

# Behavior skills in personal and social treatment of people living with HIV/AIDS in Tulungagung Regency, Indonesia: a cross-sectional correlation study

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## Abstract

**Introduction:** Behavioral skills of people living with HIV/AIDS (PLWHA) in consuming antiretrovirals (ARV) can reduce their morbidity and mortality; however, behavioral skills in ARV therapy are still low. Motivational factor is considered to have an effect on behavior skills. The purpose of this study was to explain the influence of motivational factors on behavioral skills of PLWHA.

**Material and methods:** Descriptive correlational cross-sectional approach was applied as study design. One hundred respondents, who met inclusion criteria were selected through simple random sampling method, and were requested to fill out a questionnaire. Results were analyzed using descriptive analysis and logistic regression test, with a significance value of  $p \leq 0.05$ .

**Results:** In general, there is a significant effect of personal motivation ( $p = 0.000$ ) and social motivation ( $p = 0.016$ ) on behavioral skills. Personal motivation is based on attitudes towards preventive behavior, perceptions of disease susceptibility, benefits, and barriers to preventive behavior, while social motivation is a support provided by family and/ or friends as an assistance during treatment.

**Conclusions:** Behavioral skills of PLWHA consisting of taking medication skills and managing information, are influenced by personal and social motivation. Support from family and friends is an important value that can play a role in achieving optimal motivation for treatment.

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**Key words:** HIV/AIDS, personal motivation, social motivation, behavioral skills.

## Introduction

Drug-taking skills in people living with HIV/AIDS (PLWHA) are an important factor that affects treatment adherence [1]. However, in practice, the skills to take medicines in PLWHA are still low due to several factors, including motivational factor [2]. As many as 38 million people worldwide suffer from HIV/AIDS. Indonesia is one of the countries in Asia with a high-rate of HIV/AIDS infection [3]. East Java

is in the first position of HIV/AIDS cases with 8,885 HIV-positive patients [4], with one of its' regions, Tulungagung Regency, presenting a fairly high HIV/AIDS infection rate (464 cases). The increase in HIV/ AIDS cases that occur every year should be balanced by increased skills in treatment, but lost follow-up (LFU) rate in PLWHA is still quite high (22%) [4].

Motivation in medical skills consists of personal and social motivation. Personal motivation is based on attitudes towards preventive behavior, perceptions of disease susceptibility,

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and benefits and barriers to preventive behavior [5]. Barriers related to individual personal motivation levels include psychological problems, from boredom to depression [6]. Also, social motivation plays a role in individual skills in treatment. The existence of supporting factors, such as family and friends, could improve the skills of PLWHA in carrying out treatment [7]. Information motivation behavior skill (IMB) is a behavior theory that explains that skills in treatment are influenced by motivational factors; if the motivation level is low, the skills in treatment would also decrease [8]. Previous research has explained the influence of motivational factors on medication adherence alone [9], whereas based on the IMB theory, medication adherence can be realized in an optimal level of behavioral skills and in accordance with recommendations of skills in managing antiretrovirals (ARVs) and obtaining information. This study aimed to explain the influence of motivational factors on skills in treatment, especially in people living with HIV who are undergoing ARV therapy.

## Material and methods

### Design

Descriptive correlational cross-sectional approach was used in the research. The study was conducted during November 2020 – February 2021.

### Study setting

The study was conducted at the AIDS Prevention Commission in Tulungagung Regency, East Java, Indonesia. It is a rural area in Eastern Java, with a community for HIV prevention and monitoring. This location has second highest HIV prevalence in Eastern Java. The prevalence of HIV patients in this location is high in housewives and women, since many men migrate to work abroad, they bring the virus into the other country. The AIDS Prevention Commission in Tulungagung Regency is a community for prevention and control of HIV.

### Participants

Population in this study were all PLWHA in the district. In KPA data of Tulungagung Regency, they are 134 PLWHA recorded. The sample size used in this study was 100 PLWHA, with the following inclusion criteria: 1) currently undergoing ARV therapy; 2) living with family; 3) between 20 and 60 years old; 4) able to read and communicate; 5) cooperative. The sample selection was performed using simple random sampling technique.

### Data collection

The independent variable in this study was personal and social motivation, while the dependent variable was medication behavioral skills. The research instrument was a questionnaire consisting of demographic questionnaire, personal motivation questionnaire, social motivation questionnaire, and behavioral skills questionnaire.

### Demographic questionnaire

Demographic questionnaire was used to collect demographic data of respondents, such as gender, age, education, occupation, total income, length of HIV/AIDS diagnosis, and duration of treatment.

### Personal motivation questionnaire

Personal motivation questionnaire was applied to measure personal motivation level of PLWHA during treatment, with indicators of perceptions, beliefs, expectations, and obstacles experienced by respondents during treatment. It consists of 10 questions, with a score of 3 for 'strongly agree', and 0 for 'strongly disagree'.

### Social motivation questionnaire

Social motivation questionnaire assessed respondents' social motivation. Social motivation can be obtained from family support and/ or from peers support. This questionnaire consisted of 5 questions, with a score of 3 for 'strongly agree', and 0 for 'strongly disagree'.

### Medication behavioral skills questionnaire

Medication behavioral skills questionnaire consisted of 10 questions that assessed behavioral skills of PLWHA during treatment, indicating behavior to prevent and minimize side effects of treatment, behavior in taking medication according to the rules, and behavior in obtaining information and administering ARVs. The assessment of this questionnaire used a Likert scale, with a score of 3 for 'always', and 0 for 'never'.

### Research procedure

The research procedure started with a permission obtained from KPA of Tulungagung Regency. Then, validity and reliability of questionnaires used was tested. At the time of data collection, the researcher would first explain the objectives and procedures of the study, and then ask each individual to sign an informed consent form to participate in the research. Respondents were asked to answer questions completely in the questionnaires provided, and in accordance with conditions experienced.

### Ethical clearance

This research has received approval from the Nursing Research Ethics Commission (KEPK), Faculty of Nursing, Universitas Airlangga, Surabaya, East Java, Indonesia, on January 30, 2021 with number of 2150-KEPK.

### Data analysis

To analyze the data, descriptive and inferential analysis was applied. In the descriptive analysis, data were grouped based on categories, while in order to analyze the relationship

between personal and social motivation factors and behavioral skills, a logistic regression model was used, with a significant *p*-value of  $\leq 0.05$ .

## Results

### Demographic characteristic

Demographic characteristics of PLWHA in Tulungagung Regency in February 2021 were represented by 100 respondents. The majority of respondents were women ( $n = 71, 71\%$ ) and dominated by 38 (38%) individuals aged 41-45 years. The majority of education level was middle level, amounting to 46 respondents (46%), and the most of currently held jobs were entrepreneurs ( $n = 46, 46\%$ ). The amount of income received ranged between 1-2 million in 48 respondents (48%), and 76 participants (76%) were married. Characteristics data related to HIV status shown that more than half of the respondents were diagnosed with HIV for more than 1-5 years, ( $n = 57, 57\%$ ), and 52 individuals (52%) had been receiving ARV therapy for the last 1-5 years.

### Variable characteristics

Based on Table 1, the personal motivation variable with 69 respondents (69%) were in high category, and 27 respon-

**Table 1.** Description of research variables

Variable/Category	<i>n</i>	%
Personal motivation		
High	69	69.0
Moderate	27	27.0
Low	4	4.0
Total	100	100.0
Social motivation		
High	55	55.0
Moderate	38	38.0
Low	7	7.0
Total	100	100.0
Behavioral skills		
Good	84	84.0
Moderate	16	16.0
Bad	0	0.0
Total	100	100.0

dents showed moderate personal motivation (27%), while the remaining 4 respondents (4%) had personal motivation in low category. In the social motivation data, 55 respondents had high social motivation (55%), 38 participants showed moderate social motivation (38%), and 7 individuals demonstrated low social motivation (7%). In the behavioral skills variable, the majority of respondents were in good category ( $n = 84, 84\%$ ), 16 had behavioral skills in moderate category (16%), and there were no respondents who presented poor behavior skills.

### Relationship between personal and social motivation factors in behavioral skills of PLWHA

Based on the results of the analysis in Table 2, both the personal motivation variable ( $p = 0.000$ ) and the social motivation ( $p = 0.016$ ) provided a significant value, which means that the variables of personal motivation and social motivation had an effect on treatment behavior skills, with a positive relationship. This means the higher the level of personal motivation and social motivation, the higher the skills in the treatment.

## Discussion

Personal and social motivation affects behavioral skills of PLWHA. Personal motivation is based on attitudes towards preventive behavior, perceptions of disease susceptibility, benefits, and barriers to preventive behavior [10]. Positive or negative attitudes towards taking medication behavior, benefits after taking medication, and effects or risks that are felt from the treatment being undertaken [6, 11] including nurses who are in emergency rooms at community health centers, the importance of their experiences is a lesson for nurses to maintain themselves and be effective in providing services. This study aimed to explore the experience of nurses who are in emergency rooms at rural area during the coronavirus disease pandemic. This qualitative research was conducted based on the Nvivo 12 analysis method using in-depth semistructured interviews. Data saturation was reached after 20 interviews were completed. Data collection lasted for 1 month from February to March 2020. Semistructured interviews with 20 nurse participants obtained the following participant characteristics. Eight participants were males and 12 were females with an age ranged from 28 to 43 years (average age 36.4 years). Psycho-social problems, ranging from boredom to depression in undergoing

**Table 2.** Relationship between personal and social motivation factors in behavioral skills

Variable	Logistic regression							Significancy
	SE	Wald	Sig.	<i>d</i>	Exp. (B)	95% CI		
						Upper	Lower	
Personal motivation	5.229	1.406	13.824	1	0.000	186.645	11.853	Yes
Social motivation	1.880	0.781	5.793	1	0.016	6.52	1.418	Yes

ARV therapy, can reduce personal motivation, which in turn would reduce behavioral skills of PLWHA in preventing side effects/drug reactions, taking medication according to the rules, and behavior in obtaining information and managing ARVs [1, 12]. Personal motivation can create a good behavior based on experiences; someone who takes ARVs in early stages of treatment may experience side effects that can reduce skills in taking medication. However, through this experience, patients would experience a more optimal health condition, thus increase their personal motivation and ultimately, influence their own behavioral skills [13].

Social motivation also affects behavior skills of PLWHA. Group support activities provided to PLWHA have significant results in improving behavioral skills or skills in treatment. Social problems faced by PLWHA, including stigma and discrimination, through which some PLWHA are excluded from their community, can affect their motivation to undergo treatment [14]. Social support can be obtained from various parties, such as spouses, family, friends, or healthcare workers. However in practice, PLWHA do not reveal HIV/AIDS status and carry out treatment secretly, which affect their stress level and reduce quality of life as well as affect their skills in treatment [5, 6]. The availability of support that is not optimal and mistakes in providing support can also be factors of low social motivation. As social support, healthcare workers providers are also faced with stigma, because of their role as caregivers for PLWHA [12, 15]. Slightest social support provided to PLWHA can affect behavior skills [16].

Optimal behavior skills are carried out by maintaining personal motivation of PLWHA. In realizing this, assistance from social environment is needed in the form of support from family and/or friends, and through consultation with healthcare workers. Several factors, including marital status, can influence social motivation in PLWHA, where those with a partner are considered to have higher social motivation than PLWHA who are not in a personal relationship. The majority of PLWHA in this study were married, and the results of data collection also showed that PLWHA presented high social motivation. Social support provided by spouses and families would affect the perception of treatment of PLWHA; ARV drugs must be taken for life can cause boredom, stress, and even depression. In such conditions, social support from family and/or friends is needed, so that PLWHA would continue taking medication.

## Conclusions

Personal and social motivation affect behavioral skills of PLWHA. Optimal behavior skills would help PLWHA in maintaining adherence to treatment, so that they do not experience withdrawal. In maintaining optimal motivation, family and friends support is needed. Healthcare workers also have a role in increasing motivation of PLWHA by holding various support group activities, and educating families about the importance of providing assistance to PLWHA who are undergoing treatment.

## Conflict of interest

The authors declare no conflict of interest.

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