IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 27, Issue 11, Series 8 (November, 2022) 73-83
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Factors associated with Isoniazid preventive therapy among HIV patients attending comprehensive care clinic at Chuka County referral hospital, Kenya

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Abstract:
Background: Tuberculosis (TB) in humans is caused by bacilli Mycobacterium tuberculosis and Mycobacterium tuberculosis complex. AIDS is an immunodeficiency disease caused by human immunodeficiency virus (HIV) (Mindachew et al., 2014). HIV breaks down the body's defense against infection and immune system by destroying specific white blood cells (CD4 cells) weakening the immune system hence the body cannot fight an illness attack such as tuberculosis (Cook, 2009).
Materials and Methods: A descriptive cross sectional study design adopted with the target population being the zero positive patients attending Comprehensive Care Centre (CCC) services at the facility. Systematic random sampling method used as the sampling technique. Data collection was interviewer administered questionnaire and focused group discussion. Quantitative information was be analysed using SPSS version 25. Chi square method used to test the association between dependent and independent variables. Data presented in tables, pie charts, bar graphs and narrations.
Results: The study found out that there was a significant association between quality of service by the caregiver and Patients who completed medication on Isoniazid Preventive Therapy. Further results showed that there was insignificant association between sex and compliance with IPT. Results showed that there was a significant association between the marital status and compliance with isoniazid preventive therapy (IPT. The study established that there was significant association between the taking of the IPT drug and reason for taking the drug. Further, the study established that there was significant association between the side effects of the IPT drug and compliance to Isoniazid Preventive Therapy among HIV patients attending CCC at Chuka referral hospital. Findings further found that association between friendliness of the Hospital staff was significant. The study found out that association between waiting time at the Hospital and compliance with IPT was significant.
Conclusion: Research showed that association between health education and compliance with IPT was significant. These results were, shared with hospital administration in order to understand factors that contribute to non-adherence to isoniazid preventive therapy, for necessary action to be, taken in order to increase the uptake of isoniazid preventive therapy. These results are, expected to be crucial for HIV/TB collaborative activities in reducing the mortality rate, morbidity rate and mental complications of TB in people living with HIV/AIDS.
Key word: Tuberculosis, HIV, Isoniazid, Therapy

Date of Submission: 14-11-2022 Date of Acceptance: 28-11-2022

I. Introduction

Tuberculosis is the single most prevalent cause of death in those patients with human immunodeficiency virus infection (HIV). The disease remains a major opportunistic infection in people living with human immunodeficiency virus (PLWHIV) (Akolo et al., 2010).HIV breaks down the body's defense against infection and immune system by destroying specific white blood cells (CD4 cells) weakening the immune system hence the body cannot fight an illness attack such as tuberculosis (Cook, 2009).HIV/AIDS epidemic has been the major factor responsible for the TB disease burden in Kenya with tuberculosis being the leading cause of HIV related morbidity and mortality among PLWHIV. In fact, one-third of all acquired AIDS-related deaths are due to TB (Mindachew et al., 2014). The increase in TB cases among PLWHIV has enhanced the risk of TB transmission in the general community regardless of their HIV status (Lawn, 2006).Isoniazid Preventive Therapy (IPT) is, given to prevent the development of latent TB to active TB among PLWHIV, as it is the most common threatening opportunistic infection among the aged people and more among men than women are. Isoniazid preventive therapy given for at least six months at a dose of 10mg/kg up to a maximum dose of 300mg per day. Pyridoxine given alongside isoniazid to reduce the risk of clients developing peripheral

neuropathy as an adverse side effect of the drug (MOH, 2016). Thus, Isoniazid Preventive Therapy is essential as it reduces the risk of TB occurrence by nearly 95% with good drug adherence (Teklay et al., 2016). More so, if Isoniazid Preventive Therapy is, given after TB treatment it reduces the risk of TB reoccurrence by (82%). When Isoniazid Preventive Therapy is, given together with antiretroviral, it reduces risk of TB by (89%) and reduces the risk for mortality by 74% (Health, National TB, Leprosy and lung diseases guidelines on Management of TB in HIV, 2016). Thus, the purpose of the research study was to assess the factors associated with, patient compliance to isoniazid (INH) preventive therapy (IPT) at Chuka County Referral Hospital Comprehensive Care Centre (CCC) clinic in Tharaka Nithi County.

II. Material and Methods

The study was carried out at Comprehensive Care Clinic in Chuka County Referral Hospital, Igamba-Ng'ombe Constituency, and TharakaNithi County. The hospital offers emergency and basic services such as reproductive health services, outpatient services, TB/CCC integrated services making the hospital suitable for the study.
Study Design: A cross-sectional study design was, adopted.
Study Duration: August 2019 to June 2022
Sample size: 289 study respondents
Sample size calculation: The study sample size were calculated using the fisher *et al* (1998) formula that is

$$n = \frac{Z^2 \times P(1-P)}{(d^2)}$$

Where; n=Desired sample size.
Z= Standard error of the mean which corresponds to 95% confidence level. (1.96)
P= Prevalence of IPT. Since prevalence of IPT both in the rural and urban areas is not available 50%, (0.5) was, assumed to get the maximum sample size.
d=level of significance which is 0.05 for 95% confidence level.

Therefore by substitution;

$$n = \frac{Z^2 \times P(1-P)}{(d^2)}$$

$$n = \frac{1.96^2 \times 0.5(0.5)}{(0.05^2)}$$

n = 385
Since the target population was less than 10,000, the sample size, was adjusted using the Yamane formula, 1967 with the estimate of the population being 400.
nf = n/1+ (n/N)
Where nf- desired sample
n- Calculated sample
N- Estimate of population of study

$$\text{Hence nf} = \frac{385}{1+385/1156}$$

nf = 195.92
The sample size was 289 respondents.

Subject and selection: Systematic random sampling method was, used in the research study. The sampling interval was, calculated by dividing the population size by the desired sample size.
Therefore the sampling interval was 1156/289 =4, thus after every 4thperson one was selected to participate in the study.

Inclusion criteria:
1. HIV patients attending the CCC at Chuka County Referral Hospital, who consented to participate in the research study.
2. HIV Patients on Isoniazid Preventive Therapy above 18 years.
3. People who have been living in Chuka for more than 6 months

Exclusion criteria:
1. HIV patients who are very sick and unstable
2. People who have not been living in Chuka for more than 6 months

Data collection procedure: Interviewer assisted questionnaire and focused group discussions were, used to collect data for this study. The data collection tools contained both open-ended and closed questions relating to

the objectives of the study and they were appropriate in clarifying gaps in enhancing the study reliability. A sample of the questionnaire and focus discussion guide provided in Appendix 111 and IV respectively.

Statistical analysis: Descriptive statistics such as proportions were used to summarize categorical variables while measures of central tendency such as mean, standard deviations, and median were used to summarize continuous variables. In order to determine factors associated with compliance to isoniazid preventive therapy, Pearson's Chi-square test or fisher exact test was be used to test for the association at bivariate level of analysis (statistical significance was be set at $p<0.05$.). All independent variables identified to be significantly associated with compliance to isoniazid preventive therapy at bivariate analysis were included in multivariable analysis to adjust for possible confounders and effect modifiers. This was performed using multivariable binary logistic regression. Adjusted odds Ratios (AOR) and their respective 95% Confidence Intervals were used to estimate the strength of association between the retained independent factors and the outcome variable.

III. Results

Distribution of study respondents by socio-demographic information

Majority (167; 57.8%) of the respondents were male while (122; 42.2%) were female. Almost a third (90; 31.1%) of the respondents were divorced, while sixty-eight (23.5%) of the respondents were single and sixty-one (21.1%) were separated. With regard to level of education most of the respondents (95; 32.9%) indicated to have tertiary education, ninety-three (32.2%) of the respondents indicated to have primary education whereas eighty-three (28.7%) of the respondents indicated to have secondary education. Almost half of the respondents (131; 45.3%) were employed. With regard to occupation, most (108; 37.4) of the respondents were students while hundred and five (36.3%) of the respondents were housewives as shown in Table 1

Table 1: Distribution of study respondents by socio-demographic information

Variables	N	%
Gender		
Male	167	57.8
Female	122	42.2
Marital status		
Married	20	6.9
Separated	61	21.1
Divorced	90	31.1
Single	68	23.5
Widowed/widower	50	17.3
Education level		
Primary education	93	32.2
Secondary education	83	28.7
Tertiary education	95	32.9
Postgraduate or above	18	6.2
Employed		
Yes	131	45.3
No	158	54.7
Occupation		
Housewife/unemployed	105	36.3
Student	108	37.4
Retired	53	18.3
Employed(Permanent/Casual)	23	8

Patient related factors of the respondents

Slightly more than half (152; 52.6%) of the respondents indicated that they were currently on isoniazid preventive therapy. With regard to time for taking medicine, ninety nine (34.3%) of the respondents indicated that they were taking them in the afternoon, about a third (98; 33.9%) of the respondents indicated they were taking them in the morning while less than a third (92; 31.8%) of the respondents indicated that they were taking them in the evening. Most (155; 53.6%) of the respondents indicated that they knew the reason why they

were taking the drug.Hundred and nine (37.7%) of the respondents indicated that the number of tablets they take bothered them as shown in **Table 2**

Table 2: Distribution of patient related factors on respondents

Variables	N	%
Currently on Isoniazid preventive therapy		
Yes	152	52.6
No	137	47.4
Time to take medicine		
Morning	98	33.9
Afternoon	99	34.3
Evening	92	31.8
Know the reason why taking the drug		
Yes	155	53.6
No	134	46.4
Experienced any adverse drug reaction		
Yes	122	42.2
No	167	57.8
Side effects prevent you from taking the drugs		
Yes	154	53.3
No	135	46.7
Missed to take your drug		
Yes	156	54
No	133	46
Missed to go for your appointment		
Yes	129	44.6
No	160	55.4
Stigma ever prevented you from coming to the clinic		
Yes	139	48.1
No	150	51.9
Number of tablets you take a bother to you		
Yes	109	37.7
No	180	62.3

Health system related factors that influence compliance

Almost half of the respondents (122; 42.2%) indicated that the distance of the facility from their home area was approximately 11 – 20km. Most of the respondents (160; 55.4%) indicated that they got isoniazid medicine when they went for their appointments. Slightly less than half (143; 49.5) of the respondents indicated that family members offered them necessary support as they took the treatment. Most of the respondents (174; 60.2%) strongly agreed and agreed that they were confident on having adequate information on isoniazid preventive therapy (IPT) as shown in **Table 3**

Table 3: Health system related factors that influence compliance

Variables	**N**	**%**
Distance of the facility from your home area approximately		
0 - 10 km	88	30.4
11 - 20 km	122	42.2
21 - 30 km	79	27.3
Get isoniazid medicine when you go for your appointment		
Yes	160	55.4
No	129	44.6

Family members offer you necessary support as you take the treatment		
Yes	143	49.5
No	146	50.5
Lack of support affect how you take the drugs		
Yes	147	50.9
No	142	49.1
Lacked money to go for the IPT services		
Yes	131	45.3
No	158	54.7
Cultural or religious beliefs on TB and HIV treatment that hinder you from taking the drugs		
Yes	144	49.8
No	145	50.2
Confident on having adequate information on isoniazid preventive therapy (IPT)		
Strongly disagree	62	21.5
Disagree	30	10.4
Not sure	23	8
Agree	81	28
Strongly agree	93	32.2

Social-demographic factors associated with Isoniazid Preventive Therapy

Higher proportion of compliance to isoniazid preventive therapy was observed amongfemales (80; 65.6%) compared to males (72; 43.1%). females were 2.51 [95%CI = 1.55– 4.07, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to males. Likewise a higher proportion of compliance to isoniazid preventive therapy was observed amongrespondents who had postgraduate education or above (15; 83.3%) compared to respondents who had primary education (38; 40.9%). Respondents who had postgraduate education or above were 7.23 [95%CI = 1.96– 26.73, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who had primary education as shown in **Table 4**

Table 4: Socio-demographic factors associated with Isoniazid Preventive Therapy

	Compliant		**Non Compliant**			**95%CI**		
Variables	**n=152**	**%**	**n=137**	**%**	**OR**	**Lower**	**Upper**	**P-Value**
Age bracket								
18 - 30 years	23	46.9	26	53.1	0.44	0.13	1.49	0.18
31 - 40 years	40	51.9	37	48.1	0.64	0.2	2.06	0.46
41 - 50 years	57	58.2	41	41.8	0.69	0.22	2.18	0.532
51 - 60 years	22	44	28	56	0.39	0.11	1.32	0.123
Above 60 years	10	66.7	5	33.3	Ref			
Gender								
Male	72	43.1	95	56.9	Ref			
Female	80	65.6	42	34.4	2.51	1.55	4.07	**<0.001**
Marital status		S						
Married	12	60	8	40	2.07	0.72	5.95	0.172
Separated	34	55.7	27	44.3	1.74	0.82	3.7	0.149
Divorced	50	55.6	40	44.4	1.72	0.85	3.47	0.124
Single	35	51.5	33	48.5	1.46	0.7	3.05	0.308
Widowed	21	42	29	58	Ref			
Highest education level								
Primary education	38	40.9	55	59.1	Ref			
Secondary education	39	46.9	44	53	1.28	0.71	2.33	0.413

Tertiary education	60	63.1	35	36.8	2.48	1.38	4.46	**0.002**
Postgraduate or above	15	83.3	3	16.7	7.23	1.96	26.73	**<0.001**
Employed								
Yes	70	53.4	61	46.6	Ref			
No	82	51.9	76	48.1	0.94	0.59	1.49	0.795
Occupation								
Housewife/Not employed	40	57.1	45	42.9	0.92	0.46	1.83	0.819
Student	57	52.8	41	47.2	1.44	0.74	2.83	0.283
Retired	29	54.7	24	45.3	1.25	0.58	2.69	0.559
Employed(casual/permanent)	26	26.1	27	73.9	Ref			

Patient related factors associated with Isoniazid Preventive Therapy

Higher proportion of compliance to isoniazid preventive therapy was observed amongrespondents who indicated that they knew the reason why they were taking the drug (109; 70.3%) compared to respondents who indicated that they didn't know the reason (43; 32.1%). Respondents who indicated that they knew the reason why they were taking the drug were 5.01 [95%CI = 3.04– 8.27, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that they didn't know the reason as to why they were taking the drug.Greater proportion of compliance to isoniazid preventive therapy was observed amongrespondents who indicated that stigma never prevented them from going to the clinic (90; 60%) compared to respondents who indicated that stigma prevented them from going to the clinic (62; 44.6%). Respondents who indicated that stigma never prevented them from going to the clinic were 1.86 [95%CI = 1.17– 2.97, P =0.009] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that stigma prevented them from going to the clinic as shown in **Table 5**

Table 5: Patient related factors associated with Isoniazid Preventive Therapy

	Compliant		**Non-Compliant**			**95%CI**		
Variables	**n=152**	**%**	**n=137**	**%**	**cOR**	**Lower**	**Upper**	**P-Value**
Currently on Isoniazid preventive therapy								
Yes	85	55.9%	67	44.1	1.33	0.83	2.11	0.233
No	67	48.9%	70	51.1	Ref			
Time to take medicine								
Morning	49	50%	49	50	0.77	0.43	1.36	0.368
Afternoon	51	51.5%	48	49	0.82	0.46	1.45	0.488
Evening	52	56.5%	40	48	Ref			
Know the reason why taking the drug								
Yes	109	70.3	46	29.7	5.01	3.04	8.27	**<0.001**
No	43	32.1	91	67.9	Ref			
Experienced any adverse drug reaction								
Yes	57	46.7	65	53.3	Ref			
No	95	56.9	72	43.1	1.5	0.94	2.41	0.087
Side effects prevent you from taking the drugs								
Yes	64	41.6	90	58.4	Ref			
No	88	65.2	47	34.8	2.63	1.63	4.24	**<0.001**
Missed to take your drug								
Yes	60	38.5	96	61.5	Ref			
No	92	69.2	41	30.8	3.59	2.86	5.86	**<0.001**
Missed to go for your appointment								
Yes	51	39.5	78	60.5	Ref			
No	101	63.1	59	36.9	2.62	1.62	4.22	**<0.001**

Stigma ever prevented you from coming to the clinic								
Yes	62	44.6	77	55.4	Ref			
No	90	60	60	40	1.86	1.17	2.97	**0.009**
Number of tablets you take a bother to you								
Yes	64	58.7	45	41.3	1.49	0.92	2.4	0.105
No	88	48.9	92	51.1	Ref			

Health system related factors associated with Isoniazid Preventive Therapy

Higher proportion of compliance to isoniazid preventive therapy was observed amongrespondents who indicated that the distance of the facility from their home area was approximately 0 - 10 km (65; 73.9%) compared to respondents who indicated that the distance of the facility from their home area was approximately 21 - 30 km (19; 24.1%). Respondents who indicated that the distance of the facility from their home area was approximately 0 - 10 km were 8.92[95%CI = 4.42– 18, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that the distance of the facility from their home area was approximately 21 - 30 km.Significantly a higher proportion of compliance to isoniazid preventive therapy was observed amongrespondents who strongly agreed that they were confident on having adequate information on isoniazid preventive therapy (ipt) (71; 76.3%) compared to respondents who strongly disagreed that they were confident on having adequate information on isoniazid preventive therapy (ipt) (10; 16.1%). Respondents who strongly agreed that they were confident on having adequate information on isoniazid preventive therapy (ipt) were 16.78[95%CI = 7.33– 38.44, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who strongly disagreed that they were confident on having adequate information on isoniazid preventive therapy (ipt) as shown in **Table 6**

Table 6: Health system related factors associated with Isoniazid Preventive Therapy

	Compliant		**Non-Compliant**			**95%CI**		
Variables	**n=152**	**%**	**n=137**	**%**	**OR**	**Lower**	**Upper**	**P-Value**
Distance of the facility from your home area approximately								
0 - 10 km	65	73.9	23	26.1	8.92	4.42	18	**<0.001**
11 - 20 km	68	55.7	54	44.3	3.98	2.12	7.45	**<0.001**
21 - 30 km	19	24.1	60	75.9	Ref			
Get isoniazid medicine when you go for your appointment								
Yes	102	63.8	58	36.3	2.78	1.72	4.49	**<0.001**
No	50	38.8	79	61.2	Ref			
Family members offer you necessary support as you take the treatment								
Yes	99	69.2	44	30.8	3.95	2.42	6.44	**<0.001**
No	53	36.3	93	63.7	Ref			
Lack of support affect how you take the drugs								
Yes	71	48.3	76	51.7	Ref			
No	81	57	61	43	1.42	0.89	2.26	0.137
Lacked money to go for the IPT services								
Yes	71	54.2	60	45.8	Ref			
No	81	51.3	77	48.7	0.89	0.56	1.41	0.619
Cultural or religious beliefs on TB and HIV treatment that hinder you from taking the drugs								
Yes	82	56.9	62	43.1	1.42	0.89	2.25	0.14
No	70	48.3	75	51.7	Ref			
Confident on having adequate information on isoniazid preventive therapy (IPT)								
Strongly disagree	10	16.1	52	83.9	Ref			
Disagree	9	30	21	70	2.23	0.79	6.26	0.123
Not sure	6	26.1	17	73.9	1.84	0.58	5.8	0.297
Agree	56	69.1	25	30.9	11.65	5.11	26.57	**<0.001**

Strongly agree	71	76.3	22	23.7	16.78	7.33	38.44	**<0.001**

IV. Discussion

Socio-demographic factors associated with compliance to Isoniazid Preventive Therapy

Factors related to individual characteristics, as age and sex are believed to have great impact on compliance behavior. The findings of this study showed that majority of the respondents were males (57.8%) as compared to women who were (42.2%) This study was does not agree to the one which was conducted in Tanzania (Grace A. Shayo, 2015), which showed that the females were the majority, by 77.5%. However, the females were more compliant with the Isoniazid Preventive therapy (80; 65.6%) compared to males (72; 43.1%), OR=2.51 [95%CI = 1.55– 4.07, p < 0.001]. These findings did not agree with findings conducted in Tanzania (Munseri, 2008) which showed that females had low compliance as compared to the males for they feared to disclose their HIV status as it led to marriage breakups. This show how gender values in social cultural settings influences stigmatization. Studies conducted by (Mosimaneotsile B, 2010) and (Ngamvithayapong J, 1997) agrees with our study as women were found to be more compliant than men were. In this study, age was not a significant determinant of Isoniazid Preventive therapy, whereas sex was significant. A study from Northern Nigeria (Adepoju, 2020) showed that both age and sex were not significant determinants of the compliance to Isoniazid preventive therapy.The findings of this study showed that those who had tertiary education (60; 63.1%) had high compliance level compared to respondents who had primary education (38; 40.9%). Respondents who had tertiary education were 2.48] times more likely to be compliant to isoniazid preventive therapy compared to respondents who had primary education. Likewise a higher proportion of compliance to isoniazid preventive therapy was observed amongrespondents who had postgraduate education or above (15; 83.3%) compared to respondents who had primary education (38; 40.9%). Respondents who had postgraduate education or above were 7.23 [95%CI = 1.96– 26.73, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who had primary education. This shows that advanced education positively influences the compliance of isoniazid preventive therapy. A study by (Gust DA, 2011) also shows that people with higher education were more compliant (×2(2)=3.6, P=0.170).

Patient related factors associated with compliance to Isoniazid Preventive Therapy

The findings of this study showed that patient's knowledge on why they were taking the drug was significantly associated with compliance to isoniazid preventive therapy. Patients who knew the reason as to why they were taking the drugs (109; 70.3%) compliant to the isoniazid therapy as compared to patients who did not know the reason for taking the drugs (43; 32.1%). Respondents who indicated that they knew the reason as to why they were taking the drug were 5.01[95%CI = 3.04– 8.27, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that they did not know the reason as to why they were taking the drug. This implies that prior knowledge on the use of the drug was statistically significant to the compliance of the uptake. These findings concurred with the findings of (Akamike, 2020) which showed that more than half had received training and counselling prior to the study (55%, 62%) respectively. Only 17.5% were on IPT during the study.Findings of this study implied that the association between stigmatization factors and compliance to IPT was significant. The patients who never experienced stigmatization complied with IPT (60%) than those who experienced stigmatization (44.6%). Respondents who indicated that stigma never prevented them from going to the clinic were 1.86 [95%CI = 1.17– 2.97, P =0.009] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that stigma prevented them from going to the clinic. Stigmatization may result to depression, low self-esteem and therefore non-adherence. These results support the findings of (Nyamathi, 2006) that victimization affects the compliance of IPT drug taking by patients.

Health related factors associated with compliance to Isoniazid Preventive Therapy

Respondents who indicated that the distance from their home area was approximately 0 - 10 km (65; 73.9%) complied compared to respondents who indicated that the distance of the facility from their home area was approximately 21 - 30 km (19; 24.1%). Respondents who indicated that the distance of the facility from their home area was approximately 0 - 10 km were 8.92[95%CI = 4.42– 18, p < 0.001] times more likely to be compliant to isoniazid preventive therapy compared to respondents who indicated that the distance of the facility from their home area was approximately 21 - 30 km. This shows that distance to the health facility was statistically significant to the compliance of the isoniazid preventive therapy. In other studies distance to facilities and drug supply are widely recognized as determinant factors to compliance (Munro SA, 2007). The shorter the distance to the facility the higher the level of compliance and vice versa.Adequate knowledge and information on isoniazid preventive therapy was a significant determinant of compliance. Respondents who had knowledge on IPT were more compliant compared to those who lacked adequate information. Studies conducted in Uganda (D, 2005) and South Africa (Szakacs TA, 2006) showed no significant association between patient's

knowledge about IPT and compliance. A study conducted to determine factors resulting to poor compliance on IPT indicated that knowledge was not a significant determinant (Naing NN, 2001).

V. Conclusion

- Subjects who had postgraduate education were more compliant to Isoniazid Preventive Therapy than those who had tertiary, secondary and primary education.
- Subjects who knew the reason as to why they were taking the drug were more compliant to Isoniazid Preventive Therapy than those who did not know the reason.
- Subjects who did not experience side effects from the drug were more compliant to the isoniazid preventive therapy than those who experienced side effects from the drug.
- Respondents who were nearer to the health facilities were more compliant to the isoniazid preventive therapy than those who took a longer distance to reach to the health facilities.
- The competence of the health workers positively influenced the compliance levels. Respondents who were attended by friendly health workers were more compliant to the isoniazid preventive therapy.
- Availability of the medication in the health facilities positively influenced compliance level of the isoniazid preventive therapy. Respondents who received their medication when they visited the clinics were more compliant than those who did not receive their medication.

VI. Recommendations

Drawing from the research findings and conclusions discussed herein, the study therefore recommends that,

- The IPT drugs to undergo modification to reduce side effects.
- Drugs to be supplied to as many health facilities as possible.
- The Isoniazid Preventive therapy to be availed to the community by increasing the number of health facilities to promote compliance.
- The community should be sensitized and educated on the effects and benefits of IPT.
- The caregivers and health facilities staff to undergo training to be more friendly and accommodative.

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Dickson Gitonga Mbuba, et. al. "Factors associated with Isoniazid preventive therapy among HIV patients attending comprehensive care clinic at Chuka County referral hospital, Kenya." *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 27(11), 2022, pp. 73-83.