

Full Length Research Paper

Influence of personal characteristics on the knowledge and attitude of Pamol plantation workers towards HIV/AIDS in the Southwest Region Cameroon

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This study assessed the influence of personal characteristics on knowledge and attitude of Pamol plantation workers (n = 75) towards HIV/AIDS in Southwest Region of Cameroon. The percentage of workers with correct knowledge on the etiology/transmission, symptoms and prevention of HIV/AIDS and positive attitude towards HIV/AIDS was determined. Knowledge indices on etiology/transmission (KIET), symptoms (KIS) and prevention (KIP) of HIV/AIDS and attitude indices (AI) of the various age groups, marital status, educational level, religious groups, sex, migration status and rank of the workers were constructed. Regression analysis, Analysis of Variance and Students t-test were used to analyze the data. None of the personal characteristics of the workers had any significant ($p > 0.05$) influence on their knowledge and attitude towards HIV/AIDS. However, the mean KIET of supervisory workers (16.75) was significantly different ($p < 0.05$) from that of their hourly rated counterparts (15.78). The mean AI of respondents in the supervisory category (14.46) was higher than those of the hourly rated category (12.35). Despite the existence of HIV/AIDS programmes in the plantation workers, HIV/AIDS stigmatization was still present. This stigmatization would have a negative impact on the productivity of affected workers. Hence, intervention programmes aimed at eliminating stigmatization among the workers should be pursued.

Key words: Cameroon, HIV/AIDS, knowledge, attitude, stigmatization plantation workers.

INTRODUCTION

AIDS-related illnesses remain one of the leading causes of death globally and are projected to continue as a significant global cause of premature mortality in the coming decades (World Health Organization, 2008).

The link between migration and the spread of HIV has been well established. Numerous studies in developing countries have cited migration as one of the most important factors leading to the rapid diffusion of HIV (Lukalo, 2000; Marga and Pul, 2002; Wolffers et al., 2002; Anderson et al., 2003). Pamol is an agro industrial complex that grows, processes and markets tropical export crops (examples include oil palm and rubber).

Workers in the plantation come from different parts of the country, most of them leaving behind their families. These workers are often confronted with some challenges such as overcrowded accommodations, poor sanitation, long absence from home, boredom, and limited recreational opportunities which make them vulnerability to HIV. In view of HIV/AIDS being a serious threat to human population, especially to migrants, it was deemed imperative to assess the knowledge of Pamol plantation workers on different social and health aspects of HIV/AIDS. The hypotheses of the study are: (i) Personal characteristics of Pamol plantation workers in Southwest Region Cameroon have no significant influence on their knowledge and attitude relating to HIV/AIDS, and (ii) There are no significant variations in the knowledge and attitude relating to HIV/AIDS among

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the different categories (in terms of age, sex, marital status, educational level, rank) of plantation workers in Southwest Region, Cameroon.

METHODOLOGY

Study population

The study population consisted of men and women employed at Pamol plantation in the Southwest Region of Cameroon. Pamol is an industrial plantation, and was purposively selected for this study because of its unique role as employer of people from various towns and villages in Cameroon, its role in agricultural export trade and the fact that it has a workplace health programme.

Data collection

Among the three estates in Pamol (Lobe, Mudemba and Bai), one (Lobe Estate) was selected for the study using simple random sampling technique. Seventy five workers were randomly selected out of 700 workers in Lobe Estate. Seventy three copies of the questionnaire were found analyzable. Focus group discussion (men and women workers separately) was also employed.

To assess the knowledge of plantation workers on HIV/AIDS, respondents were requested to provide answers to specific statements about HIV/AIDS. The specific statements bordered on the workers' knowledge about the etiology or cause and mode of transmission or spread, symptoms and preventive measures of HIV/AIDS. To elicit information on the knowledge of etiology and transmission of HIV/AIDS, 18 specific statements were presented to the respondents. To assess knowledge on symptoms as well as preventive measures, 17 statements in each case were also presented. Against each specific statement respondents were requested to indicate with a tick () for a correct statement and an 'X' for an incorrect one. For each specific statement, a correct response was scored 1 while an incorrect one scored 0.

Attitude to HIV/AIDS was elicited using a 20 item questionnaire. Questions portraying positive or negative attitudes were presented to the respondents and they were requested to indicate a "Yes" or "No" response to each of the questions. For each question, the proportion of respondents that indicated "yes" or "no" response was determined. Again, for each of the questions a response indicating positive attitude was scored +1 while a response indicating negative attitude was scored -1.

Scored responses were used to construct knowledge/attitude index (KI/AI). The total scores for each statement were converted to percentages and a score of $\geq 80\%$ was regarded as very high knowledge/attitude, 60 to 79% as high, 40 to 59% as moderate, 20 to 39% as low and $\leq 19\%$ as very low (a modification of the classification of Iliyasu et al. (2005).

Data analysis

Hypothesis 1 was analyzed using multiple linear regression. Categorical variables such as marital status, educational level, and religious group of the respondents were dummy-coded in order to transform them into dichotomous variables. These dummy coded variables as well as other variables (sex, age, rank and migration status) were entered directly into the regression equation. The regression equation used was in the form of:

$$Y_i = b_0 + b_1X_{1i} + b_2X_{2i} + \dots + b_kX_{ki} + e$$

Where Y_i = the outcome or response variable for the i^{th} unit;

b_0 = coefficient for the intercept (constant);

b_1, b_2, \dots, b_k = regression coefficients which interpret the effect of X on Y ;

$X_{ki} = 1$ if i^{th} unit is in the category coded '1' and $X_{ki} = 0$ if i^{th} unit is in the category coded '0';

e = error term.

In the regression analysis:

X_1 = sex (male = 1, female = 0);

X_2 = age (entered as continuous variable, thus $X_{ki} = X_k$);

X_3 = married (never married = base category; married = 1; once married = 0);

X_4 = once married (never married = base category; once married = 1; married = 0);

X_5 = no formal education (degree = base category; NFE = 1; other educ. levels coded 0);

X_6 = First School Leaving Certificate (degree = base category; FSLC = 1; other educ. levels coded 0);

X_7 = Ordinary Level Cert. (degree = base category; O'Level = 1; other educ. levels coded 0);

X_8 = Advanced Level Cert. (degree = base category; A'Level = 1; other educ. levels coded 0);

X_9 = Diploma Cert. (degree = base category; Diploma = 1; other educ. levels coded 0)

X_{10} = migration status (migrant = 1; non-migrant = 0);

X_{11} = job experience (entered as continuous variable, thus $X_{ki} = X_k$); X_{12} = rank (supervisor = 1; hourly rated = 0);

X_{13} = Other orthodox churches religious group (Catholic = base category; other orthodox churches = 1, new generation churches = 0);

X_{14} = New generation churches religious group (Catholic = base category; new generation churches = 1; other orthodox churches = 0)

Research hypothesis 2 was analyzed using analysis of variance (ANOVA) and Student's t-test. Scored responses in objective 1 above were used to construct knowledge indices. For example all knowledge on etiology and transmission scores was added together across all knowledge on etiology and transmission questions to form a knowledge index on etiology and transmission (KIET). Similarly, indices were constructed for knowledge of symptoms (KIS), knowledge of prevention (KIP), and attitude (AI). The indices of the different categories of the independent variables (age, marital status, educational level, job experience and religious group) were subjected to One Way Analysis of Variance (ANOVA). Significant means were separated using Duncan's multiple range tests. For sex, rank and migration status, student's t-test statistic was used to compare the difference in the mean indices. All statistical analyses were carried out at 5% probability level.

RESULTS AND DISCUSSION

Majority (72.6%) of the respondents were males (Table 1), within 25 to 34 years (36%), and were married (67.1%). All the respondents had some form of formal education. About 36.9% had worked for 5 years or less while 17.8% had worked for 6 to 10 years. The mean job experience was 4.03 years. Results in Table 1 reveal that 67.1% of respondents were non migrants (that is coming from regions other than Southwest Region). Data indicated that majority (68.7%) of the workers were Christians belonging to three major religious groups viz: catholic (20.5%), new generation churches (19.7%) and

other orthodox churches (28.7%).

Knowledge of etiology /transmission (KIET) of HIV/AIDS

Knowledge of etiology/transmission of HIV/AIDS in the plantation was generally very high with a percentage mean score of 89.4. As shown in Table 2, 71.2% of the respondents correctly indicated that HIV/AIDS was caused by a virus, 91.8% also correctly indicated that one could not acquire HIV by simple casual contact with HIV/AIDS infected person, and 97.3% correctly stated that HIV/AIDS could not be acquired by eating with HIV/AIDS patients.

Although the overall knowledge score on etiology and transmission of HIV/AIDS in the studied plantations was very high, misconceptions about the cause and transmission of the disease still existed. For instance, 28.8% of the respondents incorrectly indicated that HIV/AIDS was not caused by a virus. Also, 9.6% indicated that the disease was caused by bacteria while 2.7% stated that it was caused by fungi. Ho and Pun (1997) have opined that, although, knowledge of HIV/AIDS among marginal youths in Hong Kong was high, misconceptions still existed. These misconceptions might lead to discriminating attitudes towards plantation workers living with AIDS; which may have a negative impact on the productivity of affected workers. Such misconceptions could also lead to unsafe sex practices. Thus, areas of misconception should form the focus of future HIV/AIDS education programmes in the plantation.

Knowledge of prevention (KIP) of HIV/AIDS

A percentage mean scores of 76.9% was obtained for knowledge of prevention in the plantation (Table 3). This shows that a high proportion of the respondents were knowledgeable about measures to prevent HIV/AIDS. Specifically, avoidance of injection needles was picked by the majority (97.3%) of the workers as the most important means by which a person could avoid getting infected with the virus that causes AIDS. Others included: limiting sex to one partner (78.0%), avoidance of sharing razor blade (93.2%) and abstinence from sex (95.9%).

Although, respondents in the Pamol appeared to have a high knowledge of prevention of HIV/AIDS, misconceptions still existed. For example, 12.3% of respondents believed that one can avoid contracting HIV/AIDS by avoiding mosquito bites. Also, 5.5% indicated that one could prevent contracting HIV/AIDS by seeking protection from traditional healers. A study conducted by the South Deep Mine (2002) also found that a substantial proportion of the population in South Africa placed a great deal of faith in traditional healers and that was not confined to the semi-literate. In Came-

ron, like in many traditional African societies where some individuals still believe that HIV/AIDS is caused by evil spirits, it is not surprising that an appreciable proportion of the respondents stated that the disease could be prevented through the services of traditional healers.

Knowledge of symptoms (KIS) of HIV/AIDS

The percentage mean score of knowledge of symptoms among the plantation workers was 57.5% (Table 4). Specifically, rapid loss of weight, long lasting diarrhea, recurring fevers and/or night sweats, rashes on the skin, and loss of vigour were the symptoms identified to be associated with HIV/AIDS by a high proportion of respondents in the plantation. A high proportion of the respondents, however, did not know that HIV/AIDS was associated with blindness, headache, catarrh and vomiting. The observation that a high proportion of the plantation workers could not correctly identify some symptoms of HIV/AIDS is similar to the finding of Olujide et al. (2006) who reported that rural dwellers in Oyo State, Nigeria had little knowledge of the symptoms of HIV/AIDS. This observation may be attributed to the fact that the symptoms of HIV/AIDS are similar to the symptoms of many other diseases and, therefore, it is difficult to draw a clear cut line between the symptoms of AIDS and other diseases.

Attitude of Pamol plantation workers towards HIV/AIDS

A very high proportion of respondents in the plantation (82.5%) had a positive attitude towards HIV/AIDS (Table 5). Although the proportion of respondents with positive attitude was generally high, some negative attitudes were observed. Specifically, 26.0% indicated that they cannot make an HIV/AIDS patient their friend. About 22.0% of the respondents in the plantation indicated that they would want HIV/AIDS positive workers not to be allowed to work in the plantations. Despite the fact that the majority (82.5%) of the respondents had positive attitude toward HIV/AIDS patients, more than half (52.1%) supported public labelling of infected individuals so that "other people will be aware of them and avoid any contact that should expose them to risk of infection". This was confirmed during FGD. It was also indicated during FGD that patients should be quarantined in a home so that they would not go about infecting other people. However, some participants lamented that some women would still meet them wherever they are quarantined as long as the patients had money to offer them. Again, some participants believed that HIV/AIDS positive persons had got what they deserved as they were responsible for their illness by being sexually loose. The

Table 1. Percentage distribution of respondents according to personal characteristics.

Characteristic	Percentage (%)
Sex	
Male	72.6
Female	27.4
Age (years)	
15-24	4.1
25-3	36.0
35-44	35.6
45-54	16.2
≥55	8.1
Mean	38.3
Marital status	
Married	67.1
Never married (single)	27.4
Once married (widowed, divorced, separated)	5.5
Educational level	
NFE	0.00
FSLC	28.8
O'L	19.1
A'L	20.6
Diploma	13.7
Degree	17.8
Migration status	
Migrant	24.7
Non-migrant	67.1
Not indicated	8.2
Job experience (years)	
≤5	36.9
6-10	17.8
11-15	15.0
>15	27.2
Not indicated	3.7
Mean	12.3
Mean	
Rank (n = 268)	
Hourly rated	67.1
Supervisory	31.5
Not indicated	1.4
Religious group	
Catholic	20.5
Other orthodox churches (Presbyterian, Baptist)	28.7
New generation churches (Apostolic, Redeemed, etc)	19.7
Others (Jehovah witness, Bahai, Islam)	8.1
Not indicated	23.0

Table 2. Percentage distribution of respondents according to correct and incorrect knowledge of etiology/ transmission.

Etiology	% Correct	% Incorrect
HIV/AIDS is a viral disease	71.2	28.8
HIV/AIDS is a fungi disease	97.3	2.7
HIV/AIDS is a bacterial disease	90.4	9.6
AIDS is a disease of the “sex workers”	91.8	8.2
AIDS is a woman’s disease	94.5	5.5
AIDS is a disease brought by white men	82.2	17.8
AIDS is caused by HIV- the human immunodeficiency virus	91.8	8.2
HIV is caused by dinning together with people living with HIV/AIDS	97.3	2.7
HIV is caused by using a toilet seat that has just been used by PLWHA.	95.9	4.1
HIV is commonly spread by having unprotected sexual intercourse with someone infected with the HIV virus.	97.3	2.7
HIV is commonly spread by getting HIV-infected blood, semen, or vaginal secretions into open wounds	97.3	2.7
People living with HIV/AIDS can transmit HIV to others through coughing.	91.8	8.2
A person can contract HIV through kissing with people living with HIV/AIDS.	68.5	32.5
HIV is commonly spread by sharing needles or syringes with someone who has the virus.	98.6	1.4
HIV is transmitted through having brief bodily contact with people living with H1IV/AIDS.	91.8	8.2
HIV can also be passed from infected pregnant women to her unborn baby during pregnancy, birth and breast milk.	91.8	8.2
HIV could be transmitted from a person who looks healthy to others.	69.9	31.1
A person could appear healthy for a long time after being infected with HIV.	90.4	9.6
% mean score	89.4	

results showed that although there was a high positive attitude among respondents, HIV/AIDS–related stigma and discrimination still existed in the plantation. Thus, despite the HIV/AIDS committee programmes in the plantation and the National HIV/AIDS control programme, AIDS stigmatization was still prevalent in the plantation. This stigmatization and discrimination would have a severe negative impact on the productivity of affected workers. Hence, intervention programmes aimed at eliminating stigmatization and other discriminatory attitudes among the plantation workers should be vigorously pursued.

According to Odimegwu (2003), the stigma associated with HIV is promoted by various factors such as fear, the way the disease disfigures the patient, misconception of transmission routes and fatal nature of the disease. These sentiments may be translated into actions of avoidance of an infected individual. However, over 80% of the respondents in the plantation were willing to care for a family member who had HIV/AIDS. This was confirmed during the FGD, where a participant reported that she had a positive relation that she cares for in her home. This probably reflects that no matter how

stigmatised the disease is, people are willing to make sacrifices in order to care for their close relatives.

Influence of personal characteristic on the knowledge and attitude of HIV/AIDS of plantation workers

Results of regression analyses demonstrating the influence of personal characteristic on the knowledge index of etiology and transmission (KIET), symptoms (KIS) and preventive practices (KIP) relating to HIV/AIDS of Pamol workers are presented in Table 6. The results show that none of the personal characteristics had any significant influence on knowledge (KIET, KIS and KIP) and attitude towards HIV/AIDS. This is an indication that HIV/AIDS programmes in the plantation impacted positively all levels of workers. This shows that the company (plantation administration) is achieving its purpose for introducing HIV/AIDS programme, which is limiting the incidence of new infections among staff and changing behavior/increasing the use of preventive measures. According to UNAIDS/IOE (2002), many

Table 3. Percentage distribution of respondents according to correct and incorrect knowledge of prevention.

Prevention	% Correct	% Incorrect
Abstain from sex	95.9	4.1
Use condoms.	91.8	8.2
Limit sex to one partner	78.0	12.0
Avoid sex with prostitutes (commercial sex workers).	82.2	7.7
Avoid sex with persons with many partners.	91.8	8.2
Avoid sex with persons of same sex.	47.9	53.1
Avoid sex with persons who inject drugs (cocaine, ephedrine, heroin etc)	35.6	64.4
Avoid blood transfusions	68.5	31.5
Avoid sharing injection needles.	97.3	2.7
Avoid kissing.	69.9	31.1
Avoid mosquito bites	87.7	12.3
Seek protection from traditional healers.	94.5	5.5
Avoid sharing razor blades	93.2	6.8
Avoid doctors who help HIV positive people.	90.4	9.6
Avoid manicure and pedicure	32.9	67.1
Avoid barbing with a common shaver in a barbing saloon.	78.0	12.0
Avoid casual contact with HIV/AIDS patients.	71.2	18.8
% mean score	76.9	

Table 4. Percentage distribution of respondents according to correct knowledge of symptoms of HIV/AIDS.

Variable	Percentage (%)
Rapid loss of weight	93.2
Long-lasting diarrhoea	89.0
Recurring fevers and/or Night sweats	75.3
Swollen legs	61.6
Vomiting	38.4
Rashes on the skin	87.7
Loss of vigour (Weakness)	76.7
Blindness	16.4
Headache	27.4
Catarrh	30.1
Loss of hearing ability	80.8
Loss of appetite	52.0
Stomach ache	30.1
Muscle pain	72.6
Dizziness	64.4
Cough	53.4
Pneumonia	28.8
% mean score	57.5

companies and employers' organizations are well advanced in their fight against HIV/AIDS. Leaders in the business community have devised effective and efficient measures to combat the disease, rendering the workers healthier, their societies better protected and their companies more efficient.

The mean knowledge and attitude indices of the various sex, age, marital status, educational status, job experience and religious groups of the Pamol workers are presented in Table 7. The knowledge indices of the female workers were higher (except knowledge index on prevention) than those of their male counterparts, although the differences were not significant ($p>0.05$).

This finding is in contrast with previous report of Jona and Terblanché (2006) which indicated that female farm workers were ill informed about HIV/AIDS. Women always receive antenatal care during pregnancy. This may be why they have an edge over men regarding the knowledge of etiology/transmission and symptoms of HIV/AIDS. Antenatal clinic provides an appropriate opportunity for educating women about HIV/AIDS and other health-related issues (Iliyasu et al., 2006). The mean AI of female respondents was higher than that of their male counterparts ($t = 0.76$, $p>0.05$). This finding indicates that female respondents in the plantation showed more positive feelings towards infected individuals than the male counterparts. Therefore, there is need to intensify educative programmes in the plantation, paying particular attention to men.

The variation in the mean knowledge indices of the respondents across the various age groups were not significant ($p>0.05$). However, respondents in the age group of 55 years and above were more knowledgeable about the symptoms and prevention of HIV/AIDS than the other age groups.

Attitude toward HIV/AIDS did not vary significantly ($p>0.05$) among the different age groups of the plantation workers. However, the mean attitude indices of respon-

Table 5. Percentage distribution of respondents according to positive and negative attitude towards HIV/AIDS.

Attitude	% Positive	% Negative
Do you think people living with HIV/AIDS are merely receiving the punishment they deserve?	89.0	11.0
Do you think HIV/AIDS patients should feel ashamed of themselves?	94.5	5.5
Do you think HIV/AIDS patients deserve sympathy?	83.6	16.4
Should HIV-infected person be allowed to work in this plantation?	78.0	22.0
Will you want HIV/AIDS neighbours to move away?	89.0	11.0
Will you feel comfortable if you have people living with HIV/AIDS as neighbours?	68.5	31.5
Is it necessary to enact a law prohibiting people living with HIV/AIDS from visiting your plantation?	76.7	23.3
Is it necessary to enact a law making people living with HIV/AIDS to publicly disclose their HIV status?	72.6	27.4
If your family member unfortunately contracts HIV, will you be willing to take care of him/her?	95.9	4.1
Will you like HIV/AIDS patients in this plantation to be known?	47.9	52.1
Will you see an HIV/AIDS patient as an outcast?	90.4	9.6
Should HIV/AIDS patients be prohibited from using public facilities?	91.8	8.2
People living with HIV/AIDS should be prohibited from looking after their children?	91.8	8.2
Can you make an HIV/AIDS patient your friend?	74.0	26.0
Will you relinquish your friendship if you find out that your friend is positive for HIV?	87.7	12.3
Would you work with people living with HIV/AIDS in this plantation?	83.6	16.4
Can you share same room/office with HIV/AIDS patients?	83.6	16.4
Will you be able to shake hands or hug an HIV/AIDS patient?	86.3	13.7
Will you be willing to have a meal together with an HIV/AIDS patient?	83.6	16.4
Will you be willing to buy goods from a known HIV patient?	82.2	17.8
% mean score	82.5	

Table 6. Influence of personal characteristics on knowledge and attitude of workers relating to HIV/AIDS in plantation.

Personal characteristics	Unstandardized coefficient			
	Etiology /transmission	Symptom	Prevention	Attitude
Sex (male = 1, female = 0)	-0.33	-0.45	0.45	-0.28
Age (Years)	-0.04	0.05	0.02	-0.19
Marital status				
Never married (Base category)	-	-	-	-
Married	-0.02	-0.50	0.01	-0.94
Once married	-0.21	-1.90	-0.29	1.96
Educational level				
NFE	-	-	-	ND
FSLC	-1.77	-0.87	-1.69	-10.55
O'Level	-1.36	-0.98	-1.49	-7.13
A'Level	-0.62	-0.20	-1.03	-6.12
Diploma	-0.98	-0.36	-1.35	-8.91
Degree (Base category)	-	-	-	-
Migration status (migrant = 1, non-migrant = 0)	-0.27	0.41	-0.09	-4.36
Job experience (years)	-0.03	-0.02	0.05	0.28
Rank (Supervisor = 1, hourly rated = 0)	0.62	0.02	0.28	0.06
Religious group				
Catholic (Base category)	-	-	-	-
Other orthodox churches (Presbyterian, Baptist)	-0.62	0.81	0.39	0.37

Table 6. Contd.

New generation churches (Apostolic, redeemed)	-0.45	-0.41	0.34	-5.38
F cal	0.97	0.62	0.69	1.10
R-Squared (%)	20.7	14.4	15.8	23.0
Adjusted R-Squared (%)	-0.7	-8.8	-7.0	2.1

Table 7. Means (\pm sem) of knowledge indices and attitude of HIV/AIDS among Pamol plantation workers in Southwest Region, Cameroon.

Variable	Etiology/transmission	Symptom	Prevention	Attitude
Age (years)				6.67 \pm 7.51
15–24	15.67 \pm 0.67	8.67 \pm 1.45	11.67 \pm 1.20	12.08 \pm 1.95
25–34	16.00 \pm 0.42	9.76 \pm 0.38	12.76 \pm 0.38	14.58 \pm 1.22
35–44	16.38 \pm 0.29	9.65 \pm 0.32	13.31 \pm 0.38	15.25 \pm 1.34
45–54	16.08 \pm 0.38	10.17 \pm 0.61	13.25 \pm 0.33	11.67 \pm 4.84
\geq 55	15.33 \pm 1.09	10.33 \pm 0.91	14.00 \pm 1.03	
Marital status				12.63 \pm 2.23
Married	16.00 \pm 0.28	9.78 \pm 0.28	13.22 \pm 0.28	13.30 \pm 1.91
Never Married	16.30 \pm 0.33	10.05 \pm 0.40	12.90 \pm 0.38	14.75 \pm 1.70
Once Married	16.25 \pm 0.25	8.50 \pm 0.65	12.00 \pm 0.51	
Educational level				-
NFE	-	-	-	10.76 \pm 2.44
FSLC	15.38 ^a \pm 0.50	9.43 \pm 0.49	12.62 \pm 0.53	13.07 \pm 2.24
O'Level	15.86 ^{ab} \pm 0.49	9.36 \pm 0.46	12.57 \pm 0.45	13.33 \pm 1.46
A'Level	16.33 ^{ab} \pm 0.32	10.20 \pm 0.45	13.33 \pm 0.32	11.30 \pm 2.74
Diploma	16.20 ^{ab} \pm 0.39	9.90 \pm 0.59	13.10 \pm 0.48	17.69 \pm 0.59
Degree	17.15 ^b \pm 0.32	10.23 \pm 0.34	14.00 \pm 0.47	
Job experience (years)				12.67 \pm 1.86
\leq 5	16.26 \pm 0.35	9.78 \pm 0.39	13.19 \pm 0.29	13.61 \pm 2.05
6–10	16.38 \pm 0.35	9.54 \pm 0.50	12.00 \pm 0.60	16.00 \pm 1.38
11–15	16.55 \pm 0.58	10.18 \pm 0.48	13.82 \pm 0.63	12.33 \pm 1.82
> 15	15.43 \pm 0.40	9.76 \pm 0.43	13.29 \pm 0.40	
Religious group				12.52 \pm 1.50
Catholic	16.41 \pm 0.30	9.63 \pm 0.32	12.81 \pm 0.42	13.91 \pm 1.63
Other orthodox churches (Presbyterian, Baptist)	15.75 \pm 0.37	10.09 \pm 0.34	13.13 \pm 0.28	10.38 \pm 2.80
New generation churches (Apostolic, redeemed)	16.38 \pm 0.46	9.63 \pm 0.73	13.13 \pm 0.77	6.67 \pm 7.51

a, b, c = means in the same column, and for each variable, not followed by same superscript are significantly ($p \leq 0.05$) different.

dents in the 35 to 44 and 45 to 54 years age categories were higher than those in the other age categories. This implies that the respondents in the 35 to 44 and 45 to 54 age group had a more positive attitude towards HIV/AIDS than those in the other age categories. This finding contrasts the report of Jona and Terblanché (2006) who found that the age group ≤ 34 showed a significant positive attitude towards HIV/AIDS.

The variation in the mean knowledge and attitude

indices among the married, once married and never married respondents was not significant ($p > 0.05$). However, never married respondents had better knowledge of the etiology/transmission and symptoms of HIV/AIDS while the married workers were more knowledgeable about HIV/AIDS prevention measures. Once married Pamol workers had a more positive attitude towards HIV/AIDS than married or never married workers.

The mean of knowledge index of etiology/transmission of HIV/AIDS of the various educational groups of respondents varied significantly ($p \leq 0.05$). The mean KIET of respondents with degree was significantly higher ($p < 0.05$) from the mean of those with FSLC. Generally, a trend towards increase in KIET with increase in educational level was observed. Although the mean KIS, KIP and AI of the respondents with different educational background did not vary significantly ($p > 0.05$), the mean indices of those with degree certificates were higher. This shows that the knowledge and attitude of the Pamol workers improve with increase in educational level. Thus, any intervention programme on this should be focused on staff with low educational qualifications.

There was no significant ($p > 0.05$) variation in the mean knowledge indices (KIET, KIS and KIP) and attitude indices of respondents based on the category of years of experience. However, workers with 11 to 15 years of job experience had highest mean indices. Generally, the results have shown that respondents who have worked in the plantations for a longer period have a higher knowledge of HIV/AIDS and also a positive attitude towards HIV/AIDS than respondents who have worked for a shorter period. This is not surprising, since it is expected that long serving workers are more exposed to HIV/AIDS programmes in the plantation. However, the mean AI of respondents who have worked for more than 15 years was low. These workers are old and almost on retirement and so may have a nonchalant attitude towards HIV/AIDS programmes in the plantation. Thus, longer serving workers in the plantations should be encouraged to participate in HIV/AIDS programmes.

The mean knowledge and attitude of respondents belonging to the three major religious groups in the plantation did not vary significantly ($p > 0.05$). However, the mean KIS, KIP and AI of other orthodox (Presbyterian, Apostolic) churches and new generation churches were higher than that of Catholics while; Catholics respondents had a better knowledge of etiology and transmission of HIV/AIDS than New generation (Apostolic, Redeemed) and other orthodox churches. Generally, the result indicates that religious group to which respondents belong did not significantly influence their knowledge of HIV/AIDS.

The mean KIET of supervisory workers was significantly ($p > 0.05$) higher than that of hourly rated workers. The mean KIS, KIP and AI of the supervisory workers were higher than those of the hourly rated respondents; however, the differences were not significant ($p > 0.05$). The results indicate that the supervisory staff showed a better knowledge and a more positive and realistic attitude towards HIV/AIDS than the hourly rated staff. Therefore, hourly rated staff ought to be educated more on knowledge and attitudes relating to HIV/AIDS. This finding is not surprising since this category of plantation workers is more educated than their hourly rated counterparts. Also, the nature of their high class

lifestyle makes them more exposed to media which may likely increase their knowledge on HIV/AIDS and have an influence on their knowledge and attitude. All over the world, the NGOs, health departments of various countries and international AIDS agencies have put up advertisements in the print and electronic media geared towards educating the masses on the dangers and methods of prevention of HIV.

The mean knowledge and attitude indices of non-migrant workers were higher than those of their migrant counterparts; however, the differences were not significant ($p > 0.05$). Thus, non-migrant workers in the plantations had a better knowledge and attitude of HIV/AIDS than migrants. This may be due to the fact that the non-migrant workers stay more in the plantation than the migrants who always take time off to visit their families, thereby absenting from HIV/AIDS programmes conducted in the plantation. According to Yang (2004), migrants still have their permanent residency registration at their rural origin and most of them leave their family behind in the rural areas, they return to the rural areas periodically for personal and family reasons, typically returning to the urban areas after these rural duties. Intervention programmes on knowledge and attitude of HIV/AIDS should, therefore, be focused mainly on migrant workers in the plantation.

Conclusion

Knowledge of and attitude towards HIV/AIDS among workers in the plantation is quite high. However, some categories of staff still exhibit low knowledge and discriminating attitude towards HIV/AIDS. This discriminating attitude may fuel stigmatization which may affect productivity of affected workers in the plantation. Hence, intervention programmes aimed at increasing knowledge and eliminating stigmatization and other discriminatory attitudes among the plantation workers should be vigorously pursued.

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