

A Needs Assessment and Proposal For HIV Education Among Human Resource Managers in Singapore

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ABSTRACT

Aim of Study: To assess the educational needs of human resource managers in Singapore with regard to the management of HIV at the workplace. No such study has been described before in an Asian country.

Method: A self-administered questionnaire was mailed to all companies (with more than 100 employees) of a local employers federation (n=368).

Results: A response rate of 64.1% was achieved. Respondents' knowledge about HIV transmission was found to be good. However, their attitudes and practices towards infected workers were unfavourable on such issues as pre-employment screening, medical coverage and termination of employment. Possible reasons for this disparity include inadequate information specific to workplace needs, multiple determinants of attitudes (other than knowledge) and various environmental factors.

Conclusion: Strategies for an educational intervention are proposed to facilitate the development of a rational HIV management policy by local managers.

Keywords: AIDS-prevention-and-control; health-education; knowledge, attitudes, practice; South-East-Asia; workplace

INTRODUCTION

The Human Immunodeficiency Virus (HIV) is spreading across South and South-East Asia faster than anywhere else in the world⁽¹⁾. In Singapore, 591 people have so far been infected with HIV⁽²⁾ and epidemiological projections suggest that this number will continue to increase dramatically⁽³⁾. Although Singapore does not have the highest prevalence of Acquired Immune Deficiency Syndrome (AIDS) or HIV infection for this region⁽⁴⁾, the potential for imported infection exists because of immigrant workers from countries where HIV is more common and the expansion of local businesses into regional markets.

Most HIV infected Singaporeans (73.6%) were less than 40 years old at the time of diagnosis, well within the economic prime of their lives⁽²⁾. The financial impact of HIV infection on individual businesses⁽⁵⁾ and entire countries^(6,7) is measured not only in terms of diagnosing and treating infected workers, but also in terms of the loss of their skills, productivity and experience.

The threat of HIV requires a response from the business communities of Asia. Previous attempts to define such a response have led to various guidelines for managing HIV in the workplace⁽⁸⁻¹⁰⁾. These have identified a number of key strategies, including the formulation of a rational HIV/AIDS policy and worksite education programmes for both employees and management^(11,12).

Surveys of HIV policies among businesses are not plentiful (MEDLINE search from 1986 to May 1997). Most were conducted in the USA⁽¹¹⁻¹³⁾, with others from the UK⁽¹⁴⁾, Africa (Zambia)⁽¹⁵⁾ and one Asian country (Japan)⁽¹⁶⁾. These showed a wide variation in the number of companies with a corporate policy on AIDS, ranging from 7% in the Japanese study⁽¹⁶⁾ to 54.5%⁽¹⁵⁾ in the Zambian survey. Companies with larger workforces were more likely to have HIV management policies⁽¹⁴⁾ and worksite education programmes⁽¹²⁾.

An assessment of the knowledge, attitudes and practices (KAP) of managers with regard to HIV/AIDS would help determine whether they require an educational intervention to initiate and implement an HIV management policy sensitive to the needs of both employer and employees. Available data from Asian countries, including Singapore, (MEDLINE search from 1986 to May 1997) have not revealed any KAP studies among managers. The present survey thus aims to fill an important gap by assessing for the first time, the HIV-related KAP of Singaporean human resource managers, which could be of value to local and regional planners of HIV education programmes.

METHOD

Study population

The Singapore National Employers Federation (SNEF) is a national trade union of employers, including private and government-owned companies from the service and manufacturing sectors. At the time of this survey (1993), it comprised 795 member companies which together employed 203,461 people.

This study was limited to SNEF member companies with more than 100 employees (n=368), since smaller companies were less likely to have a formal organisational structure with a human resource manager. Besides companies which are not

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members of SNEF, the survey also excluded government ministries and statutory boards (as these would adopt the policy common to the entire civil service).

Questionnaires

A self-administered questionnaire was mailed to the human resource manager or equivalent in each eligible company. Excluding questions for demographic profiling, the questionnaire contained about 50 items which determined the respondent's knowledge about HIV infection, attitudes towards various workplace-related issues and existing policy/practice for dealing with HIV infected workers. All questions required either true/false, agree/disagree or multiple choice answers.

The following measures were employed to maximise the response rate: pre-paid reply envelopes, telephone reminders, replacement questionnaires for copies mislaid or not received, assurances of confidentiality and anonymity.

Data analysis

Data analysis was carried out with SPSS for Windows Release 5.0. Responses to certain questions were also assessed as aggregate scores. One point was awarded for each correct response in the knowledge section and for each response favourable towards HIV infected workers in the attitude section. Scores for respondent knowledge and attitude were computed by summing points awarded for the 14 knowledge and 20 attitude questions respectively. Differences between the scores were analysed using the Wilcoxon ranked sums test for dichotomous variables and the Kruskal-Wallis test for multichotomous variables.

Blank responses were disregarded during the analysis. All percentage values given in the Results section represent proportions of valid responses received.

RESULTS

Respondent profile

A total of 236 questionnaires were returned (64.1% of the eligible companies). Most respondents (78.5%) were aged between 30 and 50 years. Both genders were evenly represented (men: 52.8%; women: 47.2%). The majority (46.2%) had worked between one to five years at their present positions, with a quarter (24.4%) having served for ten years or longer. Only ten respondents (4.2%) admitted to knowing someone infected with HIV.

Most respondents were responsible for staff welfare/medical benefits (96.2%), hiring/firing (90.0%) and vocational assignment/training (87.9%). About half were involved in customer relations (52.2%).

Due to the composition of SNEF, respondent companies came either from the manufacturing (46.4%) or service (53.6%) sectors. Most (43.3%) were medium sized (101 to 250 employees)

although a good number (35.1%) of large companies (>500 employees) were represented. A third (33%) of those surveyed had some form of on-going workplace health education programme.

Respondents were similar to non-respondents in most respects, except for a greater proportion of managers from large companies among the respondents. Several respondents volunteered clarifications to their responses by writing short explanations beside their answers (presented in the appropriate sections below). Many respondents left at least one question blank; most often these were questions dealing with HIV screening and grounds for termination of employment.

Knowledge of HIV infection

Routes of infection: Only one respondent (0.4%) gave an incorrect response to questions on sexual modes of transmission. Questions on non-sexual modes (sharing needles; vertical infection) and routes not responsible for the spread of HIV (office contact; sharing telephones) attracted slightly greater numbers of incorrect and "don't know" responses (0.4% to 1.2%). Ten respondents (4.3%) thought or weren't sure that HIV could be spread through toilet seats, while twice as many (8.7%) believed the same about eating utensils.

People with HIV: Most (84.8%) respondents were aware that HIV infected persons might not show signs of ill-health. Only half (51.5%) thought it likely for a heterosexual person to be infected. Asked to estimate how long an infected worker could remain fit for work, many (40.2%) chose periods of less than 5 years, while about half that number (17.1%) put the figure at more than 10 years.

Knowledge scores: The level of knowledge among the respondents was good, with the distribution of scores markedly skewed to the left (Fig 1). The mode was 13 points out of a maximum of 14. The range of scores was relatively narrow (from 8 to 14).

Various respondent characteristics (gender, age, number of years in present position, company type, company size and acquaintance with an HIV infected person) were studied for possible associations with a statistically significant difference in knowledge scores. The only variable significant at the 95% confidence level was previous acquaintance with an HIV infected person ($p=0.025$).

Attitudes towards workplace issues

HIV screening: Just over half of those surveyed (56.3%) favoured pre-employment screening for all new applicants, while nearly half (47.1%) approved of testing all employees, including top management. About three-quarters (75.7%) agreed that an applicant's HIV status would affect the hiring decision.

Confidentiality: The majority of respondents (83.8%) felt that management had the right to know if any of its employees were infected.

Fig 1 - Knowledge scores of respondents

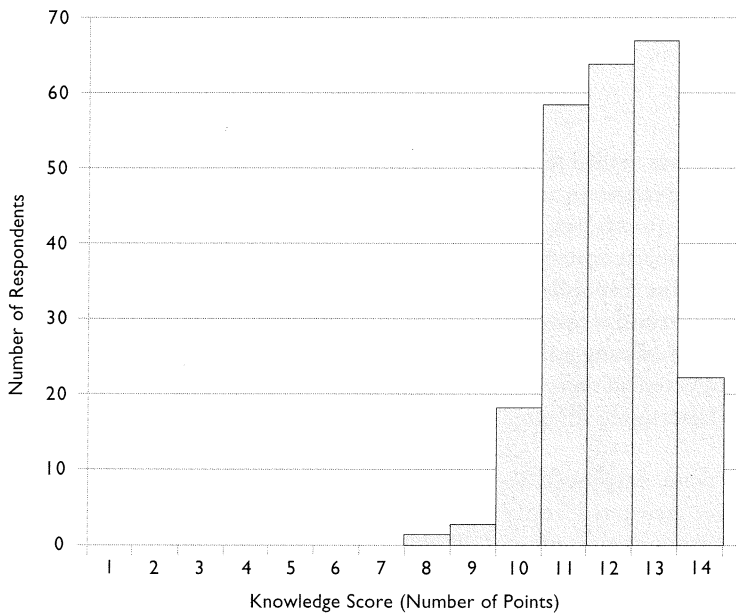
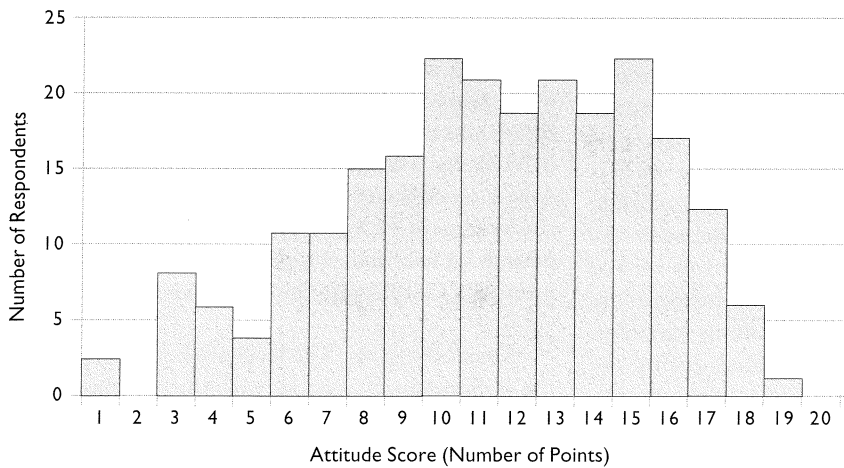


Fig 2 - Attitude scores of respondents



However, most (73.6%) felt that employees did not share this right and nearly all (97%) agreed that management had a responsibility to maintain confidentiality.

Employee relations: While many (63.9%) respondents agreed that HIV infected workers did not pose a risk to their colleagues, a similar number (58.3%) felt their companies would have to take special precautions to protect fellow employees. Most (85.8%) thought that infected workers should be allowed to use shared facilities like locker rooms and toilets but half (50.0%) felt they should not be allowed to handle food. Almost half (47.1%) of those respondents who knew that HIV is not spread by eating utensils still felt that infected workers should not be allowed to handle food. While almost all (91.1%) saw it as their responsibility to protect infected workers from discrimination, about half (48.0%) agreed that it was better for one infected worker to be dismissed than have the entire staff upset.

Customer relations: Although the majority (83.4%) agreed there was no risk of transmission from infected workers meeting with customers, about half (54.4%) would not allow such meetings for fear of adverse publicity. However, many (72.0%) respondents felt that infected workers need not be dismissed in order to protect business. Most (77.3%) believed that customers would not be able to successfully sue their companies for exposure to an HIV infected worker. Little difference was found between the manufacturing and service sectors in their attitudes towards customer reactions.

Vocations and assignments: The majority of respondents would allow HIV infected workers to continue working as long as their health permitted (85.2%) and to change their vocation when the situation warranted it (88.0%). However, most (70.9%) did not think it cost effective to consider such workers for long term training or promotion.

Medical coverage: Nearly two-thirds (63.2%) of those surveyed felt that their companies should not pay for a worker's HIV treatment. Almost the same number (61.7%) thought that since HIV infection is sexually transmitted, it should not be eligible for medical benefits. About half (49.3%) agreed that HIV infected workers were entitled to the same benefits as those with cancer or tuberculosis. More than a third (38.3%) believed that treatment costs for HIV were greater than for cancer.

Workplace education programmes: Almost everyone (96.6%) agreed that conflicts between infected and non-infected workers were best avoided through continuing education. Most (88.3%) believed that their workers would be interested in HIV education and more than three-quarters (77.9%) felt that their companies should be responsible for providing HIV education to its workers.

Attitude scores: The distribution of attitude scores was bimodal at 10 and 15 points, compared to the maximum of 20 (Fig 2). The spread of the scores (1 to 19) extended over almost the entire range of possible scores.

Various respondent characteristics (gender, age, number of years in present position, company type, company size, acquaintance with an HIV infected person and knowledge score) were examined for statistically significant associations with a higher attitude score (ie. more favourable towards infected workers). The only variable significant at the 95% confidence level was the respondent's company size (number of employees) ($p=0.005$). Higher knowledge scores were not significantly associated with favourable attitude scores ($p=0.439$), nor was previous acquaintance with an HIV infected person ($p=0.132$).

Policies and practices

Almost all (96.1%) companies surveyed reported no previous experience in dealing with an HIV infected worker. Several respondents stated that their companies did not have any formal policies

regarding HIV infection and their answers were largely based on personal views.

Pre-employment screening: About two-thirds (67.2%) of respondent companies did not require pre-employment HIV testing. Just under one-quarter (22.4%) were considering its implementation, while 9.9% had made it mandatory. Many explained that this was because of their foreign workers who were required to undergo compulsory HIV testing.

Grounds for termination: Most respondents (93.4%) would cease to employ an HIV infected worker once he was unable to perform his contracted duties. However, many (63.2%) also felt that an infected worker who was too ill to continue in his present position should be reassigned to a less strenuous job. An infected worker's employment would also be terminated if:

- the other workers insisted upon his dismissal (30.6%)
- the customers found out about his condition (27.9%)
- the infected worker's medical costs exceeded some pre-set limit (28.6%)

Medical coverage: Most respondents' companies (66.9%) would not pay for a worker's HIV-related medical expenses. For nearly half (49.5%) of them, HIV infection was specifically excluded from their current medical insurance scheme. Some respondents indicated that a worker who became infected 'accidentally' (eg. through a transfusion) might be treated differently.

AIDS education programmes: Most companies (82.6%) reported that they had never before organised any AIDS education programmes. Only two companies (0.9%) were currently running such programmes. However, more than half of those surveyed (56.5%) said that they were planning to begin such programmes on a regular basis.

DISCUSSION

Respondent population

Our response rate of 64.1% compares favourably with other HIV-related postal surveys in the workplace: 38%⁽¹⁶⁾, 40%⁽¹⁷⁾, 58%⁽¹⁴⁾; although some authors have achieved more impressive rates of 78%⁽¹³⁾.

As SNEF comprises only a fraction of Singapore's registered companies, our findings are not representative of the rest of the country's managers. But given the limited information available in this area, they provide an important baseline upon which further research and planning can take place.

The finding that more large companies responded to the survey is consistent with other studies^(12,14) that suggest smaller companies may not regard HIV infection as an issue of relevance to their organisation.

Principal findings

While respondents' knowledge about HIV transmission was generally found to be good, their attitudes were not particularly favourable towards infected workers. This lack of congruence between the knowledge and attitude scores contrasts with studies in the USA^(17,18). These demonstrated a strong relationship between knowledge of HIV transmission and positive attitudes towards infected co-workers, with transmission knowledge scores being the best single predictor of workplace attitude scores ($p < 0.001$)⁽¹⁸⁾. It might be supposed that the US respondents had less misconceptions than the Singaporean subjects about HIV transmission. However, a comparison reveals 8.7% of our respondents believed that or were not sure whether sharing eating utensils could spread HIV, compared to 20% of the US respondents⁽¹⁷⁾.

One explanation could be that in our study population, knowledge of HIV transmission per se is inadequate for or irrelevant to the formation of attitudes favourable towards infected workers. Other items of information might be needed for the formation of more favourable attitudes. These could include recommendations of international health and labour agencies^(9,19) and occupational health experts^(20,21). Respondents may not also fully appreciate the legal rights of the infected worker.

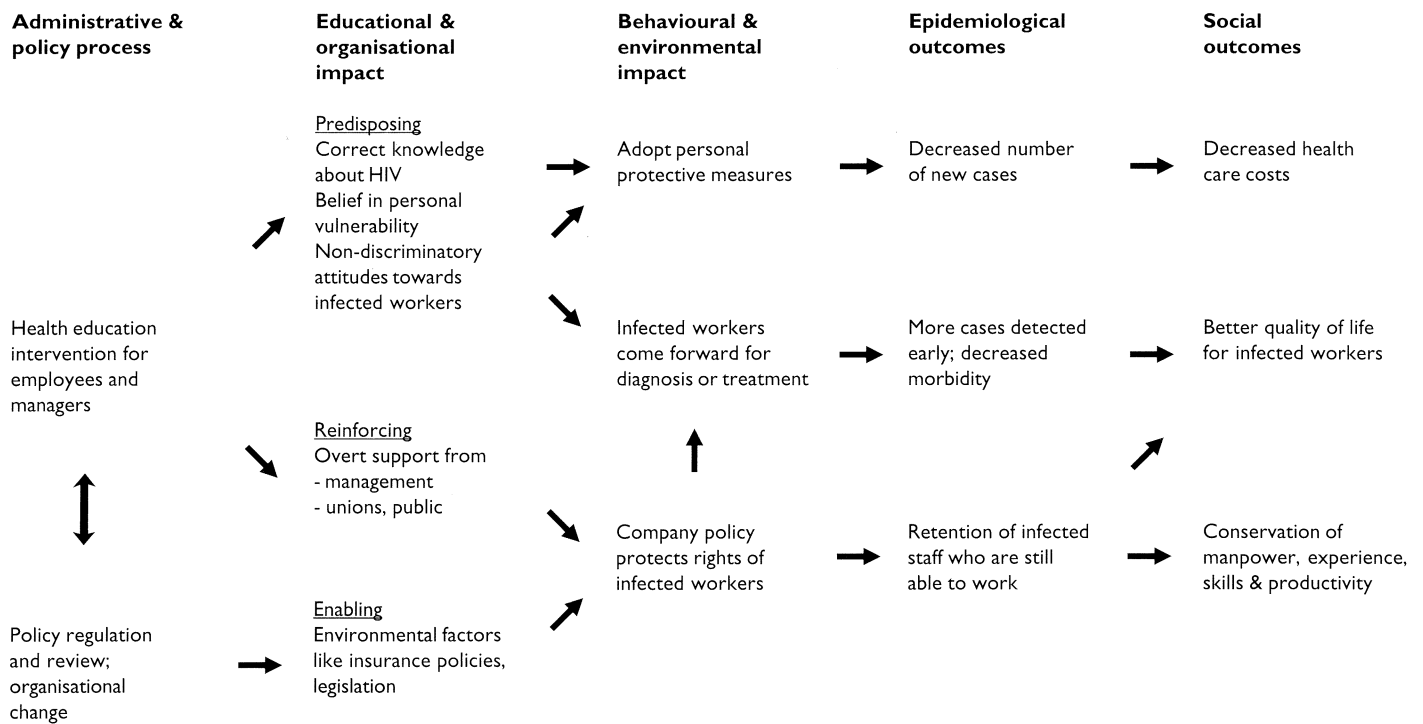
In addition, factors like cultural norms, religious values, past experiences and the opinions of supervisors, co-workers and customers can exert profound influences upon a manager's attitudes such that they may even run contrary to objective facts, such as for example, the inconsistent responses to the questions on discrimination and dismissal.

The association between a favourable attitude score and a larger sized company is consistent with other studies^(12,14). This could be due to the better-defined management structure in larger companies or in the case of multi-national corporations, greater experience with HIV management at the head office.

There appears to be more consistency between practices and attitudes than between knowledge and attitudes. However, our respondents' comments indicate that policy and practice are often reinforced or even prescribed by environmental factors. For example, two-thirds of companies surveyed would not pay for an infected worker's HIV-related expenses because for nearly half of them, HIV infection was excluded from their current insurance scheme. Conversely, the willingness to consider non-sexually acquired cases of HIV more favourably is mirrored by the exceptions made by some insurance companies. Management policies thus appear linked to the prevailing practice of the insurance industry.

Similarly, most of the companies with mandatory HIV testing employ large numbers of foreign workers who are required by the Ministry of Labour to be tested for HIV before entry into Singapore and again upon renewal of their work

Fig 3 - Proposed intervention: a framework for implementation and its possible outcomes



permits. Such legislation may lead managers to reason that if a country protects itself against imported HIV through comprehensive screening, then a manager can safeguard his company by imposing similar conditions on all new applicants. Indeed, nearly a quarter of respondents were considering implementing pre-employment testing.

Implications for intervention

Our findings indicate some form of educational intervention is required before local managers are in a position to develop or implement a rational organisational response to HIV. Comparison with studies from other countries has revealed differences that have implications for the planning and implementation of this intervention. The following strategies are proposed to address these differences.

The primary aim of the intervention should be to change managers' attitudes towards HIV infection. The use of small group discussions and role play would allow managers to clarify their doubts, practice decision-making skills and work through personal biases. HIV infected persons should be involved as speakers and facilitators. By adding a human dimension, they can help to dispel myths and stereotypes. Acquaintance with an HIV infected person was also shown in this study to be associated with higher knowledge scores.

Some educational content will still be needed but it should be more workplace-oriented, including guidelines formulated by reputable health and labour agencies, technical aspects of HIV infection (eg. fitness to work, limitations of testing), the legal position on various HIV-related workplace issues and estimations of the costs (direct and indirect) that companies would incur through

the lack of an adequate HIV management policy. Local or regional case studies should be cited wherever possible to emphasise relevance and practicability.

Employee education programmes should be incorporated into the intervention to aid employee understanding of new policies, as well as minimise misconceptions and future conflicts between infected and uninfected workers. Public HIV education programmes could be run in tandem to increase customer acceptance of infected workers.

Removing environmental obstacles to HIV policy development and implementation may require the assistance of public health agencies. They might, for example, get insurance companies to consider providing coverage for HIV at a higher premium (analogous to smokers), rather than excluding the condition outright.

Efforts should concentrate initially on encouraging more receptive companies to accept the intervention. For example, larger companies were found in this study to have more favourable attitudes towards infected workers. Such companies could serve as early adopters and opinion leaders, setting an example to the rest of the business community. Further support could come from SNEF, labour unions, business associations and schools of management.

Effecting change on the different levels of this intervention (personal, interpersonal, organisational, community and public policy) is consistent with the health promotion planning model PRECEDE (Predisposing, Reinforcing and Enabling Constructs in Educational Diagnosis and Evaluation)⁽²²⁾ which is used to suggest a framework for implementation (Fig 3), as well as some possible outcomes.

CONCLUSION

An intervention programme is proposed to facilitate the development of rational HIV management policies by local human resource managers. Various strategies for implementation are suggested based on the principal findings of this study.

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