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# RELATIONSHIP BETWEEN SELF-EFFICACY IN MANAGING HIV TEST RESULTS AND UTILIZATION OF HTC SERVICES AMONG UNIVERSITY STUDENTS IN NAKURU COUNTY, KENYA

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**Abstract**

*The utilization of HTC services has been low especially among the youth, who include University students. Many reasons have been advanced to explain this trend including negative perceptions associated with HTC services, HIV/AIDS-related stigma, discrimination and fear of a positive HIV test result. However little focus has been made on Psychological barriers to utilization of HTC services thus the purpose of this study was to establish the psychological factors related to utilization of HTC services. The psychological factor under focus in this study comprised of self-efficacy in managing HIV test results. Descriptive survey research design was used while purposive and proportionate random sampling technique was used to obtain a sample size of 310 undergraduate students from Universities in Nakuru County, Kenya. Questionnaires for students and interview schedule for HTC Counselors were used to collect data. A pilot study was conducted using 15 university students to establish the validity of the study. Reliability of the study was established using the test retest reliability method, where a coefficient correlation of 0.78 was considered appropriate. Descriptive statistics including frequencies, percentages, means and standard deviations were employed to analyze the data. Inferential statistics that included Pearson's correlation coefficient and regression analysis were used to test the hypotheses of the study. SPSS version 23 was useful in analysis of the data at 5 % level of significance. The findings of the study revealed a statistically significant relationship between self-efficacy on managing HIV test results and utilization of HTC services. The study recommended that HIV/AIDS education should include enhancing students' self-efficacy in handing HIV positive results. It should also be tailor made towards behaviour change rather than mere acquisition of knowledge.*

**Keywords:** Self-Efficacy, HIV Test Results, Utilization of HTC Services, University Students

## I. Introduction

HIV testing and counseling (HTC) has been one of the key strategies used in the prevention and control of HIV/AIDS all over the world and can increase the proportion of HIV-infected individuals who are aware of their sero status, and thus remains an important preventive measure in reducing HIV transmission (NACC, 2018). Self-efficacy is the beliefs about one's ability to organize and execute the course of action required to produce given attainments and one of the most important consequences of self-efficacy is its influence on performance (Rodkjaer, Seeberg, Laursen, Dalum and Tolstrup, 2018). Approximately, 35 million people are currently living with HIV/AIDS globally and 70% of all new HIV infections were reported in sub-Saharan Africa (UNAIDS, 2014) .among the youth, 3.9 million aged between 15 and 24 years are living with HIV and 620,000 became newly infected with the virus (UNAIDS, 2014). This number has risen by 28% between 2005 and 2015 (Rahnama, Rampal, Lye and Rahman, 2016). Despite the Government of Kenya setting up policies to mitigate HIV/AIDS, it is ranked second among African countries with the highest national HIV prevalence in sub-Sahara Countries (NACC and NASCOP, 2012).

University going students are a risky groups since they experience increased freedom from parental and school control thus being exposed to environmental influences such as availability of alcohol, drugs of addiction and urban life style of discos and fashion (NACC and NASCOP, 2012). 68% of the students aged 18 to 24 years old, are sexually active with peaks in the first and second years of study (Othero, Aduma and Opil, 2017), and are also vulnerable to HIV infection because of inconsistent condom use especially during the first sexual episode (Museve, George and Labongo, 2016). Free condoms are available in the university dispensers but are less used than those purchased (Shingisai, 2018). Given that the University students are sexually active, they need HTC services which are provided in the Universities and public Hospitals, yet national statistics indicate that only 48% of the youth know their HIV status. The utilization of HTC services has continued to decline to as low as 14.4% (NASCOP, 2012). The rate of HIV counselling and testing among the youth who include university going students is equally low (NASCOP, 2012). A study done by Mwangi, Ngure, Thiga and Ngure (2016) showed that 38.5% of the University students in Kenya had tested for HIV in the last 12 months and students (55.8%) felt less susceptible to HIV infection.

Core principles of HTC consist of individuals receiving; pre counselling that outlines the testing process, risk-behavior assessment, informed consent of each participant which makes testing voluntary, administration of the HIV test, post-test counseling based on the test result(s). HTC services are confidential, meaning anything discussed between the HTC provider and client is not disclosed to a third party and include referrals to appropriate services (NASCOP, 2015). Knowing one's HIV status whether HIV negative or HIV positive, is key to preventing the spread of HIV and accessing counseling and medical care. Some of the key benefits of HTC include: creating awareness of and knowledge about HIV; counseling to identify and reduce risky behaviors; education on HIV prevention strategies; access to and education on correctly and consistently using condoms; linkages to HIV care, treatment and to other relevant services, such as sexually transmitted infection treatment, family planning, prevention of mother-to-child transmission and planning for the future programs (Yahaya, Jimoh and Balogun, 2017).

## II. Objective of the Study

To determine the relationship between self-efficacy in managing HIV test results and utilization of HTC services among university students in Nakuru County.

## III. Hypothesis

$H_O1$: Target Self-efficacy in managing HIV test results has no statistically significant relationship with utilization of HTC services among university students in Nakuru County.

## IV. Literature Review

### Self-Efficacy on Managing HIV Test Result and Utilization of HTC services

Self-efficacy is the belief in one's ability to perform a specific behavior. Individuals with high self-efficacy are able to motivate themselves and to persevere when difficulties arise; are less vulnerable to stress and should be more resilient after aversive stimuli (Madebwe, Crescentia, Lilian and Kudakwashe, 2018). However, rather than self-efficacy promoting behavior, it can also lead to overconfidence and thus reduce performance over time

**Self-efficacy in Managing HIV Negative Test Results and Utilization of HTC Services**

Coping has been the focus of research in the social sciences for a long time and is understood as a complex multidimensional process that is sensitive to the environment and to personality dispositions that influence the appraisal of stress and coping resources (NACC, 2016).When people achieve a good 'fit' between stressful events and their coping strategies, they experience fewer psychological symptoms than when there is a lack of fit (NACC, 2016). Specifically, a person's belief in their efficacy determines which knowledge they acquire and thus on which foundation they base their skills. This also determines the likelihood that knowledge and skills will be translated into adaptive behaviors (Rodjkaer et al., 2018)

Self-efficacy for HIV testing may be associated with increased odds of "ever having been tested for HIV. It is most likely that self-efficacy for HIV testing is the outcome of a previous HIV testing experience, rather than being causal to it (Addis, Yalew, Shiferaw, Alemu, Birhan and Mathewose, 2017). This suggests that past experience of HIV testing and getting a negative result may enhancing individual's self-efficacy and lead to future HIV testing behavior. Disclosure is usually a challenge and making the decision to disclose one's status and the act of doing so may be sources of stress for some, while sharing one's positive status may be a coping mechanism for others (NASCOP, 2017)

A number of reports have revealed close relationships between self-efficacy and specific behaviors. High perceptions of self-efficacy are positively related to reduction in HIV risk behaviors, condom use, and negotiation for condom use. Similarly, adherence self-efficacy predicts adherence behavior over and above any other cognitive processes (Maimaiti, Hamsuddin, Abdurahim, Tohti and Memet, 2016). However, there is little evidence that explores the association between disease management self-efficacy and health-related outcomes. It is hypothesized that high sense of disease management self-efficacy leads to better adherence and improved quality of life. (Li.X,. Wang, Huang and Liu, 2016).

**Self-efficacy in Managing HIV Positive Test Results and Utilization of HTC Services**

Negative beliefs in one's own ability to manage HIV positive test results is not the same as low negative beliefs about oneself to utilize HTC services as defined by Feni and Laas (2016). The latter reflect more general assumptions and refer to a wide domain of human functioning. In contrast, Self-efficacy in managing HIV positive test results reflects the beliefs of being able to master challenging demands specifically related to the utilization of HTC services by means of adaptive action. We argue that these general negative beliefs will reduce fear and anxiety that affect utilization of HTC services. General cognitions like self-efficacy operate through more context-specific cognitions or task and in that indirect way affect performance (Rodjkaer et al., 2018)

HIV is now termed as a chronic disease due to the availability of drugs that prolong life and allow a higher quality of life for many people infected with HIV (UNAIDS,2016) Nonetheless, it remains a stressful and demanding condition. Psychological disorders and Psychiatric conditions are however common among those infected with HIV. A diagnosis of HIV infection is usually a traumatic event, and there is a psychological and emotional stress associated with HIV infection (UAIDS, 2019).

A previous qualitative study investigated Danish individuals infected with HIV with a focus on HIV-related stressors. The study revealed that each HIV-infected individual had to find the right balance in terms of disclosure that best suited his or her current personal situation (Rodjkaer *et al*., 2018) Three disclosure strategies were identified: living openly (being open about their HIV status, disclosing their status to others); living partly openly (disclosing their

status to more than two people); and living secretly (being closed about their status, disclosing to two people or fewer). Disclosure was an ongoing issue rather than just an issue at the time of diagnosis, and there were turning points or transitions that occurred over the years. (Rodkjaer *et al*., 2018).

Decisions involved in disclosure may lead to a form of chronic stress that can have adverse health consequences (Pappas, Yujiang and Khan 2016). Psychological and physical stress can lead to negative health behaviors such as substance use, overeating, and non-adherence to medical care and refusal to seek HTC services (Gitonga, Sinyard and Gachuiri, 2017). Stress can be as a resulting from an imbalance between demands and resources, or as occurring when pressure exceeds one's efficacy and ability to cope. When there is a good balance between stressful events and coping strategies, there are fewer psychological symptoms than when there is an imbalance (UNAIDS/WHO, 2016).

Specifically, beliefs of personal efficacy determine the acquisition of knowledge on which skills are founded and also determine the likelihood that knowledge and skills will be translated into adaptive behaviors (Shefer, Strebel and Jacobs, 2017). Coping is considered one of the core concepts in health psychology and is strongly associated with the regulation of emotions in response to social and environmental stressors. Coping self-efficacy is rooted in the concept that people need to believe that they can perform a coping behavior in order to effectively engage in adaptive coping behaviors. (Marshall, 2016)
It is import to assess self-efficacy before testing, counseling and providing appropriate in prevention of HIV. The China CARE free ARV program requires assessment of and education about self-efficacy on three occasions prior to initiation HIV care. But this requirement is not rigidly followed in our experiences when collecting data in CARE clinics. (Li X.*et al*., 2016). It is also important to assess and address the role of stigma. Interventions aimed to improve self-efficacy should combine stigma-reduction measures during HTC, so as to achieve optimal prevention and quality of life. Li X.*et al*.,(2016) suggest that, health care providers should also pay attention to the youths psychological needs, and encourage them to communicate with health care providers.

## V. Methodology

The study adopted a descriptive survey research design with purposive and proportionate random sampling techniques being used to obtain a sample size of 310 undergraduate students from Universities in Nakuru County. Questionnaires for students and interview schedule for HTC Counselors were used to collect data. A pilot study was conducted using 15 university students to establish the validity of the study. Reliability of the study was established using the test retest reliability method, where a coefficient correlation of 0.78 was considered appropriate. Descriptive statistics including frequencies, percentages, means and standard deviations were employed to analyze the data. Inferential statistics that included Pearson's correlation coefficient and regression analysis were used to test the hypotheses of the study. SPSS version 23 was useful in analysis of the data at 5 % level of significance.

## VI. Findings

### Self–Efficacy in Managing HIV Test Results and Utilization of HTC services

This objective sought to determine the relationship between self-efficacy in managing HIV test results and utilization of HTC services among University students in Nakuru County. Self-efficacy in managing HIV test results were assessed using a scale with two dimensions namely self-efficacy in managing HIV negative test results and self-efficacy in managing HIV positive test results. This was done using a five likert scale inventory with ten items. The respondents were required to respond to the test items and give their responses based on guided response of Strongly Agree ( 5) Agree ( 4) Not sure (3) Disagree (2) and Strongly disagree ( 1). The findings are presented as follows:

### Self- Efficacy in Managing HIV Negative Test Results

In this subsection data is presented on the levels of managing HIV negative test results among university students.

**Table 1: Level of Self- Efficacy in Managing HIV Negative Test Results**

| Score | Frequency | Mean | Percentage |
|---|---|---|---|
| Very low | 0 | 0.00 | 0.00 |
| Low | 0 | 0.00 | 0.00 |
| Moderate | 32 | 3.04 | 10.32 |
| High | 254 | 2.22 | 81.94 |
| Very high | 24 | 1.41 | 7.74 |
| **Total** | **310** | | **100.0** |

From the results in table 1, majority of the respondents (81.94%) had a high level of self-efficacy in managing HIV negative test results, 10.32% had moderate levels of self- efficacy while a further 7.74% had very high level of self-efficacy in managing HIV negative test results. A further descriptive analysis affirms this.

**Table 2: Descriptive Statistics for Self- Efficacy in Managing HIV Negative Test Results**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Self-efficacy in managing HIV negative test results | 310 | 5 | 17 | 11.21 | 2.20 |
| Valid N | 310 | | | | |

As shown in table 2, results indicate that the lowest score on managing HIV negative test results was 5, while the highest score was 17. The mean score was 11.21$\pm$2.20, which indicates that the university students' level of self-efficacy in managing HIV negative test results was high. As shown in table 4.29, majority 75.2% agreed that they can handle and accept HIV negative results after testing while 47.4% agreed that they can manage to visit a HTC/VCT facility.

**Table 3: Level of Self- Efficacy in Managing HIV Negative Test Results**

| Indicators | SA (%) | A (%) | NS (%) | D (%) | SD (%) |
|---|---|---|---|---|---|
| I can manage to visit HTC/VCT facility | 40.0 | 47.4 | 6.1 | 4.5 | 1.9 |
| I can handle and accept HIV negative results after testing | 13.5 | 75.2 | 6.1 | 2.6 | 2.6 |

**Self-Efficacy in managing HIV Positive Test Results**

In this subsection data is presented on the levels of self-efficacy in managing HIV positive test results among university students. From the results in table 4, majority of the students (55.16%) had very low level of self-efficacy in managing HIV positive test results, 41.61% had low levels of self- efficacy while a further 2.26% had moderate level of self-efficacy in managing HIV positive test results.

**Table 4: Level of Self- Efficacy in Managing HIV Positive Test Results**

| Score | Frequency | Mean | Percentage |
|---|---|---|---|
| Very low | 171 | 2.86 | 55.16 |
| Low | 129 | 2.20 | 41.46 |
| Average | 7 | 1.36 | 2.26 |
| High | 2 | 3.85 | 0.65 |
| Very high | 1 | 5.0 | 0.32 |
| **Total** | **310** | | **100.0** |

A low efficacy in managing HIV positive results may make students fear to find out their HIV status. Results of the means and standard deviations on the self- efficacy in managing HIV positive results equally shows the low self-efficacy in managing HIV positive status. Table 5 summarizes the findings.

**Table 5: Descriptive Statistics for Self- Efficacy in Managing HIV Positive Test Results**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Self-Efficacy on managing HIV positive test results | 310 | 12 | 50 | 24.76 | 4.70 |
| Valid N | 310 | | | | |

As shown in table 5, results indicate that the lowest score on self-efficacy in managing HIV positive test results was 12, while the highest score was 50. The mean score was 24.76$\pm$4.70, which indicates that the students' level of self-efficacy in managing HIV positive test results was low.

**Relationship between Self-Efficacy in Managing HIV Test Results and Utilization of HTC Services**

This section sought to establish the relationship between self-efficacy in managing HIV test results and utilization of HTC services. To achieve this relationship, the following null hypothesis was tested:

$H_{01}$: There is no statistically significant relationship between self-efficacy in managing HIV test results and utilization of HTC services among university students in Nakuru County.

Pearson Product Moment Correlation Coefficient (r) was chosen because the two variables met four critical assumptions (Kothari 2013). The variables are measured either in the interval or ratio scale (continuous),outliers are either kept to a minimum or removed entirely and variables are approximately normally distributed as indicated by a weak linear relationship between the two variables. The first critical assumption was met since the variables were measured using the interval scale. In assessing whether there was a linear relationship between the two variables, a scatter plot of the relationship between self-efficacy in managing HIV test results and utilization of HTC services was plotted. The scatter plot is shown in figure 1

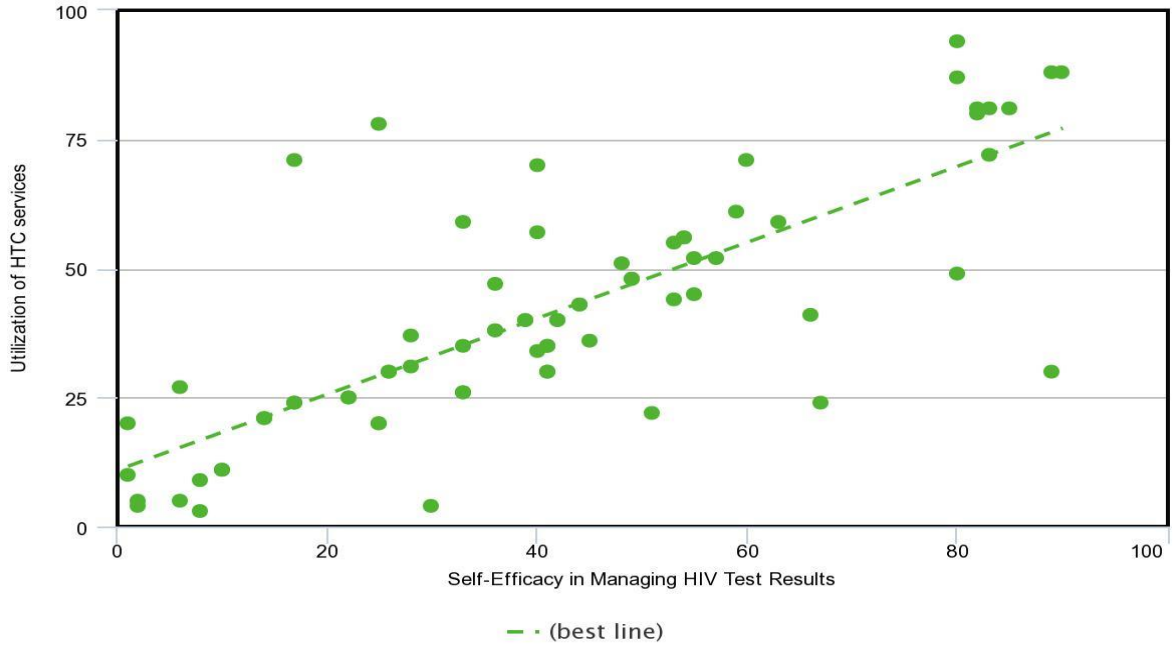


**Figure 1: Scatter Plot Diagram for the Relationship between Self-Efficacy in Managing HIV Test Results and Utilization of HTC Services**

Table 6 shows the result of the Pearson product Moment Correlation Coefficient between self-efficacy in managing HIV test results and utilization of HTC services and its significance tested at 0.05 level. The Pearson's correlation coefficient yielded an r value of 0.69 and a p value of .214. On the basis of $p < .05$, the null hypothesis that stated that there was no statistically significant relationship between Self-efficacy in managing HIV test results and utilization of HTC services among students in university was rejected. This implied that there was a relationship between Self-efficacy in managing HIV test results and utilization of HTC services among students in university. Self efficacy was positively associated with utilisation of HTC services.

**Table 6: Relationship between Self-efficacy in managing HIV Test Results and Utilization of HTC Services**

| | **Pearson Correlation Coefficient** | **Self-Efficacy in Managing HIV Tests** | **Utilization of HTC services** |
|---|---|---|---|
| Self-Efficacy Managing HIV Tests | Pearson Correlation | 1 | 0.690 |
| | Sig. (1 tailed) | . | 0.214 |
| | N | 310 | 310 |
| Utilization of HTC services | Pearson Correlation | -0.690 | 1 |
| | Sig. (1 tailed) | 0.214 | . |
| | N | 310 | 310 |

r = -0.690, Significance at .05

The study further sought to determine whether Self-efficacy in managing HIV test results was an important factor in predicting the utilization of HTC services among students in university. A regression analysis was done. As seen in table 7 an R value of 0.069 was obtained meaning that 6.9% of the times the model is used; it would give the correct prediction of utilization of HTC services among students in university. R Square of 0.005 shows that 0.5% of the variation in utilization of HTC services among students in university is due to variation of Self-efficacy in managing HIV test results.

**Table 7: Regression Analysis Showing Relationship between Self efficacy in Managing HIV test Results and Utilization of HTC Services**

| **Model** | **R** | **R Square** | **Adjusted R Square** | **Std Error of Estimate** |
|---|---|---|---|---|
| 1 | .069a | .005 | 0.003 | .5022 |

a. Predictors: (Constant), Self-efficacy in managing HIV test results

Adjusted $R^2 = 0.003$

The null hypothesis was rejected thus, there existed a statistically significant relationship between self efficacy in managing HIV test results and utilization of HTC services among University students.

## VII. Conclusion

The students' self-efficacy in managing HIV negative test results was high while their self-efficacy in managing HIV positive test results was low. The low self-efficacy in managing HIV positive result hindered the utilization of HTC services among a majority of the students. There was a statistically significant relationship between self-efficacy in managing HIV test results and utilization of HTC services among the students.

## VIII. Recommendation

Based on the findings of this study the HIV/AIDS education should include increasing students' self-efficacy in managing HIV positive results as a strategy of enhancing utilization of HTC services.

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