

Should HIV and AIDS workplace programmes still be advocated in the automotive industry?

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Orientation: In light of the human immunodeficiency virus (HIV) pandemic, and in order to improve competitiveness in the South African private sector, many structures have implemented subsidised workplace programmes.

Research purpose: The aim of this study was to collect baseline data regarding the knowledge, attitudes, practices and belief (KAPB) of employees in the automotive industry in relation to HIV and AIDS, in order to assess the need for HIV and AIDS workplace programmes.

Motivation for the study: Given the abundance of HIV and AIDS information, the question is whether these workplace programmes' efforts are still relevant.

Research design, approach and method: A quantitative descriptive study design was used using a self-administered questionnaire covering questions about KAPB with regard to HIV and AIDS. The data collection took place in seven automotive supplier companies in South Africa ($n = 733$) who were going to implement HIV and AIDS workplace programmes with the support of the Automotive Industry Development Centre in the Eastern Cape.

Main findings: High-risk behaviour, as indicated by sexual relations with more than one partner in the last 12 months, occurred in between 12% (management) and 42% (cleaners) of employees. All risk behaviour indicators showed significant differences ($p < 0.05$) between management and administrative staff on the one hand and technicians, operators and cleaners on the other. Despite being aware of an HIV policy, more than 50% of employees indicated that they would not be willing to disclose their status.

Practical/managerial implications: As HIV and AIDS risk behaviour and stigma remain a problem, HIV infection with associated health problems may threaten productivity in the automotive industry if no measures are taken to address the impact on employees and the company.

Contribution: This study strongly supports the conclusion that KAPB studies can still provide important information to tailor HIV workplace programmes according to employee needs.

Introduction

The automotive industry employs a large workforce in the Eastern Cape province of South Africa where the high incidence and prevalence of HIV, especially in the age group 18–49 (Health Systems Trust, 2013) remains a threat to employees' health. After years of HIV prevention campaigns, industry often assumes that employees are familiar with HIV and AIDS, have developed favourable attitudes and consequently have improved their risk behaviour. However, this may not be the case and there is a paucity of recent data concerning HIV and AIDS within the workplace in South Africa. The aim of this study was to determine whether there is a need to improve knowledge, attitudes, beliefs and practices as part of HIV and AIDS workplace programmes, specifically within the automotive industry.

Despite global, national and regional efforts to prevent new HIV infections and to lower the number of AIDS-related deaths (UNAIDS, 2009), the pandemic continues to threaten employee health as well as organisations' competitiveness and profits (United Nations Department of Economic and Social Affairs/Population Division, 2009). For instance, Van Zyl and Lubisi (2009) describe a rising trend in the incidence of HIV and AIDS in the manufacturing sector of the South African economy, with a consequent negative impact on skill levels, productivity, labour costs and production costs. This trend is despite the fact that many larger companies are more aware of the threat of this pandemic and commit resources towards managing HIV and AIDS in the workplace through appropriate programmes (Global Business Coalition [GBC] & International Finance Corporation [IFC], 2010). However, such efforts seem to focus and report more on the

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cost and impact of HIV and AIDS treatment programmes for employees (Setswe, 2009) than on HIV prevention programmes. Yet, according to the *Employment Equity Act* (Act No. 55 of 1998, Department of Labour, 2000), HIV and AIDS workplace programmes are one of the most effective ways of reducing the impact of HIV and AIDS in the workplace. The Automotive Industry Development Centre – Eastern Cape (AIDC EC) is in the process of marketing and implementing subsidised HIV and AIDS workplace programmes within the manufacturing sector of the automotive industry. Targeting mainly small and medium supplier companies, the proposed programme, supported by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), places a strong focus on HIV prevention.

In 2009 the component manufacturing industry reported having 61 000 employees in South Africa (Johannesburg Motor Show, 2013). According to the Eastern Cape Development Corporation (ECDC, 2013), the automotive sector in the Eastern Cape accounts for more than 40 000 formal jobs, 10 000 of which are at original equipment manufacturers (OEMs) and 30 000 at the 1500 supplier companies. Since the seven OEMs operating in South Africa as well as up to 100 major component manufacturers are located in the Eastern Cape, this province, with an estimated HIV prevalence of 12.2% (Shisana *et al.*, 2014), is of strategic importance as a location to the industry. More recent moves to initiate HIV and AIDS workplace programmes need to be considered against the background of existing interventions. In an assessment amongst 74 automotive companies in South Africa, more than half (52%) of the surveyed organisations have implemented holistic workplace wellness programmes (WWP) irrespective of organisation size. The results also indicated that support exists for HIV and AIDS to be incorporated into WWP rather than addressing it separately (Meyer-Weitz, Weihs & Baasner-Weihs, 2012). The question is whether all the efforts to address HIV and AIDS in this industry are necessary and relevant in a country with an apparent widespread awareness regarding HIV risk and risk behaviour.

Companies that have conducted a knowledge, attitude, practices and belief (KAPB) survey amongst their workforce have found it to be a very useful practice for the development, monitoring and evaluation of HIV programmes (Price Waterhouse Coopers, 2013; Rukambe, 2010). KAPB studies may provide important baseline information on whether HIV risk behaviour and associated stigma are prevalent amongst employees in the automotive industry and assist with the development of relevant HIV and AIDS workplace programmes. However, older research by South African Business Coalition on HIV and AIDS (SABCOHA) and Bureau for Economic Research (BER) (2003) has shown that only 14% of companies surveyed have conducted research in relation to the impact of HIV and AIDS on their labour force and that most of those were larger companies.

A more recent survey by the AIDC EC (2009) indicated that 72% of automotive component manufacturing companies

surveyed have implemented an HIV and AIDS workplace policy. The majority of companies who managed to translate HIV and AIDS policies into HIV and AIDS workplace programmes had large staff turnovers, whilst smaller companies lacked the budget to implement similar programmes. More than 50% of companies with HIV and AIDS workplace programmes did not monitor the efficacy of these programmes. This supports the finding that although most work organisations in South Africa recognise the existence and impact of HIV and AIDS, they do not consider that they are affected (International NGO Training and Research Centre [INTRAC], 2008). Many organisations mistakenly assume that employees know about HIV and AIDS, including prevention methods, and that this knowledge is translated into practice in their private lives. However, literature indicates that this might not always be the case (INTRAC, 2008); thus, awareness campaigns in the workplace can contribute towards improving HIV risk behaviour (Chimbetete & Gwandure, 2011). An HIV and AIDS workplace programme typically includes an HIV and AIDS awareness campaign focusing on HIV prevention, voluntary testing, counselling, care and support for HIV-infected employees, protection of employees from stigma and monitoring and evaluation of the programme. HIV and AIDS workplace programmes, in the context of the present research, do not refer to management of the infection with appropriate antiretroviral therapy.

The objectives of this study were to determine employees' knowledge about the transmission and visibility of symptoms, the prevention and treatment of HIV and AIDS, awareness of workplace policies, employees' sexual attitudes and practices and the relationships between job-specific skill levels and risk behaviour, as well as HIV-associated stigma. By reaching these objectives, a contribution will be made to an identified research need into the relevance of KAPB surveys in the context of HIV in the workplace in the South African automotive industry. The data obtained will indicate whether sexual risk behaviour is a concern amongst different skill levels in this sector and assist programme managers to develop and target appropriate HIV workplace programmes to address risk behaviour and stigma.

Literature review

HIV and AIDS in the South African workplace

The HIV and AIDS epidemic continues to target the most productive workforce, namely those between 15 and 49 years of age (International Labour Organisation, 2009). The International Labour Office (ILO, 2006) estimated in 2005 that 3.6 million South African labour force participants between the ages of 15 and 65 were HIV-positive. Colvin, Connolly and Madurai (2007) describe an HIV prevalence of 10.9% between 1999 and 2005 from data collected from 22 workplace surveys amongst more than 21 000 employees in South Africa. Although HIV prevalence decreased from 2005 to 2007 (Department of Health, 2008), South Africa still has one of the highest workforce HIV and AIDS statistics

in the world, with a huge impact on businesses in hard-hit regions (SABCOHA, 2014, p. 4).

One may assume that the HIV prevalence is higher in the unskilled labour force than skilled categories, but the relationship between HIV prevalence and skill level remains inconclusive. Whilst the HIV prevalence in some studies has been higher in unskilled or semi-skilled labour than in highly skilled labour categories (Colvin, Connolly & Madurai, 2007; Quattek, 2000; Shisana & Simbayi, 2002; Thurlow, Gow & George, 2009), earlier studies confirmed a constant HIV risk across all skill levels (Acott, 2000). As HIV and AIDS can affect all skill levels in companies, it may affect organisational efficiency (Fraser, Grant, Mwanza & Naidoo, 2002) as well as profitability (Lisk, 2002).

Daimler Chrysler established that the money saved by preventing a new infection in its South African workforce ranged from \$25 000 to \$280 000, depending on the skill level (Neilson, 2005). Smaller companies seem to be less concerned about the cost or impact of HIV and AIDS for the company, because they have less capacity to respond to the threat (Rosen, Feeley, Connelly & Simon, 2007). It is vital that companies understand the value of HIV prevention, by comparing the cost of HIV workplace programmes with the cost of increased absenteeism, staff turnover, recruitment and training costs, medical care, insurance, retirement funds and funeral costs (George, Surgey & Gow, 2014).

International and national trends to address the effect of HIV and AIDS

International funding from the United States of America assisted in 2004 with the launch of the President's Emergency Plan for AIDS Relief (PEPFAR), which enabled the start of the antiretroviral therapy programme in South Africa. PEPFAR announced that the funding would be halved over 5 years to 2017, which would cause the majority of staff paid by PEPFAR to return to the government sector (Health Systems Trust, 2013).

Increases in government spending were observed between 2009 and 2012 owing to the new early treatment threshold of a CD4 count of 350 cells/ μ L to qualify for antiretroviral therapy (National Treasury, 2013). It is important to realise that the majority of funding is channelled into the antiretroviral drug programme, which includes prevention of mother-to-child transmission and therefore has very little effect on prevention programmes in the workplace.

Over the years, many companies have been slow to recognise the threats to profits posed by HIV and AIDS. It is, however, the company's responsibility to adopt a healthy well-defined commitment to protect and support their employees and the workplace is an ideal place in which to disseminate prevention messages (SABCOHA, 2012). Multi-sectoral responses are mandatory to effectively address the impact of HIV and AIDS. Currently, most HIV workplace programmes refer to a range of company-based interventions including an HIV policy, HIV counselling and testing (HCT) and the

referral for treatment to local community clinics if necessary (Department of Labour, 2000).

Risk factors and stigma

To optimally explain HIV and AIDS stigma and potential intervention strategies, the Link and Phelan's model (Link & Phelan, 1995) may be explored to provide insight into the processes that cause health inequalities amongst members of groups that may be stigmatised. Stigma, also defined as labelling, stereotyping, status loss and discrimination (Link & Phelan, 2001), may be linked to discrimination at an individual level (unequal treatment) or at a structural level (loss of opportunities). Other social forces such as poverty, sexism and racism, may create overlapping and reinforcing stigmatised conditions, thus limiting access to treatment, care and support. Standardised sets of stigma measures, or indicators, would enable tracking of stigma burden over a period of time (Van Brakel, 2006). Measurable indicators could also be useful to detect if programmes or policies are inadvertently exacerbating HIV stigma in the workplace. At the moment, indicators to monitor stigma, developed by the United Nations, are available and are used mainly for research purposes. These indicators measure the socio-cognitive aspects of HIV and AIDS stigma, for example the respondents' willingness to interact with persons living with HIV and AIDS (PLWHA), the extent of blame, consideration of blame, as well as perceptions related to the partners, friends, family and community in general, and how they would react if they knew that they were infected with HIV (Mahajan *et al.*, 2008). Little research has systematically measured the HIV and AIDS stigma at the structural and institution levels. Whilst the HIV and AIDS stigma is considered a major facilitator of the epidemic, as well as self-stigmatisation (Hatzenbuehler, Phelan & Link, 2013), very few studies have demonstrated an association of stigma and increased risk behaviour. Stigma, testing and treatment is documented as a barrier to uptake in HIV testing and treatment services in numerous settings including South Africa (Dlamini *et al.*, 2009), where individuals who were not tested for HIV exhibited significantly greater stigmatising attitudes toward PLWHA.

Recent surveys reveal that there is an association between training intervention and HIV and AIDS risk reduction, with improved attitudes toward condom use (Becker, 2010; Chimbetete & Gwandure, 2011, p. 16) and improved sexual risk cognition (Becker, 2010; Chimbetete & Gwandure, 2011; East, Jackson, Peters & O'Brien, 2010). More importantly, most studies indicate that these HIV training programmes are strongly associated with a reduction in HIV-associated stigma and improved willingness to disclose HIV status (Chimbetete & Gwandure, 2011; Gilbert & Walker, 2010).

Knowledge, attitudes, practices and beliefs relating to HIV and AIDS

The AIDS risk reduction model is concerned with people's efforts to change sexual risk behaviours related to HIV infection. There are three stages in the model, the first being

recognition and labelling of certain sexual behaviours as high risk for contracting HIV. In this knowledge phase, people use information to reduce their risky sexual behaviours. The second stage involves making a commitment to female participants to reduce high-risk activities, for example by using a condom. The third phase is the development of coping skills to sustain empowerment by engaging with development interventions (Noar, 2007). This stage is broken down into three main strategies, namely continuously obtaining correct information, developing social coping mechanisms and acting on solutions to difficult situations like negotiating safer sex (Catania, Kegeles & Coates, 1990).

KAPB surveys may contribute in measuring the information coping mechanisms and actions by identifying needs, problems and barriers in programme delivery, as well as solutions for improving quality and accessibility of services (Global Business Coalition on HIV/AIDS, tuberculosis and malaria). The data collected enable programme managers to set workplace programme priorities, to estimate resources required for various activities, to select the most effective communication channels and messages, to establish baseline levels and to measure change that results from interventions and allow for advocacy. To serve as an effective monitoring instrument, questionnaires for KAPB surveys have to be carefully designed in order to use the same questionnaire over several years.

The implementation of KAPB studies focusing on employees is increasing, even though in the past such studies only focused on students, professionals and the public (Rukambe, 2010). According to Mahajan, Colvin, Rudatsikira and Ettl (2007), monitoring and evaluation remain a challenge and further research on workplace programmes resulting in the development of monitoring and evaluation strategies in respect of HIV and AIDS workplace policies is urgently required. Research to determine gaps in knowledge or barriers to change attitude and behaviour is vital to develop appropriate workplace programmes, particularly in smaller companies. The implementation of appropriate HIV workplace programmes may play a greater role in HIV prevention of employees, with obvious economic benefit to companies.

Associated research can serve as an important entry to improve the understanding of the economic and social impact of the epidemic as well as providing a sound basis for supportive services. Literature has shown that in most African countries, employees still felt discriminated against when HIV status was disclosed (Maughan-Brown, 2010; Sprague, Simon & Sprague, 2011).

In the context of the abovementioned information, it is necessary to determine whether HIV risk behaviour and HIV-associated stigma are concerns that companies need to address. The following research questions are thus posed: Is HIV risk behaviour a concern in smaller automotive companies? Are there differences between behaviour and attitudes amongst the different skill levels? Is HIV-associated

stigma still present in companies, given the fact that the majority of South African companies have adopted an HIV policy?

For this study, the researchers hypothesised that HIV risk behaviour and associated stigma are still challenges that need to be addressed in the automotive industry and that these challenges may be associated with certain skill levels. The hypothesis that information from KAPB studies can contribute to the content of HIV workplace programmes was also investigated.

Method

Research approach

A quantitative descriptive study design was followed by conducting a KAPB survey. KAPB surveys can identify knowledge gaps, cultural beliefs or behavioural patterns that may facilitate understanding and action, as well as pose problems or create barriers for HIV prevention (World Health Organization, 2008).

Research participants and sampling

The data collection took place in seven automotive companies in South Africa that will be implementing HIV and AIDS workplace programmes with the support of the AIDC EC. The population was composed of a convenience sample ($n = 733$) of all employees across all skill levels employed at the respective companies at the time of the survey.

Measuring instruments

A questionnaire was amended from a standardised KAPB survey dealing with HIV and AIDS and previously used for assessment by the AIDC EC. The attitude and belief sections were amended from 'yes' and 'no' answers to a four-point Likert scale ranging from 'strongly disagree' to 'strongly agree', in order to change the questions to be less threatening. All questions were in English. The questionnaire was divided into seven sections: Section A: Biographical Data, Section B: Healthy Lifestyle/Behaviour, Section C: Knowledge and attitudes, Section D: Knowledge of HIV and AIDS Workplace Programmes and Policies, Section E: Access to HIV Counselling and Testing Services, Section F: Care and Support and Section G: Stigma and Disclosure. Sections A to D and G are included in this article. The questionnaire was assessed by an expert panel prior to the research taking place. Before data analysis continued, internal consistency as verified by Cronbach's alpha values was determined. Results showed 0.67 for Section B: Healthy Lifestyle/Behaviour, 0.74 for Section C: Knowledge and attitudes and 0.71 for Section G: Stigma and Disclosure. All these values are acceptable for descriptive research.

Procedures

The questionnaire was distributed by staff from AIDC EC to the whole population at the seven participating companies. To ensure high participation rate and to address possible concerns of employees with regard to the confidentiality

of the research, the companies' management and HIV and AIDS coordinators briefed all employees during work-related meetings about the planned research. In addition, each employee received a letter explaining the purpose of the research and emphasising that participation was voluntary and that all questionnaires would be anonymous and confidential. The self-administered questionnaires were handed out to all employees. Employees were requested to hand in the questionnaire within a week. A sealed box was provided for this purpose. In all seven companies, 38% of employees chose to voluntarily participate in the study (ranging from 26% to 60%).

Statistical analysis

The data was analysed using MS Excel 2010 and SPSS (version 21). Frequencies and percentages were used to present categorical data. Subgroups were compared using cross-tabulation using the Pearson chi-square test to test for statistical significant differences and Cramer's V as effect size measure to indicate practical significance. Internal consistency was verified with Cronbach's alpha.

Results

The sample had a mean age of 36.4 years with a standard deviation of 9.2 (only 670 reported their age), with 68% ($n = 484$) being female. Findings indicated that 7% of the sample were in management positions and only approximately 4% were working as technicians (Table 1).

TABLE 1: Description of sample according to skill level.

Job category	Number	%	% with college or university qualification
Management	49	7.0	82
Technician	31	4.4	65
Artisan	40	5.7	42
Operator	392	55.8	19
Administrative	50	7.1	56
Cleaner	30	4.3	4
Other	111	15.8	29

$n = 733$.

TABLE 2: Percentage high-risk behaviour in various skills level categories.

Job category	Management ($n = 49$)	Technician ($n = 31$)	Artisan ($n = 40$)	Operator ($n = 392$)	Administrative ($n = 50$)	Cleaner ($n = 50$)	Other ($n = 11$)	Pearson χ^2	p -value	Cramer's V
> 1 partner in last 12 months	12	37	13	31	12	42	28	21.97	0.001*	0.18 (small)
Casual sex outside relationship	12	23	8	26	6	41	27	24.08	0.0005*	0.19 (small)
Sex whilst under influence of alcohol	22	37	40	41	17	39	34	16.06	0.01*	0.15 (small)
Condom use if sex outside relationship	25	15	29	10	20	10	19	18.46	0.1	0.16

$n = 733$.

TABLE 3: Percentage employees with poor knowledge about HIV transmission in various skills level categories.

Job category	Management ($n = 49$)	Technician ($n = 31$)	Artisan ($n = 40$)	Operator ($n = 392$)	Administrative ($n = 50$)	Cleaner ($n = 50$)	Other ($n = 11$)	Pearson χ^2	p -value	Cramer's V
Men who have sex with men cannot get HIV	14	23	20	24	18	33	24	5.06	0.53	0.08
Women who have sex with women cannot get HIV	16	39	50	44	24	40	37	22.07	0.001*	0.17 (small)
Someone with HIV has signs telling you that he or she has HIV	27	26	53	46	32	70	40	24.32	0.0005*	0.18 (small)
People with HIV immediately become very ill and cannot work	6	16	25	19	16	30	13	11.93	0.06	0.13
Consistent condom use will protect one from getting HIV	22	6	30	25	22	16	27	7.92	0.24	0.11

$n = 733$.

Knowledge, attitude, practices and beliefs outcomes: Risk behaviour

High-risk behaviour as indicated by sexual relations with more than one partner in the last 12 months still took place in 12% (management) and 42% (cleaners) of employees. Similar results for casual sex outside their stable relationship and sex under the influence of alcohol have been demonstrated (Table 2), with all three risk behaviour indicators showing significant differences ($p < 0.05$) between management and administrative staff on the one hand and technicians, operators and cleaners on the other hand. All these differences, however, were of small practical importance (Cramer's V).

Knowledge, attitude, practices and beliefs outcomes: Knowledge

Inconsistent or poor knowledge about some of the knowledge questions was displayed by up to 70% of some of the job categories (Table 3). More than 45% of operators, artisans and cleaners indicated that someone with HIV has signs that will tell you if that person is HIV-positive; these differences were statistically significant [$\chi^2(6, n = 670) = 24.32, p < 0.001$], but only of small practical importance. However, most employees ($n = 558; 76.1\%$) across all categories, were aware that consistent condom use is protective against HIV transmission. In this group, 28.1% ($n = 154$) still displayed high-risk behaviour (multiple sexual partners) with almost 30% of them indicating inconsistent or no condom use either with casual partners or their regular partner. A positive outcome was that 73% ($n = 111$) of those with high-risk behaviour had already undergone an HIV test, indicating some form of risk perception in this group.

Knowledge, attitude, practices and beliefs outcomes: Attitude

Although fewer than 30% of employees reported negative attitudes about condom use (Table 4), significantly more

TABLE 4: Attitude of employees about HIV and AIDS prevention behaviour amongst various skills level categories.

Job category	Management (n = 49)	Technician (n = 31)	Artisan (n = 40)	Operator (n = 392)	Administrative (n = 50)	Cleaner (n = 50)	Other (n = 11)	Pearson chi ²	p-value	Cramer's V
Condoms take away sexual pleasure	24	35	26	34	21	33	36	3.56	0.73	0.07
I do not use condoms for religious reasons	6	6	4	15	7	22	14	7.81	0.25	0.12
I do not use condoms – I trust my sexual partner(s)	46	21	41	27	47	19	38	15.67	0.01*	0.16 (small)
My partner refuses to allow us to use condoms	9	9	28	23	19	37	16	11.56	0.07	0.14
Condoms are either too big or small	6	10	22	27	8	27	24	13.83	0.03*	0.16 (small)
It is important that my partner be tested for HIV	73	87	85	93	86	86	75	22.88	0.0008*	0.18 (small)
If I was HIV+ I would use condoms	94	97	93	95	96	97	95	1.25	0.97	0.04
My risky behaviour has changed because of HIV	29	39	43	52	22	59	46	56.03	0.00*	0.2 (mod)
I will get treatment if I or my partner gets HIV	96	100	95	97	100	100	98	4.96	0.54	0.08

n = 733.

TABLE 5: Beliefs of and stigma amongst employees about HIV and AIDS amongst various skills level categories.

Job category	Management (n = 49)	Technician (n = 31)	Artisan (n = 40)	Operator (n = 392)	Administrative (n = 50)	Cleaner (n = 50)	Other (n = 11)	Pearson chi ²	p-value	Cramer's V
HIV is a punishment	15	23	13	18	4	41	18	31.03	0.001*	0.15 (small)
HIV is a chronic manageable preventable disease	85	87	65	73	80	70	82	19.22	0.08	0.11
People with HIV are like any of us and need support	92	90	95	96	100	97	97	12.15	0.43	0.09
If you are circumcised you will not get HIV	4	10	5	8	6	14	4	19.04	0.09	0.11
If I was HIV+ people would ignore my good points	19	13	8	31	25	27	27	27.87	0.06	0.11
If I was HIV+ I would keep it secret	13	23	15	28	20	27	23	28.09	0.06	0.11
Most people believe that a person with HIV is dirty	10	20	15	35	25	34	22	39.87	0.002*	0.13 (small)
People would not want me around their children if I was HIV+	10	6	15	25	13	30	16	36.82	0.005*	0.13 (small)

n = 733.

TABLE 6: Knowledge amongst employees about HIV and AIDS workplace programmes amongst various skills level categories.

Job category	Management (n = 49)	Technician (n = 31)	Artisan (n = 40)	Operator (n = 392)	Administrative (n = 50)	Cleaner (n = 50)	Other (n = 11)	Pearson chi ²	p-value	Cramer's V
Awareness about company HIV policy	83	70	80	75	61	61	69	11.01	0.08	0.13
Initiatives exist to create awareness about HIV policy	83	87	90	81	75	50	75	21.57	0.001*	0.18 (small)
A person's HIV status should be confidential	85	90	82	88	96	59	90	26.51	0.0001*	0.19 (small)
If I were HIV+ I would tell my manager	54	43	55	49	59	43	46	4.31	0.63	0.08
Company supports people who are HIV+	87	67	70	73	92	58	73	16.20	0.01*	0.15 (small)
Companies' management uses survey results such as these to the benefit of the company	72	68	68	61	72	36	59	13.55	0.04*	0.15 (small)
Wellness programmes assist people with HIV to live longer and continue working	83	76	84	81	96	78	82	7.78	0.25	0.1

n = 733.

management, administrative staff and artisans [$\chi^2(6, n = 670) = 15.67, p < 0.05$] reported that they did not use condoms because they trusted their partner. More than 70% of employees across all categories indicated that they felt it was important for their partner to get tested. More than 90% indicated that they would use condoms if infected with HIV. Significantly more cleaners, operators and artisans [$\chi^2(6, n = 670) = 56.03, p < 0.0001$] indicated that their risk behaviour had changed as a result of HIV. This outcome had moderate practical importance. Significantly more women than men [$\chi^2(1, n = 670) = 5.97, p < 0.05$] thought that condom use decreases sexual pleasure, that condoms break and are not reliable [$\chi^2(1, n = 670) = 9.46, p < 0.005$] and that condom size is inadequate [$\chi^2(1, n = 670) = 11.23, p < 0.001$]. Younger age groups (18–24 years) displayed significantly more misconceptions about condom use than older age groups; once again, it was of small practical importance.

Knowledge, attitude, practices and beliefs outcomes: Beliefs and stigma

Significantly [$\chi^2(6, n = 670) = 31.03, p < 0.01$] more cleaners than other job categories indicated that HIV was a punishment and findings from all stigma-related statements (Table 5) indicated that the job categories that included cleaners and artisans still struggled against stigma in HIV significantly more than the other categories.

Significantly more employees [$\chi^2(1, n = 670) = 17.80, p < 0.0001$] who agreed with the statement that 'they will work hard to keep their HIV status secret' indicated that colleagues avoided HIV-positive people and thus still felt that stigma plays an important role. A similar trend was observed for willingness amongst employees to tell their manager about their HIV status. Although the majority of employees across all skill levels were aware of the HIV policy in their company (Table 6), significantly fewer [$\chi^2(1, n = 670) = 21.57, p < 0.0005$]

in the unskilled labour force indicated that they were aware of the policy. Despite the high percentage of employees who indicated that they were aware of the HIV policy, and agreed that the company would support people who are HIV-positive, only approximately 50% (Table 6) indicated that they would be willing to disclose their status if they were HIV-positive. A smaller proportion of employees who were aware of HIV and AIDS policies indicated that they believed that employees who were HIV-positive might lose their jobs.

Discussion

The first aspect that needs to be considered when discussing the results is that the automotive industry is one of the largest manufacturing sectors in South Africa, as it contributes at least 6% to the gross domestic product (GDP), accounts for almost 12% of the country's manufacturing exports, and employed approximately 30 000 employees in 2013 (National Association of Automobile Manufacturers of South Africa [NAAMSA], 2013). This industry is concentrated in only three regions, highlighting the importance of external economies and customer proximity to the supply chain. The second most important region after Gauteng is the Eastern Cape, covering Port Elizabeth and Uitenhage. This region is home to about 30% of the national automotive components industry. The South African government has identified the automotive industry as a key growth sector (AIEC, 2014). Whilst certain subsectors are very labour-intensive, the bulk of the motor vehicle, parts and accessories sectors is relatively capital-intensive. Furthermore, the skill requirements of the sector are quite high. Only 50.3% of total employment in the sector is semi-skilled or unskilled, whilst 31.4% of the workforce belongs in high-level skills (AIDC EC, 2009).

The second aspect is the high HIV prevalence amongst the South African working population. Although recent data suggest that the prevalence rates are stabilising, the high morbidity and mortality rates increase the financial burden of HIV and AIDS, which is an important cost factor to the industry. In light of the above, the aim of this study was to determine the knowledge, attitudes, behaviour and practices of employees in small and medium enterprises in the automotive industry in relation to HIV and AIDS, especially in relation to different skill levels within these companies.

Findings from this study indicate that there are still considerable gaps in knowledge levels amongst the investigated workforce, and that high-risk behaviour is still taking place, especially in the semi-skilled and unskilled workforce. Even amongst those employees with adequate knowledge about HIV transmission, risk behaviour as indicated by inconsistent condom use and multiple sexual partners exceeded 30%. Despite this, the risk awareness seems high, with 73% of those with high-risk behaviour indicating that they had already undergone an HIV test.

This indicates that firstly, high knowledge levels do not seem to be sufficient to create behaviour change. This has been

supported by literature in the past. Increasing knowledge about HIV and AIDS supports sustaining of risk reduction (Joint United Nations Programme on AIDS [UNAIDS], 2003) but on an individual level HIV and AIDS interventions are only successful if context-specific information and skills are provided (UNAIDS, 1999, p. 17). Secondly, the high testing rates amongst employees with high-risk behaviour seem to indicate that employees are aware of their risk, but do not have the relevant approaches, skills or motivation to reduce their risk. It would be important to find out exactly what keeps study participants from reducing their risk of HIV transmission. Education programmes that participants of this study might have been exposed to do not seem to have addressed their specific needs or provided them with the relevant skills or approaches necessary for them to be able to reduce the risk of HIV transmission. This is reinforced by the attitudes of employees towards condoms, which indicate that the message of condoms as the most important risk reduction strategy, next to abstinence and faithfulness, does not seem to have been adopted by a relevant number of participants in this study.

It is worrying that misconceptions and negative attitudes towards condoms are more prevalent amongst females and younger employees. This may indicate that they need to be targeted as separate groups. Innovative approaches may have to be developed to address the needs of these specific target groups. The possibility of making use of mobile applications or messages within the workplace programme, especially targeting the younger generation, should be investigated.

Although a large number of employees with high-risk behaviour might be aware of their risk, data also suggest that a larger proportion of the skilled and semi-skilled workforce do not use condoms because they trust their partners. Individuals' knowledge of HIV transmission and accurate assessment of their own risk seem to be two of the key factors in adoption of safer sexual practices (UNAIDS, 2001). The relationship between perception of risk and sexual behaviour is, however, complex and a wide range of variables seem to be responsible, such as number of sexual partners, knowledge of sexual partners' past sexual behaviour, fear of AIDS, shame associated with having AIDS, community perception of AIDS risk, knowing someone with AIDS, discussing AIDS at home, closeness of parent-child relationships and religious affiliation (Prohaska, Albrecht, Levy, Sugrue & Kim, 1990).

Interventions in the workplace might therefore have to focus on creating an environment where employees can reflect on their actual risks. The often-discussed problem of using condoms as a sign of mistrust (Varga, 1997) might have to be addressed, including encouraging HIV testing for married and regular partners. With HIV prevalence being high in South Africa, it is important to encourage condom use in all types of sexual relationships, including consensual and legal unions, since both married and unmarried individuals engage in risky sexual behaviours,

like multiple partners and unprotected sex with nonregular partners, as the collected data suggest.

Earlier research in the manufacturing sector in South Africa indicates that HIV prevalence rates may differ across different skill categories, with different effects on the labour force at different skill levels (Arndt & Lewis, 2000). This is confirmed by results from several studies (BER, 2001; Quattek, 2000; Shisana & Simbayi, 2002) indicating HIV prevalence rates of 26% – 33% for unskilled and semi-skilled labour compared to 11% – 17% in highly skilled groups. Although HIV status was not measured in this study, it is evident from the risk behaviour that all skill levels may be at risk of HIV transmission. It is therefore important to urgently incorporate the results of this study into workplace programmes, investigate changing the delivery systems of current risk reduction messages and their language, or targeting the unskilled groups on a more regular basis to address the unique needs that may be present.

Findings from this study also indicate that stigma still plays a major role in non-disclosure of HIV status amongst large proportions of employees, especially the unskilled labour force. Although employees seem to accept that a workplace policy is in place, and that HIV-positive employees should be supported, that knowledge does not translate into trusting their employer with their status. As stigma is documented as a barrier to uptake in HIV testing and treatment services in numerous settings in South Africa (Dlamini *et al.*, 2009), the need for interventions to reduce the stigma in the workplace is evident. Literature recognises the link between training intervention, HIV and AIDS risk reduction and improved attitudes towards condom use (Becker, 2010; Chimbetete & Gwandure, 2011, p. 16) and improved sexual risk cognition (Becker, 2010; Chimbetete & Gwandure, 2011; East, Jackson, Peters & O'Brien, 2010). More importantly, most studies indicate that HIV training programmes are strongly associated with a reduction in HIV-associated stigma and improved willingness to disclose HIV status (Chimbetete & Gwandure, 2011; Gilbert & Walker, 2010). Results from this study should be used as motivation to obtain buy-in from management to more strongly support implementation of HIV workplace programmes in the automotive industry.

Practical implications

According to a review by Mahajan *et al.* (2007) a 'wide variation in workplace policies and programmes is currently in place in southern Africa' and it is difficult to assess the effectiveness of workplace interventions at firm level. Current HIV and AIDS workplace programmes in organisations may include the institution of an HIV and AIDS policy, HIV counselling and testing and HIV prevention strategies including provision of condoms and antiretroviral therapy. However, in the companies that participated in this study, HIV and AIDS policies were developed but no specific workplace programmes are yet in place that would aim to implement for example, effective HIV prevention strategies, provision of regular access to HIV testing, provision of treatment and care

or monitored referral systems. It is evident that despite HIV fatigue becoming more and more of a reality according to the Higher Education HIV and AIDS Programme (HEAIDS, 2010), employees across all skill levels could benefit from HIV workplace programmes to improve HIV risk behaviour and reduce stigma.

The results suggest that companies should invest in HIV prevention activities to positively influence risk behaviour, further reduce stigma and hopefully reduce future costs of HIV to the workplace, although there is no means by which to predict the effectiveness of such an investment (George *et al.*, 2014). Still, the need for intervention seems evident as the majority of the workforce is particularly vulnerable, being in the age group most susceptible to HIV infection. The results of this study also suggest that more targeted interventions needs to be developed specifically focusing on the risk behaviour of employees of the different age groups, both genders and different cultural and educational backgrounds. Standardised interventions that do not take these differences into account might just add to the widespread AIDS fatigue. The use of standardised KAPB studies may provide important information to companies' management in this regard and the data they provide should be carefully analysed to inform the design of interventions and to trigger the development of target-specific interventions. The data collection is furthermore an important prerequisite to measure the changes in HIV risk behaviour and more importantly the prevalence of HIV-associated stigma, which may negatively impact on employee morale. Caution is necessary to interpret results as there may be cultural, linguistic and socio-economic aspects different to those of the research team that is implementing the KAPB studies. It is important to also obtain an adequate understanding of the context in which public health programmes are implemented, before implementing and interpreting KAPB studies. The authors strongly believe that KAPB studies can add value and provide relevant information to change attitudes, beliefs and stigma within the automotive industry. All automotive companies that participated in this study had HIV policies in place but no functioning workplace programmes. More than 30% of employees were unaware of existing policies, with large numbers still believing that they would lose their job if their HIV status was known to the employer. A multiple-method design, including focus group discussions together with the survey questionnaire, may be more accurate to understand the logic of participants. However, as more scientific evidence is needed to prove the effectiveness and efficiency of interventions, the data collected in this study will hopefully serve as baseline information to measure the success of such interventions in future studies. However, to change perceptions, active participation from management will be paramount in order to improve the legitimacy of these programmes.

Limitations

HIV status has not been determined in this study and therefore no associations could be determined between HIV prevalence and HIV-associated stigma.

Respondents in studies dealing with sensitive topics and in the context of corporate environments might believe that the information will be used against them. Respondents might have given normative or socially appropriate answers based on what they think they should answer. The survey approach limits the responses of the respondent to selecting from a handful of predetermined responses and does not allow the respondent to give an answer that is not predetermined by the researcher. Because participation is voluntary, people in some cases chose to not answer some questions, which resulted in an unevenness in the response rate to different questions.

Conclusion

HIV risk behaviour is still a concern in smaller automotive companies and needs to be addressed as part of HIV workplace programmes. Although differences in risk behaviour and attitudes towards condom use have been established amongst the different skill levels, risk behaviour is still present at management level and workplace programmes should thus be aimed at all skill levels. HIV-associated stigma is still present in automotive companies despite the fact that all the South African companies that participated in this survey have adopted an HIV policy. KAPB studies may still be relevant to assess knowledge and attitudes about practices in general in the automotive industry, but it is important to carefully analyse the data and to contextualise the results to develop interventions that are tailored to the target group. Using KAPB surveys to monitor the effectiveness of interventions might fill a gap where insufficient evidence seems to exist about the success of such interventions not only to change employees' risk behaviour and to reduce stigma, but to also positively influence the profitability of the automotive industry. Without a proven economic benefit, company managers may continue to be reluctant in giving the necessary buy-in for HIV and AIDS workplace programmes.

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Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

L.S. (Nelson Mandela Metropolitan University) was responsible for the data interpretation and drafting of the article. J.v.d.M. (Nelson Mandela Metropolitan University)

was responsible for the study proposal and subsequently the study rationale in the article. J.P. (Nelson Mandela Metropolitan University) was involved in the statistical analysis and result section, whilst F.B-W. (Nelson Mandela Metropolitan University), who was originally working at GIZ during data collection, contributed to a huge extent to the discussion section.

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