

## **HIV/AIDS in Construction: Are Workers Aware?**

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### **Abstract**

The International Labor Organization (ILO) and the World Health Organization (WHO) concur that occupational health and safety in Africa needs strengthening. In support of this realization are the need to maintain and promote workers' health and working capacity, and the need to become conducive to safety and health by improving both the working environment and work. The fight against HIV/AIDS in the workplace is a continental priority. In the absence of any other definitive or similar study, this study aims to establish a valid baseline assessment of the levels of knowledge, types of attitudes, and perceptions of construction workers in South Africa regarding HIV infection and AIDS. This paper reports only on findings concerning the level of knowledge and awareness of HIV/AIDS among construction workers as determined during the first phase of an exploratory study commenced in August 2002.

### **Keywords**

HIV/AIDS, productivity, attitude, behavior, replacement costs, training costs

### **1. Introduction**

No sector of society or national economy is immune to the effects of HIV/AIDS, which has been established to be an all-pervasive, crosscutting dimension of socio-economic development (Development Works, 2002). Its socio-economic consequences are already being felt across all economic sectors. It has recently been suggested that South Africa has one of the world's worst HIV/AIDS epidemics with more people living with the AIDS virus than any other country in the world (Abdool Karim, 2000; UNAIDS, 2002) – an estimated 4.7 million people or about one tenth of the estimated South African population. Construction workers in South Africa made up on average 5.7% (409,300) of the entire workforce (7.12 million) for the period 1994 to 1997 (Haupt, 2001 citing the International Labor Organization, 1999). Assuming that the prevalence of the disease is uniformly distributed across the population, extrapolation of these statistics suggests that an estimated 41,000 construction workers might be living with HIV/AIDS. Should this indeed be the case the consequences for the industry will clearly be serious.

### **2. Research Methodology**

For the purposes of this study, data was collected from a sample of 250 construction workers in the Western Cape and Eastern Cape provinces of South Africa. The investigators adapted a questionnaire

previously developed by the Human Sciences Research Council (HSRC).<sup>1</sup> Considering that the authors encountered large-scale resistance among workers to provide blood samples, it was not feasible to test for HIV/AIDS using Enzyme-linked Immunosorbent Assays (ELISAs). Therefore, the relationship between behaviors and HIV serostatus could not be examined.

### 3. Demographics

Males made up 72% of the sample with a median age of 31.0 years. The ethnic make-up of the sample was Africans 70.3%; Coloreds 28.3%; and Whites 1.0%. Most respondents (77%) had at least 8 years of schooling. Xhosa was the most widely spoken language followed by Afrikaans. English was therefore largely a third language. All the white respondents had English as their home language.

Workers had worked in construction for a median 2.0 years (range 0.01 to 38 years), a median 0.5 years (range 0.01 to 30 years) for their current employers and a median 0.25 years (range 0.01 to 10 years) on present projects. The sample consisted of unskilled workers 48%; semi-skilled workers 12%; skilled workers 23%; and site administration 17%.

#### 3.1 Discussion

The gender distribution of the sample confirms the deep-rooted male dominance of the industry. The reasonable level of schooling mostly beyond Grade 8 or Standard 6 (>8 years of schooling) is an unexpected finding. The construction industry has generally been presented as one where workers have low levels of education. Considering that most of the sample was unskilled African workers, this finding hints at the inverse relationship as a legacy of the previous apartheid era between improved education and opportunities for upward mobility of workers in this group in the general South African economy. Cross-tabulation of level of education with general workers who incidentally made up a little less than half the sample indicated that almost two-thirds of them had education beyond Grade 8. The distribution of education levels of general workers was Grade 8-10 (Std. 6-8) 37.8%; Grade 11 (Std. 9) 15.6%; Grade 12 (Matric or Std. 10) 6.7%; and higher than Grade 12 4.4%. Of interest is the 4.4% with post high school education who were general workers. This finding further confirms the historic lack of investment in training by construction firms. Respondents had worked for fairly short periods in construction, with their present firms and also on current projects. This is not unusual for an industry that is characterized by discontinuous employment, high staff turnovers, migrant labor and large-scale subcontracting.

### 4. Knowledge about HIV/AIDS

It is evident from Table 1 that almost all respondents (94.9%) had heard about HIV or AIDS and knew of its existence. Further, a similar number of respondents regarded HIV/AIDS as a serious community problem. However, only 43.4% viewed it as serious problem at work.

**Table 1: Awareness and Treatment of HIV or AIDS**

	Yes	No	Don't know
Have you heard of HIV or AIDS?	94.9%	2.1%	3.0%
Do you think that there really is something such as AIDS or HIV?	94.9%	2.1%	3.0%
Is HIV/AIDS a serious problem in your community?	94.9%	3.1%	2.0%
Is HIV/AIDS a serious problem in your workplace?	43.4%	30.3%	26.3%
Can doctors treat and cure HIV/AIDS?	10.1%	84.8%	5.1%
Can traditional doctors treat and cure HIV/AIDS?	6.1%	83.8%	10.1%
Is there a vaccine or injection against HIV/AIDS?	14.6%	67.7%	17.7%

<sup>1</sup> Human Sciences Research Council Study of knowledge, attitudes, perceptions and beliefs regarding HIV and AIDS. South Africa: Human Sciences Research Council (Focus Group Health Care Group, 1992; Pretoria: South African Data Archive-distributor, 2000

The data in Table 1 indicates that while most respondents knew that neither doctors (84.8%) nor traditional or witch doctors (83.8%) could treat and cure HIV/AIDS there were 14.6% who thought that a vaccine or injection against the affliction existed and 17.7% who were uncertain. Together these respondents made up almost one-third of the sample.

It is evident from Table 2 that respondents generally had correct knowledge about ways in which HIV/AIDS is contracted. Of concern are their responses relative to whether it was possible to be infected as a result of:

- Being bitten by insects such as mosquitoes with 58.8% of the sample agreeing that it was not possible; and
- Caring for someone who has HIV/AIDS with 62.6% agreeing that it was not possible.

**Table 2: Ways of contracting HIV/AIDS**

Means	Yes	No	Don't know
Sex with someone who has HIV/AIDS	92.9%	4.0%	3.1%
Sharing cutlery with someone with HIV/AIDS	7.1%	82.8%	10.1%
Contact with blood of someone with HIV/AIDS	91.8%	4.1%	4.1%
Using same syringe needle as someone with HIV/AIDS	86.7%	2.0%	11.3%
Insect bites such as from mosquitoes	11.3%	58.8%	29.9%
An unborn baby from its pregnant mother infected with HIV/AIDS	81.6%	7.1%	11.3%
Someone with many sexual partners more easily infected with HIV/AIDS	90.9%	5.1%	4.0%
Someone with HIV/AIDS coughs or sneezes on you	7.1%	84.8%	8.1%
Possibility of caring for someone with HIV/AIDS without being infected	62.6%	29.3%	8.1%
Greater likelihood of HIV infection when having sex with a woman who is menstruating?	73.5%	12.2%	14.3%

With respect to the transmission of HIV by means of sexual fluids during sex, respondents demonstrated correct knowledge (more than 80%) with the exception of transmission by means of spit where only 71.1% believed it was not possible. These findings are shown in Table 3.

**Table 3: Transmission by sexual fluids during sex**

Sexual fluid	Yes	No	Don't know
Vaginal fluids	84.5%	6.2%	9.3%
Perspiration (sweat)	7.2%	82.5%	10.3%
Sperm	91.8%	5.1%	3.1%
Spit	11.3%	71.1%	17.5%

According to Colvin (2000) STIs pose one of the greatest threats and challenges to public health in sub-Saharan Africa, and ranks as a major cause of the loss of healthy life. Most construction workers (82.7%) had heard about sexually transmitted infections (STIs), while 15.3% had no prior knowledge of STIs. The responses relative to the relationship to HIV/AIDS of STIs and aspects of preventing STIs as shown in Table 4 suggest that respondents' knowledge on this issue is not what it should be with only about 70% having correct knowledge.

**Table 4: Knowledge of STIs**

	Yes	No	Don't know
Someone suffering from STIs has greater chance of getting HIV/AIDS	70.0%	8.9%	21.1%
Prevention of STIs through use of medication	69.7%	15.7%	14.6%
Prevention of STIs through injections	63.2%	18.4%	18.4%
Prevention of STIs through use of condoms during sex	87.9%	4.4%	7.7%

The use of condoms was the most popular action (72.7%) taken by respondents to protect themselves against HIV/AIDS.

#### 4.1 Discussion

Generally most of the respondents had correct knowledge of HIV/AIDS. While this finding is consistent with the claims of Harrison, Smit and Myer (2002) and Galloway (1999), there were certain areas of knowledge where their knowledge was not quite what it should have been. According to Shishana and Simbayi (2002) knowledge deficit is highlighted through incorrect or high numbers of “don’t know” responses. The former suggests a distinctly incorrect view while the latter reflects uncertainty.

With respect to whether respondents regarded HIV/AIDS as a serious problem at work, 30.3% possibly had an incorrect view against the background that HIV/AIDS threatens every sector of society and the national economy and its effects are being felt by all economic sectors (Development Works, 2002) including construction. On the other hand many respondents (26.3%) reflected uncertainty. Similarly, respondents’ knowledge about the existence of a vaccine or injection against HIV/AIDS was incorrect or uncertain. In particular, 14.6% had deficient knowledge and 17.7% were uncertain.

Other areas of highest incorrect knowledge and uncertainty include knowledge about the possibility of being infected with HIV/AIDS by means of bites from insects such as mosquitoes; caring for someone who has HIV/AIDS; using the same syringe needle as someone with HIV/AIDS; sharing cutlery with someone with HIV/AIDS; and having sex with a woman who was menstruating.

#### 4.5.1 Relationship between HIV/AIDS knowledge and socio-demographic variables

In order to analyze the relationships between various demographic characteristics and HIV/AIDS knowledge a composite scale of knowledge was developed from the responses to the above issues as follows:

$$(3n_1 + 2n_2 + n_3)/N \text{ where}$$

$n_1$  = number of respondents with correct knowledge;  $n_2$  = number of respondents with uncertain knowledge;  $n_3$  = number of respondents with incorrect knowledge; 3 = score for correct knowledge; 2 = score for uncertain knowledge; 1 = score for incorrect knowledge; and N = total number of respondents with respect to each issue, producing a composite score between 1 and 3. The higher the composite score the better the level of knowledge of HIV/AIDS relative to each issue.

With respect to all areas of HIV/AIDS and STIs, female workers had better levels of knowledge than their male counterparts. Since the closer the scores are to 3 the more desirable the level of knowledge, the level of knowledge pertaining to Sexually Transmitted Infections (STIs) is poor and cause for concern. The overall composite score is 2.70. These results are shown in Table 5.

**Table 5: Levels of knowledge of HIV/AIDS by gender**

Knowledge area	Composite Scores	
	Male	Female
Awareness	2.72	2.74
Treatment	2.66	2.75
Transference and transmission	2.70	2.85
STIs	2.58	2.60
Overall	2.67	2.74

African construction workers had poorer levels of knowledge than their Colored and White counterparts with respect to all areas of HIV/AIDS. Their composite scores for knowledge of STIs, transference and transmission of HIV/AIDS, treatment and awareness of HIV/AIDS was lower than

2.70 in each case. In each of these areas except for knowledge about STIs, White workers had the highest levels of knowledge of the three ethnic groups – almost the maximum of 3.0 since the closer the scores are to 3 the more desirable the level of knowledge. Therefore the level of knowledge pertaining to Sexually Transmitted Infections (STIs) among African workers is poor and deserving of attention. The overall composite score is 2.33. These results are shown in Table 6.

**Table 6: Levels of knowledge of HIV/AIDS by ethnicity**

Knowledge area	Composite Scores		
	White	Colored	African
Awareness	3.00	2.80	2.68
Treatment	3.00	2.79	2.64
Transference and transmission	2.93	2.82	2.69
STIs	1.75	2.61	2.62
Overall	2.67	2.76	2.66

From Table 7 it is evident that with respect to all areas of HIV/AIDS unskilled construction workers had poorer levels of knowledge than their counterparts with the exception for their knowledge on STIs. In this case semi-skilled workers had the poorest knowledge. The composite scores of general workers for knowledge of STIs, transference and transmission of HIV/AIDS, treatment and awareness of HIV/AIDS was lower than 2.70 in each case. In particular their poor level of knowledge about STIs (2.45) and transferences and transmission of HIV/AIDS (2.46) are of concern, especially considering that unskilled workers make up the majority of the workforce on construction sites.

**Table 7: Levels of knowledge of HIV/AIDS by employment**

Knowledge area	Composite Scores			
	Site Administration	Skilled	Semi-skilled	Unskilled
Awareness	2.78	2.79	2.77	2.66
Treatment	2.65	2.70	2.67	2.69
Transference and transmission	2.84	2.75	2.81	2.46
STIs	2.74	2.69	2.38	2.45
Overall	2.75	2.73	2.66	2.57

When comparing the overall composite scores for each of the areas of HIV/AIDS, knowledge about STIs was the poorest (2.57) and awareness the highest (2.75). The level of knowledge pertaining to Sexually Transmitted Infections (STIs) is poor across all socio-demographic variables and cause for concern. The overall composite score is 2.68.

**Table 8: Levels of knowledge of HIV/AIDS by education**

Knowledge area	Composite Scores			
	Grade 12 and above	Grade 8 to Grade 12	Below Grade 8	No school
Awareness	2.80	2.75	2.61	2.58
Treatment	2.68	2.70	2.83	2.61
Transference and transmission	2.87	2.65	2.62	2.69
STIs	2.75	2.51	2.60	2.27
Overall	2.78	2.65	2.67	2.54

Education level was the social category that should most differentiate between good and poor knowledge (Shishana and Simbayi, 2002). Therefore it is not surprising that those who had not attended school had the poorest knowledge about HIV/AIDS (2.54). Those who had schooling of Grade 12 and beyond (14 years plus) had the best knowledge (2.78). Interestingly, the difference in knowledge levels between the other education categories was not as large or progressively better as amount of schooling increased. As with the other demographic variables, knowledge levels about

STIs were poorest irrespective of education category (2.53). When comparing the overall composite scores for each of the areas of HIV/AIDS, knowledge about treatment, transference and transmission were the highest (2.71). The overall composite score is 2.66. These results are shown in Table 8.

## 5. Conclusions

This study not only confirmed in the main the findings of other studies. It provided new knowledge that should inform the development of effective responses and interventions to alleviate the threat of HIV/AIDS to the construction industry. It identified both the specific construction worker risk groups and areas of incorrect and uncertain knowledge, attitudes and behaviors.

This study suggests that contractors can do much more to improve levels of knowledge and awareness relative to HIV/AIDS. While construction workers generally have high levels of correct knowledge, perceptions and attitudes on most issues relative to the disease, their employers have not played a major contributory role. Even though they considered the disease a problem in their communities construction workers did not regard it as a serious one at work. This perception might be a consequence of the lack of attention given to it by their employers.

The study highlighted several areas where construction workers either had incorrect and deficient knowledge and attitudes or demonstrated high levels of uncertainty. Effective interventions should therefore emphasize and address these particular areas, which include the non-existence of a vaccine or injection against HIV/AIDS infection; transmission of HIV/AIDS by means of insect bites such as from mosquitoes; infection by having sex with a woman who is menstruating; infection by caring with someone with HIV; prevention of STIs through injections and medication; and relationship between STIs and HIV/AIDS. Contractors should introduce accessible workplace-based intervention programs as part of a broad-based response that complements existing and new national promotion programs (UNAIDS, 2002), which include emphasis on promoting safe and healthy sexual behavior; improving the management and control of STIs; providing voluntary counseling and testing; and providing appropriate post-exposure services (Shishana and Simbayi, 2002).

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