasi blok) pada 160 ODHA perempuan didapatkan kelompok intervensi berbasis REBT (n=80) dan kelompok kontrol (n=80). Kelompok intervensi mendapat intervensi berbasis REBT 8 sesi/minggu yaitu 6 sesi/minggu terapi individual dan 2 sesi/minggu terapi kelompok. Instrumen yang digunakan kuesioner demografi, kepatuhan ART (self report dan hitung pil), kesehatan mental (SRQ-20). Data dianalisis dengan kai kuadrat, generalized linear model, generalized estimating equations. **Hasil:** 148 responden yang dianalisis yaitu kelompok intervensi berbasis REBT (n=72) dan kontrol (n=76) dengan rerata usia 33-34 tahun. Setelah 8 minggu intervensi berbasis REBT, ada perbaikan (peningkatan) rerata skor kepatuhan laporan diri (self report) dibandingkan dengan kelompok kontrol (100%; 95% CI 83,3-96,7 v.s. 84%; 95% CI 77,5-87,8) dan perbaikan (penurunan) rerata skor SRQ-20 pada kelompok intervensi berbasis REBT dibandingkan dengan kelompok kontrol (2,9; 95% CI 2,7-13,0 v.s. 5,4; 95% CI: 5,0 - 13,6). Kepatuhan ART berdasarkan titer viral load (VL) tidak dianalisis pada kedua kelompok karena mayoritas proporsi titer VL tidak terdeteksi (<400 copies/mL). Analisis GLM menunjukkan penurunan rerata skor SRQ-20 dan peningkatan rerata skor kepatuhan ART (self report) kelompok intervensi berbasis REBT lebih signifikan ($p < 0.000$) daripada kelompok kontrol pada minggu 8. Analisis GEE menunjukkan penurunan 1 poin SRQ-20 akan meningkatkan kepatuhan ART (self report) sebesar 0,722 poin dan statistik korelasi bermakna ($p < 0,00$). **Kesimpulan:** setelah 8 minggu intervensi berbasis REBT pada ODHA perempuan, penurunan rerata skor SRQ-20 berpengaruh terhadap peningkatan rerata skor kepatuhan ART pada kelompok intervensi dibanding kontrol.

Kata kunci: kepatuhan ART, HIV/AIDS, perempuan, kesehatan mental, REBT.

ABSTRACT

Aim: to identify the effectiveness of rational-emotive-behavior-based therapy (REBT-based therapy) on improved mental health and antiretroviral (ART) therapeutic adherence in women infected with HIV/AIDS (female subjects with HIV/AIDS). **Methods:** a randomized and single-blinded clinical trial in women infected with HIV/AIDS who had their treatment at the outpatient clinic of Pokdiksus AIDS RSCM and at the AIDS Comprehensive Diagnostic Unit of Dharmais Hospital was conducted between October 2011 and March 2012. A block randomization of 160 female subjects with AIDS was performed that resulted in a REBT-based treatment group (n=80) and a control group (n=80). The treatment group received REBT-based intervention of 8 sessions weekly including 6 individual-therapeutic sessions/week and 2 group-therapeutic sessions /week. Instruments used in the study were questionnaires on demography, ART adherence (measured by self report and pill count), and mental health (SRQ-20). Data were analyzed using Chi-Square test, Generalized Linear Model, and Generalized Estimating Equations. **Results:** there were 148 respondents analyzed including in the REBT-based group (n=72) and in the control group (n=76) with mean age of 33-34 years. After 8 weeks of REBT-based intervention, there was improved (increased) mean value of the self-reported adherence score (self-report) compared to control group (100%; CI 95%,83.3-96.7 vs. 84%; CI 95%,77.5-87.8) and improved (decreased) SRQ-20 mean score in REBT-based treatment group compared to control group (2.9; CI 95%, 2.7-13.0 vs. 5.4; CI 95%: 5.0.-13.6). ART adherence based on viral load titer was not analyzed in both group since most of VL titer were undetected (<400 copies/mL). GLM analysis showed decreased SRQ-20 mean score and increased mean value of self-reported ART adherence (self-report) in the REBT-based treatment group, which were more significant ($p<0.000$) than control group on the 8th week. GEE analysis showed that 1 point decrement of SRQ-20 would increase self-reported ART adherence as much as 0.722 point and the correlation was statistically significant ($p<0.00$). **Conclusion:** after 8 weeks of REBT- based intervention to female subjects with HIV/AIDS, there is a decrease of SRQ-20 mean score which may result in increased ART adherence mean score in the treatment group compared to the control.

Key words: ART adherence, HIV/AIDS, women, mental health, REBT.

INTRODUCTION

The Global report on AIDS Epidemic (UNAIDS Report, 2012) showed that there are 34 million people with HIV/AIDS worldwide and 50% among them are women. The number of women infected with HIV/AIDS are increasing each year along with the increase in number of men doing unsafe sex, who eventually will transmit HIV/AIDS to their sexual partner or their spouse.¹ Minister of Health of Indonesia reported that in 2010, there were 406,600 people with HIV/AIDS (42% women) and it was predicted that there would be 813,720 people with HIV/AIDS in 2014 (55% women).² The psychosocial burden of housewives infected with HIV/AIDS is larger than their physical burden. Psychosocial burden will extremely affect their survival and may cause emotional and mental health problem, which may lead to mental emotional disorder and poor medication adherence.^{3,4} A study (2008) demonstrated that 45% of people with HIV/AIDS

who experienced depression would have poor medication adherence compared to 25% of those who did not.⁵

Antiretroviral therapy must be continued lifelong and adherence is necessary. High adherence, >95% in taking ARV medication is required to reduce the viral load to target level.⁶ HIV/AIDS management has not only been focused on physical problem, but also on psychosocial effects.⁷ Rational-emotive-behavior-based interventional therapy (REBT-based) is a form of psychotherapy using a structured, directed, and objective cognitive modification. It is oriented on "here and now" problems. This intervention aims to help women living with HIV/AIDS to identify and manage their irrational perception and beliefs in various situation, events, experiences, or problems they may encounter, particularly problems associated with HIV/AIDS infection; thus, they will be able to reach optimal self-realization, to build confidence and to develop

rational behavior and emotion, i.e. mental health and ART adherence.^{8,9} This study was conducted to evaluate the effect of REBT-based intervention on ART adherence in those infected with HIV/AIDS, especially women who got HIV/AIDS through their spouse/regular partner.

METHODS

An explanatory, randomized, single-blinded clinical trial was conducted on women infected with HIV/AIDS who visited the outpatient clinic of Pokdiksus AIDS at Cipto Mangunkusumo Hospital and AIDS Comprehensive Diagnostic Unit at Dharmais Hospital between October 2011 and March 2012. The inclusion criteria were women infected with HIV/AIDS through their partner/husband, were aged 17 years or older, literate in Indonesian language or able to read and write and without history of substance/alcohol dependency or abuse. Sample size was determined using two proportion formula, with an assumption that ART adherence changes as much as 20% after REBT intervention and to anticipate 10% drop out, we obtained a sample size of 160 respondents. Furthermore, a block randomization was performed in 160 women living with HIV/AIDS and we found a REBT-based treatment group (n=80) and a control group (n=80), i.e. 40 subjects in each group at the AIDS Pokdisus Cipto Mangunkusumo Hospital and AIDS Comprehensive Diagnostic Unit Dharmais Hospital.

On the next phase, an assistant investigator provided two sealed envelopes to be chosen by respondents. If the respondent chose an envelope with letter A on it, then she would be categorized into the control group, and those who got envelope with letter B would be included in REBT-based treatment group. Respondents in the control group subsequently filled in the SRQ-20 questionnaire, self-reported ART adherence and underwent viral load titer examination on the first session/first week. Meanwhile, respondents in the REBT-based treatment group were escorted by the assistant investigator to a consultation room for receiving REBT-based intervention provided by the principal investigator who was in charge on the first session/first week. The investigators tried to minimize and prevent drop out or loss

of follow-up w by providing transportation fee of IDR 15,000.00 for each session of treatment, building a good rapport since the first therapy session, scheduling the next meeting session and reminding the subjects for the next appointment using SMS or phone call three days and one day before the next appointment. Drop out or loss follow-up subjects were not included in the on-treatment analysis.

The REBT-based intervention was conducted by the investigator herself for all respondents in the REBT-based treatment group both at Cipto Mangunkusumo Hospital and Dharmais Hospital. REBT-based intervention consisted of 8 sessions/week including 6 sessions of individual therapy/week and 2 sessions of group therapy/week. The respondents filled in questionnaires on demography (session 1), ART adherence (measured by self-report and pill count) on session 1 – 8, and mental health (SRQ-20) as well as underwent viral load titer examination on session 1 and 8; While respondents in the control group filled in questionnaires on demography (session 1), ART adherence (measured by self-report), SRQ-20 and underwent viral load titer examination (session 1 and 8). Instruments used were questionnaires on demography, ART adherence, and mental health (SRQ-20).

Statistical Analysis

In this study, an analysis was performed using two group t-test and chi square between REBT-based treatment group and control group to identify comparability of basic variables.^{10,11} Furthermore, a multivariable analysis was performed using (1) GLM (general linear model) repeated measure to identify any differences in improvement tendency: (a) SRQ-20 mean score between REBT-based treatment group and control group on the 1st and 8th week; (b) ART adherence mean score between REBT-based treatment group and control group on the 1st to 8th week; (c) risk factors that were assumed to modify REBT effects on ART adherence; (2) GEE (generalized estimating equations) to identify changes and role of SRQ-20 mean score on ART adherence using self-report between REBT-based treatment group and control group on the 1st week and 8th week.^{12,13} Statistical analysis was done using SPSS software program version 17.0.

RESULTS

Subject Characteristics

In this study, there were 8 subjects in the REBT-based treatment group who were not included in the analysis (6 subjects were loss to follow-up, 2 subjects were drop-out on the second or third session) and 4 subjects in the control group were loss to follow-up on the second session. Therefore, 148 subjects were

analyzed, i.e. those in REBT-based treatment group (n=72) and control group (n=76). Mean age of subjects in the REBT-based treatment group and control group were comparable, i.e. 33-34 years of age. The majority of subjects in REBT-based treatment group and control group had the following characteristics: married (91.6%-93.4%), high school graduates (72.2%-59.2%), working women (43%-35.5%), moderate income families 58.3%-52.6%), duration of HIV/AIDS

Table 1. Socio-demographic characteristics, HIV/AIDS infection and medication in REBT-based treatment group and control group prior to the intervention

Characteristics	Intervention		P
	based REBT (n=72)	Control (n=76)	
SOCIODEMOGRAPHIC STATUS			
Age (Mean ± SD)	33 (6.5)	34 (19.2)	0.551
Education Level (%)			
- High	10 (13.9%)	11 (14.5%)	0.174
- Moderate	52 (72.2%)	45(59.2%)	
- Low	10 (13.9%)	20 (26.3%)	
Occupation (%)			
- Working	31 (43.0%)	27 (35.5%)	0.413
- Not working	41 (57.0%)	49 (64.5%)	
Marital Status (%)			
- Married	66 (91.6%)	71 (93.4%)	0.263
- Unmarried	6 (8.4%)	5 (6.6%)	
Socioeconomic status (%)			
- Moderate	42 (58.3%)	40 (52.6%)	0,111
- Low	30 (41.7%)	36 (47.7%)	
HIV/AIDS INFECTION			
Duration of infection (%)			
- <5 years	52 (72.2%)	50 (65.8%)	0.736
- >5 years	20 (27.8%)	26 (34.2%)	
HIV Stadium (%)			
- Asymptomatic (1)	22 (30.5%)	18 (23.7%)	0.656
- Mild (2)	40 (55.5%)	42 (55.3%)	
- Moderate (3)	10 (13.9%)	16 (21.0%)	
MEDICATION			
Duration of ART treatment (%)			
- <2 years	40 (54.0%)	42 (55.3%)	0.874
- >2 years	32 (46.2%)	34 (44.7%)	
Side Effects of ART (%)			
- Absent	28 (38.9%)	40 (52.6%)	0.026*
- Present	44 (61.1%)	36 (47.4%)	
ART Regimen (%)			
- 3-type ART	67 (93.1%)	73 (96.1%)	0.468
- 2-type ART	5 (6.90%)	3 (3.90%)	

p*= levels of significance for changes were varied based on the self-report measured in the REBT-based treatment group and the control group

infection <5 years (72.2%-65.8%), HIV stage II (55.5%-55.3%), duration of ART therapy <2 years (54%-55.3%), and using 3 types of ART (93.1%-96.1%). (**Table 1**)

Pre-intervention analysis showed that there were comparable characteristics on socio-demographic issues, HIV/AIDS infection and medication between the REBT-based treatment group and the control group, except for the side effects variable ($p>0.05$).

Side effects between REBT-based treatment group and control group were not comparable ($p=0.026$), in which the subjects in the treatment group had more side effects (61.1%) than the control group (47.4%). (**Table 1**) It indicates that randomization design in the REBT-based treatment group and the control group for evaluating the side effects variable was not successful. Therefore, the variable of side effect should be controlled statistically with multivariate analysis.

Characteristics of ART Adherence

In this study, ART adherence in the REBT-based treatment group was measured by the self-report and pill count on the 1st up to 8th week as well as by viral load titer examination on the 1st and 8th week. Post-intervention analysis showed that the mean score of self-reported adherence between the REBT-based treatment group and the control group on the first week were comparable (74%: CI 95%, 69.0-75.3) v.s. (77%: CI 95%, 71.8-80.3) and on the following weeks, there were improved (increased) mean score of self-report in the REBT-based treatment group compared to the control group ($p=0.000$). The mean score of pill-count adherence in REBT-based treatment group was 88% on the first week and was improved (increased) with time on the following weeks. Both self-report and pill-count ART adherence in the REBT-based treatment group had reached optimal ART adherence (>95%) on the 5th week. ART adherence based on viral load (VL) titer could not be analyzed due to lack of variation of VL titer proportion (most subjects on both groups had undetected VL titer; <400 copies/mL) on the 1st and 8th week. These characteristics are described in **Table 2**.

Characteristics of Emotional Mental Health

Chi square analysis showed that there was a significantly greater decrease of SRQ-20 mean score in the REBT-based treatment group on the 8th week than the control group ($p=0.000$). The proportion of respondents who had positive psychopathology (score >6) on the first week was comparable between the REBT-based treatment group and the control group, i.e. 58.8%-60%. However, after receiving the intervention, on the 8th week we found that there were more subjects with negative psychopathology in the REBT-based treatment group (score <5), which were 78.8% compared to 45.5% in the control group. The more commonly found psychopathologies were depression (66%) and anxiety disorder (34%). (**Table 2**)

Multivariate Analysis

The general linear model (GLM) repeated measure analysis showed that there was a significantly greater decrease of SRQ-20 means score in the REBT-based treatment group than the control group on the 8th week ($p=0.000$) (**Figure 1**) and there was also a significantly greater decrease of self-reported ART adherence mean score in the REBT-based treatment group on the 4th and 8th week compared to the control group ($p=0.000$). (**Figure 2**)

The results of GLM analysis also showed that socio-demographic risk factors, HIV/AIDS infection (duration of illness, stage of infection), medication (duration of ART, ART side effects, and ART regimens) did not have significant effect on modifying the effect of REBT-based intervention on ART adherence ($p<0.05$).

Generalized estimating equations (GEE) analysis showed that the equal regression of self-reported ART adherence on the first week was $79.71-0.722*$; SRQ-20 on the 8th weeks were $96.35-0.722*SRQ$, which means that 1 point decrease of SRQ will increase ART adherence as much as 0.722 point. The results of analysis showed a significant correlation between decreased SRQ-20 mean score and the increased mean score of self-reported ART after the intervention in both the REBT-based treatment group and control group ($p=0.000$). (**Table 3**)

Table 2. Characteristics of irrational beliefs, mental health, and ART adherence in the REBT-based treatment group and the control group

Characteristics	REBT (n= 72)		Control (n=76)		P
	Mean (%)	Mean of 95% Confidence Interval	Mean (%)	Mean of 95% Confidence Interval	
ART adherence					
Self Report					
- Week 1	74.0	69.0-75.3	77.0	71.8-80.3	
- Week 2	84.0				
- Week 3	90.0				
- Week 4	94.0	81.4-92.7	79.0	77.5-87.8	
- Week 5	100.0*				
- Week 6	100.0				
- Week 7	100.0				0.000*
- Week 8	100.0	83.3-96.7	84.0	77.5-87.8	
Pill Count					
- Week 1	88.0	85.4-90.0			
- Week 2	90.0	80.0-90.2			
- Week 3	93.0	82.4-93.0			
- Week 4	95.0	83.6-95.2			
- Week 5	99.0	82.7-95.6			
- Week 6	100.0	83.2-96.6			0.000*
- Week 7	100.0	82.7-96.3			
- Week 8	100.0	83.8-96.9			
Viral Load Titer					
Week 1					
- Undetected	92.5		95.0		
- Detected	7.5		5.0		
Week 8					
- Undetected	87.5		93.9		
- Detected	2.5		1.2		
- Drop Out	10.0		5.0		
Mental Health (SRQ-20)					
Week 1					
- Negative Psychopathology (≤ 5)	40.0		41.3		0.000*
- Positive psychopathology (≥ 6)	60.0		58.8		
Week 8					
- Negative Psychopathology (≤ 5)	78.8		45.0		
- Positive psychopathology (≥ 6)	21.3		55.0		

CI= Confidence Interval on 95% Mean

p*= levels of significance for changes were varied based on the self-report measured in the REBT-based treatment group and the control group

DISCUSSION

This study is a clinical trial, which was conducted to provide evidences on the effectiveness of REBT-based intervention on ART adherence and mental health in women living

with HIV/AIDS who visited the outpatient clinic of Pokdiksus AIDS at Cipto Mangunkusumo Hospital and AIDS Comprehensive Diagnostic Unit at Dharmais Hospital. Although the study was conducted only at two health care sites of

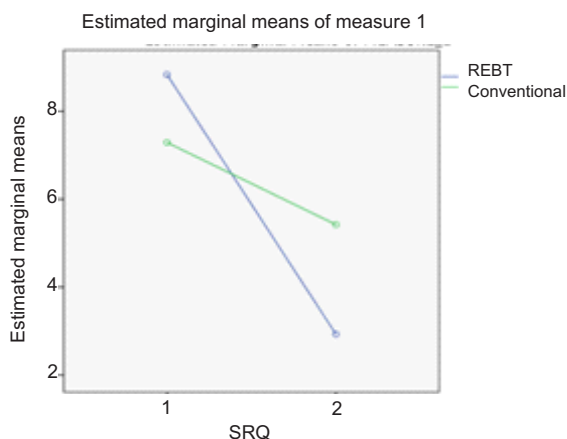


Figure 1. Improved Mental Health (SRQ-20) mean score between REBT-based treatment group and control group

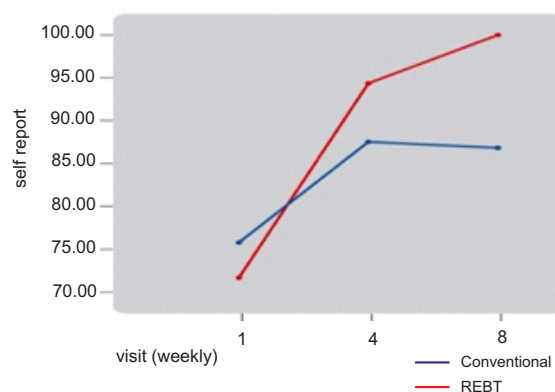


Figure 2. Improved self-reported ART adherence mean score between REBT-based treatment group and control group

Table 3. Changes of SRQ-20 mean score and ART adherence on GEE analysis in REBT-based treatment group and control group

Parameters	B	SE	95% CI	p
Intercept	79.713	1.9257	75.939-83.487	.000
Week 8	16.636	1.5905	13.519-19.753	.000
Week 1	0a	.	.	.
SRQ-20	-.722	.2074	-1.128--.315	.001

CI=confidence interval; SE=standard error; B=coefficient

ART clinics, i.e. at Cipto Mangunkusumo and Dharmais Hospital, but both hospitals were health referral centers providing antiretroviral therapy for people with HIV/AIDS in Indonesia; thus the results of our study can be generalized to be applied in Indonesia.

Limitation of this study includes our inability to have all respondents receiving therapeutic session each week since most of them have to work and could not afford transportation cost. In order to get the subjects to be able to participate and attend each sessions, the investigator did some measures including providing transportation incentives of IDR 15,000.- for respondents in both groups – the REBT-based treatment group and the control group (for each session), building good rapport since the first session of therapy, explaining about the aim and benefit of the study that could be obtained by the respondents after participating in the study, especially for those in REBT-based treatment group. Also, subjects and the investigator determined and made appointment for next meetings, the investigator also reminded subjects to come for the next

session through SMS or phone calls three days or one day previously. The measures to minimize study limitation were quite successful since only 8 out of 160 subjects were drop out in the REBT-based treatment group (6 respondents were loss to follow-up, 2 respondents were drop-out on second or third session) and 4 respondents were loss to follow-up in the control group on the second group.

Thus, there were 148 subjects analyzed in this study including all women who got infected by HIV/AIDS from their regular sexual partner/spouse and without any history of drug/substance abuse. UNAIDS (2010) estimated that there are more than 90% of 1.7 million women living with HIV/AIDS in Asia actually got the infection from their partner/spouse.¹ In Indonesia, it is predicted that the number of women infected with HIV/AIDS will be increasing. Ministry of Health Republic of Indonesia (2011) stated that the numbers of housewives infected with HIV will increase each year; while the number of commercial sex worker infected with HIV is declining. It is assumed that it is resulted from transmitted HIV infection from their partner/spouse who have high-risk behavior.²

This study demonstrated that before intervention (first week/first session) there were 60% respondents with positive psychopathology in both groups. Most subjects described their various thoughts and beliefs such as that they had no future, would not be able to be cured although treated with antiretroviral (ARV), would not be able to have a long life, would not be able to care

for their children, or they were having punishment from God, feeling guilty for transmitting the virus to their children, feeling helpless due to the illness, feeling being rejected or isolated from family or environment if their HIV status were known. A study (2007), which was conducted at the John Hopkins HIV clinic reported that 54% women infected with HIV/AIDS were also diagnosed with psychopathologies including 20% suffered from severe depression, 18% with adjustment disorder, and 74% with substance abuse disorder.¹⁴ Another study also reported that greater depression disorder was found in women infected with HIV/AIDS compared to those without HIV/AIDS infection.

Mental emotional disorders, especially depression in people infected with HIV/AIDS may affect medication adherence and resulting in poor adherence to therapy.¹⁵

Our study also showed a significantly greater improvement on SRQ-20 mean score in REBT-based treatment group compared to control group on the 8th week. It indicates that REBT-based intervention is effective to help women with HIV/AIDS to manage their irrational belief and change it into rational belief against various situations, events, experiences or problems they encountered; thus, these women could achieve optimal self-realization, build self-esteem, and able to develop rational and healthy emotion, i.e. mentally healthy condition.^{8,9} Raffy (2008) demonstrated that people with HIV/AIDS who had irrational belief usually have emotional mental disorders such as depression, which are characterized by the feeling of helplessness, no life purposes, reluctant to take medication, and belief that they will die soon.¹⁶

The results of our study also showed that there was increased mean score of self-reported and pill-count ART adherence and it has reached optimal adherence (>95%) on the fifth week after receiving the REBT-based intervention therapy. These suggest that the eight-week sessions of REBT-based intervention therapeutic modules could be reduced or given into five-week sessions. Therefore, further studies on REBT-based intervention therapy of five-week sessions should be conducted. ARV adherence assessment based on pill-count was only performed in

the REBT-based treatment group since the assessment of ART adherence on conventional therapy is only based on self-report and viral load titer examination; while the ART adherence based on viral load titer could not be analyzed since viral load titer of most respondents was undetected (<400 copies/mL) in both groups on the first and eight week. It may be probably due to several issues, such as most subjects had received ART \leq 6 months – 2 years and the study was conducted in HIV/AIDS referral center hospitals that received referral from various central and peripheral ART health care units in Indonesia. A study (2010) in 102 women infected with HIV showed that approximately 69 women had undetected virus titer in their blood after 6 months of treatment.¹⁷ Centers for Disease Control and Prevention (CDC) suggested that undetected viral load can be reached after 6 months of ART therapy.⁶

This study showed significant correlation between decreased SRQ-20 mean score and increased mean score of self-reported ART adherence after REBT-based intervention. It indicates that REBT-based intervention could improve and change irrational and negative perception, behavior and attitude of women living with AIDS, especially about ART therapy that they have received into a rational and logic perception and belief; thus, those women are able to improve their self-esteem and motivation on medication adherence.

Another study (2008) showed that people living with HIV/AIDS who have negative and irrational perception and belief show mental emotional disorders such as depression, which is manifested as feeling of despair, pessimistic, helplessness, feeling of losing purpose of life, feeling that there is no use of taking any medication and believing that they will die soon.¹⁸ Pence (2009) suggested that irrational thought and belief may affect the condition of people living with HIV/AIDS either by cognitive, affective or conative aspect. Pence also suggested that depression may become a predictor of low ART adherence, increased high-risk sexual behavior, failure of ART therapy, and faster HIV syndrome manifestation and higher mortality rate. People living with HIV/AIDS who

have depression are likely to get HIV-treatment (ART) adherence problems of two folds greater compared to those without depression.^{16,19} Therefore, early detection and prompt treatment for mental emotional health problems in women living with HIV/AIDS are essential to prevent further deterioration on physical and mental health as well as their quality of life.

CONCLUSION

After 8 weeks of REBT-based intervention in women living with HIV/AIDS, a decrease of SRQ-20 mean score may affect increased mean score of ART adherence in the treatment group compared to control group. REBT-based intervention is recommended to be given in central and rural ART health care units, especially for mental health service in order to achieve optimal physical and mental health and optimal ART adherence (>95%) as well as to reach the target of getting to zero policy, i.e. Zero New HIV Infection and Zero AIDS related death, particularly in women infected with HIV/AIDS.

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