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THE ROLE OF SOCIAL CAPITAL ON TREATMENT COMPLIANCE IN HIV-AIDS PATIENTS

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ABSTRACT

Lack of medication adherence in HIV-AIDS patients results in serious complications and even death. A social network approach is needed to improve medication adherence behavior. The purpose of this study was to determine the relationship between social capital and medication adherence in HIV-AIDS patients in the Kediri area. Eighty respondents were obtained using a *purposive sampling technique* with the inclusion criteria of HIV-AIDS patients aged 10 to 750 years, cooperative and communicative, and able to read and write. The instrument used to measure social capital and medication adherence was a questionnaire with a reliability and validity of Cronbach's Alpha at 0.8. Data analysis used the Spearman rank test with a significance level of 0.05. The results showed a relationship between social capital and medication adherence in HIV-AIDS patients with a very strong correlation value (r = 0.811). Efforts are needed to increase social capital from various aspects of the social network to improve medication adherence in HIV-AIDS patients.

Keywords: social_capital, compliance, treatment, HIV-AIDS

INTRODUCTION

Human Immunodeficiency Virus (HIV) or Acquired Immunodeficiency Syndrome (AIDS) has become a global issue in various countries to date because it is one of the leading causes of death and requires serious attention. Since the beginning of the epidemic, 84.2 million (64.0-113.0 million) people have been infected with the HIV virus and approximately 40.1 million (33.6-48.6 million) people have died from HIV. Globally, 38.4 million (33.9-43.8 million) people were living with HIV at the end of 2021. An estimated 0.7% (0.6-0.8%) of people aged 15-49 years worldwide were living with HIV, although the burden of the epidemic continues to vary between countries and regions (Kemenkes, 2020). Prevention efforts continue to be carried out by involving cross-program and cross-sectoral to achieve the Sustainable Development Goals (SDGs) which have a target to end the HIV/AIDS epidemic by 2030. This will be achieved when the number of new HIV infections and AIDS-related deaths decreases by 90% between 2010 and 2030 (Kemenkes, 2022).

HIV incidence is decreasing, but AIDS-related deaths are increasing. To reduce the trend of AIDS-related deaths, the main challenges faced by HIV prevention and control programs are early case detection, increased ARV initiation, retention of people on ARV treatment and adherence, and improved ARV availability and distribution. The main strategy for HIV prevention and

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control is to achieve the Triple 95s or 95-95-95 by 2030, namely: 95% of people living with HIV know their status, 95% of people living with HIV are on ARVs, and 95% of people living with HIV on ART are virally suppressed (Kemenkes, 2020).

Problems related to HIV/AIDS are a serious problem throughout the world, because the number of HIV/AIDS sufferers will continue to increase (Valdiva, Kristoper P.Fennie, Linda Larkey, Nan Hu, 2020). HIV/AIDS disease in the world is like an iceberg phenomenon where the number of cases currently found could be greater than reported. The growth of HIV/AIDS continues to increase even though various prevention and control efforts have been carried out. The movement of people between regions, the spread of economic development centers, the increase in risky sexual behavior and drug abuse carried out by someone through injections, simultaneously increase the risk of transmission and spread of HIV/AIDS.

Indonesia is still lagging behind in achieving its target of reducing cases. As of December 2022, the first 95 percent target was still at 81%, and only half (41%) had received ARV treatment; while only 19% of people living with HIV (PLHIV) on ARV treatment had viral suppression (Kemenkes, 2022). The number of HIV cases reported from 2005 to March 2021 tended to increase annually. Data on the highest number of AIDS cases were from Papua (25,215), East Java (21,952), Central Java (14,708), DKI Jakarta (10,977), and Bali (10,089). East Java ranks second in Indonesia with the highest number of cases, and there was a 31.9% increase in the 20-29 age group (Ministry of Health, 2022). Based on findings, the number of AIDS cases in Kediri Regency reached 279, an increase from the previous year's 219 cases (Dinas Kesehatan Kabupaten Kediri, 2019).

Efforts to prevent HIV/AIDS complications can be carried out using various approaches. Compliance in accessing treatment services is crucial in the treatment of HIV/AIDS sufferers. Approaches to increasing participation can be implemented through social capital. Coleman, in Islam et al. (2006), defines social capital as consisting of several aspects of social structure that facilitate certain actions by individuals within a group structure (Nugraheni et al., 2022). From several social capital theories, we can identify the definition of social capital as social trust/reciprocity, collective efficacy, participation in voluntary organizations, and mutually beneficial social integration. Social capital generates positive externalities for group members, which can be achieved through shared beliefs, norms, and values, and their influence on expectations and behavior. Shared beliefs, norms, and values emerge from informal forms of organization based on social networks and associations.(Li et al., 2020)

Social capital is a concept that encompasses resources embedded in social relationships, such as mutual expectations, trust, information, and norms, that serve as resources for individuals and facilitate collective action. (Li et al., 2020).Social capital serves as a measure of social determinants that have been accepted to promote public health and population well-being. WHO also suggests measuring *social capital* in different ways to local health policies, such as populations at risk of exclusion, community development, migration and rural revitalization, and major life transitions in general.

According to Berkman and Kawachi (2000), *social capital* can influence an individual's psychosocial status by increasing or decreasing self-esteem and sense of mastery over one's life, which can influence the psychoimmunological regulation of bodily functions (Xiaoyou Su, Joseph T.F. Lau , Winnie W.S. Mak,

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Lin Chen, K.C. Choi, Junmin Song, Yan Zhang, Guanglu Zhao, Tiejian Feng, Xi Chen, Chuliang Liu, Jun Liu, 2013). Active involvement in volunteer groups is a source of social integration that can protect against psychological distress. Peer support group activities can reduce stress and distress by changing the meaning or significance of stress. Membership in voluntary associations makes a significant positive contribution to stress reduction and improved well-being/health. Based on the above background, the role of social capital may play an important role in reducing stigma and psychological stress in HIV/AIDS sufferers. Therefore, researchers will conduct research on the influence of social capital on treatment adherence .

Various studies have shown that social capital has a positive relationship with ARV treatment adherence, mental health, and quality of life in people living with HIV/AIDS. However, most studies have been conducted in developed countries and several African and Asian countries, while research on the influence of social capital on treatment adherence in people living with HIV in Indonesia, particularly in Kediri Regency, is still limited. Differences in sociocultural characteristics, access to health services, and community support may contribute to differences in the influence of social capital on treatment adherence. Therefore, research is needed to analyze the influence of social capital on treatment adherence in people living with HIV in Kediri Regency.

METHOD

The design of this study is correlational analytic with a cross-sectional approach . The study population was HIV-AIDS sufferers in the Kediri area. The sampling technique used purposive sampling with inclusion criteria of HIV-AIDS sufferers aged at least 10 years to the elderly <70 years, cooperative and communicative and exclusion criteria were respondents who were unable to complete the research stages. The sample size in the study was 80 respondents. The instrument used to measure social capital was a questionnaire with indicators: group and network, trust and solidarity, collective action, information and communication, cohesion and inclusion, And empowerment and politics Action. Medication adherence variables consist of self-reported indicators, dispensing, consistency of visits, and pill count . Data analysis used Spearman rank with a significance level of 0.05.

RESULTS AND DISCUSSION

RESULTS

The study showed that the characteristics of respondents were obtained that most respondents (69.2%) were female, the age of most respondents (70.8%) was in the age range of 25-44 years, the education of most respondents (64.6%) was middle, while the characteristics of respondents based on knowledge showed that most (55.4%) had a level of knowledge in the moderate category, and the behavior of efforts to prevent HIV-AIDS transmission was almost half (49.2%) in the good category. The distribution of respondent characteristics is presented in table 1.

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Table 1. Distribution of respondent characteristics

Variables	Amount	%
Gender		
Man	47	58.7
Woman	33	41.2
Age		
Teenagers 10-17 years old	6	7.5
Adults 18-59 years	43	53.7
Elderly ≥60 years	31	38.7
Education		
Base	41	51.2
Intermediate	35	43.7
Tall	4	5.0
Work		
Doesn't work	16	20.0
Farmer	13	16.2
Private	41	51.2
civil servant	10	12.5

Data source : Research data 2024

Based on table 1 , it is known that the majority of respondents (58.7%) are female, most are adults (18-59 years old), most (51.2%) have a basic formal educational background, and private employment status is 41 (51.2%) respondents.

Table 2. *Social capital* of HIV-AIDS sufferers in the Kediri area

Social capital	Frequency (f)	Percentage (%)
Low	5	6.25
Currently	41	50.0
Tall	34	42.5
Amount	80	100

Based on table 2. above, it is known that half (50%) of sufferers HIV/AIDS has social capital category moderate, almost half (42.5%) have moderate social capital and only a small portion (6.25%) have social capital , so that can concluded that respondents own connection in family, network social as well as flavor identity self sufficient.

Table 3. Compliance with HIV-AIDS treatment in the Kediri area

Compliance	Frequency (f)	Presentation
Not obey	15	18.8
Less obedient	37	46.3
Obedient	28	35.0
Amount	80	100

Data source : Research data 202 4

Based on table 3. above, it is known that almost half of the respondents (46.3%) were less compliant with treatment, almost half (35%) were compliant and only a small portion (18.8%) were not compliant with HIV-AIDS treatment.

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Cross-tabulation of the relationship between *social capital* and adherence to treatment of HIV-AIDS sufferers in the Kediri area is presented in Table 4.

Table 4. Cross tabulation of the relationship between *social capital* and adherence to treatment of HIV-AIDS sufferers in the Kediri area.

Social Capital	Treatment Compliance						Total	
	Not obey		Less Compliant		Obedient			
	f	%	f	%	f	%	f	%
Low	5	6.2	0	0	0	0	5	6.2
Currently	10	12.5	30	37.5	1	1.2	41	51.2
Tall	0	0	7	8.75	27	33.7	34	42.5
	15	18.7	37	46.2	28	35	80	100
	P value = 0.000		α = 0.05				r=0.811	

Data source : Research data 202 4

Based on table 4 it can be interpreted that almost half respondents (37.5 %) with compliance treatment not enough obedient have *social capital* category moderate . The analysis results obtained a p-value (ρ-value) = 0.0 00 so that ρ < α = 0.05 which means that H1 is accepted and H0 is rejected, meaning that there is a relationship between *social capital* with compliance treatment for HIV-AIDS sufferers in the Kediri area with a very strong correlation value (r=0.811) , and a positive relationship direction where the higher *the social capital* , the higher the treatment compliance.

DISCUSSION

The study revealed a significant relationship between social capital and treatment adherence among HIV/AIDS patients in the Kediri area. The data showed that half of the respondents (50%) had moderate social capital, and the majority (46.3%) had poor treatment adherence. Social capital plays a crucial role in HIV/AIDS treatment in various ways, particularly in providing emotional support, information, and access to health services.

The results of this study indicate that social capital is significantly associated with treatment adherence in HIV/AIDS patients in Kediri Regency. This finding aligns with the research of He et al. (2021), which found that social capital influences treatment adherence and mental health in older adults living with HIV in China. This study emphasized that individuals with strong social networks and community support tend to have better treatment adherence than those with low social capital (He et al., 2021). However, He et al.'s study was conducted in an elderly population, while this study predominantly involved the productive age group (18–59 years old) who face different challenges such as work demands, high mobility, and limited time to access healthcare.

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Furthermore, this study differs from the study by Papageorgiou et al. (2022), which focused more on the influence of material deprivation and socioeconomic conditions on HIV clinical outcomes, including adherence to antiretroviral therapy. This study demonstrated that structural factors such as poverty, job instability, and limited access to healthcare contribute to low treatment adherence. In contrast, this study specifically examines social capital as a social resource derived from interpersonal relationships, trust, and social participation in the community, thus providing a different perspective on non-clinical factors influencing treatment adherence.

This study also differs from the study by Fatimah et al. (2026) in Jakarta, which identified various factors associated with ARV therapy adherence in HIV patients, such as education, treatment duration, and family support. That study focused more on individual factors and health service characteristics, while this study develops a broader concept through a social capital approach, encompassing social networks, social trust, community participation, and family support as a set of social resources that can influence the health behaviors of people with HIV/AIDS.

Furthermore, a bibliometric review by Doan et al. (2022) shows that research on HIV and social networks continues to increase globally, as social networks have been shown to play a role in the dissemination of health information, shaping health behaviors, and increasing access to HIV services. However, most research remains conducted at the national level or in countries with more established community support systems. Therefore, this study makes a novel contribution by providing empirical evidence from the district level in Indonesia, specifically Kediri Regency, which has distinct sociocultural characteristics and has not been widely studied regarding the relationship between social capital and HIV/AIDS treatment adherence.

Based on research data, the majority of respondents (48.7%) were male. *Social capital* is a multifaceted concept, although its core principles apply to everyone. The approach to social cohesion differs between men and women (Li et al., 2020). Women have a lower risk of HIV/AIDS than men. This is supported by women's self-efficacy in persuading their partners to use protective equipment for safe sex to reduce the risk or prevent HIV/AIDS (Nugraheni et al., 2022). Although conceptually, it shows no difference in social capital between men and women, namely both building, maintaining, and utilizing their social networks. Previous studies revealed that high social capital in sexually active men and women who make HIV/AIDS prevention efforts is 1.55 times higher than those with low social capital (aOR=1.55; 95% CI=1.11 to 2.16; p=0.009) (Nugraheni et al., 2022).

Research data revealed that the majority (53.7%) of respondents were in the adult age range, namely 18-59 years. Adults are vulnerable to non-adherence to HIV/AIDS Antiretroviral (ARV) treatment due to various complex factors including psychological, social, economic, and structural challenges. It is known that respondents work in the private sector or are employees of companies in the Kediri area. Busy work makes respondents not pay attention to their health needs, including accessing health networks. A previous study conducted on elderly people with HIV-AIDS in China in 2018-2019 revealed that the level of social capital from the community/society was associated with the likelihood of depression (OR: 0.91, 95% CI: 0.84–0.99, $p < 0.001$) but not with the likelihood of anxiety ($p > 0.05$).(Han et al., 2020).

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Adherence is the extent to which medication-taking behavior, use in accordance with health care provider recommendations, adherence to treatment (Hugtenburg et al., 2013)Families are a crucial social network for people living with HIV/AIDS (PLWHA), providing vital emotional, instrumental (financial, practical), and informational support, significantly impacting their mental health, quality of life, and adherence to life-saving antiretroviral therapy (ART), although fear of stigma can sometimes limit disclosure and support. These networks help patients cope, improve treatment outcomes, and empower them, making families essential partners in HIV care. The results of previous research stated that there was a relationship between family support for pregnant women with HIV in consuming ARVs, p value 0.004 (Prasetyo, 2025).

Thus, the novelty of this study lies in examining the relationship between social capital and treatment adherence in people living with HIV (PLHIV) at the local community level in Indonesia. These findings suggest that strengthening social networks, peer support groups, social trust, and family involvement can be important strategies for improving ARV therapy adherence and supporting the achievement of the UNAIDS 95-95-95 targets. From a social capital perspective, families are included in bonding social capital, namely social relationships formed between individuals who share emotional closeness and strong bonds. This form of social capital is considered the most effective in influencing health behaviors due to the trust, intensive communication, and commitment to mutual assistance in addressing health problems (Li et al., 2020).

CONCLUSIONS AND SUGGESTIONS

Research result show There is significant relationship between social capital with compliance treatment for HIV-AIDS sufferers in the Kediri area. Required effort increase social capital from various aspect network social For increase compliance treatment HIV-AIDS sufferers .

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