

SUPPORT GROUP EFFECT ON CD4 LEVELS IN PLWHA WHO RECEIVED ART IN UPIPI RSUD Dr. SOETOMO SURABAYA

Widya Nurcahyaningtyas¹, Widodo J Pudjiraharjo², Purwaningsih¹, Erwin Astha Triyono³

¹Master Program in Nurse, Faculty of Nurse, Airlangga University, Surabaya

²Department of Health Administration and Policy, Faculty of Public Health, Airlangga University, Surabaya

³Department of Internal Medicine, Faculty of Medicine, Airlangga University, Dr Soetomo Hospital, Surabaya

ABSTRAK

Orang yang hidup dengan HIV/ AIDS (ODHA) sering mengalami penurunan CD4 meskipun terapi anti retrovirus (TAR) telah diberikan. Salah satu faktor penyebab adalah tekanan psikologis sehingga perawat perlu memberikan intervensi non-farmakologis dengan ART kepada support group penderita HIV/ AIDS dengan tujuan untuk meningkatkan kadar CD4. Namun, pengaruh support group terhadap kadar CD4 pasien HIV/AIDS tidak diidentifikasi sampai sekarang. Tujuan dari penelitian ini adalah untuk menganalisis pengaruh support group terhadap kadar CD4 ODHA yang menerima TAR. Desain penelitian adalah quasi-experimental dengan menerapkan pre-post test control group. Populasi melibatkan semua ODHA yang dirawat di UPIPI RSUD Dr Soetomo Surabaya, di mana 30 orang memenuhi kriteria diambil sebagai sampel terdiri dari 15 orang diklasifikasikan ke dalam kelompok intervensi, sedangkan 15 orang di kelompok kontrol. Selain itu, perbedaan tingkat CD4 antara kelompok intervensi dan kelompok kontrol dianalisis dengan menggunakan ANOVA. Hasil uji statistik menunjukkan bahwa ada perbedaan tetapi tidak signifikan antara pre dan post-test pada kelompok intervensi dengan $p = 0.223$. Ada perbedaan yang tidak signifikan antara pre dan post-test pada kelompok kontrol dengan $p = 0.459$. Ada perbedaan yang tidak signifikan antara delta CD4 pada kelompok intervensi dibandingkan dengan delta CD4 pada kelompok kontrol dengan $p = 0.154$. Kesimpulan dari penelitian ini adalah bahwa adanya dukungan berpengaruh terhadap kadar CD4 ODHA yang mengkonsumsi TAR, tetapi tidak signifikan. Perawat sebagai pendamping kesehatan harus memberikan dukungan dan meyakinkan mereka bahwa untuk meningkatkan kadar CD4, ODHA harus menggunakan TAR. (FMI 2012;48:20-23)

Kata kunci: support group, CD4, ODHA (orang yang hidup dengan HIV/AIDS), terapi anti retrovirus

ABSTRACT

People living with HIV/AIDS (PLWHA) often experience the reduction of CD4 even though ART (anti-retroviral therapy) has been administered. One of its causal factors is psychological distress experienced by them so that nurses need to give non-pharmacological interventions with ART to the support group of HIV/AIDS sufferers aimed to increase CD4 level. However, the influence of support group toward the CD4 level in HIV/AIDS patients is not identified yet up to now. The purpose was to analyze the influence of support group on the CD4 level of PLWHA receiving ART. The design was quasi-experimental by applying pre-post test control group. The population involved all patients living with HIV/AIDS who hospitalized in UPIPI RSUD Dr. Soetomo Surabaya. 30 people were taken as sample including 15 people as intervention group and 15 people as control group. Moreover, the difference of CD4 level between intervention group and control group was analyzed by using ANOVA. The result showed that there was difference but not significant between pre-post test in the intervention group with $p = 0.223$. There was difference but not significant between pre-post test in the control group with $p = 0.459$. There was difference but not significant between delta CD4 in the intervention group compared to delta CD4 in the control group with $p = 0.154$. The conclusion is the influence of support group toward the CD4 level in PLWHA consuming ART, but not significant. Nurses as the health workers should give support and convince them that to increase the CD4 level, PLWHA must take ART. (FMI 2012;48:20-23)

Keywords: support group, CD4, PLWHA (people living with HIV/AIDS), ART

Correspondence: Widya Nurcahyaningtyas, Master Program in Nurse, Faculty of Nurse, Airlangga University, Kampus C, Jalan Mulyorejo, Surabaya, Indonesia

INTRODUCTION

People with Human Immunodeficiency Virus/Acquired Immunodeficiency syndrom (HIV/AIDS) having biological and psychological pressure, and also in psychosocial distress (Komisi Penanggulangan AIDS 2010). That pressure was significantly reduced

immunological status of People Living with HIV/AIDS (PLWHA) that one of them drop in the number of CD4 T-lymphocytes, which in turn affects the physical health status of the patient (Nasronudin 2007). Research in UPIPI in the high risk group that has been declared infected with HIV, most patients experiencing acute stress since the first two hours until two toughest weeks

in the first seven days. Groups of HIV- positive since the first examination and the seventh decline in the number of CD4 (Nasronudin 2007).

Anti-retroviral therapy (ART) is one of the patient management of HIV/ AIDS. Health Minister of the Republic of Indonesia no.1190/Menkes/SK/X/2004 declared that given Tuberculosis and Antiretroviral drugs for HIV/AIDS for free to PLWHA. HIV/AIDS patients in the outpatient hospital UPIPI Dr. Soetomo Hospital from November 2010 until January 2011 decreased CD4 by 85 - 92.5%. Researchers collected data on patients who meet regularly in the group with the use of ART, long drink, and the same compliance obtained from 4 people, 3 people found with CD4 increased, 1 decreased CD4. Patients with decreased CD4 levels less than 200 cells/mm³, having greater risk of serious opportunistic infections, thus the condition of the body continues to decline (WHO 2007).

HIV/AIDS patients sought not decrease immunity (CD4 T-lymphocytes). One of attempt to do is provide a support group. Support group is a psychological intervention that can be given to patients with HIV/AIDS. Psychological interventions can lower psychological distress so as to enhance the immune system in patients with HIV/AIDS (Motivala et al 2003). Research conducted by Goodkin et al (1998), shows that the support group on HIV patients who experienced a loss due to death of people nearby were able to prevent the decline of CD4 and has a positive effect on the immune system. Support group intervention affects the HPA axis . Hypothalamic decreasing secretion of Corticotropin Releasing Factor (CRF) will affect to the pituitary gland, thus lowering the secretion of pituitary Adrenal Cortico Tropic Hormone (ACTH). Decreased ACTH affects the adrenal cortex followed the decline in the amount of cortisol (Smeltzer & Bare 2002). The decrease in cortisol positive effect on the immune system are demonstrated by an increase in CD4 cell count.

CD4 cell decline to respond dangerous if not getting good treatment and care. The entry of HIV in the body is high impact biological stressors. HIV affects all organs of the body including the brain, immune system, visceral organs. Factors affecting the decline of CD4 namely: gender, age, physical and psychological stress, nutrition, pregnancy, acute infection, major surgery, and the use of corticosteroids. decreased social support, support group (Goodkin et al 1998), ARV therapy, and drug compliance. The research problem is that many people living with HIV who received HAART CD4 cell decline. Results are expected to provide information on the effect of support groups on levels of CD4 on people living with HIV who received antiretroviral therapy as a

basis to intervene in people living with HIV (PLHIV) with psychological disorders sake of efforts to reduce distress so as to enhance the immune system of people living with HIV patients.

MATERIALS AND METHODS

Study design was a quasi-experimental with pre - posttest control group design that is prior to receiving treatment, the intervention group and the control group performed to CD4. The intervention group received a treatment support group and ART, while the control group only received ART. The population was patients with HIV/AIDS outpatient UPIPI RSUD Dr. Soetomo Surabaya with inclusion criteria were PLWHIV who received ART line I, outpatient, history adherent on ART, age between 20-55 years old, willing to be a respondent and signed informed consent. Samples were selected with total population sampling techniques.

Data collection CD4 levels, done by examination CD4 that is by taking a blood sample examination is conducted twice, a pre and post treatment in the intervention and control groups. The CD4 level examination done after all the samples collected. Test results can be seen in the levels of CD4 laboratory test result sheet RSUD Dr. Soetomo Surabaya.

Data obtained in the form of changes in CD4 compared between the intervention and control groups were processed with a computer using SPSS 15 for windows using the 95% significance level. CD4 level examination results before and after the intervention group and the control group were analyzed using paired t test, whereas the effect of support groups on levels of CD4 were analyzed using ANOVA. Test of homogeneity in the characteristics of respondents using crosstab Chi - Square test and normality test data using One - Sample Kolmogorov - Smirnov test.

RESULTS AND DISCUSSION

CD4 Levels Differences in PLHIV Who Received ART Before and After Getting Support Group

The results showed an increase in CD4 levels before and after a support group, but the increase was not significant. All intervention respondents totaled 15 people, most showed increased CD4 levels by 12 respondents, while the CD4 levels declined as much as 3 respondents. Respondents who experienced a decline in CD4 levels are respondents who dropped out from the support group. One person from the beginning never

follow the support group, and two others not following the fifth meeting of the support group.

Statistical test results paired t test showed p-value (0.223) > ? (0.05), which means there is no difference between the pre and post support group, but when viewed from the mean between the pre and post support group and from a comparison of the value of CD4 levels directly between pre and post in majority intervention respondents group had increased CD4 levels were 12 respondents of the total respondents in intervention group. This increase is not significant, so statistical tests were found no difference between pre and post.

Implementation support group that may make no significant increase in CD4 cell is the frequency, depth to absorb the information, the less involvement in the implementation of the support group. Implementation support group frequency only performed in 2 months, eight sessions once a week. This frequency is still lacking, as more and more frequency in support group interactions, the more respondents learn from the experience of people with the same problem to solve the problem. The depth to absorb information is an important factor for the implementation of the support group, no conclusions/justifications and assistance from therapist. Observer in support group meetings only tasked to supervise the content of the meeting and documenting. The involvement of the respondents also included an important factor, which in this study proved that the respondents who dropped out of the implementation of the support group decreased CD4 levels.

Support group should be implemented in accordance with the stages that opening, group business, check in time, introducing the topic, defining and discussing, personal sharing, group process, feedback, and closing, but at the fifth meeting leaders did not carry out duties in accordance with the standard operating check -in time stage and defining and discussing was not implemented. Another possibility factors that cause an increase in CD4 levels were not significant in this study is the implementation of a support group only makes the cognator not until the regulators involving the endocrine system in brain where the regulator's behavior is the output of the regulator system.

The results of this study do not support/contrast with studies of Goodkin et al (1998) which states that the provision of a support group for HIV patients who experienced a loss due to death of people nearby were able to prevent the decline of CD4 and has a positive effect on the immune system through the HPA axis which will be captured by the limbic system that effect an increase in cortisol. Increased cortisol positive effect

on improving the immune system. Decrease immune system response in PLWHA can give harm response if not getting good treatment and care. Nasronudin (2007) suggested that the decrease in CD4 T-lymphocytes resulting in decreased immune system and patients are increasingly susceptible to various diseases secondary infections as well as the more progressive disease course towards AIDS.

CD4 Levels Differences in PLHIV Who Received ART Before and After Without Support Group

The results showed a decrease in CD4 levels before and after without any support group, but from all respondents in control group there were 6 respondents had increased CD4 levels. The results of the statistical test using the paired t test showed p-value (0.459) > ? (0.05), which means there is no difference in CD4 levels between groups of PLWHA who received ART before without any support groups and groups of PLWHA who received ART after without any support group, but when viewed from the mean between the pre and post can be said that there are differences in CD4 levels on PLWHA who received ART before without any support groups and PLWHA who received ART after without any support group.

Many factors affect CD4 levels include gender, age, physical and psychological stress, nutrition, pregnancy, acute infection, major surgery, the use of corticosteroids, and decreased social support. Some of the factors that affect CD4 controlled by the researcher through the determination of the inclusion and exclusion criteria of gender, age, pregnancy, acute infection, and corticosteroid use, but there are factors that cannot be controlled such as nutrition, stress levels, a history of surgery and the level of social support so these factors affect CD4 levels in the control group. This is evident from the increase in CD4 to 6 control group respondents.

CONCLUSION

There were no significant differences CD4 levels in PLWHA who received ART before and after support group. There were no significant differences CD4 levels in PLWHA who received ART before and after without any support group. There is no effect support group on CD4 levels to PLHA who received ART.

REFERENCES

Goodkin K, Feaster DJ, Asthana D, Blaney NT, Kumar M, Baldewicz T, Tuttle RS, Maher KJ, Baum MK,

- Shapshak P, Fletcher MA (1998). A bereavement support group intervention is longitudinally associated with salutary effects on the CD4 cell count and number of physician visits. *Clin Diagn Lab Immunol* 5, 382-391
- Komisi Penanggulangan AIDS (2010). Pendekatan Holistik Pasien HIV/AIDS. Available from www.aidsindonesia.or.id. Accessed January 21, 2011
- Motivala SJ, Hurwitz BE, Llabre MM, Klimas NG, Fletcher MA, Antoni MH, LeBlanc WG, Schneiderman N (2003). Psychological distress is associated with decreased memory helper T-cell and B-cell counts in pre-AIDS HIV seropositive men and women but only in those with low viral load. *Psychosom Med* 65, 627-635
- Nasronudin (2007). HIV & AIDS: Pendekatan Biologi Molekuler, Klinis dan Sosial, Surabaya, Airlangga University Press
- Smeltzer SC and Bare BG (2002). Buku Ajar Keperawatan Medikal Bedah Brunner dan Suddarth, 8th ed, Jakarta, EGC
- WHO (2007). Laboratory Guidelines for Enumerating CD4 T Lymphocytes in the Context of HIV/AIDS, New Delhi, World Health Organization, p 8