 doi:10.20944/preprints202210.0460.v1

Article

HIV Knowledge, Attitudes and Practices in Agricultural Workers: A Precarious and Vulnerable Workforce in South Africa

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ABSTRACT: Previous studies have shown that agricultural works bear a disproportionately higher burden of HIV, which is the highest HIV prevalence ever reported in any working population in South Africa. This study aimed to assess HIV knowledge, attitudes and practices of agricultural workers, as a precarious and vulnerable workforce. A cross-sectional study design was employed. A pre-piloted paper-based questionnaire was administered to a consenting sample of agricultural workers. Descriptive and inferential statistics were performed using stata version 16.1 software, 0.05 level was used as a measure of significance. The majority of agricultural workers had adequate knowledge level (72.1%) regarding HIV/AIDS. Knowledge was significantly associated with having some level of education,) secondary education (AOR: 1.46, 95% CI:1.01-2.12), and post matric qualification (AOR: 3.07, 95% CI: 1.61-5.83). The attitudes level of workers towards HIV was good (88.1%). Attitude was negatively associated with residing in informal settlements (AOR: 0.64, 95% CI 0.43-0.97). Majority of participants exhibited poor prevention practices regarding HIV (60.9%). Half of participants reported low condom usage (50.9%) and multiple sexual partners (50.6%). The portrayed risky sexual behaviour establishes agricultural workers as an HIV high-risk population. Strategizing non-conventional approaches to HIV prevention and behaviour change communication targeting agricultural workers is recommended.

KEYWORDS: Occupation; vulnerable workers; informal sector; Occupational Health and Safety Challenges; low wage earners

1. INTRODUCTION

In 2020, there were 20.6 million people living with human immunodeficiency virus (HIV) in sub-Saharan Africa (SSA), which is more than half of all people living with HIV (PLHIV) globally (1). South Africa continues to bear the highest burden of HIV in the world, with an estimated 7.8 million people reported to be infected with HIV in 2020 (2). The majority of those infected are in their productive years, between ages 15-49. (3). HIV is therefore a major threat to the world of work as it not only affects and impacts individual workers and their families (4), but also the most productive segment of the labour force, imposing a huge cost on enterprises through reduced productivity, increased labour costs, and the loss of skills and experience (5).

Agricultural workers are among the most at risk populations, due to the nature of their work (6). Generally, they are exposed to poor living and working conditions, they

 doi:10.20944/preprints202210.0460.v1

work physically demanding jobs, most of the time away from their families, and they have limited access to healthcare services (7). For some, living and working conditions, coupled with migration status, exacerbates their vulnerability to HIV (7,8). Agricultural workers are further described as a highly mobile population, as they tend to be internal or external migrants, and most likely to work from farm to farm, which is driven by the seasonal nature of their work (9). Previous studies in South Africa show that agricultural workers bear a disproportionate burden of HIV, which was reported to be 39.5% in 2010 (10). This was the highest HIV prevalence ever reported in any working population in South Africa, underscoring agricultural workers' vulnerability to HIV. This high burden of HIV is further driven by several factors that combine behavioural and sexual practices (11).

The International Labour Organization defines precarious workers, as workers with "employment that offers compensation, hours, or security inferior to a 'regular' job" (12). Further, precarious work comes in many forms including work that is agency, temporary and seasonal (12). Meanwhile, the United Kingdom's Health and Safety Executive defines vulnerable workers as 'those who are at risk of having their workplace entitlements denied, or who lack the capacity or means to secure them' (HSE)" (13,14). Thus, agricultural workers, especially those who are women, young and are migrants are both precarious and vulnerable workers. Women's power inequalities with men have been reported to render them vulnerable to HIV (7). So agricultural workers who are already precarious and vulnerable workers, who are infected and/or affected by HIV are further pushed into precariousness and vulnerability by their inability to access HIV health services.

In South Africa, most agricultural workplaces do not have HIV prevention programs or services in the workplace, while there are many undocumented migrant agricultural workers who are reluctant to use public health services due to stigma and fear of deportation (15). Furthermore, women who migrate for economic reasons face various dynamics that render them even more vulnerable to HIV infection. Economic disempowerment of women, related to gender dynamics, restrict them to unskilled labour which includes sex work, commercial agricultural labour and domestic work (15). There is evidence suggesting that some migrant women working as agricultural labourers supplement their income with transactional sex (16). In a study conducted among agricultural workers in 2010 (10), women had a higher HIV prevalence when compared to men, with three out of 20 women having been forced to have sex in the past 12 months prior to data collection.

Adequate knowledge about HIV contributes towards positive HIV attitudes, and also influences people's sexual behaviour. Proper HIV knowledge allays misconceptions and reduces stigma against PLHIV (17). It also promotes safer sexual practices, which in turn reduces the risk of HIV transmission (17). Studies on knowledge, attitudes and practices are predominantly used to design public health policies and for planning health programs (17). In the South African context there is a research gap in this subject as there is a dearth of studies that have explored HIV knowledge, attitudes and practices within this population. Thus the aim of this paper, is to assess the HIV knowledge, attitudes and practices of agricultural workers, as a precarious and vulnerable workforce.

2. METHODS

2.1. Study design and setting

A cross sectional study design was used to determine HIV knowledge, attitudes and practices among agricultural workers, using a structured questionnaire as the data collection tool. This was an evaluation survey following HIV intervention programs for agricultural workers in the current study setting. The study was conducted in the farms across the province of Limpopo, in South Africa.

2.2. Study population and sampling

A two stage cluster sampling technique was used. The study involved 96 farms with an overall study population of 16,787 agricultural workers. We firstly grouped farms into

 doi:10.20944/preprints202210.0460.v1

three clusters, determined by their geographic location. We then randomly selected a number of farms from each cluster, the number determined by the overall contribution of each cluster towards the whole population. A total of 23 farms were selected from the three clusters, 15 farms were randomly selected from cluster A, four farms from cluster B and cluster C respectively.

A second sampling stage involved sampling the number of agricultural workers who would participate in the study. A sample size of 2101 agricultural workers was calculated using 95% confidence interval, 2% margin of error and a normal distribution response, which is 50%. The sample size was rounded off to 2500 as a way of ensuring a good sample size regardless of response rate. The sample size was then divided per participating farm, according to the contribution of each farm towards the sampled population. We then conducted a random sampling of participants from selected farms, all agricultural workers in the farms being eligible to participate in the study.

2.3. Data collection

A pre piloted paper based questionnaire adapted from a previous survey conducted in a similar population was used (10). Data measuring HIV knowledge, attitudes and practices was collected. The knowledge questions were adopted from the UNAIDS conceptualisation of HIV knowledge (18).

Male and female fieldworkers were recruited and trained on participant recruitment, enrolment and data collection. One of the appointment criteria for data collectors was the ability to speak participants' languages, as the questionnaires were in English and translated to a participants' language during data collection. The minimum requirement for recruited fieldworkers was a certification as HIV counsellor for ease of data collection which included disclosure of HIV status. Data collection took place over four months from September until December 2018.

2.4. Data analysis

Data were entered using Epi Data Software Version 3 and analysed using Stata Version 16.1. Descriptive analysis was conducted to analyse participants' demographic characteristics, HIV knowledge, attitudes and practices. When calculating knowledge scores those indicated as unsure were treated as incorrect and were included in the denominator. The number of knowledge items were added to give a score out of 14. Participants were classified as having good knowledge if they answered 12 or more questions correctly, and adequate knowledge if they answered 9 or more questions correctly. The knowledge score of 80 percent and above was considered as correct knowledge, 60 percent and above as adequate and any score less than 60 percent was considered as poor knowledge.

There were 7 items for attitudes score, and those who had no response were treated as incorrect and included in the denominator. Participants were considered having good attitude towards HIV and/or towards PLWH if they answered 5 or more questions correctly, and poor attitude if they answered less than 5 questions correctly. An attitude score of 70% and above was considered acceptable or good attitude, while any score less than 70% was considered as poor attitude. Practices were also added up to give a score of 7. Participants were considered as having good practices if they scored 6 or above, and poor practices if they obtained a score of 5 or below. A score of 80% and above was considered as good practices, 60% and above considered as adequate and below 60% was considered as poor sexual practices.

Logistic regression analyses were conducted to determine association between good HIV knowledge score, and good attitudes and practices scores on the independent variables (demographic characteristics). Predictor variables with a p-value less than 0.25 on the univariate logistic regression were included in the initial multivariate logistic regression

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model. The final multivariate model was developed by using a stepwise logistic regression approach and all variables that remained statistically significant at a cut-off p-value of 0.05 were included in the final model.

2.5. Ethical issues

Ethical approval for the study was obtained from the University of Pretoria Health Sciences Ethics Committee, with approval number 392/018. Written permission to collect data was obtained from the participating farms. Informed consent to participate in the study was sought from all study participants, and they were assured that no personal identity will be used during data analysis and publications.

3. RESULTS

3.1. Socio-demographic characteristics

Table 1 shows the socio-demographic characteristics of the participants. In total 2142 agricultural workers participated in the survey. The majority of participants were female 1177 (55.5%) and aged between 26 and 49 years (73.1%). Less than half of participants 1409 (45.9%) had secondary and matric education. The majority 1112 (51.9%) lived in the employer provided accommodation and 1307 (61.0%) lived with a partner. Participants were mostly employed on full time basis 1129 (53.4%), while less than half 940 (46.2%) had less than 3 years' work experience. Almost a third of participants 690 (32.2%) were married, 570 (26.7%) single and 761 (35.6%) in a relationship. The majority 1594 (74.4%) were South African, with more than a quarter 431 (20.1%) coming from Zimbabwe, while a few came from Mozambique 109 (5.1%) and other countries (0.2%).

Table 1. Socio-demographic characteristics of participants.

Characteristic	Categories	Frequency	Percent (%)	Males (%)	Females (%)
Sex (N=2121)	Female	1177	55.5		
	Male	944	44.5		
Age group (N=2116)	18-25	287	13.5	6.7	6.8
	26-35	782	36.9	17.7	19.2
	36-49	771	36.3	14.4	21.9
	>49	276	13.0	5.7	7.3
Education (N=2133)	No school	159	7.4	3.3	4.1
	Primary	511	23.9	11.4	12.5
	Secondary and matric	1409	45.9	28.3	37.1
	Post matric qualification	54	2.5	1.2	1.3
Nationality (N=2142)	South African	1594	74.4	30.1	44.3
	Mozambique	109	5.1	3.7	1.5
	Swaziland	3	0.1	0.0	0.1
	Zimbabwe	431	20.1	10.6	9.5
	Swaziland and other	5	0.2	0.1	0.1
Type of residence (N=2138)	Work accommodation	1112	51.9	28.9	22.9
	Rented accommodation	33	1.5	0.7	0.8
	Own property	858	40.0	11.6	28.6
	Stay with friends	2	0.1	0.04	0.04
	Informal settlement	133	6.2	3.0	3.3

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Living with partner (N=2130)	Yes	1305	61.0	27.9	32.9
	No	825	38.6	16.3	22.4
Type of employment (N=2112)	Full time	1129	53.2	28.1	25.1
	Part time	983	46.3	16.3	30.1
Work experience (N=2107)	< 3 years	940	43.8	19.9	23.8
	4-9 years	684	31.9	13.9	18.2
	>10 years	483	22.5	10.2	12.3
Relationship status (N=2129)	Single	570	26.7	11.1	15.3
	In a relation or > 1 partner	761	35.6	14.7	20.6
	Married	690	32.2	17.5	14.5
	Divorced	35	1.6	0.2	1.4
	Widowed and other	73	3.4	0.4	3,0

3.2. Knowledge on HIV

The proportion of agricultural workers who responded correctly to each of the knowledge items are shown in table 2. Knowledge was measured through a series of 14 questions about HIV transmission, prevention and treatment. Most participants 1716 (80.2%) knew that HIV cannot be transmitted through sharing a toilet, and 1576 (73.6%) knew that HIV can be transmitted through blood transfusion. The majority of participants, 1713 (80.1%) knew that condoms prevent HIV transmission when properly used, and more than half, 1309 (61.2%) knew that male circumcision reduces chances of HIV transmission. More than a quarter 445 (20.8%) of participants believe that HIV can be cured by having sex with a virgin. The lowest proportion of correct responses (58.3%) was obtained for a question on whether there is a cure for HIV, where 892 (41.7%) said there is a cure for HIV.

In total there were 200 (25.7%) participants who had correct knowledge on all knowledge items. Overall, 778 (36.4%) participants had good knowledge score, while 526 (24.6%) had poor knowledge of HIV. The mean score of 14 knowledge items was 10 (.720797), with the median score 11 (0.785).

Table 2. Participant knowledge on HIV.

HIV knowledge question	Correct knowledge n = 2139	Total %
A person can get HIV from working with someone who is infected with HIV	1898	88.7
A person can get HIV through sharing a toilet with infected persons	1716	80.2
Condoms prevent HIV when properly used	1713	80.1
Sex with a virgin can cure HIV	1694	79.2
HIV does not exist	1616	75.6
A pregnant woman can transmit HIV to unborn child	1581	73.9
STI's increase the risk of HIV	1576	73.7
One can get HIV from blood transfusion	1576	73.7
A breastfeeding woman can transmit HIV to her baby	1567	73.3
A healthy looking person can have HIV	1559	72.9
You can get HIV through kissing	1394	65.2
Male circumcision reduces HIV transmission	1309	61,2

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One can get HIV from being bitten by a Mosquito which has bitten someone with HIV	1271	59.4
There is no cure for HIV	1247	58.3
Number of participants with score >12	778	36.7
Overall correct knowledge	200	25.7
Mean	10	72.0
median	11	78.6

Table 3 summarizes the univariate and multivariate logistic results on association between correct knowledge and socio-demographic variables. A p-value of 0.25 was used as a cut-off value for inclusion in the multivariable logistic regression model. Stepwise logistic regression approach and all variables that remained statistically significant at a cut-off p-value of 0.05 were included in the final model.

Factors associated with good knowledge included employees who had completed primary school and grade seven (aOR: 1.76, 95% CI: 1.19 – 2.62, p = <0.001), employees who had completed secondary school (aOR: 1.46, 95% CI: 1.01 – 2.12, p = 0.04) and employees who had completed post matric (aOR: 3.07, 95% CI: 1.61 – 5.83, p = < 0.001).

Table 3. Logistic regression analysis of factors associated with good knowledge score.

Variable	OR	95% CI	P-value	aOR	95% CI	P-value
Sex						
Female	Ref	-	-	-	-	-
Male	1,00	(0,84 to 1,21)	0,93			
Nationality						
South African	Reference	-	-	-	-	-
Mozambique	0,48	(0,3 to 0,77)	0,00			
Swaziland	0.90	(0,08 to 9.98)	0,93			
Zimbabwe	1,40	(1,12 to 1,73)	0,00			
Other	1,00					
Accommodation						
Work	Ref	-	-	-	-	-
Rented	0.79	(0,38 to 1.65)	0,54			
Own Property	0.91	(0,75 to 1,09)	0,30			
Squatting with friends	1,00					
Informal settlement	0,33	(0,21 to 0,53)	0,00			
Age						
18-25	Ref	-	-	-	-	-
26-35	1,22	(0,91 to 1,63)	0,18			
36-49	1,42	(1,06 to 1,89)	0,02			
>49	1,12	(0,79 to 1,59)	0,54			
Work Experience						
Less than 3 years	Ref	-	-	-	-	-
4 to 9 years	1,18	(0,96 to 1,45)	0,11			
More than 10 years	0,16	(0,93 to 1,46)	0,19			
Marital Status						
Single	Ref	-	-	-	-	-
short term / long term partner, > 1 relationship	0,86	(0,69 to 1,08)	0,21			
Married	1,18	(0,94 to 1,48)	0,16			

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Divorced	1,04	(0,51 to 2,1)	0,92			
Widowed and other	1,09	(0,66 to 1,8)	0,73			
Education						
No school	Ref	-	-	-	-	-
primary and grade 7	1,78	(1,2 to 2,63)	0,00	1,76	(1,19 to 2,62)	0,01
secondary and matric	1,49	(1,03 to 2,15)	0,03	1,46	(1,01 – 2,12)	0,04
Post matric qualification	3,13	(1,65 to 5,93)	0,00	3,07	(1,61 to 5,83)	0,00

3.3. Attitudes towards HIV

Attitude was measured in a series of 7 questions that tested participants' attitude towards HIV and PLWH. The majority of participants 1915 (89.5%) were not afraid to share a meal with HIV positive persons (Table 4), work with HIV infected person 1982 (92.7%) or share a toilet with someone who has HIV 1903 (89.0%). On the contrary there were slightly more respondents 328 (15.3%) who said they were not willing to look after a relative or friend who is sick with HIV. Most participants 1924 (89.9%) said they can buy food from someone who has HIV, and a majority 1946 (91.0) said their children can go to school with a HIV positive child. There were 934 (43.7%) of participants who answered all attitude items correctly, while 1753 (81.9%) participants had good attitude score, and 198 (9.04%) had poor knowledge of HIV. The mean score of 7 attitude items was 5.8 (84.1), with a median score of 6 (85.7%).

The results of multivariate regression analyses showed that residing in informal settlements was associated with good attitudes towards HIV and AIDS (aOR: 0.64, 95%CI: 0.43-0.97, p= 0.04). There was no further association between good attitudes and the rest of independent variables.

Table 4. Attitude of participants towards HIV and people living with HIV.

Variable	Yes: n(%)		No: n(%)	
	n	*%*	*n*	*%*
Work with someone who has HIV	157	7.3	1982	92.7
Let my child go to school with a HIV positive child	193	9.0	1946	91.0
Buy food from someone who has HIV	215	10.1	1924	89.9
Afraid to share a meal with a HIV positive person	224	10.5	1915	89.5
Use the same toilet as people with HIV	236	11.0	1903	89.0
Look after relative or friend who is sick with HIV	328	15.3	1811	84.7
Share a room with a TB positive person	1031	48.2	1108	51.8
Overall correct attitude	1668	77.9		
Mean score	5.8	84.1		
Median	6	85.7		

3.4. Sexual practices

Sexual practices of participants were assessed based on 7 items that sought to understand sexual risk behaviour, condom usage and workplace sexual harassment (see Table 5). In total there were 405 (18.9%) participants who got all practices items correctly. Half (50.6%) of participants had more than one sexual partner, while less than quarter 316 (15%) said they had sex with a casual partner in the past three months. A few participants

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53 (2.5%) had had sex with commercial sex workers, with more men than women reporting sex with commercial sex worker. Almost half of the participants 1042 (49.1%) had not used condom a time they had sex.

Table 5. Sexual practices.

	Male		Female	
Variable	Yes	No	Yes	No
Forced to have sex	14	874	18	1089
Experienced sexual harassment	20	858	30	1090
Received money for sex	33	814	54	1032
Had sex with commercial sex worker	38	643	15	780
Had sex with casual partner	182	517	134	679
Used condom last sex	433	477	547	565
One sexual partner	468	476	553	624
Overall good practices score	836 (39.1)			
Mean score	4.9 (70.2)			
Median	5 (71.4)			

There were few participants who reported to have experienced sexual harassment 50 (2.3%) or being forced to have sex 32 (1.6%), while 87 (4.1%) had received money for sex. Female participants were the majority to have experienced the above, 30 (60%) had experienced sexual harassment, 18 (56.3%) had experienced forced sex, and 54 (62.1%) reported to have received money for sex. Overall, 836 (39.1%) participants had a good sexual practices score, while 792 (37%) had a poor sexual practices score. The mean score of 7 practices items was 4.9 (.702), with the median score of 5 (0.714). There were no factors associated with good sexual practices of how HIV and AIDS are mitigated after adjusting for the variables.

Table 6. Logistic regression analysis of factors associated with good sexual practices.

Variable	OR	95% CI	P-value	aOR	95% CI	P-value
Sex						
Female	Ref	-	-	-	-	-
Male	1,01	(0,85 to 1,2)	0,91			
Nationality						
South African	Ref	-	-	-	-	-
Mozambique	0,88	(0,59 to 1,33)	0,55			
Swaziland	1,00					
Zimbabwe	1,66	(1,34 to 2,06)	0,00			
Other	1,72	(0,11 to 27,54)	0,70			
Accommodation						
Work	Ref	-	-	-	-	-
Rented	0,61	(0,29 to 1,29)	0,20			
Own Property	0,86	(0,71 to 1,03)	0,10			

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Squatting with friends	1,40	(0,09 to 22,48)	0,81			
Informal settlement	0,54	(0,36 to 0,8)	0,00			
Age						
18-25	Ref	-	-	-	-	-
26-35	0,94	(0,71 to 1,24)	0,66			
36-49	1,00	(0,76 to 1,32)	0,98			
>49	0,75	(0,54 to 1,06)	0,11			
Work Experience						
Less than 3 years	Ref	-	-	-	-	-
4 to 9 years	1,02	(0,84 to 1,25)	0,81			
More than 10 years	1,08	(0,87 to 1,36)	0,48			
Marital Status						
Single	Ref	-	-	-	-	-
short term / long term partner, > 1 relationship	1,91	(1,51 to 2,42)	0,00			
Married	3,34	(2,63 to 4,25)	0,00			
Divorced	0,60	(0,24 to 1,48)	0,27			
Widowed and other	0,63	(0,34 to 1,18)	0,15			
Education						
No school	Ref	-	-	-	-	-
primary and grade 7	1,25	(0,86 to 1,81)	0,25			
secondary and matric	1,22	(0,87 to 1,72)	0,25			
Post matric qualification	1,40	(0,75 to 2,64)	0,29			

4. DISCUSSION

This study aimed to investigate knowledge, attitudes and practices regarding HIV among agricultural workers in South Africa. The study results show that a majority of agricultural workers have correct to adequate knowledge of HIV, with less than 10 percent (9.35%) who answered all knowledge items correctly. For the most part, workers seemed knowledgeable about the routes of transmission, though they still have insufficient knowledge in certain aspects of the disease such as the impact of circumcision in reducing HIV transmission and the chronic nature of HIV, with a number of workers (41.7%) having a misconception that HIV is curable. More concerning was a number of participants (20.8%) who believe that sleeping with a virgin can cure HIV. In South Africa, a country with a high prevalence of sexual violence against women and girls (19), this myth may perpetuate sexual violence or abuse, particularly against young women.

Overall adequate knowledge on HIV transmission can be ascribed to HIV educational and awareness campaigns that are rendered to the farms by various non-governmental organizations (NGOs). Education was found to be associated with knowledge scores as participants with some level of education were up to three times more likely to know about HIV, relative to those with no education. Our findings are consistent with those of a study conducted within a similar population in Zimbabwe, where participants with low levels of education, especially no schooling or primary school educational level, were more likely to have poor HIV knowledge (20).

The prevalence of good attitudes towards people living with HIV (PLWH) in this study was very high, with a majority of responses (77.9%) having correct responses to all attitude questions. Although the logistic regression showed that there was a positive association between being from Zimbabwe and a positive attitude towards HIV and PLWH,

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when we conducted adjusted logistic regression there was no association between nationality and attitude. Our results showed a positive association between residing in informal settlements and good attitude towards HIV and PLWH. The cause for this association is not clear, and there are no prior studies which have reported such findings. Good attitudes are important in reducing HIV related stigma and discrimination, which has been identified as one of the barriers in the uptake of HIV prevention and treatment services (21,22).

Though the findings presented an overall adequate knowledge of HIV transmission, it is notable that such knowledge does not translate to practices, as respondents still engaged in high risk sexual behaviour. The sexual practices results show low condom usage (48%) and more than half participants (50.6%) having had sex with multiple sexual partners. High HIV prevalence has been reported among people with multiple sex partners (23). Thus it can be concluded that one of the factors behind the high prevalence of HIV in the study population is engaging in sex with more than one partner, made worse by low condom usage. Men were less likely to use condoms in last sexual intercourse, which differs from the previous study findings in similar setting, where more women than men were not using condoms (6). The current findings show that women are more engaged in transactional sex than men, which affirms findings from previous studies (6,16,20). Though the prevalence of sex with a commercial sex worker is low (2.5%), more men than women reported having had sex with a commercial sex worker, which confirms previous findings that there is an easy access to commercial sex workers in and around commercial agricultural areas (11,20).

The results also showed that there were more men than women who were involved in concurrent sexual partnering, and casual sex, which remains consistent with the previous study on a similar setting (6). The current study findings suggest low risk of sexual harassment and forced sex among agricultural workers in general. However, the vulnerability of women to sexual violence and high risk exposure to HIV still stands out, as there were more women than men who were exposed to forced sex and sexual harassment. In a field that provides income opportunities for low skilled workers it is important to strive for gender equity in work opportunities and earnings, in order to reduce the income gap between men and women, which may eventually contribute towards exchanging of sex for money.

4.1. Implications for HIV programmes

The findings from this research have important implications for sector specific HIV policy and program planning. Though there have been commendable HIV program interventions within this study population, as demonstrated by their level of HIV knowledge, the sexual practices do not correspond to such knowledge. Future programs should take the findings of this study in consideration when strategizing interventions for reducing the incidence of HIV within the study population.

4.2. Strengths and Limitations

The major strength of this study is the large sample size. Furthermore, this study provides profound understanding on the HIV patterns and sexual behaviours of the study population. The limitation is that participants may have answered to their advantage, in order to sound correct, as the was interviewer administered.

5. CONCLUSION

Although on average agricultural workers seemed to have adequate knowledge about HIV, the study results suggest a need to find non-conventional methods of promoting safer sex practices among agricultural workers. Further approaches on HIV prevention methods in the study population should take cognisance of the fact that even though

HIV education has been successful in increasing HIV knowledge, risky sexual practices are still rife within the population.

The findings further highlight the vulnerability of agricultural workers, providing an answer to why the prevalence of HIV is way above other working populations. The current risky sexual behaviour establishes agricultural workers as a high risk groups that is important to the control of the HIV epidemic. There is a need for further studies that will seek to understand agricultural workers' sexual behaviour in depth, probing underlying factors that promote risky sexual behaviour within the population.

Acknowledgments: We would like to thank the National Institute for Occupational Health (NIOH) and the National Health Laboratory Services (NHLS) for providing a platform to conduct this project. We also acknowledge the South African Medical Research Council (SAMRC), Hoedspruit training trust (Hlokomela), Centre for Positive Care (CPC) and Choice Trust for collaborating with us in this research project. We further acknowledge all farmers and farms that granted us permission to conduct the research in their properties. Finally, we acknowledge and express our deep gratitude to all farmworkers who participated in this study.

Author Contributions: NM contributed to this work through conceptualization, study design, data acquisition, data analysis, interpretation of results, and drafted the manuscript. SK contributed to the conceptualization, interpretation of results, drafting of manuscript and revised manuscript. JR and MM contributed to the acquisition, analysis, interpretation of data, and revision of the draft manuscript. YS, NST, NS and CD contributed to the conceptualization and study design, acquisition of data, and revision of the manuscript. MZ contributed to the conceptualization, study design, analysis and interpretation of results through supervision, and revised the manuscript. All authors approved the final version and all authors agree to be accountable for all aspects of this work.

Conflicts of Interests: The authors declare no conflicts of interest.

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