

# The Role of Patient Characteristics and Group Support to Adherence Treatment in People with HIV/AIDS (PLWHA) in Cirebon City

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**Abstract**—The success of antiretroviral (ARV) treatment is inseparable from the patient's adherence in treatment. The level of non-adherence with taking ARV drugs is still high in Indonesia, which is around 21.03%. This study aims to analyse the role of patient characteristics, family support and peer / peer support for treatment adherence in people with HIV / AIDS (PLWHA) in the city of Cirebon. This study uses an observational study method with cross sectional design to see the factors that play a role in the level of adherence with treatment in PLWHA. Data collection is done by simple random sampling. The number of respondents was 108 people PLWHA from RSUD Gunung Jati city of Cirebon. The results of multivariate analysis with logistic regression showed that the factors most contributing to treatment adherence with PLWHA were peer support (p value = 0.008 and OR = 4.748), family support (p value = 0.019 and OR = 5.386) and age (p value = 0.074 and OR = 2.753). The conclusion drawn from this study is the role of group support, family support and young age for adherence to treatment for PLWHA in Cirebon.

**Keywords:** *adherence, family support, peer support, age, ARV, PLWHA*

## I. INTRODUCTION

Indonesia is a developing country which has of AIDS patients with 232,323 people with HIV and 86,780 people with AIDS [1]. While HIV / AIDS in the city of Cirebon has of 795 people. However, data shows that HIV / AIDS patients taking ARV treatment are only 471 people [2]. ARV treatment will be considered significant if it is in line with adherence to taking ARVs, attention to health and overcoming the side effects of ARVs. These factors make ARV therapy effective and regain appropriate health [2,3]. ARV is the only treatment that consists of 3 or more types of drugs that are proven effective, with 95% will provide an optimal response. But if there is a low level of compliance can lead to failure virology [4].

Compliance is a major factor in the success of ARVs, supported by the formation of a peer support. People with HIV / AIDS (PLWHA) [5-8]. Implementation of support groups is expected to reduce morbidity and mortality [9]. The role of peer support also contributes to the services provided to HIV patients, even from the onset of the epidemic [10]. Peer support

in this case also include support groups with HIV positive, who will be a "partner" for other members, for individuals and groups who form support during meetings or telephone calls [11].

Research data in Indonesia found that the factors influencing non-compliance with treatment include psychological factors experienced by patients during the past week, psychological factors experienced by patients during the past month and side effects of drugs that significantly influence the level of non-compliance with ARV therapy in PLWHA patients [12]. This effect has to do with the patient's ability to consistently comply with and the correct regimen in his treatment. Thus, the application of peer support groups in HIV care must be consistent with WHO's policy on promoting the role support group, if there is consistency in this case it will be the right solution [13,14]. The accuracy in the promotion of support groups that are also part of WHO policy, is considered not entirely appropriate. Research data shows the utilization of available services and information for support groups must be further improved [15-17]. So it will not have a negative impact on quality of life [18,19]. Monitoring adherence to treatment is very important for HIV patients so that interventions can be identified that will be recommended for the sustainability of PLWHA [20]. This research is expected to build the effectiveness of peer support, so that they can improve management and provide life for HIV patients.

## II. RESEARCH METHODS

Analytic observational research with cross sectional design. The research site was conducted at Gunung Jati Regional Hospital, Cirebon City. Simple random sampling with 108 respondents. The variables studied included patient characteristics consisting of age, sex, education, occupation and income, besides the chosen variables were distance, family support and peer / peer support. The questionnaire used in previous studies was tested for validity and reliability. Data analysis for this study uses univariate analysis to see the frequency distribution of variables, and bivariate analysis with Chi square test and multivariate analysis with logistic regression test.

**III. RESULTS**

Gunung Jati Regional Hospital is one of the hospitals owned by the Cirebon City Government in the form of a General Hospital. This Regional Hospital is managed by the Cirebon City Regional Government and is included in the Class B Hospital classification. HIV / AIDS services in Gunung Jati Regional Hospital are conducted at Seroja clinic. Since the beginning of 2008, researchers have been assisted by

clinical doctors, nurses, administrative officers and assistants with HIV / AIDS. Researchers get a sample of 111 people with HIV / AIDS who have undergone treatment at the Hospital, of 111 patients only 108 people who were used as research samples, the rest is because something is not included as a research sample. Basic data is obtained from medical records in seroja clinics, researchers distribute questionnaires and interviews directly with people with HIV / AIDS.

**TABLE I. BASELINE CHARACTER RESPONDENT**

Variable	Category	Adherence				OR	95 % CI		P value
		Non-adherence		Good adherence			Min	Max	
		N	%	N	%				
Age	Young age	10	5,6	10	14,4	2.351	0.721	7.666	0.014
	Middle age	20	24,4	68	63,3				
Gender	Woman	12	13,1	35	33,9	0.385	0.102	1.455	0.647
	Man	18	16,9	43	44,1				
Level of Education	No formal education	8	7,8	20	20,2	1.274	0.369	4.403	0.913
	Tertiary education	22	22,2	58	57,8				
Employment status	unemployed	9	8,3	21	21,7	1.651	0.399	6.840	0.749
	Employed	21	21,7	57	56,3				
Area of residence	urban	17	15,3	38	39,7	1.023	0.369	2.837	0.459
	Rural	13	14,7	40	38,3				
Family support	Low support	8	3,3	4	8,7	6.140	1.379	27.336	0.001
	Support	22	26,7	74	69,3				
Peer support group	Low support	10	4,7	7	12,3	4.788	1.322	17.346	0.002
	Support	20	25,3	71	65,7				

Data Table 1 as follows: Young age <30 years by 21 people (19.4%), aged > 30 years by 87 (80.6%), many respondents are elderly. Female gender is 46 people (42.6%), men are 62 people (57.4%), male respondents are more numerous. Low education is 29 people (26.9%), secondary / higher education is 79 people (73.1%), secondary / higher education is more as respondents. Respondents did not work for 29 people (26.9%), respondents who worked for 79 people (73.1%), respondents worked more. Respondents with low incomes of 102 people (94.4%), respondents with middle and upper income of 6 people (5.6%), respondents with low incomes are more dominant. Distance travelled > 5 km by 54 people (50%), respondents with close distance <5 km by 54 people (50%), respondents were as many with both long distance and distance from the Hospital.

Respondents who lack family support for 12 (11.1%), and respondents who have received the support of a family of 96 (88.9%), the majority of respondents support the family. Respondents who did not receive the support of a group of 18 people (16.7%), and the support group of 90 people (83.3%), the majority of respondents support groups. Respondents who were not compliant to take ARV medication were 30 people (27.8%), and those who were compliant to take ARV medication were 78 people (72.2%). Most respondents complied with taking ARV drugs. The level of non-compliance with taking ARV drugs is 27.8% in the city of Cirebon, this shows the value of non-compliance is greater than the national level of 21.03%.

**TABLE II. MULTIVARIATE FACTOR MEDICATION ADHERENCE**

Variable	Score	Df	Sig.
Age	1,948	1	0,163
Education background	0,145	1	0,703
Employment	0,483	1	0,487
Area of residence	0,002	1	0,964
Gender	2,143	1	0,143
Family support	5,449	1	0,020
Peer support	5,669	1	0,017

Table 2 shows the relationship between age and adherence to taking ARV drugs in Gunung Jati Hospital Cirebon, Cirebon City with a p value of 0.002. The relationship between family supports with medication adherence with a p value of 0.001. The relationship between group supports with medication adherence with a p value of 0,000. The three variables above have p values below <0.05 which means there is a relationship between the two variables.

Whereas for other variables such as gender, education, occupation, income and distance there is no relationship with the level of adherence to take ARV drugs in Gunung Jati Regional Hospital with p value > 0.005, p values are respectively 0.222, 0.325, 0.489, 0.379 and 0.335. There are four variables related to adherence to taking ARV drugs in RSUD Gunung Jati city of Cirebon, namely age, sex, family support and peer / peer support, all three have p <0.25. These four variables are included in the multivariate analysis modelling. The variables that play a role in the compliance of ARV treatment at Gunung Jati Hospital in Cirebon, ranging from the strongest to the weakest are group support, family support and age.

#### IV. DISCUSSION

The results from this study could be an additional scope for developing countries regarding group support to ensure increased adherence to treatment of HIV patients and minimize treatment resistance related to the failure of ART treatment. The analysis shows that the younger age group has a higher level of significance of treatment failure, this result can be made possible due to lack of adequate information about ART, so the usefulness of ART is less effective in HIV patients. Research data show no significant analysis of education levels, so education levels may not affect the background of group support. Family support shows a meaningful analysis, these results are also portrayed in the interview process, that is, parents or family generally help ART patients to provide support and remind in taking ARV drugs from the interview results also documented that patients taking ARV drugs who live at home, but if people the elderly has died, who support in this study are younger siblings.

Group support also has a positive effect on HIV patient compliance, this is supported by interactions between peer support group members, this is supported by previous research that 89.9% of peer support helps HIV patients in sharing and increasing knowledge and experience regarding the importance of taking drugs with sustained effect. The statement in question is that activities in peer support should not be stopped, because if stopped will have a role in the psychosocial of HIV patients, so that it can affect the ARV treatment process [21-24]. This statement can also be linked to the analysis of education in this study that education has no significant difference, because education itself has a short effect compared to interactions with peer support [25]. Both must run in a balanced way so that they can have a long effect.

#### V. CONCLUSIONS

There are factors that most influence the level of patient adherens taking ARV drugs are family support, group support and age

#### REFERENCES

- [1] Ditjen P2P Kemenkes RI, Laporan situasi perkembangan HIV & AIDS di Indonesia Oktober – Desember 2016, Jakarta, 2016.
- [2] Dinkes Kab Cirebon, Laporan kasus HIV/AIDS Kabupaten Cirebon. Pencegahan dan Pengendalian Penyakit, Cirebon, 2017.
- [3] United Nations Economic and Social Commission for Asia and Pacific (UNESCAP), HIV and AIDS in Asia and the Pacific: A review of progress towards Universal Access, Bangkok: UNESCAP, 2009.
- [4] World Health Organization (WHO), Regional Office for South-East Asia, HIV / AIDS in the South-East Asia Region 2009, New Delhi: WHO Regional Office for South-East Asia, 2009.
- [5] S.A. Olowookere, A.A. Fatiregun, J.O. Akinyemi, A.E. Bamgboye, and G.K. Osagbemi, "Prevalence and determinants of nonadherence to highly active antiretroviral therapy among people living with HIV/AIDS in Ibadan, Nigeria," *The Journal of Infection in Developing Countries*, vol. 2, no. 05, pp. 369-372, 2008.
- [6] J. Burrage and A. Demi, "Buddy Programs for People Infected With HIV," *Journal of the Association of Nurses in AIDS Care*, vol. 14, no. 1, pp. 52-62, 2003.
- [7] P. Marino, J.M. Simoni, and L.B. Silverstein, "Peer support to promote medication adherence among people living with HIV/AIDS: The

- benefits to peers," *Social Work in Health Care*, vol. 45, no. 1, pp. 67-80, 2007.
- [8] United Nations, *Caregiving in the context of HIV/AIDS*, (EGM/ESOR/2008/BP.4), Geneva: UN, 2008.
- [9] C.R. Tobias, S. Rajabun, J. Franks, S.B. Goldenkranz, D.N. Fine, B.S. Loscher-Hudson, and S.M. Coleman, "Peer knowledge and roles in supporting access to care and treatment," *Journal of community health*, vol. 35, no. 6, pp. 609-617, 2010.
- [10] J.M. Simoni, K.M. Nelson, J.C. Franks, S.S. Yard, and K. Lehavot, "Are peer interventions for HIV efficacious? A systematic review," *AIDS and Behavior*, vol. 15, no. 8, pp. 1589-1595, 2011.
- [11] Centers for Disease Control and Prevention, *Compendium of evidence-based interventions and best practices for HIV prevention 2016, 2017*. [Online] Retrieved from: <http://www.cdc.gov/hiv/prevention/research/compendium/tr/complete.html>.
- [12] G.G. Fungie and L. Mulyaningsih, *Kepatuhan pengobatan antiretroviral pada pasien HIV/AIDS di RSUD prof. Dr. Margono Soekarjo Purwokerto (Tesis)*, 2013.
- [13] World Health Organization, *Task shifting: Global recommendations and guidelines*, Geneva: World Health Organization, 2008.
- [14] UNAIDS, *The greater involvement of people living with HIV (GIPA). UNAIDS policy brief*, Geneva: UNAIDS, 2007.
- [15] World Health Organization, *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: Recommendations for a public health approach. 2nd ed*, Geneva: World Health Organization, 2016.
- [16] Network of People Living with HIV/AIDS in Nigeria, *HIV leadership through accountability: Planning and review meeting of networks of people living with HIV and civil society partners*, Abuja, Nigeria: NEPWHAN, 2011.
- [17] D. Garmaise, *New funding for Nigeria HIV grants will focus primarily on treatment, 2013*, [Online] Retrieved from: [www.aidspace.org/gfo\\_article/newfunding-nigeria-hiv-grants-will-focus-primarily-treatment](http://www.aidspace.org/gfo_article/newfunding-nigeria-hiv-grants-will-focus-primarily-treatment).
- [18] J.B. Nachege, C. Morroni, J.M. Zuniga, R. Sherer, C. Beyrer, S. Solomon, and J. Rockstroh, "HIV-related stigma, isolation, discrimination, and serostatus disclosure: a global survey of 2035 HIV-infected adults," *Journal of the International Association of Physicians in AIDS Care*, vol. 11, no. 3, pp. 172-178, 2012.
- [19] E. Shacham, N. Rosenburg, N.F. Önen, M.F. Donovan and E.T. Overton, "Persistent HIV-related stigma among an outpatient US clinic population," *Int J STD AIDS*, vol. 26, no. 4, pp. 243-50, 2015.
- [20] E. Monjok, A. Smesny, I.B. Okokon, O. Mgbere and E.J. Essien, "Adherence to antiretroviral therapy in Nigeria: an overview of research studies and implications for policy and practice," *HIV/AIDS*, vol. 2, pp. 69, 2010.
- [21] A. Asra, A.P. Utomo, M. Asikin, and N.H. Puspongoro, *Analisis Multivariate suatu pengantar*, Bogor: In Media, 2017.
- [22] E. Wouters, N. van Damme, F. van Loon, D. Van Rensburg, and H. Meulemans, "Public-sector ART in the Free State Province, South Africa: community support as an important determinant of outcome," *Social science & medicine*, vol. 69, no. 8, pp. 1177-1185, 2009.
- [23] M. Coker, M.A. Etiebet, H. Chang, G. Awwal, J. Jumare, B. Maiyaki Musa, and M.E. Charurat, "Socio-demographic and adherence factors associated with viral load suppression in HIV-infected adults initiating therapy in northern Nigeria: a randomized controlled trial of a peer support intervention," *Current HIV research*, vol. 13, no. 4, pp. 279-285, 2015.
- [24] O.H. Chime, S.U. Arinze-Onyia, and C.N. Obionu, "Do peer support groups have an effect on medication adherence? A study among people living with HIV/AIDS in Enugu State, Nigeria," *Proceedings of Singapore Healthcare*, vol. 27 no. 4, pp. 256-264, 2018.
- [25] J.M. Simoni, D. Huh, P.A. Frick, C.R. Pearson, M.P. Andrasik, P.J. Dunbar, and T.M. Hooton, "Peer support and pager messaging to promote antiretroviral modifying therapy in Seattle: a randomized controlled trial," *JAIDS Journal of Acquired Immune Deficiency Syndromes*, vol. 52, no. 4, pp. 465-473, 2009.