

## ORIGINAL ARTICLE

# Depression Management Using Acceptance and Commitment Therapy Among HIV/AIDS Patients

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## ABSTRACT

**Introduction:** HIV/AIDS is a worldwide health problem that has claimed a total of 36.7 million lives due to the HIV virus. In Indonesia, there are 30,935 cases of HIV and 7,185 cases of AIDS. HIV/AIDS can affect a person's mental and psychological health. For example, the most common psychological problem faced by HIV/AIDS patients is depression. Depression experienced by HIV/AIDS patients is caused by the burden of life and social stigma. To overcome the psychological problems experienced by PLHIV, it is necessary to provide psychotherapy such as Acceptance and Commitment Therapy (ACT). ACT is a form of psychotherapy that focuses on changing a person's mindset through their experiences so that they can move on with their lives. **Objective:** The purpose of this study was to identify the effect of ACT on depression in PLHIV. **Methods:** This study used a quasi-experimental design with a one group pretest-posttest design. This study's population consisted of all HIV/AIDS patients who were also depressed. The number of samples in this study is 33 PLWHA who had depression problems using a purposive sampling technique. The intervention given to treat depression in HIV/AIDS patients is ACT with 4 sessions, and the analysis of this study used a t-test. **Results:** The average depression score of respondents decreased from 38.73 before being given Acceptance and Commitment Therapy to 19.27 after being given ACT. **Conclusion:** There was a significant difference in the average depression score between before and after being given ACT ( $t=63,162$  and  $p=0.000$ ).

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## INTRODUCTION

HIV has caused AIDS in one of the 36.9 million infected people worldwide, and the virus's spread can harm the body's immunity. In the late stages, the infected individual's immune system is unable to maintain the usual disease state with one or more infections. A characteristic feature of AIDS is the death of CD4 cells which makes the body vulnerable to attacks and threatening conditions such as cancer (1). Due to poor HIV services, 770,000 people died in 2018, and 1.7 million people were newly infected (2).

In Indonesia, based on one research data (3), it is known that in 2015 there were 30,935 HIV cases and 7,185 AIDS cases in Indonesia, while in 2016 the

number of HIV cases in Indonesia decreased to 27,963 cases and AIDS became 3,679 cases. Based on the medical record data of H. Adam Malik Hospital in Medan, there were 468 hospitalizations in 2018, 442 patients in 2019, 2423 HIV / AIDS patient outpatient visits in 2018, and 2149 patients in 2019. Based on this description, HIV/AIDS patients need serious attention to the psychosocial problems that arise as a result of their illness, treatment, and environmental support. If HIV/AIDS patients do not get proper treatment for their psychosocial problems, they are at risk for experiencing depressive disorders ranging from mild, moderate, to severe levels.

It is important for people with HIV/AIDS to know that they have a high chance of overcoming affection, anxiety, and cognitive and mood disorders. For example, the mental health problem most often faced by PLHIV is depression. Depression is the most common psychological condition in PLHIV (4). Mental problems often occur, and the most common

is depression, with a prevalence ranging from 14% to 32% among PLHIV (5).

Depression is a form of mood disorder with symptoms showing affective, emotional, cognitive, and general dysfunction. Cognitive, physiological, affective, behavioral, and social changes that occur in early adolescence are considered critical developments that cause depression problems (6, 7). PLHIV depression does not only affect mental health status but will also have a negative impact on adherence to care and treatment. Depression greatly affects adherence to treatment in PLHIV, as well as living conditions and life expectancy, and has a negative impact on behaviors required for HIV management (8). Depression in PLHIV is influenced by several factors such as not having a job, age, gender, education, family support, social support, stigma and discrimination, HIV stage, partner, self-status, income, and infection (9, 10). Based on the explanation above, depression is a mental and psychological problem that is a natural disorder that can occur at any age and is a global problem. Depression causes the patient's condition to worsen if not treated quickly (11).

Generalist nursing care is given to HIV/AIDS patients who experience depression according to the nursing problems that arise. In addition to generalist intervention in patients with depression, specialist therapy is needed, and this is of course provided by nurses who are competent in providing psychotherapy like ACT. ACT focuses on changing a person's mindset through his experiences so that the person can move on with his life. This is in line with research by (12), which states that ACT is a short-term, constructive intervention that builds the current moment and creates value for clients. In addition, the four ACT sessions provided encouragement and support for PLHIV who experienced rejection and judgmental attitudes.

## MATERIALS AND METHODS

This research is a quantitative study with a one-group quasi-experimental design using pre- and post-tests. The population is all PLHIV, as many as 106. The number of samples is 33, using a sampling technique called purposive sampling. The sample criteria in this study were: PLHIV with depression problems and getting ARV therapy. Respondents was informed about the activity purpose and procedure and asked to the respondents for signing an informed consent. All samples were adjusted to the specified inclusion criteria to obtain samples according to the inclusion criteria, namely: For PLHIV with depression problems who get ARV therapy, the intervention given to overcome depression among PLHIV patients is ACT

with 4 sessions within 2 months. To determine the effect of ACT, researchers used the t-test.

## Measures

The Center for Epidemiological Studies Depression Scale (CES-D) was used to measure depressive symptoms (13). The CES-D scale is a 20-item instrument with each item rated on a four-point scale ranging from 0 ("rarely or none of the time") to 3 ("most or all of the time"). Four of the items are positive statements which are inversely scored for calculating the total score. The total score ranges from 0 to 60 and a higher score indicates a greater risk of depression. For the original CES-D scale, a total score of 16 or greater is considered as indicative of subthreshold depression.

## Ethical Clearance

The researcher submitted an ethical approval request to the ethics committee of Sari Mutiara Indonesia University and obtained ethical approval on July 12, 2022 with the number 415/F/KEP/USM/VII/2022.

## The Session of Acceptance and Commitment Therapy

The implementation of Acceptance and Commitment Therapy by (14) consists of 6 sessions, namely: acceptance, cognitive defusion, present moment, self as context, value and commitment. The researcher has modified it into 4 (four) sessions by combining 2 basic principles of acceptance and Commitment Therapy, namely Acceptance and Cognitive Defusion into 1 (one) session, present moment and value into 2 (two) sessions, committed action about the actions taken into 3 (three) and commitment to prevent recurrence into 4 (four). These 4 sessions are very helpful in the process of administering therapy, which doesn't take too long.

## RESULTS

Table I. Based on the results of the study, the majority of PLHIV are in the age range of 18-35 years (69,7%), the gender of the majority is male 72,7%, the education of the majority is college 148,5% and long suffering for the majority is > 1 year 57.6%.

Table II. Based on the results of the study, showed that the average PLHIV depression score before being given the ACT intervention was 38,73.

Table III. Based on the results of the study, showed that the average PLHIV depression score after being given the ACT intervention was 19,27.

Figure 1 shows that there is a significant difference between before and after being given Acceptance and Commitment Therapy with a depression score of 38.73 to 19.27.

**Table I : Characteristics of the Distribution of PLHIV**

Characteristics	N	%
<b>Age</b>		
18-35 years	23	69.7
36-55 years	10	30.3
<b>Gender</b>		
Male	24	72.7
Female	9	27.3
<b>Education</b>		
Junior High School	4	12.1
Senior High School	13	39.4
College	16	48.5
<b>Long Suffered</b>		
< 6 months	4	12.1
6 months – 1 year	10	30.3
>1 year	19	57.6

**Table II : Depression Before Being Given Acceptance and Commitment Therapy**

Variable	Mean	N	Std. Deviation	Std. Error Mean
Depression Pre	38.73	33	4.920	.856

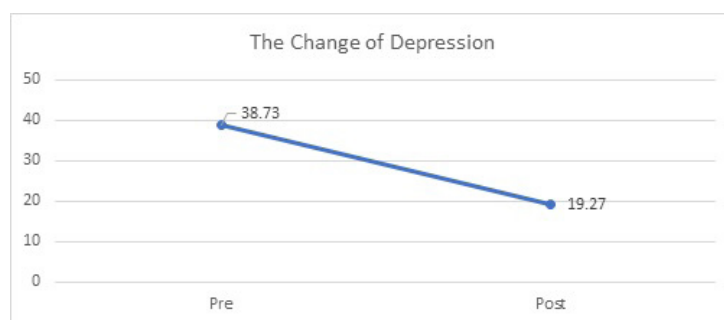
**Table III : Depression After Being Given Acceptance and Commitment Therapy**

Variable	Mean	N	SD	SE
Depression Post	19.27	33	4.208	.732

## DISCUSSION

### Depression Before Given Acceptance and Commitment Therapy

This study shows the results that the average level of depression of respondents before the ACT was 38.73 (0-60). This shows that most of the respondents have a moderate level of depression. These results support research (15), which shows that 59.5% of the Brazilian population is depressed due to HIV/AIDS infection. Knowing that you have a chronic

**Graph I. Depression Before and After Being Given ACT****Figure 1 : Depression Before and After Being Given ACT.**

or life-threatening illness is a traumatic experience (16). This trauma will lead to a condition of grieving that makes many people who just found out about their status depressed. Depression is quite common among PLHIV (17). The reason is, that about a third of PLHIV indicate that they may have mood disturbances (mood) or clinically significant depressive symptoms (18). This figure shows that PLWHA are three times more likely to experience depression problems than those with other psychological problems (19).

The problem of depression among PLHIV is purely due to their knowing their HIV status. In a study in China, it was found that out of 22 people who met the criteria for MDD, only one person had these symptoms before knowing their HIV status (20). There are still many new people with HIV/AIDS (PLWHA) who find it difficult to accept their status. One of the reasons is that there is still an opinion that HIV is a dangerous disease, so the process of receiving a status, let alone acceptance of treatment, is not a simple matter.

The stigma that PLWHA face makes it harder for them to accept themselves, which can lead to depression. Through research on adolescents aged 15-19 years in Indonesia, it was found that the prevalence of adolescents who had a stigma against PLHIV was 71.63% (21). Stigma has a huge influence on exacerbating various components of individual self-identity, such as age, race, and gender (22). Forms of stigma include not being willing to eat food provided or sold by PLHIV, not allowing their children to play with HIV children, not wanting to use the toilet together with PLHIV, and even refusing to live close to people who show symptoms of HIV/AIDS. This stigma problem adds to problems of self-concept, acceptance, and depression Among PLHIV.

Stigma among PLHIV is further exacerbated when someone is included in the category of key groups such as MSM and injecting drug users, who experience double stigma as drug users and PLHIV.

In all of these key groups, there is a fear of going to a health worker for fear of being ostracized if their status is positive or if their status is known by others (23, 24). This problem shows poor self-concept and is self-stigma. As a result of stigma from the outside, PLWHA label themselves as people who are not liked because of their status as IDUs or MSM who are also infected with HIV. This negative view of oneself makes PLHIV have negative thoughts, feelings of depression, even to the point of despair.

The combination of the difficult process of self-acceptance and the stigma that causes depression also leads to suicidal ideation in PLWHA. Research in China found that 31.6% of PLWHA had suicidal ideation after an HIV diagnosis (25). Research in DKI Jakarta found that 29.16% of PLWHA had a history of attempting suicide, with a self-harm rate of up to 43.18% (26). Since PLHIV are more likely to be depressed and try to kill themselves, they must be able to deal with and accept their condition in order to feel less depressed.

### Depression after Being Given ACT

This study found that ACT was effective in reducing depression in PLWHA. These results are in line with the research of (27), showing that ACT has an effect on reducing depression. Another study found that ACT was effective in treating depression, resulting in significantly reduced depressive symptoms in adults with mild depression after 3 months of follow-up treatment (28).

The effectiveness of ACT for depression in this study can be seen from the decrease in the respondents scores. After receiving the ACT treatment, the average CES-D score decreased to 19.46. The majority of respondents' depression was at a moderate level in the pre-test (38.73; 0-60), while their depression was mild in the post-test (19.27; 0-60). This can happen because by doing ACT respondents are encouraged to commit, which states what is important for individuals, and when making commitments, respondents will emphasize the choices made, so that these commitments can affect emotional responses and individual coping to respond to stressors (29).

People with HIV/AIDS find it difficult to accept their status. One of the reasons is that there is still an opinion that HIV is a dangerous disease, so accepting one's status as someone who has the HIV virus is not a simple thing. Knowing that you have a chronic or life-threatening illness is a traumatic experience (16). This trauma will cause a condition of grief for many people when they find out that they have HIV/AIDS, and this is what makes patients depressed. Depression among PLHIV has increased due to the high stigma and discrimination experienced by PLHIV (21) for this reason, the initial stage of ACT is

to increase individual psychological acceptance of disturbing and unpleasant subjective experiences (thoughts, feelings) by placing oneself in accordance with the values held so that individuals will accept their conditions. ACT emphasizes that a person must first understand his situation, only then can he accept his condition. Then commit to making a better change (28).

Researchers asked people who had been given Acceptance and Commitment Therapy about their depression and also watched them directly. It can be seen that when they first attended Acceptance and Commitment Therapy, respondents avoided being open when communicating their burdens and problems (avoidance of experiences) perhaps caused by cognitive confusion where poor judgments are made about the environment if the environment communicates too much burden. This shows a lack of mental strength in the cognitive abilities of the respondents. Unknowingly, the respondent chooses avoidance behavior, so the strategy used is not optimal or successful even in the long run. This makes the respondent even more frustrated because they feel there is no support from other people, so it seems as if the patient himself is dealing with his disease problems (30).

Because of this condition, ACT becomes very important. ACT made respondents realize that it is important to give oneself space for to accept unpleasant feelings and experiences so there is no need to avoid them, and to respect the judgments of others that may not necessarily be attached to the respondent. ACT was able to change the perspective of the respondents in seeing the situation that occurred, reduce attachment to negative thoughts and feelings, and make them aware of ways to increase their life expectancy (31). This is evident, after the second to last meeting, the respondents became happier and more open to sharing what they were feeling at this time.

As people become more willing to face and live with the consequences of ACT, cognitive processes change, and judgments about situations that lead to depression are no longer viewed negatively. When there is a significant change, what was originally neutral becomes negative, the evaluation changes, and depression decreases. ACT also aims to increase their perspective, enabling them to deal with problems in a more positive way by responding to changes based on their emotions. With ACT, respondents are not only invited to accept, but also to help identify steps to solve problems and accept the consequences. By establishing these steps, perceived resources can better meet the needs of being an HIV patient. Therefore, ACT is able to reduce depression suffered (32).

### Differences of Depression Before and after being given ACT

The research hypothesis that there will be differences in the average depression score before and after the intervention was evaluated using a paired t-test. The t-score was significant for the level of depression ( $t = 63.162$ ;  $p = 0.121$ ). In accordance with the results of interviews with respondents after being given ACT, they have accepted themselves as whole human beings and no longer remember their bad past because they must be of value in society and are committed to helping patients who experience HIV/AIDS so they want to do so. treatment. This shows that CT has reduced the respondent's depression. The average score of the difference in the level of depression between before the intervention (38.73) and after the intervention (19.27) indicated a significant decrease in the depression score. This suggests that ACT has caused significant changes in the depression rates of HIV-positive people. Similar results have been reported in previous studies, showing that ACT can reduce depression among HIV patients (27).

ACT was able to make respondents realize that it is very important to give oneself space for one self space to accept feelings and conditions of unpleasant experiences so there is no need to avoid them, and respect the judgments of other people who may not necessarily stick with the respondent. ACT was able to change the way respondents perceive situations, reducing attachment to negative thoughts and feelings (31). In administering the ACT, respondents are taught not to avoid their life goals and to be able to accept their lives and be committed to being able to overcome their problems so that patients change their mindset and can reduce their depression.

In connection with the respondent's willingness to face and appreciate the consequences of being given Acceptance and Commitment Therapy, there has been a change in the cognitive process where an assessment of a situation that leads to HIV/AIDS is no longer seen as something negative. but one that must be faced so that they no longer experience depression. When there is a change in meaning, which was originally neutral and negative, it can be judged that depression will definitely decrease. In line with (33), said that cognitive function has been shown to contribute negatively to various problems such as chronic pain, serious mental disorders in adolescents and depression. For example, patients with depression who can provide "good reasons" for their depression tend to be more depressed and more difficult to treat than other depressed people.

Through Acceptance and Commitment Therapy, respondents are given the convenience of being able to determine steps in dealing with their problems,

accompanied by the consequences they receive. By establishing these steps, perceived resources can better meet the demands of becoming PLWHA (32), so that this can reduce the depression of the respondents.

### CONCLUSION

The average depression score between the scores before and after being given Acceptance and Commitment Therapy has a significant change with a t value of 63.162 and  $p = 0.000$ .

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### REFERENCES

1. Hou R. Governance of AIDS and Actions Taken. In *Self-restoration of People Living with HIV/AIDS in China 2020* (pp. 19-39). Springer, Singapore.
2. World Health Organization. HIV treatment and care: WHO HIV policy adoption and implementation status in countries: factsheet. World Health Organization; 2019.
3. Kemenkes RI. Profil kesehatan indonesia. Jakarta: Kementerian Kesehatan Republik Indonesia. 2014. Available from: <https://www.kemkes.go.id/article/view/17092200011/profil-kesehatan-indonesia-tahun-2016.html>
4. Desta F, Tasew A, Tekalegn Y, Zenbaba D, Sahiledengle B, Assefa T, Negash W, Tahir A, Regasa T, Mamo A, Teferu Z. Prevalence of depression and associated factors among people living with HIV/AIDS in public hospitals of Southeast Ethiopia. *BMC psychiatry*. 2022 Dec;22(1):1-0. Available from: <https://doi.org/10.1186/s12888-022-04205-6>
5. Bernard C, Dabis F, de Rekeneire N. Prevalence and factors associated with depression in people living with HIV in sub-Saharan Africa: a systematic review and meta-analysis. *PloS one*. 2017 Aug 4;12(8):e0181960. Available from: <https://doi.org/10.1371/journal.pone.0181960>
6. Salk RH, Petersen JL, Abramson LY, Hyde JS. The contemporary face of gender differences and similarities in depression throughout adolescence: Development and chronicity. *Journal of affective disorders*. 2016 Nov 15;205:28-35. Available from: <https://doi.org/10.1016/j.jad.2016.03.071>
7. Zhou J, Li X, Tian L, Huebner ES. Longitudinal association between low self - esteem and depression in early adolescents: The role of rejection sensitivity and loneliness. *Psychology and Psychotherapy: Theory, Research and Practice*. 2020 Mar;93(1):54-71. Available from: <https://doi.org/10.1111/ppt.12345>



- org/10.1111/papt.12207
8. Abadiga M. Depression and its associated factors among HIV/AIDS patients attending ART clinics at Gimbi General hospital, West Ethiopia, 2018. BMC research notes. 2019 Dec;12(1):1-8. Available from: <https://doi.org/10.1186/s13104-019-4553-0>
9. Ngum PA, Fon PN, Ngu RC, Verla VS, Luma HN. Depression among HIV/AIDS patients on highly active antiretroviral therapy in the southwest regional hospitals of Cameroon: a cross-sectional study. Neurology and therapy. 2017 Jun;6(1):103-14. Available from: <https://doi.org/10.1007%2Fs40120-017-0065-9>
10. Abebe H, Shumet S, Nassir Z, Agidew M, Abebaw D. Prevalence of depressive symptoms and associated factors among HIV-positive youth attending ART follow-up in Addis Ababa, Ethiopia. AIDS research and treatment. 2019 Jan 2;2019. Available from: <https://doi.org/10.1155/2019/4610458>
11. Pardede JA, Hutajulu J, Pasaribu PE. Harga Diri dengan Depresi Pasien HIV/AIDS. Jurnal Media Keperawatan: Politeknik Kesehatan Makassar. 2020;11(01):57-64. Available from: <https://dx.doi.org/10.32382/jmk.v11i1.1538>
12. Faezipour M, Ghanbaripana A, Seyedalinaghi S, Hajiabdolbaghi M, Voltarelli F. Effectiveness of acceptance and commitment therapy on reducing depression among people living with HIV/AIDS. Journal of International Translational Medicine. 2018 Sep 30;6(3):125-9. Available from: <https://doi.org/10.11910/2227-6394.2018.06.03.04>
13. JIANG, Lijun, et al. The reliability and validity of the center for epidemiologic studies depression scale (CES-D) for Chinese university students. Frontiers in psychiatry, 2019, 10: 315. <https://www.frontiersin.org/articles/10.3389/fpsyt.2019.00315/full>
14. BAI, Zhenggang, et al. Acceptance and commitment therapy (ACT) to reduce depression: A systematic review and meta-analysis. Journal of affective disorders, 2020, 260: 728-737. <https://dworakpeck.usc.edu/sites/default/files/202010/Bai%20Luo%20Zhang%20Chi.pdf>
15. Betancur MN, Lins L, Oliveira IR, Brites C. Quality of life, anxiety and depression in patients with HIV/AIDS who present poor adherence to antiretroviral therapy: a cross-sectional study in Salvador, Brazil. Brazilian Journal of Infectious Diseases. 2017 Sep;21:507-14. Available from: <https://doi.org/10.1016/j.bjid.2017.04.004>
16. Currie, N. Social Work and HIV: Exploring Grief in the Newly Diagnosed Client, TheBodyPro. 2019. Available from: <https://www.thebodypro.com/article/social-work-and-hiv-exploring-grief-in-the-newly-diagnosed-client>
17. Rezaei S, Khalatbari J, Kalhorniagar M, Tajeri B. Comparison the Effectiveness of Acceptance and Commitment Therapy (ACT) and Compassion Focused Therapy (CFT) on resiliency and psychological well-being Individuals Diagnosed with HIV. Knowledge & Research in Applied Psychology. 2022 May 22;23(1):155-67. Available from: <https://doi.org/10.30486/jsrp.2020.1875017.1975>
18. Benton TD. Depression and hiv/aids. Current Psychiatry Reports. 2008 Jun;10(3):280-5.
19. Wiginton, K. HIV and Depression, WebMD. 2021. Available from: <https://www.webmd.com/hiv-aids/hiv-depression>
20. Jin H, Atkinson JH, Yu X, Heaton RK, Shi C, Marcotte TP, Young C, Sadek J, Wu Z, Grant I. Depression and suicidality in HIV/AIDS in China. Journal of affective disorders. 2006 Aug 1;94(1-3):269-75. Available from: <https://doi.org/10.1016/j.jad.2006.04.013>
21. Situmeang B, Syarif S, Mahkota R. Hubungan pengetahuan HIV/AIDS dengan stigma terhadap orang dengan HIV/AIDS di kalangan remaja 15-19 tahun di Indonesia (analisis data SDKI tahun 2012). Jurnal Epidemiologi Kesehatan Indonesia. 2017 Oct 10;1(2). Available from: <http://dx.doi.org/10.7454/epidkes.v1i2.1803>
22. MacLean JR, Wetherall K. The association between HIV-Stigma and depressive symptoms among people living with HIV/AIDS: a systematic review of studies conducted in South Africa. Journal of Affective Disorders. 2021 May 15;287:125-37. Available from: <https://doi.org/10.1016/j.jad.2021.03.027>
23. Anand T, Nitpolprasert C, Kerr SJ, Muessig KE, Promthong S, Chomchey N, Hightow-Weidman LB, Chaiyahong P, Phanuphak P, Ananworanich J, Phanuphak N. A qualitative study of Thai HIV-positive young men who have sex with men and transgender women demonstrates the need for eHealth interventions to optimize the HIV care continuum. AIDS care. 2017 Jul 3;29(7):870-5. Available from: <https://doi.org/10.1080/09540121.2017.1286288>
24. Ardani I, Handayani S. Stigma terhadap orang dengan HIV/AIDS (ODHA) sebagai hambatan pencarian pengobatan: Studi Kasus pada Pecandu Narkoba Suntik di Jakarta. Buletin Penelitian Kesehatan. 2017 Jun;45(2):81-8. Available from: <http://dx.doi.org/10.22435/bpk.v45i2.6042.81-88>
25. Wei L, Yan H, Guo M, Tian J, Jiang Q, Zhai M, Zhu B, Yin X, Liao Y, Yu B. Perceived HIV Stigma, Depressive Symptoms, Self-esteem, and Suicidal Ideation Among People Living with HIV/AIDS in China: a Moderated Mediation Modeling Analysis. Journal of Racial and Ethnic Health Disparities. 2022 Feb 14;1-9. Available from: <https://doi.org/10.1007/s40615-022-01255-0>
26. Putra I, Hakim MZ, Heryana W. Keinginan bunuh diri orang dengan HIV dan Aids (ODHA) dampingan yayasan PKBI DKI Jakarta. Jurnal Ilmiah Rehabilitasi Sosial (Rehsos). 2019 Jul 29;1(1). Available from: <https://jurnal.poltekesos.ac.id/>

- index.php/rehsos/article/view/177
27. Maria A, Sujianto U, Kusumaningrum NSD. The Effects of Acceptance and Commitment Therapy (ACT) on Depression in TB-HIV Co-infection Patients. *J. Ners.* 2020 Apr. 1;15(1):66-71. Available from: <http://dx.doi.org/10.20473/jn.v15i1.17793>
28. Bai Z, Luo S, Zhang L, Wu S, Chi I. Acceptance and commitment therapy (ACT) to reduce depression: A systematic review and meta-analysis. *Journal of Affective Disorders.* 2020 Jan 1;260:728-37. Available from: <https://doi.org/10.1016/j.jad.2019.09.040>
29. Waltz, T. J., & Hayes, S. C. Acceptance and commitment therapy. In N. Kazantzis, M. A. Reinecke, & A. Freeman (Eds.), *Cognitive and behavioral theories in clinical practice.* Guilford Press.; 2010.148–192p. Available from: [https://www.researchgate.net/profile/Thomas-Waltz-2/publication/231181287\\_Acceptance\\_and\\_Commitment\\_Therapy/links/0deec516bfdef03528000000/Acceptance-and-Commitment-Therapy.pdf](https://www.researchgate.net/profile/Thomas-Waltz-2/publication/231181287_Acceptance_and_Commitment_Therapy/links/0deec516bfdef03528000000/Acceptance-and-Commitment-Therapy.pdf)
30. Heydari M, Masafi S, Jafari M, Saadat SH, Shahyad S. Effectiveness of acceptance and commitment therapy on anxiety and depression of Razi Psychiatric Center staff. *Open access Macedonian journal of medical sciences.* 2018 Feb 15;6(2):410. Available from: <https://doi.org/10.3889/oamjms.2018.064>
31. Rauwenhoff J, Peeters F, Bol Y, Van Heugten C. The Brain ACT study: acceptance and commitment therapy for depressive and anxiety symptoms following acquired brain injury: study protocol for a randomized controlled trial. *Trials.* 2019 Dec;20(1):1-0. Available from: <https://doi.org/10.1186/s13063-019-3952-9>
32. Maghsoudi Z, Razavi Z, Razavi M, Javadi M. Efficacy of acceptance and commitment therapy for emotional distress in the elderly with type 2 diabetes: A randomized controlled trial. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy.* 2019;12:2137. Available from: <https://doi.org/10.2147%2FDMSO.S221245>
33. Wicksell, R. K., & Greco, L. A. (2008). *Acceptance and commitment therapy for pediatric chronic pain.* In L. A. Greco & S. C. Hayes (Eds.), *Acceptance and mindfulness treatments for children and adolescents: A practitioner's guide* (pp. 89–113). New Harbinger Publications.