

Occupational HEALTH

SOUTHERN AFRICA

Official journal of the Society of Occupational Health Nurses (SASOHN),
the SA Society of Occupational Medicine (SASOM) and
the Occupational Hygiene Association of Southern Africa (OHASA).

Lock out
Needle
sticks

Vol 4 No 6 November/December 1998



Needlestick injury... the healthcare professional's nightmare



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Fatigue

The word 'fatigue' is becoming a national buzzword and being increasingly heard in a variety of circumstances. It is really a collective response to long-standing problems or issues that do not change in spite of sustained efforts by various individuals, groups or forums to improve them. This probably sounds quite intimidating and there are several examples of 'fatigue' - but none is quite as obvious as that of HIV/AIDS awareness 'fatigue'. This is eloquently outlined in the article by Harbottle. The public, health care workers and companies have been bombarded with information and strategies on this epidemic since the 80's and yet South Africa still follows the worst case scenario predicted some years ago.

Another example of 'fatigue' in occupational health has been the lack of progress with the permit system which allows registered nurses to prescribe and dispense certain scheduled medicines. In spite of repeated attempts by SASOM and SASOHN over many years, there seems to be little vision or urgency evident by the authorities to address this issue. It seems almost to be a case of whilst the authorities 'fiddle', many low income people and, in some areas, their families are denied convenient and low cost access to primary health care. Neilsen and Young refer to the permit system and the lack of clarity between the regulatory authorities. The syndromic approach to STDs is now well established. It is a simple, cheap and highly effective and yet nurse practitioners still do not know where they stand legally. Some simple co-ordinated decisions could result in a whole new cadre of health care workers who could treat STDs effectively and, at the same time, reduce the spread of HIV - which is a national priority.

The major focus in this issue of the journal is on HIV/AIDS and STDs. It is due for publication around 1 December which is International AIDS Day. Several Southern African experts have given their views and what is very encouraging is that there are success stories from other countries. If health care workers can implement some of these successes in their own organizations then they will be making a difference here too. Until now, so much of the information has been gloomy and so it remains a challenge to take those successes that have worked elsewhere and implement them in South Africa.

Evian has clearly stated how simple measures such as INH and Co-trimoxazole or Dapsone prophylaxis in HIV-infected individuals can prevent TB and other acute respiratory infections. Health care workers should take note of these and other measures. He also raises the issue of the prevention of transmission of the virus from pregnant mother to unborn child by using medication which is cost effective. This is in direct contrast to the policy of the Department of Health which will not adopt this regimen, but will rather utilise their resources towards preventive efforts. As Evian mentions, we are now already in the symptomatic

AIDS phase of the epidemic and all health care workers in industry will have seen, counselled and treated AIDS patients.

The impact of the HIV/AIDS epidemic facing South Africa has been grossly underestimated by employers and Harbottle explains the reasons for this. Business in general tends to be reactive, but this is one area where they need to be pro-active and where they need to quantify the impact on their financial results and develop strategies to counteract this epidemic.

The Zimbabwe AIDS epidemic is several years ahead of South Africa. Wilson *et al* have produced a well-thought out and cost effective approach to combat this problem. Much of their effort is focussed on condom use and distribution, inspired by the extraordinary results achieved by Thailand in this area.

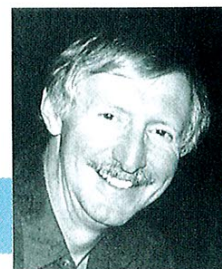
Neilsen and Young review recent developments in STDs and HIV. The important link between STDs and HIV - and vice versa - is clearly made. An improvement in the treatment of STDs will clearly lead to a reduction in HIV cases.

Needle stick injuries have received prominence in the journal in the past. However, Panas and Begley show the inadequacies of compensation under COIDA for those unfortunate enough to sero-convert. Health care workers should point out these deficiencies to their managements and consideration should be given to taking out additional insurance which is now available in South Africa through several commercial companies.

The use of rapid onsite HIV testing has shown to be a useful addition to the clinic function in industry and Thomas outlines the advantages of doing these tests. However, there is a word of caution in the Industry News section that a plethora of these kits have now arrived on the market and health care workers should only use those from reputable companies.

Barthie has produced a very useful overview of Legionellosis, as well as its incidence in South Africa. Although few cases have been reported locally, health care workers should always have a high index of suspicion. It is useful to know that there is a Legionella Action Group (LAG) that can be contacted for assistance.

Contact dermatitis is a common disorder seen in occupational health clinics and Carman and Fouche use a case study to illustrate the difficulty in both diagnosing the cause of irritant dermatitis as well as the frustration in dealing with a claim at the offices of the Compensation Commissioner.



Mike Baker
HONORARY EDITOR

Lock out Needle sticks

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OHASA and IOHSA agree to work together

After more than a year of discussion, the Councils of the Occupational Hygiene Association of Southern Africa (OHASA) and the Institute of Occupational Hygienists of Southern Africa (IOHSA) have formally agreed to operate as a single organisation. The interim name will be 'OHASA (incorporating IOHSA)'.

For many years, OHASA has represented the views of all those involved in the many and diverse aspects that make up this very complex discipline of occupational hygiene. Its goals include promoting the use of occupational hygiene techniques in Southern African industry and encouraging interchange of ideas on approaches for preventing occupational illness.

IOHSA on the other hand is a relative newcomer to the scene having only been officially established in the early 1990s. Its remit is very narrow and is largely restricted to establishing training and education standards for occupational hygienists and subsequently registering and controlling the practitioners meeting those standards.

Over the next year or so, our two bodies will operate together, albeit

under our own separate constitutions. With the economics of scale in administrative duties, consequent reduction in the duplication of services and the synergies resulting from a sharing of ideas will, we feel sure that the new arrangement will enrich both organisations. During this phasing-in period we will be working towards agreement on a plan for integrating constitutions, office bearers and our fee structures that will satisfy the needs of all those interested in occupational hygiene.

We fully recognise that those practitioners who are earning a living as occupational hygienists should determine their own standards within legal structures and international norms. The formal professional legislation procedures developed by IOHSA for occupational hygiene practitioners are already largely managed by the Registration Board for Occupational Hygiene, Safety and Associated Practitioners (OHSAP). This section 21 Company was jointly set up for the purpose by IOHSA and the Institute of Safety Management and subsequently joined by the Mine Ventilation Society. Two members of each organisation sit on

the Board of this body. A Council comprised of representatives from Government, Labour, Industry, Educational establishments and other interested parties oversee and regulate the work of the Board.

However, we equally recognise that occupational hygiene is a dynamic and rapidly growing discipline and needs the input of a wide range of interested individuals and allied disciplines. OHASA (incorporating IOHSA) will

set up a Professional Affairs sub-committee to take comment from members and provide input to OHSAP.

Much has been achieved in the past but together we can be a powerful force in reducing the devastating but often hidden economic and social impacts of work-related illnesses throughout Southern Africa.

J Jacobs - President OHASA and J Naidoo - President IOHSA

Noshcon '99

Date: 9-11 June 1999

Venue: Sun City

Noshcon '99, Africa's largest annual safety, health and environmental conference, will be hosted by NOSA at Sun City from 9-11 June 1999.

The annual conference attracts over 2 000 delegates who come to network with colleagues and international associates. World class presenters with sound practical experience in their specific fields will present papers aimed to transfer up-to-date Safety, Health and Environmental (SHE) management principles to all industry group and categories.

The theme for this 38th

annual conference is *The integration of safety, health and environment in competitive business strategies*. Top performing companies have long recognised that strategic planning needs to place great emphasis on the integration of SHE in all financial and resource strategies. An increasing number of consumers are demanding that the manufacturing of product meets international standards. Compliance specifications and guarantees on the implementation of international SHE standards and codes of practice is one of the main criteria measured in product sourcing.

For more information contact Marina Nel at NOSA on telephone (012) 321 7736 or telefax (012) 323 2436 or visit the website at <http://www.nosa.co.za>

Medichem '98

Delegates from 21 countries attended MEDICHEM '98 which was held in the Cape Sun Conference facility from 7-11 September 1998. Members from the following professional groupings attended the congress: occupational medical practitioners, occupational hygienists, occupational health nurses, toxicologists and chemical engineers.

This congress, dealing with *New Horizons Old Concerns* in the chemical industry, focussed on health, safety and environmental issues in the chemical industry both globally and in Africa towards 2000.



Dr Murray Coombs

Specific sessions dealing with the following issues were held:

- What needs to be done, why this needs to be done and by whom?
- Monitoring, reporting and communicating occupational illness and disease
- Transfer of practical solutions from international experience to developing countries

These sessions covered the following topics:

- The future of the chemical industry world-wide
- Chemical safety and disaster management
- Health care for employees
- Health effects of occupational and environmental exposures
- Industry issues relating to chemicals, pesticides, ionizing radiation and noise

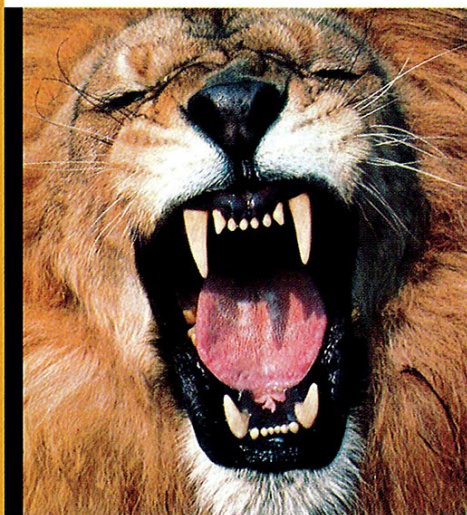
Feedback from the MEDICHEM board and delegates indicated that the congress was of high scientific value. The wide scope of the scientific programme and high level of scientific content mixed with issues and concerns pertaining to the chemical, agrochemical, petrochemical, construction and mining industries in South Africa

gave delegates a perspective on the current status and challenges facing professionals in the field of occupational and environmental health. The scientific abstracts given by various professionals in their field will in due course published in the international publication "International Archives of Occupational and Environmental Health".

Foreign delegates also gave Cape Town the thumbs up sign as an excellent conference venue and tourist attraction. We believe that they left our beautiful country as friends and ambassadors of South Africa.

Dr Andre Kotze
Member Organising
and Scientific Committee
MEDICHEM '98

CALL FOR PAPERS AND DELEGATES



THEME: THE INTEGRATION OF SAFETY, HEALTH AND ENVIRONMENT IN COMPETITIVE GLOBAL BUSINESS STRATEGIES.

NOSHCON '99, one of the largest occupational Safety, Health and Environment conferences in the world, will be held at one of the world's most exotic pleasure resorts - Sun City, deep in the wild heart of Africa. This is a call for speakers and delegates who wish to network with colleagues and international associates in a setting that's quite literally "Out of Africa" and out of this world.

Speakers are invited to submit résumés and abstracts of proposed presentations which should support the Conference Theme and be suited to any one of the following Delegate Groups - Introductory, Intermediate and Advanced practitioners.

Subject Areas include Occupational Hygiene, Occupational Safety, Industrial Environmental Management, Auditing, SHE related Legal, Human Resources and Information Technology Issues.

Résumés, 300 word maximum. **Abstracts**, 2000 word maximum. Abstracts must be submitted before December 15 1998 and should provide a clear outline of content, context and intended Delegate Group. Please note, Final Papers must be received at the NOSHCON offices by March 15, 1999.

For further information, please contact Marina Nel Tel 321-7736, Fax 323-2436. (Dialling codes - Local (012) International 27.12.) e-mail: worksafe@nosa.co.za or visit the NOSA website at <http://www.nosa.co.za>

NOSHCON '99
SUN CITY
SOUTH AFRICA
9-11 June 1999



Health At Work Week

24 - 29 August 1998

Johannesburg and Pretoria



Pat Lagan



Di Knott



Happy volunteers Di Knott, Denise Harris, Shirley Hall and Linda Stokes



Fundi Nyandeni - BP and health education



Ronelle Sparks takes the blood pressure of Christina Dunne (seated).

The South African Society of Occupational Health Nurses (SASOHN), through their societies in Gauteng, organised an awareness campaign on 'Health at Work' at several major shopping centres in Johannesburg and Pretoria from 24 - 29 August. Stands were erected and manned and thousands of people walking by had an opportunity to look at the exhibits and to ask questions.

The organisers were delighted by the response and feedback has been very positive.

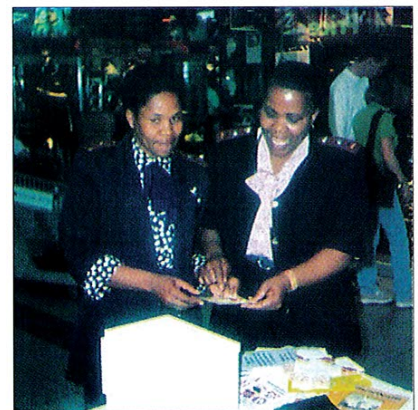
One of the questions most often asked by the public was how they could become involved in Occupational Health as a career path. This was very encouraging.

On a negative note, many people working at small to medium businesses reported that their companies did not offer or supply personal protective equipment, although this is a requirement of the Occupational Health and Safety Act.

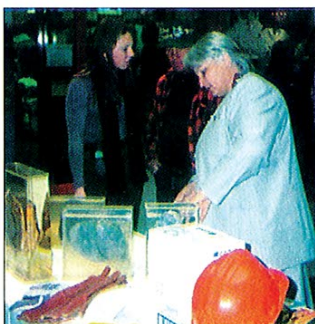
Information about the effect of smoking in lung disease also attracted a great deal of attention.



Jenny Edmonds and Erica Jardine - PPE explanation



Fundi Nyandeni and Sr Tululi Baloyi - F/Plan, TB and AIDS Education



Bev Hoggins doing the lung thing



Hanalie Loots, Ronelle Sparks, Sonja Kruger, Christine Dunn (seated)



Emily Rahube, Puma and Mamputo Simenya - TB and AIDS education

MEDSURG

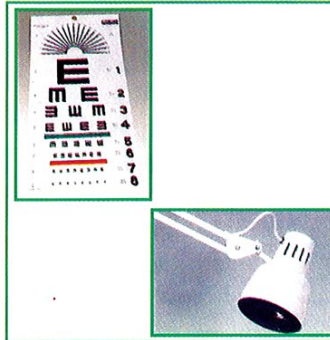
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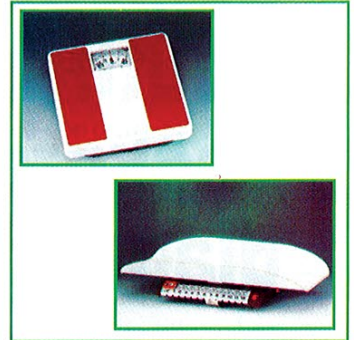
**Stethoscopes,
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Diagnostic sets



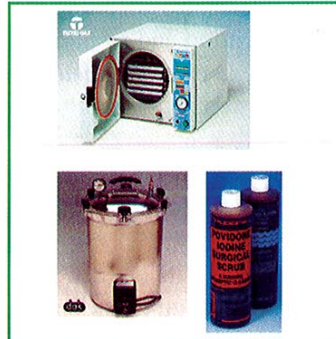
**Examination lights,
Eye charts**



**Scales,
Height measures**



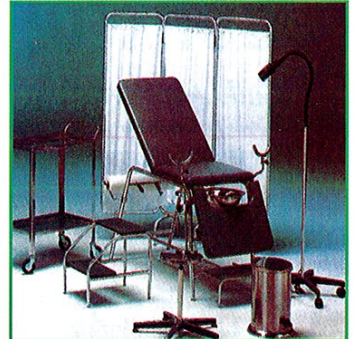
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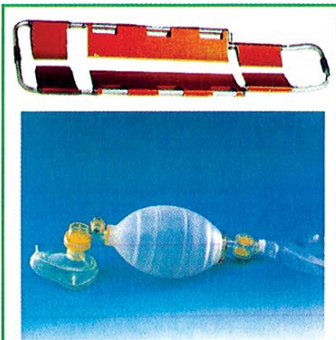
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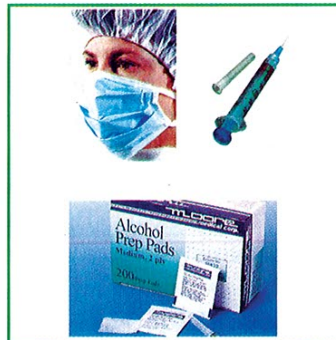
Generic medicines



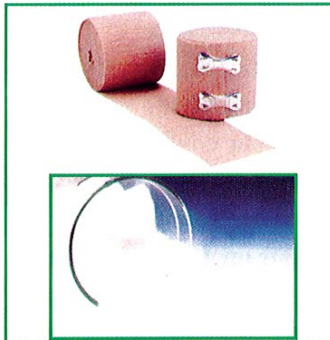
**Furniture, Clinic
and Office**



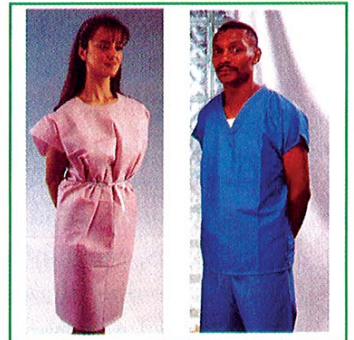
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Legionella in South Africa : background, diagnosis, prevention and control

Cathleen Bartie

Principal Medical Natural Scientist, National Centre for Occupational Health, Johannesburg

Occupational Health SA 1998; Vol 4, No 6: 8 - 13

Abstract

This paper reviews literature on the genus *Legionella*, with special emphasis on previous research in South Africa and the diagnosis, prevention and control of *Legionella* contamination of water distribution systems and legionellosis in workers and the general public. In view of the current controversy surrounding the organism and its isolation and identification from environmental samples, some information on the difficulties surrounding these issues is offered. This is intended as a summary of currently available guidelines rather than a detailed account of the literature.

Introduction

There is a lack of awareness amongst both medical practitioners and the general public in South Africa regarding the health risks of *Legionella* contamination of water distribution systems. As a result, the prevalence and distribution of *Legionella* species in South African waters and the incidence of legionellosis, particularly among workers, is not known. The recent worldwide movement towards a better understanding of this controversial organism prompted the formation of the South African *Legionella* Action Group (LAG) in 1995. This Group

represents industry, academic institutions and the medical profession. Apart from research and the recommendation of appropriate treatment methods for water systems contaminated with *Legionella*, the main objectives of LAG are to increase awareness by disseminating information regarding *Legionella* contamination as widely as possible and to collect information to include in a national database which will focus on all aspects of *Legionella*, its prevalence in the South African environment and the incidence of legionellosis, not only in workers, but also in the general public.

Legionellosis was first recognised in 1976 after a pneumonia outbreak in Philadelphia which affected 182 delegates attending the American Legionnaires' Convention and resulted in 34 deaths. The causative agent, *Legionella pneumophila*, was isolated for the first time in January 1977 by the Center of Disease Control and Surveillance (CDC) in Atlanta, Georgia, USA. Subsequent outbreaks have been reported from all over the world. The largest ever occurred in Spain in September 1996 where 224 people contracted the disease and 14 died. During 1997 alone, 27 outbreaks occurred worldwide.

Very little has been published on legionellosis in South Africa. After the initial introduction of diagnostic laboratory tests in 1979, cases were identified in Durban, Port Elizabeth and Johannesburg during the early 1980s. The first fatal case reported in South Africa was diagnosed at autopsy and reported in 1980.⁷ By 1982, 2 200 pneumonia patients had been tested by the *Legionella* laboratory in Johannesburg and antibody titres $\geq 1:256$, suggesting an acute infection, were seen in 9.9% of them.¹² This figure was confirmed in hospitalized pneumonia patients in a study published in 1994.¹¹ Despite the high prevalence of antibodies in the South African general public and workers in the mining industry^{1,21}, only one outbreak has been reported to date, affecting 12 patients in a Johannesburg hospital and only 31 cases of legionellosis have been notified in the country since it became a notifiable disease in 1990 (Refer Table I). Medical practitioners are therefore responsible for reporting all confirmed legionellosis cases to the Department of Health. Despite this responsibility, there appears to be gross underreporting of cases in South Africa.

As far as environmental legionellae are concerned, a study published in 1991 indicated the presence of *Legionella* species in 77% of 520 cooling towers tested, although only 4% of these yielded bacterial counts in excess of 1000 cfu/ml, a level which represents a very high risk of human infection (Refer Table II).

Table I : Notified legionellosis cases in South Africa for the period 1990-1997

Legionellosis			
Year	Nu of cases	Nu of deaths	Total
1990	2	0	2
1991	14	0	14
1992	2	0	2
1993	4	1	5
1994	4	0	4
1995	n/a	n/a	n/a
1996	n/a	n/a	n/a
1997	4	0	4
Total	30	1	31

n/a : statistics not available

Table II. Criteria established by PathCon Laboratories for interpretation of results of environmental samples from areas occupied by low-risk individuals (Freije 1996)

Legionellae in environmental samples		
Cfu/ml	Industrial systems	Domestic systems
detectable but < 1	A	B
1-9	B	C
10-99	C	D
100-999	D	E
1,000 +	E	E

Key : A = low level of concern
 B = Represents little concern but indicates the system is a potential amplifier for legionellae
 C = Low but increased level of concern. Disinfection should be considered
 D = Uncommonly high levels. Approaching levels that may cause outbreaks. Disinfect system
 E = Very high levels. Outbreak potential. Disinfect system immediately

The genus *Legionella*

Legionella species are freshwater organisms that occur worldwide in natural sources like rivers, lakes, fountains and streams and in industrial water distribution systems like cooling towers, air-conditioning systems, and humidifiers. Other sources include domestic hot water systems like showers, respiratory therapy devices, misting devices and ice making machines, decorative fountains, machine cutting coolants, soil and dust. Dissemination occurs mainly by aerosolization of droplets containing legionellae. In the majority of cases, the legionellae are present in low numbers and are therefore not a serious health hazard. There are however certain factors that will amplify their numbers, thereby increasing the health risk significantly. The most

important of these are:

- high relative humidity
- the presence of oxygen and carbon dioxide
- high microbial content including algae, protozoa and biofilm
- the presence of scale and corrosion products
- water temperatures below 60°C

Despite several new developments, laboratory isolation and identification of *Legionella* species from the environment remain difficult. Culture of the organisms from water samples has been the method of choice for the last 10-15 years and is still used by the majority of South African laboratories.

Legionellosis - the clinical picture

Of the 41 currently known species, at least half are pathogenic but *L pneumophila* serogroups 1-6, *L micdadei* and *L dumoffii* are the three species most commonly implicated in legionellosis, the term used to collectively describe all infections by the genus *Legionella*, including Legionnaire's disease and Pontiac fever. Subclinical infections have been reported.

Legionnaire's disease (LD)

Legionnaire's disease refers to the severe, often fatal pneumonia caused mainly by *L pneumophila* serogroups 1-6 and *L micdadei*. Symptoms may range from a mild, slightly productive cough and slight fever to coma with widespread pulmonary infiltrates and multi-system failure.²⁰ The incubation period ranges from 2-10 days but may be shorter in immuno-suppressed patients. In the first 24-48 hours of illness, patients experience non-specific symptoms including fever, malaise, myalgia, anorexia and headache. Chest pain may be present in some patients. Diarrhoea is reported in 25-50% of cases and nausea, vomiting and abdominal pain in 10-20%. Fever is virtually always present. Neurologic symptoms range from headache and lethargy to encephalopathy.

Although the clinical presentation is nonspecific, there are some clues that should indicate the possibility of LD in cases of undiagnosed pneumonia. LD can be suspected if a gram stain of respiratory secretions in which large numbers of neutrophils are present yield few, if any, organisms. Cases of hyponatraemia (with serum sodium <130 mEq/ml), failure of the patient to respond to beta-lactam antibiotics (penicillin and cephalosporin) and

aminoglycosides and exposure of the patient to an environment in which the water supply is known or suspected to be contaminated with *Legionella*.

As *Legionella* species are intracellular organisms the ideal antibiotic for treatment of Legionnaire's disease should be able to enter the phagocyte and kill intracellular organisms. Erythromycin is currently the drug of choice for treatment of Legionnaire's disease because of its ability to enter phagocytes. It is, however, not bactericidal for legionellae and treatment failure has been documented.¹⁴ Beta-lactam antibiotics are not able to enter phagocytic cells and are therefore not considered alternatives for treatment. Failure to respond to these antibiotics are in fact often interpreted as an indication of possible atypical pneumonia, of which Legionnaire's disease is an important example. Alternative antibiotics, especially for severe disease, include rifampicin and the quinolones.

Laboratory diagnosis, the only way to confirm Legionnaire's disease, can be achieved by several methods:

- *Culture*, considered the 'gold standard' for other diagnostic methods, is not widely used as *Legionella* is difficult to culture and requires specific media. It remains, however, the most sensitive method when performed early in the course of disease.⁵ Confirmation by culture may take up to 2 weeks, making diagnosis retrospective.

- *Antibody detection* depends on demonstration of seroconversion (a fourfold or greater increase in antibody titre) between paired sera. Confirmation depends on sera collected during the acute and convalescent stages of disease. As antibodies may take up to six weeks to develop, false negative results are often reported. The timing of the specimens is therefore very important: Acute phase specimens could be collected within 7 days after onset of illness and convalescent sera after at least 22 days⁵ and a subsequent specimen after 42 days has been suggested²² to increase the sensitivity of the test further in cases where seroconversion cannot be demonstrated after 22 days. A fourfold increase in titre to $\geq 1:128$ or a single titre of $\geq 1:256$ by the indirect fluorescent antibody method is considered highly suggestive of acute disease.

- *Antigen detection* can be achieved by a number of recently developed methods, for example monoclonal antibodies for use with direct immunofluorescence, a urinary antigen test which claims to be highly specific and sensitive for detection of *L pneumophila* antigens but is not able to detect other species, ELISAs and agglutination

tests. While applicability of these methods for diagnosis is currently being evaluated by a number of South African laboratories none are used routinely.

- *Nucleic acid detection* methods are also being evaluated for diagnosis from clinical specimens. Although proven to be highly specific and sensitive for environmental samples, their applicability to clinical samples is not clear.

Pontiac fever (PF)

Pontiac fever refers to an acute, self-limiting, flu-like illness without pneumonia, which occurs in all age groups, both sexes and is more prevalent during summer months. The incubation period is normally between 24 and 48 hours and the attack rate may exceed 90%. Predominant symptoms are malaise, myalgia, fever, chills and headache with nonproductive cough, dizziness and nausea in some cases. Only symptomatic therapy is required and the patient usually recovers completely within one week. No fatalities have been reported to date.

Risk of infection

Although more common in older people, particularly in men over 50, people of all ages, race groups and both sexes are at risk of contracting legionellosis. Additional risk factors include smoking, alcohol abuse, diabetes, chronic respiratory disease and immuno-suppression. A seasonal distribution of legionellosis cases has been reported, with more cases being identified during summer to autumn.¹⁸

In order for human infection to occur, a number of factors are necessary, including:

- an environmental source and/or man-made reservoir
- one or more amplification factors
- a mechanism for dissemination
- a virulent enough strain to cause infection
- a susceptible host
- an inoculation site where such a strain is capable of causing infection.

By breaking this chain, the risk of water system contamination and human infection can be substantially decreased (*Refer Figure 1*). This can be achieved by employing one or more prevention and/or control strategies, for example, by blocking amplification of the bacteria; detecting virulent strains in the environment; developing new, more effective decontamination strategies; decreasing the potential for aerosols to disseminate and stimulating protective immunity, possibly through developing suitable vaccines.

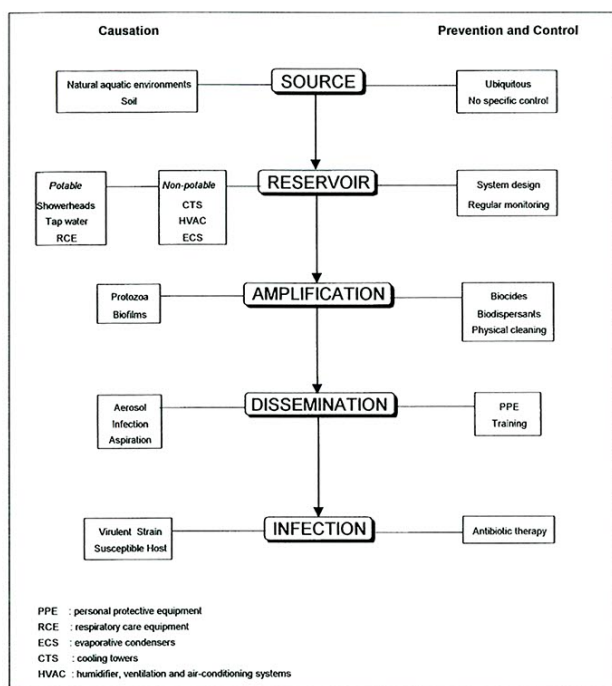


Figure 1: Legionellosis chain of causation

Occupational health risk

The role of the work place in legionellosis has recently been the focus of a great deal of attention. Identification of work place settings where the risk of infection is particularly high and strategies to prevent disease transmission in the work place are important issues currently being studied.

Although no specific group of workers can be identified as being more at risk than any other, persons responsible for maintaining cooling towers or similar installations should be regarded as being potentially at risk of infection. Transmission from an outdoor source via air-conditioning, humidification or ventilation systems may increase the risk to workers inside buildings significantly. As a rule, workers in any environment where the relative humidity is high or where they come into contact with any form of water aerosols are at risk. As legionellae have also been isolated from dust and soil, workers in those environments should also be regarded as potentially at risk of being infected.

Worker protection

Prevention and control

The primary aim of any prevention programme should be to avoid equipment which can create a spray or aerosol of potentially contaminated water, especially in buildings occupied by people susceptible

to the disease like hospitals. Although it is not possible to completely eradicate *Legionella* from the environment, there are a number of factors that will decrease the risk of contamination of water distribution systems. These can be summarized as follows:

- *Good engineering design* should allow safe and easy access for maintenance, drainable circulating water and should include the use of construction materials that can withstand the corrosive action of chlorine and high-pressure cleaning jets used for removal of biofilm. Materials that support *Legionella*, like rubber washers, should be avoided and drift eliminators must have an efficiency that will reduce drift to <0.02%

- *Maintenance of equipment* should be carried out regularly and efficiently according to manufacturer's instructions and by properly trained officials. A number of guidelines are available in this regard.

- *A regular water treatment programme* should control scale, corrosion and micro-organisms and normally involve physical cleaning together with addition of appropriate biocides and biodispersants.

- *Disinfection* of contaminated cooling towers is normally done by chlorine shock - although the appropriate method to use will differ from situation to situation. Local water treatment companies normally can supply information on the appropriate method to use.

- *Documentation* should include information on inspections carried out and cleaning and disinfection done after each inspection, details of maintenance work, operating procedures, safety procedures during inspection, maintenance and monitoring and record the person/s responsible for overseeing and recording maintenance work.

A checklist for prevention of *Legionella* contamination of water systems is presented in Table III and recommendations on interpretation of environmental sampling results as suggested by PathCon Laboratories (Norcross, Ga.) in Table II.⁶ Additional information on sampling and testing of water samples and treatment and maintenance of contaminated systems can be obtained from the NCOH.

Personal protective equipment

Personnel working on or in close proximity to infected cooling towers or other water distribution systems, especially maintenance personnel, must be provided with suitable personal protective equipment to prevent infection and exposure to the chemicals

Table III : Schedule for preventive measures Freije 1996**Prevention of Legionellae contamination of water systems**

Scheduled work	Frequency
Cooling towers	
- physically clean	2-4 times/year
- inspect condition	weekly
- consider flushing and cleaning of entire system	2-4 times/year
- consider dip slide tests	monthly
Hot-water tanks	
- drain/clean/disinfect	1- 4 times/year
- check drain water temperature	monthly
Cold-water tanks	
- drain/clean/disinfect	yearly
- check drain water temperature	monthly
HVAC drip pans	
- check drainage/clean/disinfect	2-4 times/ year
Decorative fountains	
- Drain/clean/disinfect	2 times/year
Check outlet water temperatures	monthly

recognising potential risks and are aware of measures taken by the employer to reduce the risk of exposure, that they are trained in good housekeeping at the workplace and proper personal hygiene. The importance of wearing personal protective equipment and the necessity of medical surveillance whenever necessary should be adequately explained.

Diagnosis and treatment

Symptomatic workers should be referred for diagnosis and appropriate antibiotic treatment. A number of clinical laboratories in South Africa perform serological tests for diagnosis of Legionnaire's Disease and will assist in the interpretation of results. In cases where two or more workers present with typical symptoms, management should be informed and the water distribution system checked for contamination. The best approach for investigations of possible legionellosis outbreaks will vary from situation to situation but will usually include both epidemiologic and environmental investigations (*Table IV*).

Conclusion

If the problem of legionellosis in South Africa is to be effectively addressed, an awareness needs to be created among health care professionals and other workers. This should include knowledge of

the organism's ecology, pathogenic effects and mechanisms for prevention and control. This awareness is a prerequisite for future efforts aimed at determining the true prevalence of *Legionella* in the South African environment and the incidence of legionellosis as well as for developing strategies to eradicate this harmful organism from the work place. In order to achieve this, you are invited to join the LAG.

For more information about LAG, contact Cathleen Barthie NCOH on telefax 011 720 6103.

Table IV. Suggested key aspects of investigation into legionellosis outbreak**Epidemiological investigation**

- identify all recent and current legionellosis cases in and around your work place
- review medical records
- list cases by time, place and person
- list potential sources of infection

Environmental investigation

- collect environmental samples in suspected areas
- while waiting for results from analysis (which can take up to 2 weeks) :
 - consider disinfection of domestic water system
 - consider disinfection of cooling towers and other suspected sources in the vicinity
- collect environmental samples again one week after systems were disinfected
- use information obtained by epidemiologic information and sampling results to attempt to pinpoint source
- disinfect systems again if necessary
- collect follow-up environmental samples regularly for several months to ensure corrective measures are appropriate

(Adapted from : Freije 1996)

used during maintenance, cleaning and disinfecting operations. Appropriate respiratory protection devices should be selected by suitably qualified occupational health and safety professionals. There are a number of guidelines available in this regard.

Training

In terms of the Occupational Health and Safety Act No 85 of 1993, employers are legally required to ensure that all workers are 'adequately and comprehensively informed and trained' in

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HIV/AIDS : new challenges for primary and occupational health care in the workplace

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Abstract

The HIV epidemic is now moving steadily into a symptomatic AIDS epidemic. Whilst HIV prevention efforts will always be important and relevant, it is now appropriate to start prioritising and addressing various health care and occupational health issues. A selection of the more pressing and current issues and as well as some of the newer developments are highlighted.

HIV/AIDS clinical care

HIV is essentially a chronic medical condition with a wide range of individual responses to the infection. The portrayal of AIDS as a dreaded and 'killer' disease has had the unfortunate effect of promoting a 'hopeless' and sometimes 'care less' attitude towards people with the disease by their health care providers. It is true that in the very late stages of the disease, which can be quite clearly defined by laboratory and clinical end points, care should be mainly palliative and comfort care. However, until this late end stage is reached, there is a great deal of definitive care with rewarding results that can be offered. It is also true that antiretroviral therapy is costly. Nevertheless, there is a range of important and affordable clinical interventions which will help to keep

the patient well and free from serious illness. These interventions are also aimed at preventing certain diseases and keeping the employee well and productive.

Some important interventions to be considered include:

- Periodic or ad hoc clinical checks to detect opportunistic infections and to treat these infections early and definitively. Over 85% of clinical conditions in people with HIV/AIDS are everyday simple primary health care problems which are treated in the same manner as for HIV negative individuals. These conditions - conditions such as respiratory tract infections, seborrheic dermatitis, folliculitis, oral and genital thrush, fungal infections of the skin, herpes infections, diarrhoea, TB - can be effectively managed at the primary care level.

- Provision of co-trimoxazole or dapsone daily, 5 days a week, when the CD4 cell count drops below 200 cells/ml will help prevent some of the more severe respiratory infections and reduce the mortality rate in patients who get tuberculosis.

- INH prophylaxis for 6-12 months when the CD4 cell count drops below 350 cells/ml has been shown to reduce the progression to active TB.

- Nutritional support, especially vitamin supplementation, is very helpful to many patients.

- Simple oral anti-fungal agents can control most cases of oral candidiasis (thrush), maintain oral health and prevent further progression of the infection down the gastrointestinal tract.

- Anti viral drugs for herpes infection can be used with discretion to control infection - especially when this is peri-anal, genital or oral and causing much discomfort.

- Some immune boosting medication such as Moducare may have benefit and this and other such drugs are under evaluation.

- Antiretroviral therapy is now becoming more available with an increasing option of different drug regimes. A full state of the art viral suppressive therapy is costly at approximately R3 500 – R4 500 a month at current prices. However, some of these drug prices are coming down and sub optimal regimes such as Videx and Hydrea combinations or bi-therapy can delay the onset of AIDS and maintain wellness for meaningful periods of time at reasonable cost (R750 – R2 000 per month). There are numerous benefits from such therapy including significant reduction in hospital admissions, severe opportunistic infections and maintenance of wellness and productivity.

- Basic counselling, encouragement and support alleviates much unnecessary stress, anxiety and fear which, in turn, promotes mental health and well being.



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Health care provision

Essential primary HIV care, coupled with care for sexually transmitted diseases (STDs) and for tuberculosis (TB) can be cost effectively provided by on-site clinics at the workplace. Such services will reduce the burden of HIV on the company by reducing the time employees need to spend away from work seeking health care elsewhere. On-site clinics can also get better prices on commonly used drugs and make use of nurse clinicians and so further reduce potential costs. Careful use of laboratory tests, prophylaxis therapy and regular clinical checks and timely therapeutic intervention will also have significant cost savings.

Health care funds are increasingly providing benefits for HIV. These range from very generous benefits on high income funds to moderate benefits on the lower income funds. However, these benefits, with the possibility of some co-payment by the patient, can result in antiretroviral therapy becoming available to more people.

Prevention of mother to child transmission (MCTC)

Recent studies done in Thailand have shown that Zidovudine (AZT) given to the mother in the last 4 weeks of pregnancy and during labour can reduce the rate of MTCT by 50% (if breast feeding is avoided). It is now possible to reduce MTCT significantly for approximately R300-R500 per pregnancy. Besides averting the human tragedy, the cost of this intervention is far out-weighted by the potential cost of treating a paediatric case of AIDS. Furthermore, avoiding the disruption inflicted on the parent and family by a child with AIDS will also have benefits in the workplace (less absenteeism, more productivity and so on).

Recent evidence has also shown that breast feeding has a significant contribution to the MTCT rate (30-50% is due to breast feeding). Ideally, breast feeding should be avoided by the HIV positive mother. The provision of formula feeds will also help to reduce the transmission to the new born.

Prophylaxis post-needle injuries and correct procedures for compensation purposes

Needle stick injuries have a generally low rate of HIV sero-conversions (1:350) yet they are a significant threat to health care workers and a cause

of much concern. The combination of AZT and Lamivudine (3TC), if given immediately after the injury (within hours), can further reduce the HIV sero-conversion rate by a further 79%. The provision of this prophylaxis is essential in the health care setting and proper and correct policy and procedure with regard to these injuries is essential. Starter packs of these drugs, to provide the prophylaxis immediately after the injury, should be available in the workplace.

In addition, the Compensation Commission will only consider compensation for such occupationally acquired HIV infections if it can be proved that the infection occurred in the workplace. Records of the source patients HIV status at the time of injury as well as that of the injured worker will help to prove such cases if necessary. Rapid HIV tests will prove a helpful adjunct in the workplace in the event of a needle stick injury. Proper recording and reporting of injuries will also facilitate compensation claims.

Tuberculosis

Approximately 40-60% of people with HIV will develop TB. If an individual is diagnosed with TB in South Africa there is a 40-50% chance that the individual has HIV infection. There is thus a very close association between TB and HIV.

The following important points should be noted

- The treatment for TB is the same whether the individual is HIV positive or negative.

Directly Observed Treatment Short Course (DOTS) is critical for the effective care for people with TB and in the prevention of multi-drug resistant TB

In people who are HIV infected:

- There is a higher rate of sputum negative TB
- There is a higher rate of extrapulmonary TB
- There is a higher mortality rate
- There is possibly a higher rate of treatment failures due to poor adherence to therapy due to increase illness in the patient
 - There is likely to be a higher rate of other respiratory illnesses
 - TB can be confused with other unusual respiratory conditions such as Pneumocystis Carinii pneumonia, and fungal and viral pneumonia
 - TB may present in an unusual or atypical clinical picture
 - The sexual partner is likely to have HIV and possibly be at risk for TB and may need prophylaxis
 - INH prophylaxis given for 6-12 months can reduce the risk of developing active TB, especially in PPD positive patients



Mycobacterium infections other than that of Mycobacterium Tuberculosis is more common and MAC (Mycobacterium intracellulare complex) disease is also more common

STDs

There is an intimate link and relationship between STDs and HIV infection. This issue has been dealt with elsewhere in this publication. The following essential points are provided;

- STDs enhance the spread of HIV because the viral load in genital secretions are increased during the STD
- STDs increase the vulnerability of an individual for acquiring HIV infection for various reasons
 - HIV can result in a delay in the healing of the STD thus promoting its further spread
 - The STD can sometime present unusually in a patient with HIV, especially the serological evaluation for syphilis
 - Genital herpes infection are very common in immune deficient individuals.

Occupational health and HIV

As the AIDS epidemic progresses, various occupational health issues will start emerging. There

is currently very little research on the effect of occupational hazards on the natural history of HIV and of the impact of various occupational hazards and exposures on the course of the disease. Occupational health services will need to include more surveillance of the impact of certain occupational health risks on employees with HIV and may need to take steps to prevent HIV infected employees from exposure to such hazards. The above highlights some of the new challenges presenting to health care practitioners in the workplace. As the epidemic matures, and as more and more employees start presenting with HIV/AIDS, the stigma, secrecy and mystic surrounding the disease will hopefully disappear. However, this will only occur if people with HIV/AIDS are received in a non-judgmental manner and afforded equal respect and dignity as for other serious illness. Until recently, HIV/AIDS has been shrouded in public controversy and neglect on the part of the health care profession. A new era is dawning, an era where the epidemic of denial is ending and HIV/AIDS is being addressed with more vigour, enthusiasm and interest. The disease affects the economically active, those in the workplace - this means that the workplace will play an increasingly important and significant role in the years ahead.



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HIV/AIDS in the workplace: applying business principles

Charles Harbottle
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Occupational Health SA 1998; Vol 4, No 6: 18 -21

Abstract

Most South Africans are suffering from AIDS awareness fatigue. The challenge to the occupational health fraternity is to overcome this fatigue and to ensure that organisations initiate effective programmes of action to deal with the epidemic.

Introduction

Most South Africans are suffering from AIDS awareness fatigue. For over a decade we have been exposed on all fronts to posters, pamphlets, playing cards, rulers, ribbons, theatre and videos informing us about AIDS. We recognise it as a deadly disease for which there is no cure. We know it is transmitted by unsafe sex, through blood and from mother to child. We have been told that we can reduce our risk of infection by using a condom. We know it all and we have heard enough. Yet every day there are hundreds of new infections among our workers.

This exposure fatigue could not have come at a worse time. We are only now developing a picture of the potential threat that the epidemic poses to South African organisations and are at last able to indicate to management some actions that can actually reduce these impacts - but we have lost our audience.

The challenge to the occupational health fraternity is to overcome this fatigue and to ensure that the organisations which they support, initiate effective

programs of action to deal with the epidemic. This has to be the most significant strategic contribution that they can make to the South African economy over the next decade.

The HIV/AIDS epidemic is no longer a distant, potential, social issue facing the country. The epidemic is here and, although not yet recognised, its effects on South African organisations are being felt. Some of these effects are beginning to be reported. Already one public hospital reports that over 40% of patients in general medical wards are HIV positive. One company reports that shifts lost have doubled over the last two years with AIDS related illness identified as the cause. The occupational health practitioner at a different company reports diagnosing at least one new AIDS case per day. What is less well known, is that with as many as one in ten workers already infected, productivity is beginning to be impacted upon - as are training budgets, medical costs and retirement funding of thousands of employees.

The threat posed by the epidemic has been recognised at national level with HIV/AIDS being identified as a government priority. The country's top strategic planners have identified the epidemic as one of the two greatest threats facing South African business. To quote Clem Sunter, "Along with violent crime, HIV/AIDS constitutes the biggest threat to South African society."

Despite this, most stakeholders in South African organisations seem unaware that the HIV/AIDS epidemic may prove as deadly to our organisations as to those infected by the virus. A review of 35 South African companies carried out during 1996 and 1997¹ found that only 3 had implemented programmes of action that would deal effectively with the threat. Further analysis identified the reasons why companies were not responding:

- AIDS was perceived as a personal health issue and managers and workers alike indicated that they could not see how the epidemic could have any effect on the organisation.
- There was a belief that the drafting of an organisational policy on HIV/AIDS was an adequate response
- There was a belief that the only possible organisational response other than the issuing of a policy was to create awareness amongst employees.

These misconceptions will have to be eliminated before an effective response action plan can be implemented in an organisation. A worrying finding was that in most of the organisations the health professionals shared these beliefs.



Decisive appropriate action

Getting organisations to take decisive, appropriate action will significantly reduce the impact of the epidemic. What sort of action is needed?

Quantify potential and actual impact on operational performance and 'bottom line'

As an organisation's key input on health strategy, the occupational health practitioner has a responsibility both to get HIV/AIDS recognised as an organisational priority and for initiating a programme of action.

Experience in this regard indicates that the threat posed by the epidemic has to be communicated to management in business terms, with impacts translated into quantified effects on operational performance and bottom line profitability. While many managers are aware of national prevalence studies, they are unsure how these are determined and believe them to be overstated. They also believe that the epidemic is concentrated in a fringe group who are predominantly unemployed. They need to be given clear data on prevalence levels in worker populations and shown that, in many instances, infection levels are highest amongst the core producers in organisations.

Once a clear picture of likely current and future infection levels has been established this can be translated into the specific impacts on the organisation. The importance of this cannot be over emphasised. Experience across a range of organisations shows that all stakeholders have difficulty in extrapolating infection levels to bottom line impacts. It is not uncommon for workers and management alike to regard the projected staff losses through increased early retirements due to ill health or death in service, as a potential benefit. Many companies are undergoing structural change and having to downsize. For them, the potential loss of workers is seen to pose no threat. Others see the epidemic as opening up additional employment opportunities.

Fortunately, more information is becoming available that allows the impacts to be identified and quantified. Ironically, it would appear that the impacts are most severe in recently streamlined organisations where all wastage and spare capacity has been eliminated and the loss of even one worker directly impacts on output. In every instance where it has been possible to present quantified impacts to

management, their commitment to taking action has been immediate and supported by the allocation of resources.

Achieving a meaningful reduction in the impact of the epidemic

When the epidemic is viewed as a business challenge, it is easy to develop a sensible response framework. The objective of the response program must be to minimise the impact of the epidemic on the organisation and its stakeholders.

Clearly, every new infection that is prevented will automatically eliminate any future impact but an emphasis on prevention will only be effective in organisations where the epidemic has not yet reached maturity. Once an infection has occurred, the impact can be reduced if the onset of illness and death can be delayed. When an organisation has done as much as it can in these areas it will have to develop options to reduce remaining impacts through structural changes to affected areas.

Reducing the number of new infections through effective prevention programmes

Each year, the prevalence level indicated by the National Sentinel Study on pregnant women attending ante-natal clinics reflects the level predicted the previous year. This fact suggests that our efforts to date in relation to prevention programmes have failed. KAP studies support this view and indicate minimal behaviour changes even in organisations where awareness levels are highest.

Again, sensible lessons can be learned from business strategic planning. For response efforts to be effective they must be tightly focused on the few key issues that will actually deliver results. All available resources must be concentrated on these areas, targets must be set, action taken, results measured and modifications made where necessary.

We must also sensibly apply business models and the learning from other related areas. Decades of work with anti-smoking campaigns and the Health Behaviour Model (HBM)² indicate clearly that meaningful behaviour change is achieved only when immediate, tangible benefit can be demonstrated and the cost associated with the desired behaviour change is shown to be low. The social behaviour patterns of centuries indicate that sexual monogamy, no matter how desirable, is a pipe dream.



Fortunately, a growing number of organisations have begun to demonstrate that through applying these lessons and carefully crafting the programmes, significant results can be achieved with both condom dispensing and Sexually Transmitted Disease (STD) programmes. Unfortunately, many organisations are under the illusion that they have effective programmes in place when their action could actually be detrimental. An example of this is a recent internal company study which indicated that when the primary vehicle for condom distribution was the workplace clinic, condom usage was adversely affected by the association with condoms and disease. Before a company takes comfort in the belief that they have a condom-dispensing programme in place, they must be able to answer the question, 'is our programme delivering an increase in the frequency of condom usage in high risk sexual contacts?' Few companies can answer this question. Most do not even track the number of condoms dispensed per month. If this is the case, it is unlikely that an effective programme is in place and there is a good chance that the organisation is actually wasting money. While it may be difficult to accurately measure condom usage in risk contacts it is usually possible to derive a reliable indicator.

The effectiveness of STD treatment as an HIV/AIDS prevention option is widely recognised with the Mwanza study³ indicating that new infections can be reduced by up to 40%. Also, at relatively low cost, an STD treatment programme has the potential to deliver impressive returns on investment. Several organisations have been persuaded to initiate STD treatment programmes purely on this business case. For the business case to deliver the returns though, the STD programme must deliver significant reductions in STD levels amongst employees. This is a greater challenge than it first seems. Merely offering treatment at the workplace clinic does not constitute an effective programme. The programme must address serious challenges around confidentiality, embarrassment and quality of treatment.

An internal company study indicated that the two most significant deterrents to employees seeking treatment were the perception that treatment given at the workplace clinic would not be confidential and the embarrassment of having to undress. As if this is not a big enough challenge, a study carried out in 1997 found that less than 34% of workplace clinics or general practitioners treated STDs effectively.⁴

Fortunately, possibly driven by the magnitude of the potential return on investment that an STD

programme can deliver, there has been some innovative thinking about STD programmes. There are now programmes that are able to address that challenge and initial indications are that they will be able to reduce the prevalence of STDs in the workforce. An example of such a programme is one implemented by Occupational Care South Africa (OCSA). The quality of treatment is addressed through training, confidentiality through external provision and record keeping and embarrassment through use of the syndromic treatment approach, promoted by the Department of Health.

Extending the healthy life of the employee

This is an area where there is currently much debate and the costs associated with some of the apparent options will be prohibitive. Still, there would appear to be some simple initiatives such as exercise and diet as well as possibly some immune system boosters that can play a role in extending the healthy life of an infected person. Good clinical trials are needed to determine the efficacy of such interventions. These must be clearly communicated to organisations. The health practitioner also has a duty to keep abreast of all developments in this regard and support management decision making about sensible action in this regard.

Minimising the impact through structural change

There are many options open to management in this area and much can be done to minimise the cost impact of the epidemic on the organisation and employees. The exact impacts differ for each organisation depending on aspects such as industry sector, conditions of service, benefits offered and employee demographics. In this area, it is advisable to obtain professional guidance from investment specialists, risk specialists and specialists in medical management of AIDS.

Expecting and achieving results

There is an accepted and proven business adage, 'What gets measured, gets done.' A management team that recognises the seriousness of the business threat posed by the epidemic will commit to deal with it as a business priority. Business priority issues are usually researched with accountability for action clearly assigned to a senior manager and results are expected. As a business analyst, one can always



identify those areas of a business that are of greatest importance to management by the number of measures used to monitor the specific area and the frequency that measurements are taken. If an organisation does not have meaningful indicators that track the results of the HIV/AIDS programme or they are not reviewed regularly by senior management, the organisation has not yet recognised the seriousness of the challenge

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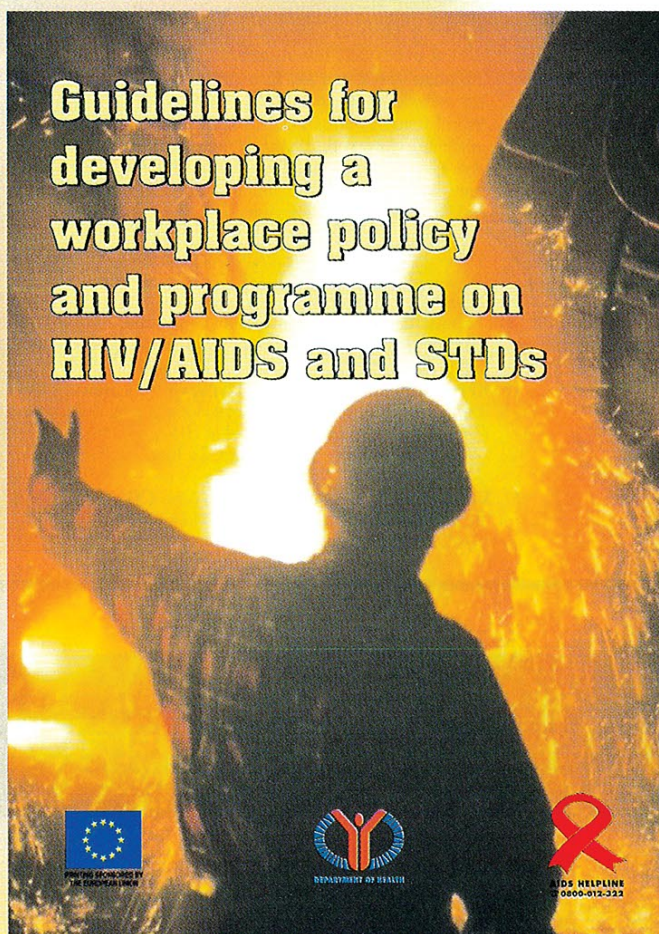
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AIDS prevention in workplaces and communities surrounding workplaces

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University of Zimbabwe

Occupational Health SA 1998; Vol 4, No 6: 23 -29

Abstract

Ten key principles that are critical for successful AIDS prevention programmes in workplaces and surrounding communities are introduced. Comparisons are drawn between South Africa and Thailand.

Introduction

This paper is based on 10 key principles which are critical in AIDS prevention programmes in the workplace.

Principle 1: The crisis is immense

Three simple statistics illustrate the magnitude of South Africa's AIDS crisis.

- South Africa now has the world's fastest growing HIV epidemic. In six short years, from 1992 to 1997, national antenatal HIV prevalence rates have grown from 2.7% to 16%^{1,2} and are now estimated to be 20%. HIV rates among adults in Kwazulu-Natal, South Africa's most populous province, approach 30%, the world's highest provincial rate.^{1,2}

- In South Africa's largest goldmining area, 40% of women aged 25, the peak reproductive age, have HIV.³

- South Africa is the world's first relatively developed economy to confront a large-scale AIDS epidemic which threatens its international competitiveness. As a senior coal executive recently said: "Our export costs are within 5% of our competitors, but if their HIV rates are 0% and ours are 30%, what future do we have?"

Principle 2: Nonetheless, AIDS prevention works

Despite these sombre figures, AIDS prevention does work and urgent action can make a decisive difference to the AIDS epidemic.

Consider a country with a population 25% larger than South Africa and with a per capita income at least 25% smaller - Thailand. In 1991, Thailand and South Africa had similar AIDS epidemics. Yet today, Thailand's epidemic has relented and South Africa's has spiralled. (Figure 1)

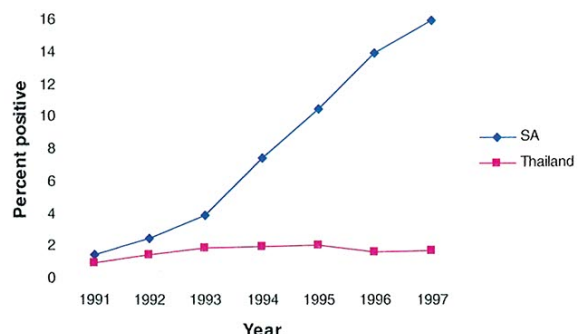


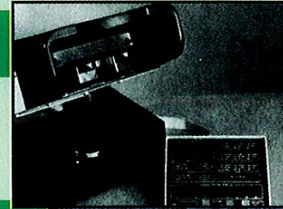
Figure 1: Thailand and SA adult HIV prevalence

Why? Our answer lies in a meeting we had with the Thai AIDS director in 1992. He said: "In Thailand, 80% of HIV infection occurs through commercial sex. To stop AIDS, at least 75% of commercial sex acts must be protected by condoms. 550,000 commercial sex acts occur nightly in Thailand. 250,000, or 45%, are protected by condoms. Within six months, 410,000 or 75%, will be protected and within 12 months, 500,000 or 90%, will be protected and this is how we will do it. Within a year, Thailand's AIDS Committee, chaired by the Prime Minister, introduced laws requiring all sex establishments to ensure that all clients always use condoms. Condom use soared, STDs fell by 78%

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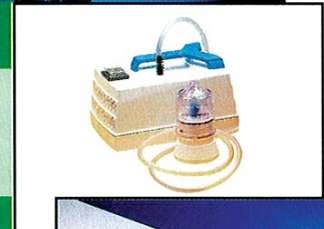
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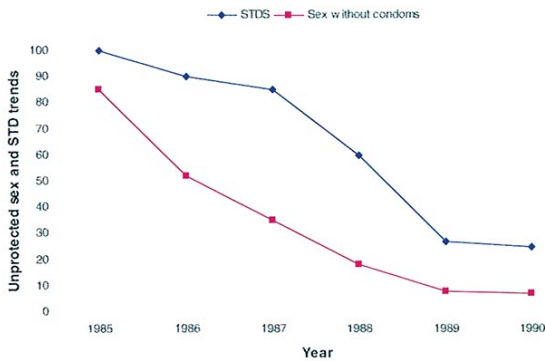


Figure 2: Thailand condom use and STD decline

and HIV infection declined sharply. (Figure 2) Decisive action dramatically reduced Thailand's expected AIDS epidemic, proving that AIDS prevention works.^{4,5}

Thailand's achievement inspires the next two principles.

Principle 3: Condom use in commercial, then casual sex, is the top priority

Thailand succeeded by promoting consistent condom use in commercial sex, achieving almost 100% condom use. As unprotected commercial sex declined, STDs fell steeply. The World Bank⁶ recently modelled the major HIV prevention approaches and concluded that consistent condom use in commercial sex was by far the most effective strategy. (Figure 3)

Globally, it is hard to promote consistent, long-term condom use in marriage. If men use condoms in commercial or casual sex, they avoid infections they would otherwise get - and give to their wives.

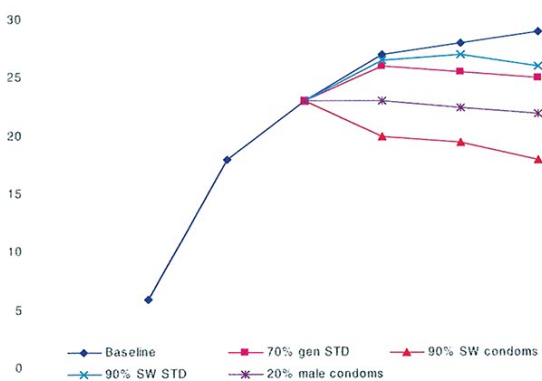


Figure 3: Priority approaches

Principle 4: Use core business principles

The Thai approach is a perfect summary of core business skills:

- focus
- a simple, effective business plan
- precise targets
- strong performance monitoring

This is the single most important point. If South African business applies its core management skills to AIDS prevention, it will succeed. If business can extract gold four, soon five, kilometres underground, in temperatures approaching 70 degrees and construct a gigantic dam to channel water from Lesotho's mountain eyries to Gauteng, business can get employees to use condoms. If business takes AIDS education and condom promotion a fraction as seriously as production or brand promotion, it will succeed.

Principle 5: We can change behaviour

We can change behaviour, if we remember two things:

Social diffusion

First, we change our personal behaviour, not because outside experts tell us to do so, but because close, trusted friends and peers change and persuade us to change. The most powerful change agents are our friends and peers. This simple principle is called social diffusion or diffusion of innovation and it has been a critical ingredient of major social changes, including Asia's green revolution, which transformed Asian agriculture and averted recurrent famine.⁷ Because the most powerful change agents are friends and peers, AIDS prevention programmes must recruit respected, trusted peer educators to spearhead behaviour change.

Participatory discovery learning

Second, we change personal behaviour not because we are told to do so, but through participatory discovery learning, in which we are confronted by situations which make us reflect upon, debate and develop our own responses.⁷ Because we reach these solutions ourselves, we are convinced and committed to change. Thus, AIDS education must utilize participatory approaches and exercises, which challenge us to develop our own responses.



Principle 6: We can achieve consistent condom use in commercial and casual sex

We can achieve consistent condom use in commercial and casual sex, if we recognize two key points:

Distribution

First, we would not expect people to consistently use Coke or Castle if they were not ubiquitously and effortlessly available. Yet, we say people will not use condoms, before we have made them widely available. If we brand, promote and distribute condoms a fraction as well as Coke, they will be used and HIV transmission will decline.

Promotion

Second, people will use condoms if we promote them as a desirable, enviable, aspirational lifestyle choice. Consider how successfully two potentially harmful products, cigarettes and alcohol, have been promoted as an essential part of a cool, assured, poised, athletic, rugged, outdoor lifestyle in the fresh air and great open spaces. If we promote condoms as the cool, confident, safe, sexy, popular and masculine man's choice, people will use them.

In short, we can achieve as much condom use as we wish to. The critical factor is our commitment to distribute and promote condoms as intensively as we promote products such as beer.

Principle 7: We need an AIDS prevention results chain

As in production, we need an AIDS prevention results chain, specifying the required inputs, outputs, outcomes and impacts. We need to know exactly what inputs (peer educators and condoms) we need to achieve sufficient outputs (motivational meetings and condom distribution.) We need to know exactly what outputs (motivational meetings and condom distribution) we need to achieve the desired outcome of reaching every employee or resident regularly to ensure consistent condom use in commercial and casual sex. And we need to know how these outcomes achieve the desired impact of reduced STD or HIV rates.

This is simple business planning, infinitely simpler than commercial planning cycles. Yet corporations seldom apply business planning skills to AIDS prevention.

Principle 8: With an explicit results chain we can succeed

With an explicit results chain, we can succeed, as examples from Zimbabwe and Zambia show.^{8,9} The Project Support Group co-operates with about 80 projects in workplaces and communities surrounding workplaces in Southern Africa, including Zimbabwe, Zambia and South Africa. The project's goal is quite simply to establish the equation that commercial sex equals condom use. The projects recruit and train peer educators to motivate their peers to consistently use condoms in commercial and casual sex, thus reducing their STD/HIV vulnerability.

Inputs

The Project Support Group trains and supports approximately 50 co-ordinators. They in turn train and support over 1,000 peer educators. The peer educators receive at least 30 million condoms annually.

Outputs

The major outputs are participatory motivational meetings, persons reached and condoms distributed. Peer educators hold participatory meetings. They use four simple participatory approaches to attract participants and to provoke debate. The participatory approaches are:

- One-minute, incomplete role plays, which introduce an important social issue, then leave it unresolved, hanging, frozen at a dramatic, emotionally charged moment. The facilitator then invites the audience to discuss and resolve the issue.
- Picture codes, which depict an important social problem. The facilitator invites the audience to discuss what they saw, how common it is, what problems it causes and what solutions there are.
- Short 'trigger' dramas, which, like role plays and picture codes, present a social problem and 'trigger' participation.
- Participatory games, which vividly confront audiences with AIDS issues, before discussion is invited.

Peer educators also distribute condoms, in their social networks and in workplaces, bars and community sites. They work systematically, with detailed stocking and replenishing schedules.

Large-scale outputs

Through participatory approaches and vigorous condom promotion, large-scale outputs are achieved.



Activities	Outputs		
	Bulawayo 1988-1997	Zimbabwe 1988-1997	Lusaka, Zambia 1993-1997
Meetings held	209,896	520,000	37,400
Men reached	5,941,823	11,500,000	417,095
Women reached	4,180,789	10,500,000	384,734
Persons reached	10,122,612	22,000,000	801,829
Condoms distributed	31,131,296	70,000,000	2,742,938

of men had attended meetings, 48% in the last month and 84% had received condoms from peer educators. (Table 3) When asked about their sources of condoms, 93% of sex workers cited peer educators and 72% cited bars stocked by peer educators. Only 16% cited health centres and less than one percent (0.05%) had bought condoms. (Table 4)

In Bulawayo, for example, from 1988 to 1997, 209,896 community meetings were held, 10,122,612 persons (including repeat participants) reached and 31,131,296 condoms distributed. In 20 Zimbabwean projects, with a mean age of 30 years, an estimated 520,000 community meetings were held, 22 million persons (including repeat participants) reached and 70 million condoms distributed. (Table 1)

Economical outputs

These outputs were achieved very economically. In Bulawayo, for example, recent unit costs (excluding opportunity costs and donated condoms) average R7.50 per community outreach meeting held, R0.12 per person reached and R0.06 per condom distributed. (Table 2)

Activity	Unit cost
Community outreach meetings held	R7.50
Persons reached	R0.12
Condoms distributed	R0.06

Coverage	Single women	Men
Attended meeting	98	92
Attended meeting in last month	84	48
Received condoms at meetings	93	84

Coverage and centrality of peer education

Peer education has become the central source of information and condoms in project sites. In Mutare, for example, 98% of sex workers had attended community outreach meetings, 84% in the last month and 93% had received condoms from peer educators. Coverage among men was also high: 92%

Source cited by sex workers	Percent
Peer educators	93.0
Bars (stocked by peer educators)	72.0
Health centres	16.0
Family planning centres	10.0
Friends	9.0
Partners	8.0
Shop/pharmacist	0.5
Street vendors	0.0

Outcomes

These outcomes have led to major behaviour changes. In Bulawayo, condom use in sex work rose from 18% at the outset to 72% within two years. (Figure 4) Condom use was closely related to participation in meetings. Condom use in the commercial sex act was reported by 27% of those who had attended no meetings, 46% of those who had attended one meeting and 77% of those who had attended two or more meetings. (Figure 5) These data underscore the critical importance of frequent, regular re-exposure and reinforcement.

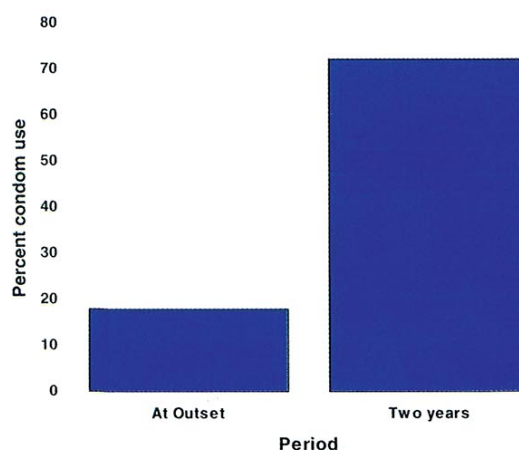
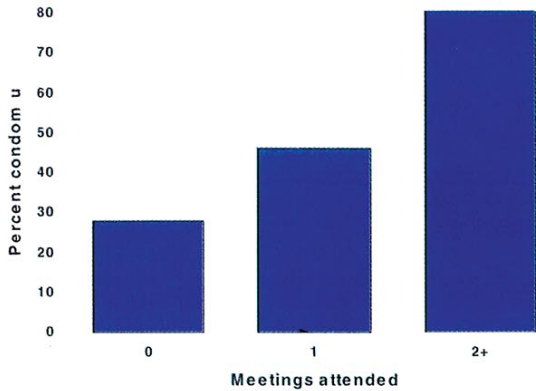


Figure 4: Bulawayo condom use in sex work



STD/HIV impact

Most encouragingly, STD and HIV rates have dropped in peer education sites, as data below from Bulawayo and Mutare show. (Figures 6 and 7) In Lusaka, Zambia, RPR syphilis seropositivity rates dropped in sites with peer education and condom promotion, but not in sites without peer education and condom promotion. (Figure 8) Finally, in Zimbabwe, a recent community randomized trial demonstrated that peer education reduced new HIV infections by 34%, in comparison to workplaces without peer education.¹⁰

Figure 5: Bulawayo project exposure and condom use

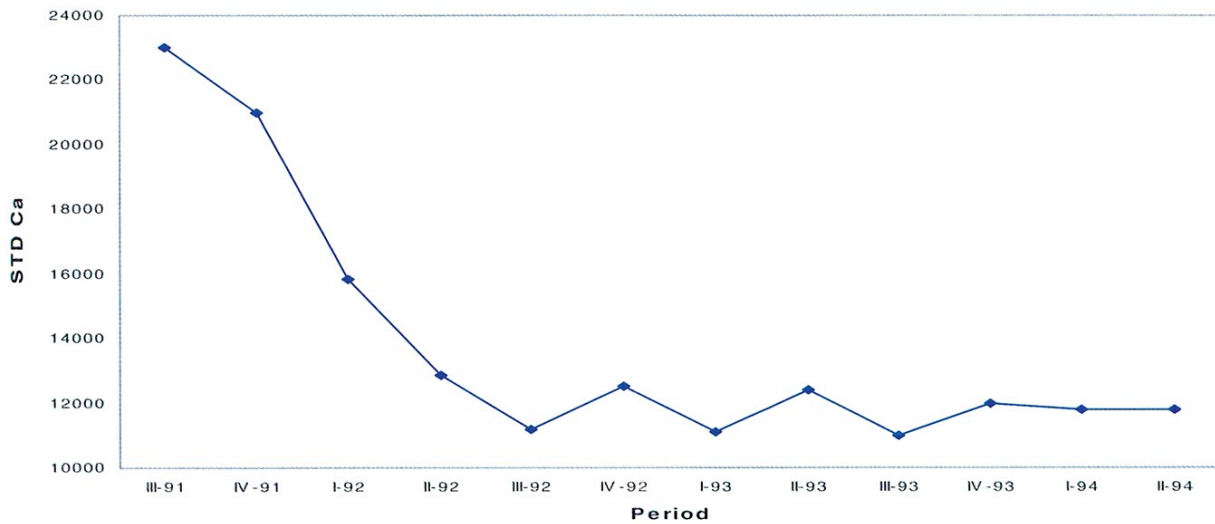


Figure 6: Bulawayo STD decline

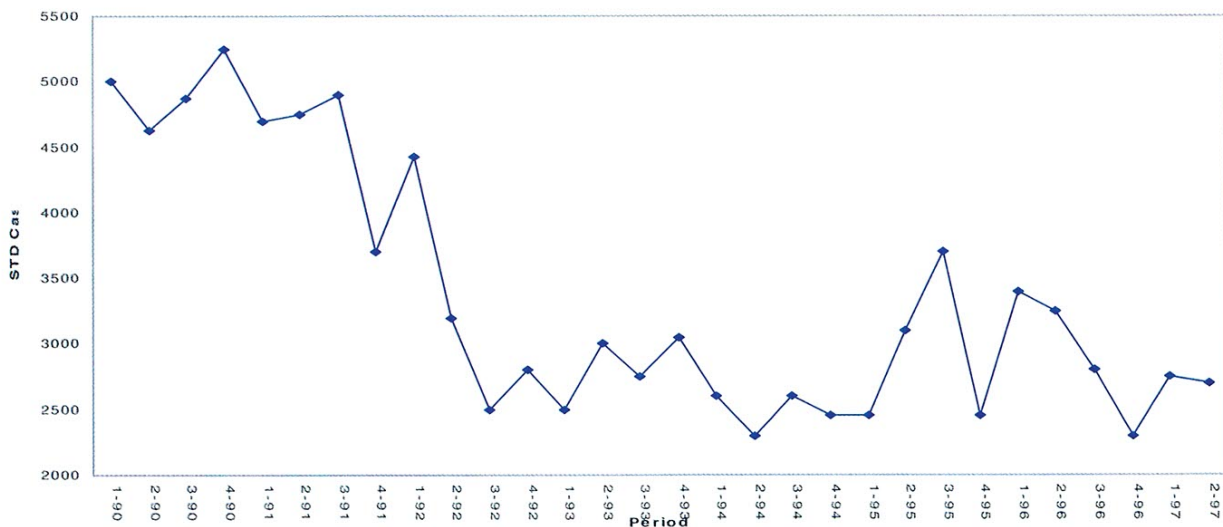
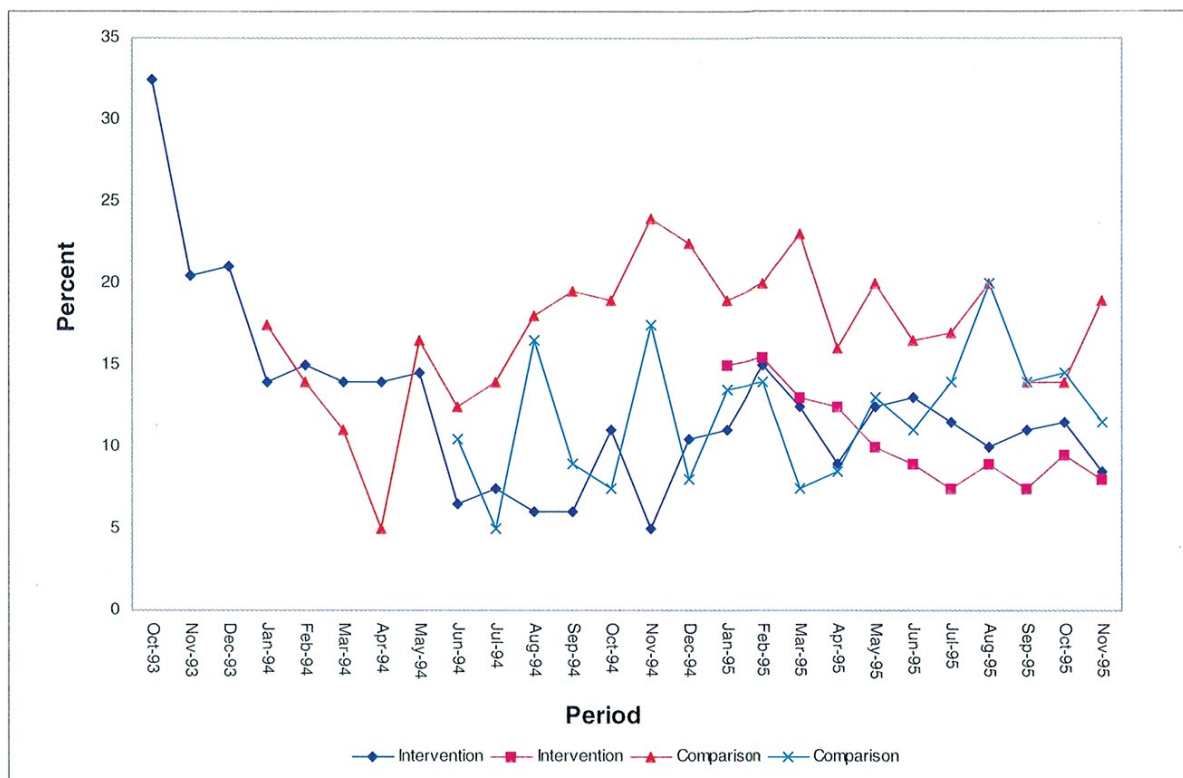


Figure 7: Mutare STD decline



Principle 9: Workplace AIDS programmes must be simple, specific, concrete and verifiable

Below is an example of a simple, specific, concrete, verifiable, 10-point workplace AIDS prevention plan, which we suggest that companies adopt. (Table 5)

Principle 10: Effective AIDS prevention yields enormous savings in averted AIDS costs

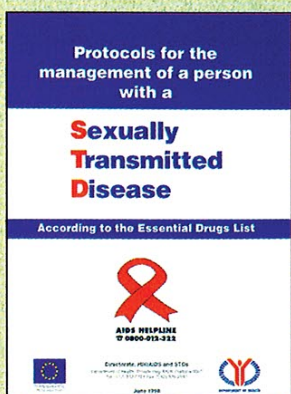
In Thailand, every dollar spent on prevention yielded a 17-fold saving on AIDS costs, an extraordinary return on investment.¹¹ The World Bank estimate that a case of HIV infection may be prevented for R50-75 and that the direct medical costs of HIV in South Africa may be R35,000 annually, with indirect costs even higher. The economical argument for investing in proven HIV prevention approaches, particularly peer education to promote consistent condom use in commercial and casual sex, is incontestable.

To page 21

Table 5. Workplace action plan

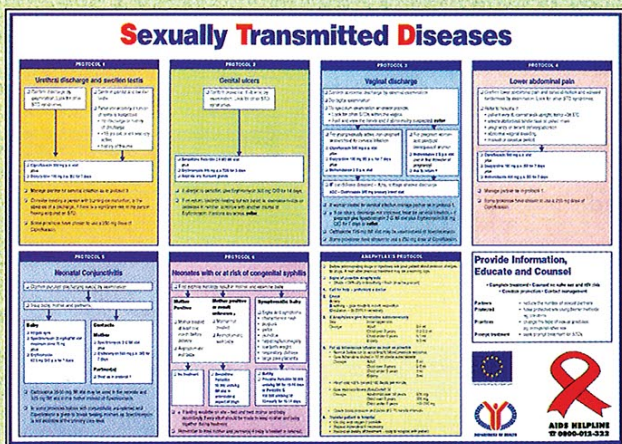
1. Senior management publically express support for AIDS prevention at outset of programme and thereafter at least twice yearly
2. Each workplace appoints at least one staff member as AIDS co-ordinator
3. Each organization appoints at least one peer educator per 50 employees
4. Each co-ordinator and peer educator receives five days training at outset and thereafter two days refresher training annually
5. The co-ordinator and peer educators meet at least monthly to review and plan activities
6. Each workplace holds at least one 30-60 minute participatory AIDS meeting per department every three months
7. Each peer educator informally discusses AIDS with at least 10 employees monthly
8. At least 10 condoms are distributed per employee monthly
9. Three-item anonymous surveys of cross-sectional samples of employees are held at least yearly to ensure that:
 - At least 90% of employees have attended at least one, and at least 75% of employees have attended at least two, workplace AIDS meetings in the past year
 - At least 90% of employees report that condoms are always easily available at work
10. Attainment of these goals is formally included in each branch or organization's performance targets

The HIV/AIDS and STD Directorate of the Department of Health has produced a number of resources for the management of STDs that may be used in the workplace.



Protocols (guidelines) for the management of a person with a Sexually Transmitted Disease

This booklet includes ways to improve the quality of care for persons with STDs, flow charts for managing the different STD syndromes as well as the most cost-effective treatments according to the Essential Drugs List. An anaphylaxis protocol is also included.



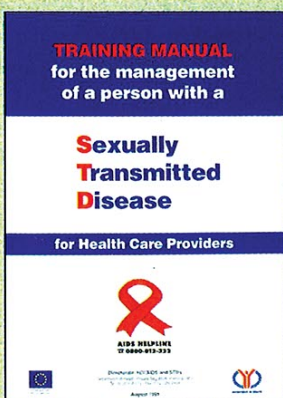
The protocols are also available in the form of a wall chart that contains the flow charts and treatments as well as the anaphylaxis protocol

Training Manual for the Management of a Person with a Sexually Transmitted Disease

This self-learning manual includes chapters on:

- What are STDs and why are they important?
- What is the syndromic approach to STD management?
- Talking about sex
- How do STDs present?
- How are STDs managed comprehensively?

The appendix includes task analyses for the examination of men and women as well as information on how to use a condom and on the drugs used in managing persons with STDs.



If you would like a copy of any of these products please direct enquiries to:

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Sexual health in workplace clinics: an update for occupational health practitioners

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Occupational Health SA 1998; Vol 4, No 6: 31 - 37

Abstract

Approaches to sexual health and the management of sexually transmissible diseases (STDs) have been transformed over the last ten to fifteen years. The massive impact of the HIV pandemic and changes related to the transformation have forced health professionals in all sectors to reflect and respond to a range of new demands. This overview concentrates on recent developments in sexually transmissible infections or diseases (STDs). Operational issues such as regulations applying to workplace clinics are discussed and the interactions between HIV and STDs are highlighted.

Introduction

Historically, the management of STDs has been a neglected area of health care. Social taboos about sexual matters and stigmatisation of both affected patients and also practitioners working in sexual

health explain some of the institutionalised reluctance to deal effectively with STD patients and their management. Yet, there have been impressive radical shifts in values and attitudes in the last decade in responses to HIV.

Findings from the national evaluation of STD management in the private sector

An evaluation of STD management in the private sector was completed by the Centre for Health Policy in 1997.¹ The findings were disturbing. The authors found that private general practitioners (GPs) manage an estimated 5 million new cases of STDs each year. Compliance with the national guidelines for STD management was found to be very poor.

The situation in workplace clinics documented significant lost opportunities. Only 57% of workplace clinics surveyed provided STD treatment. The permit system, which allows for nurses to prescribe and dispense STD drugs, was identified as a major issue and is discussed elsewhere in this paper. Treatment practice was unsatisfactory as shown below:

Proportion of STD patients offered appropriate treatment regimes by workplace clinics

Urethral discharge	34%
Genital ulcer	13%
Vaginal discharge	16%

Permit system for workplace clinics

Section 22(A)12 of the Medicines and Related Substances Control Act 101, 1965 stipulates that a workplace clinic may operate subject to the following conditions:

- a registered nurse must be in attendance
- a medical practitioner must be in attendance for a minimum of one hour per week
- the clinic must have adequate and appropriate storage facilities for medicines and supervision only by a doctor or nurse
- only drugs specified as per the permit issued by the Department of Health may be held in stock
- the health service must be free of charge and non-profitable²



Permits are issued to clinics under Section 22C(1) of the Act, which describes the permission granted to the health worker to dispense medicines subject to certain conditions specific to each case. Under Section 22C(2), the health worker is required to have completed a supplementary course prescribed in the Pharmacy Act, 1974 or the Interim Council of South Africa or its successor in title.

It is understood that nurses might be allowed to *prescribe* under the Nursing Act (subject to amendments) once they have completed an accredited course and to *dispense* subject to a permit issued by the Director-General of Health.

According to the Medicines and Related Substances Control Amendment Bill, people who dispense medicines will need to be able to demonstrate competence through accredited training in pharmacology, the use of the Essential Drug List (EDL), good prescribing and dispensing practices.

Clinical issues

General approach to sexual health

The management of STDs has become increasingly refined over recent years. Previous management paradigms, emphasising diagnosis and treatment alone, are now recognised as inadequate and effective prevention and quality care must be given equal emphasis (*see Figure 1*).

Figure 1. Essential elements of the sexual health consultation

- Avoid assumptions
- Low threshold for opportunistic history taking screening
- Detailed sexual history and examination (e.g., examinations for home of leave)
- Examination
- Syndromic management of presenting complaints
- Contact tracing
- Promotion of male and female condoms
- Patient counselling and education
- Ensure patient adherence to complete course of treatment (compliance)
- Follow-up

The foundation of a good sexual health consultation is the clinical history. In addressing sexual health, good patient rapport, quality management and a broad understanding of effective prevention strategies are fundamental to a satisfactory patient interview.

A sexual history is the cornerstone of consultations and remains the most difficult area for many clinicians. Key details and opportunities to intervene in terms of treatment and promote prevention may easily be lost. Clinicians need to be aware that such opportunities may need to be created in the context of consultations on perhaps distantly related matters. Good clinical practice demands that clinicians are pro-active in seeking out opportunities for targeted assessment and management. For example, a worker may be embarking on a trip home. It might be appropriate to explore the sexual risk of such a journey by exploring their requirements for an STD examination or condoms and lubricant. Discussing such information opens the consultation to the possibility of sexual contact during the home visit, the discussion of STD and HIV risk and the correct use of condoms.

Risk reduction

Open, meaningful discussion of risk reduction can only occur when risks have been accurately defined. Many risks are stigmatised and patients may withhold information until the clinician has provided sufficient indication that such information can be disclosed without judgement or humiliation. For this reason a non-judgmental approach is essential.

Remember that sexual practices are highly variable both across the community and for individuals. The dynamic nature of sexual behaviour is also reflected in shifts in individual sexuality (including orientation) over time.

Harm minimisation

Effective prevention means more than simply promoting condoms to stop AIDS. Safer sexual practices should be tailored to the needs of each person and be designed to protect against a range of infections. The reasons why people take risks are complicated but include loneliness, poor self-esteem, naivety and powerful sexual drives (*Figure 2*). A pragmatic approach to risk reduction should take these factors into account. The principles of 'harm

Figure 2. Frequent backgrounds to sexual risk taking.

- Low self-esteem
- End of a relationship
- Travel
- Loneliness
- Alcohol and other drug use
- Confusion or anxiety about sexual orientation or identity



Figure 3. Harm minimisation principles in sexual health

- Sexual risk taking can damage health
- Abstinence approaches are frequently rejected
- Specific behaviours are amenable to modification (e.g., condom use, contraception)
- Healthy behaviours occur more often in a supportive environment
- Self esteem is central to healthy behaviours
- Public policy can be changed if it encourages unhealthy behaviour (e.g., legalisation of commercial sex, needle and syringe availability)

minimisation' (*Figure 3*) suggest that the changes most likely to be successful are those that recognise risk and seek sufficient modification to eliminate risk without demanding unsustainable or unrealistic change. Successfully encouraging patients to modify risks often requires considerable skill and sophistication which clinicians should be prepared to develop.

Co-infection is common

STD management should always take the possibility of other infections and other partners into account. At least 25% of patients with one infection can be expected to harbour at least one other. Sexual partners of people with STDs should be offered treatment even when examination fails to confirm infection. Infection is often asymptomatic in women. Complications and sequelae can be serious and treatment will limit further spread. Reasonable efforts should be made to contact partners. Often, patients do their own contact tracing and this should be encouraged. Alternatively, clinicians should offer their support or the assistance of the staff of the nearest primary health care clinic.

Notification of STDs is important

Most provinces have developed improved notification systems over recent years. Currently, much effort is being directed towards improving notification systems, while recognising the constraints of clinical practice. Such information is useful for monitoring disease patterns, planning services and informing prevention programmes.

Syndromic STD management

STD prevention and control is critical for the health and well-being of individuals and the community. The global impact of STDs is profound and the World Health Organisation (WHO) estimated

that the global incidence in 1995 of new cases of selected curable STDs such as gonorrhoea, chlamydia infection, syphilis and trichomoniasis was 333 million.³ STDs cause serious economic, social and health consequences. There is an established link between STDs and HIV and the fact that all STDs are preventable and many are curable makes it incumbent upon government, policy makers and communities to respond aggressively and urgently to the challenge of STD prevention and control.⁴

WHO advocates the syndromic approach to STD management using clinical algorithms based on an STD syndrome (i.e. the constellation of patient symptoms provided elicited from the patients history and clinical signs confirmed by examination) to determine antimicrobial therapy and other management. The outcome is speedy and effective cure of the individual patient's STD and interruption of the chain of infection with its attendant impact on STD prevention and control.

Syndromic STD management provides high quality STD care by treating people with one or more STDs with the most effective drugs at their first point of contact with the health service. The syndromic approach is well suited to primary health care services such as workplace clinics because it does not rely upon expensive and time intensive laboratory tests for diagnosis.

Health workers are trained to diagnose (by taking a history confirmed by examination) and to treat on the basis of the identification of a syndrome. Once the syndrome has been diagnosed, treatment is provided for the majority of organisms known to be responsible for that particular syndrome. A flowchart (or algorithm) guides the health worker to the most effective treatment for a given set of signs and symptoms. Additionally, health workers are trained in other STD management strategies including contact tracing, provision of male and female condoms, counselling and patient education to improve adherence.

The key elements of syndromic STD management are:

• *Accurate diagnosis*

Given that the aetiology of each of the syndromes has been determined previously in research studies, the syndromic diagnosis will be highly accurate in terms of the detection of the most common STD pathogens and will also take account of the high levels of co-infection with multiple pathogens.



• **Treatment at first visit is essential – poor follow up to get results of tests**

Numerous studies have shown that a large proportion of STD patients will not return for test results when asked to do so. The provision of curative drugs at the first visit obviates this problem.

• **Rapid cure with effective drugs**

Multiple drug therapy ensures that cure rates exceed 95% for the majority of presenting syndromes, based on previous etiological studies. This outcome also reduces the chances of others becoming infected in the community.

• **Simplicity of treatment promotes adherence**

Where possible, treatment is based on single-dose oral regimes of proven efficacy. The use of a standardised approach dramatically reduces complexities in training and supervision.

It is a mistake to conclude that the syndromic approach is a fast track mechanism from diagnosis to the selection of drugs to be used in treatment. STD *management* implies more than *treatment*. The syndromic approach requires comprehensive patient management, which includes the so-called Four Cs:

- *Condom promotion*
- *Contact tracing*
- *Counselling and patient education*
- *Completion of the course of medication*

(*compliance*)

STDs and transmission of HIV

The Mwanza study in Tanzania has been the focus of international attention since the release of its findings, which showed the positive impact of improved STD management on the spread of HIV in local villages. The study documented a decrease of 42% in new cases of HIV infection in villages where STD management had been improved.⁵

It is now well established that STDs and HIV/AIDS have a synergistic relationship in terms of each dramatically enhancing transmission and acquisition of the other. This is particularly important in the relationship between STD-related genital ulcer disease (GUD) and HIV transmission. GUD caused by STDs such as syphilis and chancroid is very common in South Africa. The appropriate management of GUD and other STDs using the syndromic approach advocated by WHO was shown to be a highly cost-effective prevention strategy for the prevention of HIV infection in the Mwanza study.^{6,7}

WHO has advocated integration of STD and HIV/AIDS programmes since 1989. The major interventions for prevention of STDs and HIV are both aimed at reducing sexual risk behaviour. Additionally, the synergistic relationship between STD and HIV transmission means that integrated approaches will positively compound its outcomes well beyond those expected from two independent programmes.⁸

Clinical implications of interactions between STDs and HIV

There are many mechanisms by which STDs and HIV interact. These are summarised as epidemiological, behavioural and biological.

Epidemiological issues

With approximately, 80% of all HIV infections being sexually acquired, it is inevitable that the three epidemiological questions of who, where and when will have similar answers for both HIV and STDs. Most STDs are seen predominantly among young adults during their most productive years. There is close relationship between individuals with high rates of STDs and those who acquire HIV infection, particularly in the early phases of an HIV epidemic.

Behavioural issues

Likewise, behavioural issues will link those most at risk of both STDs and HIV infection. These issues include levels of male and female condom use and lubricant, 'dry sex' practices, rates of partner change, numbers of concurrent partners, partner selection and sexual networking and also the background of drug and alcohol use. In the absence of a safe, cheap and effective vaccine, interventions aiming at the reduction of sexual risk behaviour have been the mainstay of most HIV programmes throughout the world.

Biological issues

Biologically, STDs and HIV interact by increasing the susceptibility of an individual to infection, increasing their infectivity to others and also through the increased duration and severity of STDs in the presence of HIV infection. (*Figures 4 and 5*).

Many mechanisms operate in these interactions. Apart from the obvious loss of the protective skin barrier in GUD, both HIV and the target cells of HIV infection (CD4 cells such as lymphocytes, macrophages) are also found in increased concentrations in discharges and surrounding tissue inflamed by STDs whether ulcers are present or not. In addition, when inflammatory cells are activated in the inflammatory response, they produce increased numbers of HIV particles thus increasing further the risk of transmitting infection.



Figure 4. What are the links between STDs and HIV?

- STDs and HIV are **both** usually transmitted through sex without a condom. This means that using a condom will prevent **both** STDs and HIV at the same time (and unwanted pregnancy).
- STDs make it easier for HIV to be transmitted from one person to another. This is because STDs can damage the skin of the genital area causing sores or inflammation of the sex organs. The sores or inflammation increase the chance that HIV can be transmitted in secretions from the sores
- Treatment of STDs also reduces the chances that HIV (or STDs) can be transmitted from one person to or from another.
- HIV can make some STDs more difficult to treat. The person's body is less able to fight the infection even when the right treatment is used. This means that people are more infectious with **both** STDs **and** HIV to other people for a much longer time.
- So STDs and HIV together make **both** problems worse.

REMEMBER
HIV is also an STD
STDs increase the spread of HIV
Early STD treatment reduces the spread of HIV

Recently, it has been demonstrated that HIV-infected men have greatly increased levels of HIV in their semen and that this will decline rapidly once effective therapy has been initiated for the urethritis.⁹

HIV-related immuno-suppression also increases the susceptibility to infection and the natural history of many STDs. There is some evidence that women with HIV and gonorrhoea are more likely to have pelvic inflammatory disease (PID). Recurrent and chronic candidal vulvo-vaginitis is also more likely in the presence of HIV infection.

Syphilis

There are conflicting data regarding the effect of HIV infection on syphilis. There is some evidence that atypical presentations are more common in people with HIV with more rapid and severe syphilitic disease including neurological manifestations. Serology can be misleading with both false-positive and false-negative results. Not surprisingly, some individuals will lose their antibody responses as their immune systems become increasingly damaged. A 3 weekly dose of benzathine penicillin is recommended for primary syphilis in the HIV positive individual and clinicians should maintain a high index of suspicion for advanced stages of

syphilis in patients with dual HIV and syphilis. This is because of concerns regarding the higher likelihood of treatment failure in the central nervous system potentially increasing the risk of later neurosyphilis. In the most recent recommendations for STD management issued by the US Centers for Disease Control and Prevention, it is suggested that treatment with single dose benzathine 2.4 MU IMI be used as for HIV-negative patients but that HIV-positive patients co-infected with syphilis be followed up closely.¹⁰

Chancroid

Chancroid is more difficult to manage in the presence of HIV infection. Ulcers tend to be larger, persist for longer and be less likely to respond to conventional therapy. There is little data available on the efficacy of the ceftriaxone and azithromycin regimens recommended by CDC when used in HIV-infected patients. The use of the standard therapy of erythromycin 500 mg for 5 days might need to be lengthened to at least 7 days or longer in light of observed response in individual patients.

Genital herpes: a new epidemic in the wake of HIV

While the initial outbreak of herpes in a herpes naïve patient can be severe, most episodes of herpes are mild or subclinical. Under these circumstances, management primarily involves dealing with the psychological impact that arises from the stigma associated with the diagnosis. This will probably involve altering the patient's concept of herpes so that the disease can be viewed in a healthier perspective. Herpes of the orofacial region rarely triggers major psychological reactions. On the other hand, some patients with genital herpes will require weekly or more frequent visits for supportive counselling.

Treatment of viral infections such as genital herpes is needed if this is fundamentally different from treating the bacterial STDs. The viral STDs tend to recur and treatment is essentially palliative and expensive. It remains to be seen how much price reduction can be expected as a result of market forces. Cost will continue to be a major consideration in the management of herpes for the foreseeable future. Recent advances include the addition of famciclovir (Famvir®, SmithKline Beecham) and valaciclovir (Zelitrex®, Glaxo-Wellcome) to the local market with some advantages over aciclovir (previously known as acyclovir, Zovirax®, Glaxo-Wellcome) in terms of dosing frequency.



Management of genital herpes in the presence of HIV infection

Aciclovir regimens of 400 mg orally three to five times a day, as used for other immunocompromised patients can be effective but should be titrated against clinical response. Some have also suggested the use of famciclovir 500 mg twice a day as an effective therapy for both reducing recurrences and the rate of HSV shedding in HIV-infected patients. In some immuno-compromised patients, high doses of valaciclovir (8 g per day) have been associated with sequelae resembling either haemolytic uraemic syndrome or thrombotic thrombo-cytopaenic purpura. However, valaciclovir, aciclovir, and famciclovir used in the doses usually recommended for managing genital herpes are probably safe for use in immuno-compromised patients. Patients with more severe disease should be referred. Management approaches are summarised in *Figures 6-10*.

Figure 6. Management of genital herpes

- Lifestyle, psychosocial, counselling, partners
- Adjunctive - topical xylocaine, povidone iodine
- Systemic - analgesia, sedation
- Antiviral therapy (aciclovir, famciclovir, valaciclovir)

Figure 7. Regimens recommended by CDC for first episode genital herpes.

Aciclovir 400 mg orally three times a day for 7–10 days

OR

Aciclovir 200 mg orally five times a day for 7–10 days

OR

Famciclovir 250 mg orally three times a day for 7–10 days

OR

Valaciclovir 1 g orally twice a day for 7–10 days

NOTE: Treatment may be extended if healing is incomplete after 10 days of therapy.

Figure 8. Recommended regimens by CDC for episodic recurrent genital herpes

Aciclovir 400 mg orally three times a day for 5 days

OR

Aciclovir 200 mg orally five times a day for 5 days

OR

Aciclovir 800 mg orally twice a day for 5 days

OR

Famciclovir 125 mg orally twice a day for 5 days

OR

Valaciclovir 500 mg orally twice a day for 5 days

Figure 9. Recommended regimens by CDC for daily suppressive therapy

Aciclovir 400 mg orally twice a day

OR

Famciclovir 250 mg orally twice a day

OR

Valaciclovir 250 mg orally twice a day

OR

Valaciclovir 500 mg orally once a day

OR

Valaciclovir 1,000 mg orally once a day

Figure 10. Common clinical issues in HIV/STD co-infection

Genital ulcer disease

- increased frequency of recurrences of genital herpes
- herpetic ulcers may be chronic, severe, atypical and resistant to treatment
- long-term suppressive therapy is indicated for genital herpes
- resistance to aciclovir may reduce effectiveness of herpes treatment
- reactivation of syphilis may occur: the effectiveness of past treatment must be determined
- serological tests for syphilis may give false-positive or false-negative results

Urethral discharge

- increases levels of HIV in discharge (normalised after treatment)
- strong evidence of unprotected sexual activity with risk of HIV infection

Human papillomavirus

- possible increase in risk of cervical or anal neoplasia
- need for increased frequency of Pap smears in women

Hepatitis A and B

- Vaccination may be ineffective in HIV infection

Recent developments: STD management as an HIV prevention intervention

As discussed, the early diagnosis and treatment of STDs has proven to be an effective means of HIV prevention. It is increasingly accepted that the role of STD management in HIV prevention is likely to be more beneficial in the earlier stages of an HIV epidemic. Attention is now being directed towards how this impact might be maximised at community level.



The most recent findings of note relate to two community-based studies; the Lesedi Project in the Welkom gold fields in Free State and a large study in the Rakai District of Uganda.

The Lesedi Project

The Lesedi Project has involved partners such as Harmony Gold Mining Company, USAID/AIDSCAP, the National Reference Centre for STDs, Institute of Tropical Medicine, Antwerp, Pfizer Pharmaceuticals, the National HIV/AIDS and STD Programme, provincial and local health departments.

This intervention includes syndromic management of STDs in miners, periodic presumptive treatment of women at high risk of infection (with monthly azithromycin 1 gram as a single dose) and, most significantly, has achieved a high level of management support from mining companies.

The results from the first stage were impressive. Among the women, there was a 70-85% reduction in prevalence of gonorrhoea, chlamydia and genital ulcers. In miners, a reduction in gonorrhoea and chlamydia of one third and a 75% reduction in genital ulcers were observed. In mine hostels, reduced rates of symptomatic STDs were also observed.

A cost-effectiveness assessment was also conducted using the AVERT model to estimate the number of HIV infection that would have occurred in the community. It was estimated that 235 HIV infections were averted (40 women and 195 men), i.e. a 46% decrease in estimated HIV infections. In terms of averted HIV/STD-related medical costs, R2.34 million was estimated to have been saved. This was a massive saving compared with the relatively small cost of the intervention (R268,000). The Project is now in the process of being expanded across three more areas involving a total of three mining companies.

The Rakai Project

There has been some confusing and potentially misleading publicity concerning the Rakai study. The findings of the Rakai study were released at the 12th World AIDS Conference in Geneva in July 1998.¹¹ The researchers found no evidence that mass STD treatment alone prevents HIV transmission in rural African villages. This has led some observers to conclude mistakenly that STD interventions are no longer useful in the prevention of HIV infections at community level, contrary to the findings of the Mwanza study.⁵

While the Rakai study raises many interesting questions, it does not really refute the findings of the Mwanza study. In simple terms, the two studies were examining two very different interventions under significantly different conditions. The implications of

the Rakai findings are currently being assessed by UNAIDS and WHO.

Summary

Sexual health is an important and often neglected area of medical practice. Anxieties about the discussion of sexual issues can be a problem for doctors and patients alike. Workplace clinics are in a special position to ensure quality care and excellent follow-up of employees.

Increasingly, occupational health practitioners are managing STDs at a high standard in the community. The introduction of the syndromic approach and recent interventions able to convince managers of the cost-effectiveness of STD management offer strong incentives for workplace clinics to make a greater contribution in the struggle against HIV in South Africa.

Comprehensive management of the sexual health of your patients should continue to be a satisfying and important aspect of your clinical practice.

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HIV from needlestick injury: are health care workers the cinderella of compensation under COIDA?

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Abstract

A health care worker having had a needlestick injury at work and who sero converts due to occupational exposure cannot plan adequately for the future if all that is available are workers' compensation benefits under the Compensation for Occupational Injuries and Diseases Act (COIDA).

Introduction

Many health care workers eschew the idea of HIV insurance. They believe that HIV infection will never happen to them as a result of their work. The incidence is, after all, so low and there are so few known cases. Attitudes like these should not be entirely unexpected. Nevertheless, sero conversion to HIV positivity is known to have occurred in health care workers.

Risks of sero conversion

In South Africa, while there is little or no verifiable information, statistics are legion. Some say that the possibility of sero conversion amongst health care workers is 4000:1.¹ Others hold that the incidence is as low as 1 in every 250 (in the case of needlesticks) and 1 in 300 (in the case of contact with blood and bodily fluids).²

The average risk for HIV infection from all types of reported percutaneous exposures to HIV-infected blood is 0.3%. In the case-control study, risk was increased for exposures involving:

- a deep injury to the health-care worker
- visible blood on the device causing the injury
- a device previously placed in the source-patient's vein or artery (for example, a needle used for phlebotomy)
- a source-patient who died as a result of Acquired Immuno-Deficiency Syndrome (AIDS) within 60 days post-exposure (and therefore was presumed to have a high titre of HIV)

Identification of these risk factors in the case-control study suggests that the risk for HIV infection exceeds 0.3% for percutaneous exposures involving a larger blood volume and/or higher HIV titre in blood. The risks after mucous membrane and skin exposures to HIV-infected blood (on average, approximately 0.1% and less than 0.1% respectively), probably also depend on volume of blood and titre of HIV. The risk is probably higher for skin contact that is prolonged and involves an area that is extensive or in which skin integrity is visibly compromised and/or involves a higher HIV titre.

There is anecdotal evidence of at least four cases of occupational exposure in South Africa. And a recent study in America reveals that, as at December 1997, 54 health care workers had been documented to have sero converted following occupational exposure. A further 132 have been classified as possible cases of occupational exposure.

It is also pertinent to bear in mind that AIDS is not a notifiable disease in South Africa. Sero conversion carries with it unfortunate social implications and publicity is shunned.

Certainly, health care workers can prevent accidental occupational exposure by treating all patients as potentially infectious, wearing gloves and goggles when anticipating contact with blood and bodily fluids, washing carefully immediately after contact with blood or bodily fluids and handling and disposing of needles and other sharps with care. This is generally referred to amongst health care workers as taking 'universal precautions'.



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The reality is that preventive measures do not always work.

The risk of occupational HIV infection amongst health care workers is growing.

Recent studies in the South African mining industry predict that the HIV prevalence in this industry alone will peak at between 25% and 40%, between 125 000 and 200 000 employees.³

There is no doubt then that, with time, health care workers will be more and more exposed to HIV infected patients.

Post-exposure prophylaxis (PEP)

While the South African workers' compensation regime provides for the health care worker who sero converts, there are serious deficiencies in the system. For instance, the Compensation Commissioner does not pay for immediate post-exposure prophylaxis (PEP), thereby heightening the risk of sero conversion.

Within the mining industry, however, health care workers are actively encouraged by the industry's in-house workers' compensation carrier, the Rand Mutual Assurance Company Limited, to take prophylaxis according to the guidelines issued recently by the Centre for Disease Control in the United States. This centre is the benchmark authority for such issues.⁴

Summary of guidelines

- Chemoprophylaxis should be recommended to exposed workers after occupational exposures associated with the highest risk for HIV transmission. For exposures with a lower but non-negligible risk, post-exposure prophylaxis should be offered, balancing the lower risk against the use of drugs having uncertain efficacy and toxicity. For exposures with negligible risk, PEP is not justified.

- Exposed workers should be informed that:
 - knowledge about the efficacy and toxicity of PEP is limited

- for agents other than Zidovudine (ZDV), data is limited regarding toxicity in persons without HIV infection or who are pregnant

- any or all drugs for PEP may be declined by the exposed worker

At present, ZDV should be considered for all PEP regimens because ZDV is the only agent for which data supports the efficacy of PEP in the clinical setting. Lamivudine (3TC) should usually be added to ZDV for increased antiretroviral activity and activity against many ZDV-resistant strains. A protease inhibitor

Indinavir (IDV) should be added for exposures with the highest risk for HIV transmission.

PEP should be initiated promptly, preferably within one to two hours post-exposure. Although animal studies suggest that PEP probably is not effective when started later than 24-36 hours post-exposure, the interval after which there is no benefit from PEP for humans is undefined. Initiating therapy after a longer interval (for example, one to two weeks) may be considered for the highest risk exposures and even if infection is not prevented, early treatment of acute HIV infection may be beneficial. The optimal duration of PEP is unknown. As four weeks of ZDV appeared protective, PEP should probably be administered for four weeks, if tolerated.

If the source patient or the patient's HIV status is unknown, initiating PEP should be decided on a case-by-case basis, based on the exposure risk and likelihood of HIV infection in known or possible source patients. If additional information becomes available decisions about PEP can be modified.

Workers with occupational exposures to HIV should receive follow-up counselling and medical evaluation, including HIV-antibody tests at baseline and periodically for at least six months post-exposure (for example after six weeks, after twelve weeks and again after six months) and should observe precautions to prevent possible secondary transmission. If PEP is used, drug-toxicity monitoring should include a complete blood count and renal and hepatic chemical function tests at baseline and again two weeks after starting PEP. If subjective or objective toxicity is noted, dose reduction or drug substitution should be considered with expert consultation and further diagnostic studies may be indicated. Health care workers who become infected with HIV should receive appropriate medical care.

Rand Mutual Assurance will pay for post-exposure prophylaxis irrespective of whether sero conversion occurs.

Compensation benefits

Benefits for permanent disablement and time off work under COIDA are payable only once the employee becomes too ill – with the opportunistic diseases associated with full-blown AIDS – to return to work.

When benefits are paid, they are based on 75% of the health care workers' earnings at the time of injury – up to the earnings ceiling for benefits purposes which is currently at R97 032,00 per annum.

This means that given the ten to fifteen year incubation period, an orthopaedic surgeon earning



R20 000,00 per month in 1998 and sero converting due to occupational exposure, can expect a monthly disability pension of R6 064,50 with the onset of full-blown AIDS in 2008. This is a meaningless amount considering inflation, the value of the currency, interest rates and other economic woes.

Furthermore, there will be no compensation for loss of earnings if the surgeon is precluded from performing surgery and has to find alternate employment at a lower salary.

The same orthopaedic surgeon could, if covered with the Rand Mutual, receive a monthly disability pension of up to R15 000,00 per month.

Health care workers who sero convert due to occupational exposure cannot plan adequately for their future if all that is available are workers' compensation benefits. For this reason, Rand Mutual actively encourages its members to purchase in-house top-up cover in the form of accidental HIV infection policies. The benefit, which is payable on sero conversion, is equivalent to five years earnings - subject to a minimum of R100 000,00 and a maximum of R1 000 000,00. This means that health care workers who enjoy the benefit of the Rand Mutual's occupational and needlestick policies will have adequate cover.

Indeed, the risk of sero conversion is significantly reduced given the Company's views on PEP. The additional cover might not even be necessary but it does provide peace of mind.

The mining industry is fortunate in being allowed to insure its workers' compensation through a private carrier like Rand Mutual. It is able to arrange meaningful benefits for those who, through no fault of their own, are occupationally exposed to HIV.

Other employers do not enjoy the same access to a combined workers' compensation and needlestick injury cover. Legislation currently prohibits non-mining employers from registering with the Rand Mutual. The establishment of additional industry unique mutual workers' compensation carriers is similarly precluded.

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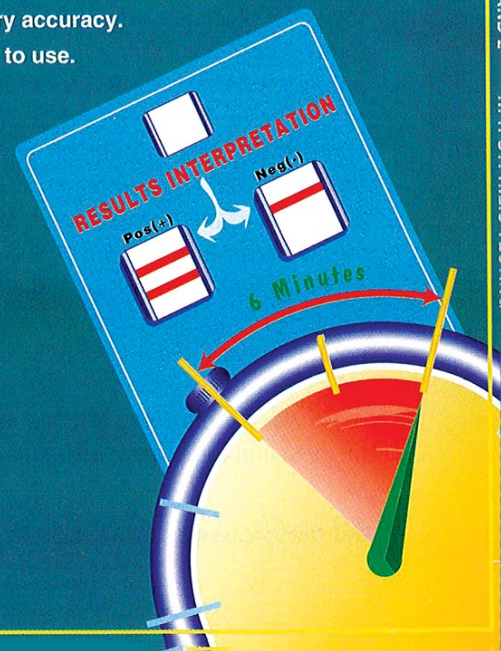
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An assessment of onsite rapid testing for HIV at an industrial clinic

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Abstract

The use of onsite rapid testing for HIV infection at a factory occupational health clinic has been shown to be a useful adjunct in the diagnosis of both HIV positive and negative employees. These tests are specific and sensitive as well as being cheaper than commercial laboratory tests. Also, results are immediate.

Introduction

South Africa is in the middle of an exploding HIV epidemic and cases of AIDS are now being seen on a regular basis at occupational health clinics.

The effectiveness of HIV/AIDS programmes in the work place are often hampered by poor feedback to the health care professionals at factories from public sector health services as well as services such as the South African Blood Transfusion Service - services to which employees have been referred. As the public sector seldom advises factory health personnel of any results, duplication of testing by the public sector health services and occupational health services is widespread. In addition, due to economic constraints, routine HIV testing is often not being carried out by public sector primary health care clinics.

It was in this context that staff at our clinic took the decision to perform onsite testing. Initially

specimens were sent to a private laboratory where an ELISA followed by a confirmatory Western Blot test was performed. However, with the increasing number of tests being performed, cost has become a factor. Another consideration is that results can take a week or more to be received from outside laboratories.

Consequently, a small study was performed to calculate the benefits (if any) of using onsite rapid tests for the detection of HIV antibodies in employees at our factory.

Materials and methods

Employees who presented with symptoms suggestive of HIV/AIDS - symptoms like generalised lymphadenopathy, chronic diarrhoea, stubborn soft tissue infections and recurrent upper and lower respiratory tract infections - were tested. Any employee who requested a test on the basis of feeling at high risk due to promiscuity, past STD's etc. was also included.

All employees were pre-test counselled. No test was performed without verbal consent - and there were employees who refused to be tested.

It should be emphasised that no routine pre-employment testing was performed as per the recommendation of the Department of Health,¹ that consent was elicited from employees prior to testing and that the results were strictly confidential. These tests were performed for two main reasons: to make a diagnosis so that the employee could be counselled and to facilitate better management of his or her clinical condition in future.

Two 5ml specimens of whole blood were drawn. One specimen was tested immediately using the rapid test and if a positive test was demonstrated, the second tube of blood was sent to an outside laboratory for a confirmatory Western Blot test only. If the test was negative, the employee was informed immediately and post-test counselling included discussion of the window period and the possibility of a positive test later. Only after a positive Western Blot was the patient considered to be HIV positive. The patient then received post-test and ongoing counselling.

The rapid test used was the Capillus HIV-1/HIV-2 introduced by Cambridge diagnostics. This is a latex Agglutination test for the detection of human antibodies of HIV-1 and HIV-2 in human serum or plasma. The reaction is read visually in the viewing window after three to seven minutes. The kit comes in packages of either 100 or 20 and needs to be stored in a refrigerator.



		Confirmed by Western Blot
No. capillus Tests Negative	21	-
No. Positive	19	19
Total Tests	40	19

Results

40 consecutive samples were used in the study taken over a one-year period.(Table 1)

There were 38 males and 2 females in the study. 35 were symptomatic and presented with criteria mentioned previously or they were at high risk, while 5 were tested after being diagnosed as suffering from TB.

Out of the 40 specimens tested, 19 were positive and 21 negative. All the positive tests were confirmed by the Western Blot while none of the negative tests were sent for confirmation.

Discussion

• Exact correlation with Western Blot positives

The Capillus HIV-1/HIV-2 kit had an exact correlation between it and the Western Blot positives. However, the limitation of this study is that the sample size is very small. Nevertheless, published data does suggest that sensitivity and specificity in several different diagnostic tests surveyed is in excess of 96% and may be as high as 99.7% in some instances. Thus these tests are accurate in both diagnosing positive cases as well as confirming negative cases.

It is recommended, however, that any positive case diagnosed by these rapid tests is confirmed by a Western Blot. The mental anguish to the patient caused by diagnosing a false positive is obvious, while insurance companies and disability funds will require a documented Western Blot test to grant benefits.

• Immediate results

The results are immediate A study performed in Hlabisa in KwaZulu Natal⁴ showed that 21.3% of people tested never returned for their results. This resulted in a waste of scarce funds and that several people with positive diagnoses were never

counselled. This scenario is less likely in industry where the employee is close to hand and can be called in. Another consideration is the immediate relief experienced by an employer who receives an instant negative result.

• Cost-effectiveness

The rapid screen tests are a more cost-effective way to screen (Table II) and this is an important consideration as financial resources are becoming ever more scarce. Utilising the Capillus versus the ELISA tests in this study achieved a saving of R2 620.00.

	Capillus	ELISA	Western Blot
Actual cost using Capillus	R17.50 x 40 = R700	-	R310 x 19 = R5 890
Cost without Capillus	-	R83 x 40 = R3 320	R310 x 19 = 5 890
Cost saving benefit using Capillus - R 2 620.00			

• Benefit for health care workers

The rapid screen test is useful for the health care worker who receives a needle stick injury. This worker can then test the source patient immediately and antiretroviral prophylaxis can be started immediately if the source patient is positive.

Conclusion

This study supports the use of onsite rapid HIV detection tests in occupational health clinics with the preconditions mentioned above. However, the introduction of highly specific and sensitive saliva and urine tests in the future to test for HIV antibodies will mean that blood will not have to be taken for those who are negative.

The positive impact of the use of these tests at rural clinics and hospitals is likely to be even greater than at occupational health clinics.

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Developing a personal protective equipment programme

Harold Gaze

Occupational hygienist, OccuTech, Durban

Occupational Health SA 1998; Vol 4, No 6: 45 - 46

Abstract

In many industries, Personal Protective Equipment (PPE) needs to be provided for specific tasks. As this precaution should be a last resort, it is vital that the equipment provided is carefully selected and used correctly. A Personal Protective Equipment programme ensures correct usage. The elements of an effective PPE programme are identified and some critical issues addressed.

Introduction

In most instances, PPE is provided only after all other means of environmental control have been considered. An efficient PPE programme is the product of a careful selection process and can only be as effective as the application process followed. In other words, the provision of protective equipment does not guarantee employees' health against potentially hazardous materials: the provision of equipment is merely one step in designing and implementing a PPE programme.

Comprehensive PPE programme

What are the components of a comprehensive and effective PPE programme? Several factors need attention for a PPE programme to be successful.

These factors include:

- a strong commitment from management to environment, safety and health standards
- an effective communication system in the workplace
- good training practices
- well-defined work procedures and selection
- a high standard of housekeeping and effective environmental quality control
- an efficient in-depth reporting system that identifies problems, analyses probable causes and implements appropriate corrective action
- a stable workforce

Both the Regulations for Hazardous Chemical Substances and the Occupational Health and Safety Act (1993) demand that industry offers effective protection programmes. One of these programmes is a Personal Protective Equipment/ Clothing (PPE) programme. This programme should include:

- a policy statement establishing the scope and purpose of the programme
- risk assessment
- environmental surveillance
- medical surveillance
- equipment selection
- education and training
- decontamination and cleaning
- inspection, maintenance and storage
- programme review and evaluation
- operational use, restrictions and limitations
- reporting system which includes identification and analysis of the probable causes of problems
 - a formal written programme should be developed in association with employees.

Policy statement

The commitment of management to safety and health standards is a major factor contributing to the success or failure of a PPE programme designed to prevent accidents and disease in the workplace. A clear statement of intent, one which applies to all employees, is essential for the programme to be successful.

Scope and purpose

The scope and purpose of the PPE programme give it direction. It is vital that employees understand why protection is required. Duties and responsibilities need to be agreed and allocated carefully. It is suggested that a Health and Safety Representative should be included in identifying problems as well as their underlying cause/s and overseeing appropriate remedial action.

Risk assessment

The selection and provision of equipment should be based on a comprehensive risk assessment process. Ideally, the risk assessment should be performed by a competent and qualified occupational hygienist. It should be accurate and include assessment of all regular activities, including those which occur infrequently, for example tank cleaning (which may take place once or twice a month). It should also include attention to all possible abnormal conditions, work over longer periods, power facilities, emergency conditions, accident and/or incident conditions.

If the risk assessment cannot identify the problem prior to exposure, then the most stringent 'worst case' protective measures should be applied. The risk assessment should identify all factors which could be influenced by the potential hazard. For example, if employees are to be exposed to air contaminants corrosive to the skin, then PPE should be provided not only for the skin but for the eyes and respiratory tract as well.

Environmental surveillance

While the risk assessment should identify the problem and prioritize its action, in many instances it will not be able to identify the total suitability of a PPE without an evaluation. Some types of PPE carry maximum protection levels and exposures above this will result in overexposure.

Quantification for the determination of potential exposures may require extensive personal and area monitoring, for instance, environmental surveillance should include methods of assessment that go beyond air monitoring merely.

Medical surveillance

The implementation of a PPE programme is usually accompanied by medical surveillance:

- the medical programme can assess the placement of workers after consideration has been given to the physical and psychological limitations of wearing PPE
- it can be employed as a tool to evaluate the adequacy and effectiveness of the PPE programme
- it can influence the ongoing selection and use of PPE
- it can provide medical care to staff who are injured or ill using PPE

For the medical unit to function well, it must have access to risk assessment and environmental surveillance data as well as information informing the selection and use of PPE.

Selection of PPE

Selection of PPE should depend on four main considerations as well as a recognition of the inter-relationship between them:

- environment (work station/s and environmental contaminants)
- mission (the task, job, duration of the task, energy required)
- employee (size, shape, age, gender)
- protective equipment provided

Care should be taken to ensure that the PPE selected is appropriate for both foreseeable and unforeseeable circumstances. For example, is the PPE suitable in an instance where a fire could cause the formation of new chemicals in the workplace - and a situation where the new chemicals may present the greatest hazard.

Education and training

If PPE provided is not used, the system will collapse and workers' health can be adversely affected. The education and training of employees in PPE is essential. It allows employees to understand the need to practice in a non-dangerous area, to be familiar with the equipment and to use it with confidence. It may also be a legal requirement.

An effective education and training programme should explain:

- legal requirements
- dangers and nature of the hazard
- safety, health and emergency procedures
- factors affecting the selection of the PPE
- limitations of the protection
- employee's responsibilities in relation to cleaning, maintaining, decontaminating, inspecting, checking and fitting PPE
- PPE operational factors, its use and limitations
- other health or safety requirements
- practice in use

The training and education must be practical and, depending upon the problem to be encountered, both practical and theory testing of the PPE users should occur. Trainees should receive a users' manual providing the necessary information. The training should be carefully structured. The trainer should have a guide which clearly outlines the objectives, offers learning opportunities and provides visual aids. It is suggested that an initial basic training course is offered and followed up with subsequent refresher courses.

Conclusion

An effective PPE programme is one that works. Workers and management should operate as a team to ensure that the health and safety of all staff employees is protected. One hundred percent usage should be the aim of all PPE programmes.

To page 57

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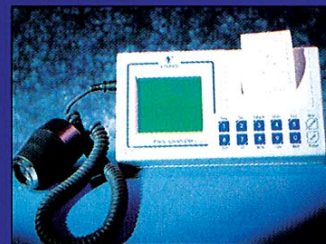
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Compensation for occupational dermatitis: case study and discussion

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Abstract

A case of occupational contact dermatitis is presented. The criteria for diagnosing occupational contact dermatitis and the processes for claiming compensation under the Compensation for Occupational Injuries and Diseases Act (COID Act 1993) are discussed.

Introduction

Occupational dermatitis is a skin condition due wholly or partially to the patient's occupation: occupational exposure is a major factor. The definition of occupational dermatitis is dermatitis 'primarily caused by components of the work environment',¹ or 'a skin disease which would not have occurred if the patient had not been doing the work of that occupation'.²

In practice it is often very difficult to prove the connection between the dermatitis and occupational exposure. This is especially so because there are many different causes and patterns of presentation of non-occupational dermatitis.

Depending on the cause, dermatitis is divided into endogenous and exogenous dermatitis. Examples of endogenous dermatitis are atopic eczema, seborrhoeic dermatitis, varicose eczema and nummular eczema. Examples of exogenous dermatitis are contact dermatitis caused either by true allergic sensitization or by irritant materials in contact with the skin and asteatotic or dry skin eczema. The terms dermatitis and eczema are interchangeable.

Once contact dermatitis has been diagnosed the following factors are taken into account when deciding whether dermatitis can be attributed to occupational exposure.²

- There should be a correct temporal relationship i.e. the occupational exposure should precede the development of the dermatitis.
- The history should consider whether the symptoms occur only in work-related periods or also during periods off work - does the eczema clear over weekends away from work or during prolonged holidays?
- The agents with which the person works should be known to cause changes consistent with observed skin changes, for example, metalworking fluids are known to cause hand dermatitis.
- The type and site of lesions should be consistent with the type of exposure and similar to other cases described, for example, workers exposed to allergic or irritant fumes may develop dermatitis of the eyelids.
- Supporting evidence that the problem is occupational is provided if other workers within the same work environment are affected.

If allergic dermatitis is suspected, patch tests should be done using the standard patch test series as well as substances in the work environment. Should these be positive, the diagnosis of an allergic contact dermatitis is confirmed.³ Testing for irritant contact dermatitis is problematic.

As a small proportion of workers with the same exposures develop dermatitis, there may be a constitutional predisposition to develop the problem but factors like this are largely unidentified.

However, it is known that the pre-existence of atopic dermatitis or seborrhoeic dermatitis puts workers at risk of developing occupational dermatitis.

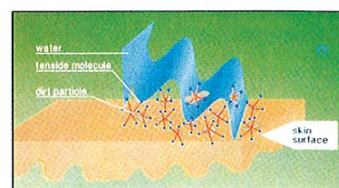
Non-occupational factors that play a role might be allergy or irritation caused by medications or activities in the home resulting in frequent re-exposure to irritants or allergens. Stress may also be a contributing factor but its role in the provocation and perpetuation of dermatitis has not been defined.

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Incidence of occupational dermatitis

Dermatoses comprise between 20 - 70% of all occupational disease in various countries. Of the dermatoses, 20 - 90% are contact dermatoses. The relative proportions will vary depending on the extent and type of industrialization in an area and according to the skill and involvement of dermatologists.¹

In South Africa, occupational dermatitis has been referred to as a hidden epidemic. No studies have been done on the incidence of occupational dermatitis amongst South African workers. Extrapolation from the data that does exist suggests that there may be as many as 25 000 people suffering from occupational hand dermatitis in South Africa.⁴

Case history : Mr A.B.

Mr A.B is 31 years old. He presented to a dermatologist for the first time in October 1997 with a two year history of hand rash. After leaving school he worked on the railways as a millwright. In this capacity he was in direct contact with hydraulic oil, detergents and greases. He continued in this occupation until he became an auto-technician in 1995, working in his father's company. Here he worked on differential gear boxes and was often in contact with hydraulic and cutting oils, greases, solvents, detergents and paraffin. He used Flight as a hand cleaner.



There is a strong history of atopy in his family. His late grandfather and daughter were asthmatic and he suffers from asthma and hayfever.

He had no particular hobbies and apart from cleaning the pool once monthly, he was not in contact with detergents or any chemicals. He used ordinary toilet soaps at home. At work he used Reinol barrier cream which helped to some extent.

Because of the fine nature of his work, he was not able to wear gloves.

Since his first attack of dermatitis in December 1995, he has had several flare-ups. To bring the dermatitis under control, he had been prescribed oral steroids (prednisolone), topical corticosteroid creams and antibiotics. Although the oral cortisone helped, the dermatitis relapsed once the dosage was reduced.

While away from work during his December vacation and during a two week's sick leave, his hands cleared and the dermatitis resolved completely. On return to work the dermatitis relapsed and continued in a chronic form with acute intermittent flare up during which he developed severe infected dermatitis.

At the time of consultation, he was noted to have dermatitis. The lesions were confined to his hands and consisted of blisters, some of which were infected, as well as dryness and scaliness of the skin of the fingers. A diagnosis of contact dermatitis, probably caused by his occupational exposure, was made.

He was patch tested with the European standard patch test series. This was done to establish whether there was sensitivity to a specific allergen. The tests were all negative.

He was also tested with the substances with which he was normally in direct contact, in the concentrations found in the work environment. These were thinners, gear box transmission oil, grease and paraffin. He did not react to these substances. He was not tested with detergents and cleansers because these are known to be highly irritant in all people. Thus the diagnosis of occupational dermatitis on an irritant basis, rather than an allergy to a specific substance, was made.

It was recommended that he be relocated to a different department at work or be given supervisory work. The firm was unable to accommodate this recommendation.

He considered trying to obtain employment in a different firm or attending night school to acquire a different skill. Both of these options were difficult for him to implement because of family and financial constraints.

Consequently, he continues to work for the same firm, doing the same job. He continues to suffer from the discomfort and itch of chronic eczema. He has intermittent flare-ups of acute infected dermatitis which require treatment with oral corticosteroid tablets and antibiotics. These acute flare-ups necessitate his taking sick leave and there is a limit to the amount of paid sick leave to which he is entitled.

Because his diagnosis is occupational contact dermatitis, he can apply for total temporary disablement from the Compensation Commissioner for the

periods he is unable to work. For this reason the various application and notification forms, for compensation under the COID Act, were completed and submitted to the Compensation Commissioner in Pretoria. These included:

- Employer's Notification of Occupational Illness - WCL 1(E)
- Employee's notification - WCL 14
- First medical report in respect of an occupational disease - WCL 22
- Dermatologist's report - WCL 53

These forms were submitted in February 1998. In April the patient telephoned the Compensation Commissioner to check the progress of this matter and he was told that the forms had disappeared. He re-submitted photostat copies of the forms and to date he has heard nothing further. Repeated communication with the Compensation Commissioner only confirmed that the matter was with the medical assessors. In October, the Compensation Commissioner was again contacted and, once again, the file could not be found.

Provisions for compensation for workers with occupational dermatitis in South Africa

The Act under which compensation is provided is known as the *Compensation for Occupational Injuries and Diseases Act of 1993 (C.O.I.D.)*.⁵ Based on this Act, workers shown to have occupational dermatitis are accepted by the Commission as having a compensatable disease.

Both irritant and allergic contact dermatitis are accepted as compensatable under the COID Act (Schedule 3). This is important as the majority of occupational dermatitis (approx. 80%⁶) is non-allergic in nature and is due to exposure to irritants.

Allergy is tested for by patch-testing. While patch-testing is useful, positive tests may not be clinically relevant and conversely allergy may exist despite negative results.³

However, experience shows that a positive patch test does provide support for compensation claims.

Successful compensation claims for occupational irritant dermatitis rely on evidence that the dermatitis is related to exposure to known irritants and that the worker has taken reasonable precautions to avoid exposure such as the using protective equipment or by changing work habits.

Compensation for permanent disablement is

payable in cases in which, in spite of taking reasonable precautions, the worker is unable to continue with his occupation and is forced to seek employment in a different and lower paid occupation. Various factors are taken into account in determining compensation: age, salary at the time of diagnosis, the severity of the condition and reduction in income as a result of change of employment.

Compensation for permanent disablement will not be granted if, by using preventive measures, the patient can continue in the job. Should the patient, while continuing in the same employment, suffer a recurrence, this will be regarded as a new occurrence and the patient will be regarded as temporarily disabled. Thus compensation for temporary total disability for the period which the patient cannot work as well as medical expenses may be covered by the Compensation Commissioner. Temporary total disablement will not be paid for longer than 12 months except if ordered by the CC who can extend the period to a maximum of 24 months.

Costs of personal protective equipment, which are not provided by the employer and which are purchased by the worker, may be covered by the Compensation Commissioner. This should be negotiated by the worker's employer with the Commissioner.

A change of occupation, due to severe occupational contact dermatitis, qualifies a worker for compensation for permanent disablement. No further benefits are payable if the worker continues in that employment in which exposure to the irritating or allergenic substances which were the original cause of his dermatitis occurs.

Practicalities of submitting a claim for compensation

Forms to be submitted to the Compensation Commissioner include:

- W.CL 14 - Notice of an occupational disease and claim for compensation (worker)
- W.CL 1(E) - Employer's report of an occupational disease
- W.CL 22 - First medical report
- W.CL 53 - Dermatological report
- W.CL 26 - Progress/ final report as needed

The most efficient way of getting a claim processed is to ensure that:

- all documentation is correctly completed and all necessary information is included
- if possible, all documents are submitted together
- the terminology used in reports is precise and specific

- information about the possible causative agents is included
- the medical history and examination is thorough
- employment history is detailed
- any possible non-occupational exposures, like hobbies, are included
- photographs of the affected areas are submitted
- use of protective equipment and the maintenance thereof are commented on
- in certain cases the use of protective clothing is impractical due to the nature of the job and it is important that this be brought to the attention of the commissioner

Once the forms have been submitted it is also necessary to follow up the case regularly.

Processing claims

Frustration is often experienced by people who submit claims to the Compensation Commissioner due to the time delays that are experienced.

It is important to realise the volume of mail that is dealt with by the Compensation Commissioner. Forty thousand mail items, of which 22 000 concern claims, are opened daily and sorted by four sorters.

- documents with claim numbers are given to the tracers - the relevant file is traced and sent to the assessors
- if no claim number is found the process is further confounded - an attempt is made to find any existing file and if none is found, the document is returned to the mail room to be linked to the relevant file
- if incomplete information is received, the assessors request the outstanding information from the employer or doctor and the process will start from the beginning again
- no computerisation exists

Due to the volume of mail and the unwieldy process, documents get lost during the submission process and it is essential that good copies of all documentation are kept in case it is necessary to re-submit a claim⁷

Four assessors, who are not medically qualified but who have extensive experience, assess claims and can request a medical opinion from the medical advisor regarding the merits of a claim. If the claim is accepted it is then forwarded to the financial section which deals with the payments.

Statistics of compensation paid to workers with occupational dermatitis

In 1990, of 128 cases submitted for compensation, 28 cases were accepted for compensation for occupational dermatitis.⁴

Compensation statistics for cases submitted under the COID Act are not available but the CC is receiving an ever increasing number of cases to be considered for compensation for contact dermatitis.

In 1997, 388 cases were submitted; in 1998, 587 cases were submitted by August. The number of claims submitted for contact dermatitis is only exceeded by claims submitted for hearing loss. The importance of contact dermatitis as an occupational disease is therefore very evident.

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Report on the Global Ergonomics Conference, Cape Town

Darren Joubert

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Occupational Health SA 1998; Vol 4, No 6: 54 - 55

I had the privilege and good fortune to attend the first ever Global Ergonomics Conference held in South Africa in September. The conference was organised jointly by the International Ergonomics Association (I.E.A.) and the Ergonomics Society of South Africa (E.S.S.A.). It was a tremendous success with more than 224 papers being presented by participants from 41 countries. The papers covered a wide range of concerns in Ergonomics and related fields and disciplines. The overwhelming response to the conference led to a decision that the conference should take place as a regular event every two years.

The attendance from South African delegates was a little disappointing. Most of the participants were from overseas or other African countries and very few occupational hygienists were present. On the other hand, meeting delegates from different professions and disciplines was very interesting and offered an opportunity for discussion around perspectives on workplace hazards and control/prevention strategies.

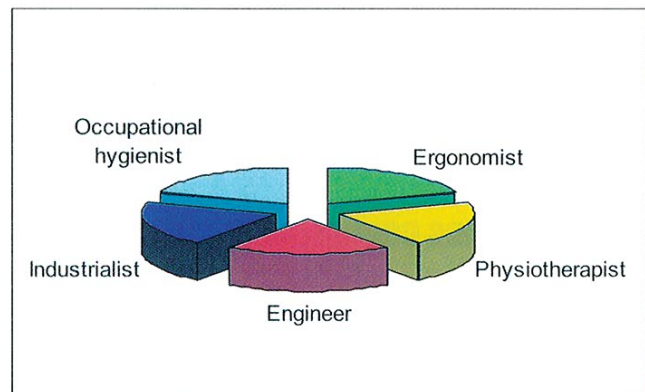
Ergonomists and occupational hygienists

It seems that ergonomists and occupational hygienists perceive their roles and fields of expertise in rather different ways even though the professions actually complement each other very well and are

similar in many ways. The ergonomist pays attention to all hazards found in the workplace environment (including illumination, hazardous chemicals and noise) and views occupational hygiene as being only one aspect of ergonomics. However, the occupational hygienist perceives ergonomics as a part of his/her sphere of work in the field of occupational health and safety. In effect, the respective job descriptions of an occupational hygienist and ergonomist are very similar with specialisation in certain areas - both are concerned with the worker and the workplace environment but the emphasis is placed on different aspects.

Participatory approach

Each of these professions needs to be seen from the other's perspective to facilitate understanding of their relative strengths and weaknesses. They need to have a multi-disciplinary approach to dealing with workplace hazards in order to holistically address and solve occupational health problems. Personally, I perceive this approach to include other health and safety professionals in the field - safety practitioners, occupational health practitioners, nurses, physiotherapists, engineers, managers, buyers or anyone else with a direct or indirect influence on the workplace environment and the workers there.



Different perspectives, same problems

During discussions at the conference it became evident that professionals from these different fields justifiably view their area of specialisation as very important, but they are simultaneously interested in the perspectives of other disciplines.

They acknowledged that many disciplines lack the knowledge and understanding of what others do and where their relative strengths and weaknesses lie. This can make it difficult to know when to call in a professional from another discipline to carry out a

specific specialised task! For example, the physiotherapists mentioned that, from their perspective, they recognised that rehabilitating a worker with an injury and then sending him/her back into an unsuitable or hazardous workplace was useless as she/he would soon return with the same injury. For the occupational practitioner or nurse, treating a worker for an occupational related condition or disease and then sending him/her back into the work environment without any controls being implemented was also not the solution. Many professions lack the practical knowledge necessary to control these hazards and do not understand the need to consult other disciplines in order to implement practical controls - and so, the problem remains only half solved.

It was emphasised that a participatory approach from all professionals involved - along with the workers, unions, management and any other role players - would be essential to ensure that these common problems are addressed.

Cost effectiveness

At the conference, much emphasis was placed on low cost-low tech solutions which are needed, particularly in developing countries, with regard to things like equipment purchases, educational levels and economic viability of controls. Practical, simple and effective controls for occupational hazards as independent from the worker as possible are needed. Many examples were given of low or even zero cost solutions that had been developed to solve problems that had existed for many years.

Values

Many of the speakers addressed the problem of 'selling' the ideas/control measures to industrialists and management. The general consensus emphasised the cost-benefits of solutions/controls - something often passed over by occupational hygienists as they move on to solve the next problem! Follow up evaluations of controls implemented are essential not only to ascertain their effectiveness but to assess the benefits to industry and the workers. This should include health and financial points of view and, as far as possible, take into account hidden savings like medical bills, reduction in time lost and so on.

It must be remembered that the reasons for protecting the health of workers may vary across a range of concerns that include financial, political, social, legislative or personal considerations in order to control hazards and, through doing so, to protect workers and/or equipment.

Many decision makers in industry - whose goals differ from those of health and safety practitioners - will only sit up and take notice when we talk about maximising profits, reducing costs, increasing productivity, reducing lost time and money spent on accidents, occupational diseases, absenteeism, wastage, compensation etc. So their goals must be motivated from a health and safety perspective to win them over and make relevant changes.

Conclusion

Overall, the conference was a great success and it appears that many of the problems we encounter in industry in South Africa are not unique but are encountered in all developing nations. We can learn many lessons and the transfer and application of these lessons is facilitated when conferences of this nature are held right here on our doorstep, at rand prices!

Acknowledgement

The author wishes to thank the Foundation for Research Development and the Research Committee of Mangosuthu Technikon for financial assistance while attending this conference.

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To the editor

A simple test to detect arterial disease

In reviewing the British Medical Journal of August 1998, I noticed that the editorial offers a simple test that I believe would be of value in identifying high risk employees with regard to the development of angina, heart attack or stroke. I shall describe the procedure as I think that it will be of use to readers of this journal.

The test entails using a portable Doppler probe and sphygmomanometer. The brachial systolic blood pressure is measured as is the dorsal pedis systolic blood pressure and the ratio of the ankle-to-brachial systolic blood pressure indexes calculated.

If a ratio of 0.9 is used, it is over 90% sensitive and 90% specific in detecting angiographically defined disease. It becomes more sensitive in men and women over the age of 55 and is independent of other risk factors like cigarette smoking, hypertension and hypercholesterolaemia. Its prevalence in those under 55 years is less than 5%.

In summary, this article suggests that the use of this measure in the heavy duty driver and executives or other occupations where the development of a stroke or heart attack would be of relevance, would identify those operators at a higher risk and would heighten our sensitivity to other remedial actions, for example, smoking and cholesterol control, both of which are independent and significant risk factors in the development of atherosclerosis.

This appears to be a clinically simple procedure to perform with documented validity which would be of use in our population group and can be justified in terms of the Labour Relations Act and Employment Equity Act as being a medical procedure which is inherently relevant to the job performed.

I hope this is of interest to you and your readers.

Yours sincerely

Greville Wood

Suite 110

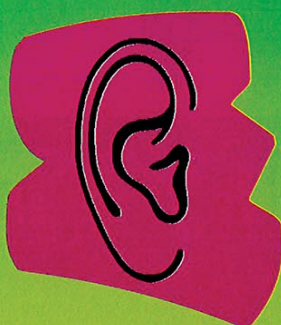
Highway Medical Centre

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Reference

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To the editor

Networking between health care workers

We write to you to encourage other societies with the news that updating skills can be interesting, rewarding and fulfilling - therefore, let us build each other up!

On the 14 August 1998, the Natal Inland Branch of the Occupational Health Nurses Society held a most successful symposium at the Symods Centre in Pietermaritzburg as it found it imperative that the OH worker is continually updated and developing in their professional skills. About 120 occupational health nurses, doctors and other interested health persons attended this gathering. Guest speakers, all specialists in their fields, addressed a wide variety of subjects including spirometry, HIV and related skin diseases and also, absenteeism. Sincere thanks go to the speakers and the various companies that displayed their current products in a professional manner.

The symposium proved to be a highlight for all who attended and was evidence that this is what is required by OH personnel in order to encourage, develop and increase professional networks as well as the individual. It is envisaged that similar symposiums should take place here every second year.

Yours sincerely

Lauren Morey

Natal Inland Branch, Occupational Health

Nurses Society

P O Box Dorpspruit

Pietermaritzburg

3200

To the editor

Viagra and exposure to commercial explosives

The demand and prescription for Viagra (Sildenafil) for erectile dysfunction is expected to be phenomenal, judging from overseas markets. Having attended a few meetings on the product, I am astounded by the complete lack of knowledge, both by the expert panel and medical personnel of the company, regarding workplace exposure to nitrates and the highly possible adverse reaction with the use of sildenafil.

Both nitroglycerine and ethylene glycol nitrate are used in the manufacture of commercial explosives. Their vasodilatory effects on the CVS system causing hypotension and tachycardia are well documented. The use of Viagra in these workers could lead to disastrous consequences. I am not sure whether the same would apply to underground mine workers exposed to the 'fallout' after the use of dynamite.

I have written a memo both to Pfizer Pharmaceuticals and the Medicines Control Council and await their response.

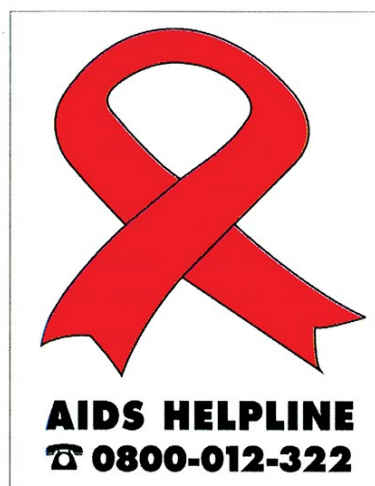
In the meantime, I think it is prudent that we advise our patients accordingly.

Yours sincerely

Dr Uttam Govind

468 Randles Road

Durban



Developing a personal protective equipment programme from page 46

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Professor Ian Webster

Ian Webster, who died recently, was a remarkable man who dedicated most of his long working life to occupational health. He continued working - through 'retirement' until the day he died - making a major contribution in the field of occupational health. Although he was probably best known as a teacher and for research on occupational lung diseases, his activities were protean.

He was born in Newcastle in Tyne. He came to South Africa as a young boy and studied medicine at the University of the Witwatersrand. He joined the SAIMR as a pathologist soon after the Second World War.

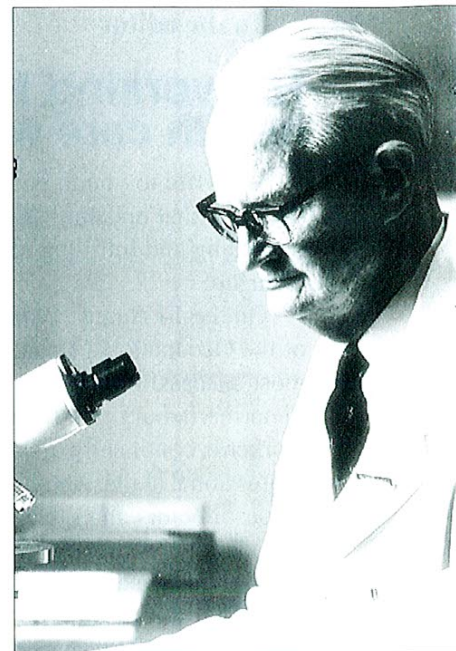
The foundation of what is now the National Centre for Occupational Health (NCOH) was laid in 1953 with the formation of a joint SAIMR/ Department of Mines Pneumoconiosis Unit where Ian was Pathologist-in-Charge. A few years later, the unit was incorporated into the newly formed Pneumoconiosis Research Unit (PRU) with Ian as its sub-director. Not surprisingly, in the 1960s, asbestos and its diseases featured prominently in his work. He formed the South African Asbestos Tumour Reference Panel, was a member of the UICC Working Committee to define the criteria for the diagnosis of asbestosis and mesothelioma and a member of the committee that standardised asbestos samples for research - these samples were later prepared at the PRU and distributed around the world. The successful 1959 and 1969 international pneumoconiosis conferences and the construction of the new (now NCOH) building to his design, with its greatly expanded experimental dust chambers, were landmarks of his decade. The PRU became the National Research Institute of Occupational Diseases (NRIOD) in 1971. Ian became its director and director of the NRIOD's successor, the NCOH,

until he retired officially in 1982. Teaching of Occupational Health was boosted in the 1970s, when he became the Professor of Industrial Pathology and introduced the Diploma in Occupational Health. In 'retirement' he continued to do his duty, being head of Pathology at NCOH for some years in the mid 1990s. Throughout his career he was an enthusiastic researcher and supporter of other researchers. Nearly half his publications were asbestos-related but he also wrote on occupational lung disease, lung pathology, silicosis and silica, tuberculosis, dusts, fibres and chemicals.

This recital of some of his achievements says little of the man. A week before his death, he was planning a dauntingly big new project. What was amazing though, was not only that he was still prepared to work hard at 80 years of age but that he was still passionate about occupational health. He was eager to make yet another contribution.

And, of course, his contribution to occupational health in South Africa has been recognised widely. When I started in occupational health and told people what I was doing the almost invariable response would be, "How is Professor Webster?". He had taught so many practitioners that he had come, in some sense, to personify a discipline. He conducted his professional life with style and probity and became a major figure in occupational health and in the life of the NCOH. He will be missed.

*David Rees
Professor of Occupational Health,
University of the Witwatersrand and Director
of the NCOH*



First approval for Glaxo Wellcome's new respiratory product

Glaxo Wellcome, the world's leading developer of respiratory medicines, has announced that it has received approval from the Medical Products Agency (MPA) in Sweden to market Seretide for the treatment of asthma in children and adults. This represents the first approval of Seretide world-wide. Sweden will now act as the Reference Member State in the Mutual Recognition Procedure to obtain approval in the European Union.

Seretide is a novel combination of two of Glaxo Wellcome's respiratory products - Serevent (salmeterol) and Flixotide (fluticasone propionate). It is the first medicine that allows asthma sufferers to achieve 24 hour control of their disease with a simple twice daily dose, in a single inhaler. Being available in a variety of doses, it allows doctors the flexibility to treat patients with varying severity of asthma.

Asthma is characterised by both bronchoconstriction and inflammation of the airways. Salmeterol is a long-acting beta2 agonist with proven efficacy as a long-acting bronchodilator, reducing

symptoms such as chest tightness and wheeziness for up to 12 hours. Fluticasone propionate is an inhaled corticosteroid which treats inflammation, the underlying cause of the disease. Seretide combines these two already successful treatments in Glaxo Wellcome's novel inhaler - the Diskus (Accuhaler). It is the first twice-daily inhaled product in a single dose system to treat both aspects of the disease simultaneously and with this convenient dosage regimen offers clinical benefit over using either of the two products individually.

Glaxo Wellcome is a research based company committed to fighting disease by bringing innovative medicines and services to patients throughout the world and to the healthcare providers who serve them.

NOTE: The current status in South Africa is that Seretide has been submitted to SAM&MDRA and is undergoing regulatory evaluation.

For more information, contact: Vicki Ehrich at Glaxo Wellcome on telephone (011) 313-6154 or fax (011) 315-6952.

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Preventive medicine saving industry a fortune

Industromed (Pty) Ltd, now in its fourth year of providing occupational health services to businesses around the country, says that the growing importance of preventive medicine is paying off for those who care for their staff.

Through the efforts of their staff, in collaboration with their customers, they have built up a record of each employee. This record, coupled with exposure to hazardous working environs, records

factors which could curtail his/her useful working life. From these findings, built up over a period of time, they have been able to devise programmes which ensure maximum return for both parties.

Mobile clinics

Indusromed has mobile clinics which are equipped to perform basic medical examinations, vision and lung function tests plus full audiometry testing. All of these, which are vital in the preventive medicine

programme, have been designed to save industry time and money by identifying potential problems and treating them before they can lead on to unbudgeted expenses.

In 1997 a major group, one of Industromed's customers, was able to justify savings in excess of R600 000.00 to the Workman's Compensation Commission, all due to utilising a preventive medicine for their staff.

The medical aid industry is now looking at a similar programme for its members.

For more information, contact Industromed on (011) 948 9569 or 082 443 7832.

Putting our heads together to help you

On 8 October 1998, The Headache management Centre (HMC) was opened officially. The HMC is a holistic centre for the management of patients with difficult headaches. The Centre is staffed by a dedicated, multi-disciplinary team headed by a neurologist. The staff represent the following disciplines: neurology, ENT surgery, Optometry,

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Telefax (011) 606-3120

Kynoch Hospital

(Umbogintwini, KwaZulu)

Contact Julia Thomas
Tel (031) 949-2300 or
Telefax (031) 949-2024

Radiology, Pathology, Maxillo facial surgery, Psychology, Physiotherapy and Homeopathy. A dietician and primary care headache practitioner are also in attendance.

The HMC is a specialised headache management centre which, together with the referring general practitioner, focuses on an individualised patient-centred approach. In addition, the HMC provides a pleasant environment where patients can enjoy consistent relationships with team members as well as continued monitoring of progress.

You can contact the Headache Management Centre on (011) 640 2677 / 4343 / 4302.

HIV testing: points to consider

Testing for HIV in industry usually takes two forms - as part of an HIV education program or as part of an anonymous mass screen to determine the prevalence of HIV-infected workers within the organisation for purposes of future planning.

Only a few effective rapid HIV kits are available to the occupational health practitioner. Professional laboratory organisations have seen a flood of rapid test kits that can at best be described as dubious. To correctly assess a rapid HIV test (or any

diagnostic test for that matter), the following questions should be asked:

- Has the test undergone international evaluations conducted by a recognised facility with proper accreditation? (Institute Medicaments de Terra del Fuego does not count.)
- What recognised South African laboratories have conducted trials, for example, SAIMR, National Institute of Virology?
- What sensitivity and specificity did the test achieve in these trials (as the accuracy of any

diagnostic test is expressed in these terms)?

- Will the test detect HIV sub-types (a consideration that is very important in Africa)?
- How many steps are involved in doing the test (as errors can creep in with too lengthy a procedure)?
- Does the kit need to be refrigerated (keeping in mind that the kit will need to reach room temperature before it can be used)?

Documented proof of all of the above must be available for the occupational health practitioner to use the test with confidence.

For more information contact Tom Blackett at Global Diagnostics on telephone (011) 616-4514.

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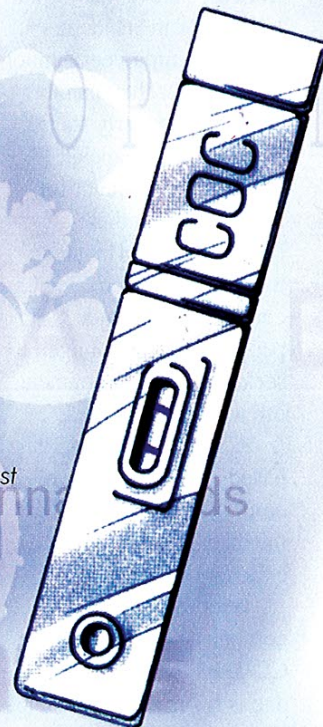
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*NIDA: National Institute on Drugs of Abuse



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HIV: the health care worker's worst nightmare

Every day, more and more health care workers are exposed to the dangers of sero conversions to HIV in the course of their employment.

Health care employees are covered by the Compensation for Occupational Injuries and Diseases Act, 1993 ("COID") for the effects of accidental HIV exposure incidents arising out of and in the course of employment.

However, the cover is woefully inadequate:

- Compensation is payable only when the employee starts suffering from the opportunistic diseases associated with AIDS, some to 10 Years from the date of the original HIV exposure incident.

Such employees cannot plan ahead. They cannot provide at an early stage for their own financial security or for that or for that of their families. Particularly hard hit are those who, on sero conversion, decide personally or are obliged to seek alternate employment, often at lower salaries.

- Compensation is based on the health care employee's earnings as at the date of the HIV exposure incident.

As a result, the compensation payable by COID has negligible value and is insufficient to cater

for needs of such employees, or of their families,

Caring compassionate cost effective top up cover is available to health care workers who sero convert to HIV positivity in the course of their employment.

Rand Mutual's Accidental HIV Infection Policy is available for all your doctors, nurses, health care employees, paramedics and other emergency medical personnel.

The policy pays a lump sum equivalent to 5 years earnings, up to a maximum of R1 000 000.00 on sero conversion of HIV positivity.

This immediate payment enables affected employees to plan properly for current and future needs. This in turn creates peace of mind - particularly for those who are obliged to seek alternate employment.

There are testing procedures. These are for your protection. They prevent fraudulent claims, which have the effect of increasing premiums.

The policy is available to employers in the health care field for their employees at a highly competitive rate,

If you would like further information, please contact George Panas at (011) 497 6600. We look forward to hearing from you.

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- Pedigree - Capillus is one of the most widely used rapid tests for HIV in the world.

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- Serum/plasma/whole blood - Capillus can be used with serum or plasma or whole blood samples

- Proven - Capillus has been in use in major labs in South Africa for years as the rapid test of choice.

- Non-subjective - the use of the optional slide reader takes away any visual subjective reading.

Capillus is recommended by the World Health Organisation, the Public Health Laboratory Service in the United Kingdom and the South African Institute for Medical Research - and over 25 scientific papers from different parts of the world have confirmed its effectiveness.

For more information, contact Bernard Vorster at Ridge Diagnostics on telephone (011) 465 1430 or fax (011) 465 1454.

Cleantex Africa debut

Date: 3 - 6 February 1999

Venue: Good Hope Centre, Cape Town

Cape Town's Cleantex Africa '99 will be attended by high-quality decision-making visitors from the occupational safety and health industries in South Africa, neighbouring states and abroad - if the successful pre-registration campaign of the Johannesburg event in November is anything to go by.

Johann van Vuuren, MD of the organisers of the event, E-Squared - The Exhibition Specialists, says,

"While it is certainly early days the results of the pre-registration programme in Johannesburg augurs well for an equally successful visitor drive in Cape Town. Pre-registration is also usually an accurate early indicator of the type of visitor, the quality of visitor, and the number of visitors an exhibition can expect to attract. Our early returns suggest that Cleantex Africa '99 is an eagerly awaited intervention on the local industrial cleaning calendar, especially among those in the occupational safety and health industries." and I'm confident the event provides on-site technical support throughout the show.

For further information contact Johann van Vuuren on (011) 314 3914.

The abortion debate goes on.

Health personnel have a legal obligation to refer people seeking abortion elsewhere, even if, personally, they are anti-abortion.

However, some nurses insist on imposing their beliefs on their patients when they seek to terminate their pregnancies, forcing these people to either carry an unwanted child or, at worst, to seek a 'back street abortion'. This practice should have declined and even stopped with proper referral systems.

What does the law say in this regard?

Section 9 of the constitution states, "Everyone is equal before the law and has the right to equal protection and benefit of the law. No person may be unfairly discriminated against directly or indirectly on any or more grounds, including amongst other things religion, conscience and belief." In other words, a health practitioner's beliefs must not in any way deny anybody equal protection and benefit of the law.

Section 12 (2) (a) states that everyone has the right to bodily and psychological integrity,

which includes the right to make decisions regarding productivity. Although section 15(1) affords us our right to freedom of conscience, religion, thought, belief and opinion, it does not say that we can deny anyone else the right to exercise their right in law.

The preamble of the Choice on Termination of Pregnancy Act clearly states that women and men have the right to be informed of and to have access to safe, effective, affordable and acceptable methods of fertility regulation of their choice. The act continues to say that any counselling must be non-directive, so although we offer information, we may not direct a person to any action, like whether to terminate or not.

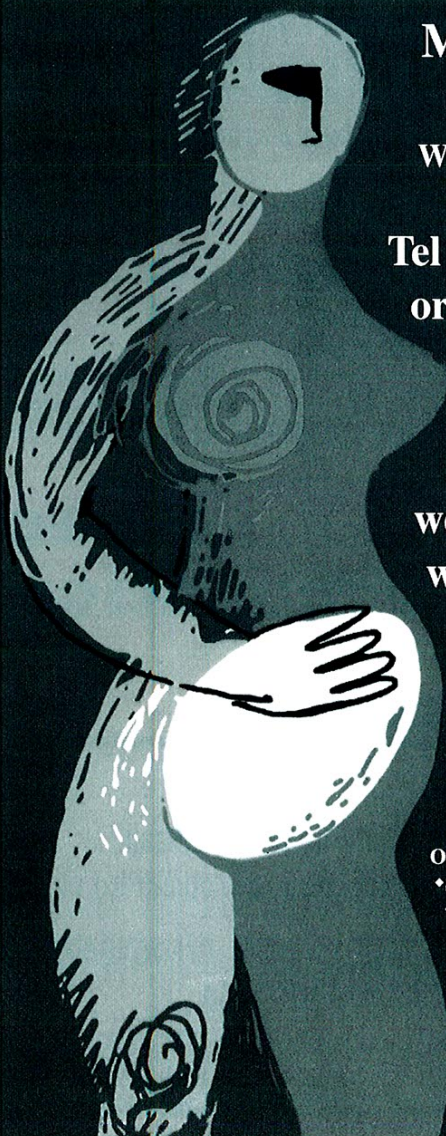
It does not end there. Section 10 (1) (c), (Offences and penalties) of the act, states that any person who prevents the lawful termination of a pregnancy or obstructs access to a facility shall be guilty of an offense and liable to a fine or to imprisonment for a period not exceeding 10 years.

The position of the Democratic Nurses' Organisation of South Africa (DENOSA) is outlined in their position paper, Termination of pregnancy: "the woman has a right to be referred to an applicable institution, ... All nurses ... have a professional and

ethical obligation, according to the Nursing Act and it's related regulations, to nurse the patient before and after the procedure in spite of conscientious objection to the termination of pregnancy... The nurse acts as an advocate for the patient and therefore has an obligation to refer the woman (who wishes to have an abortion) to an applicable institution(s) for termination of pregnancy... She should recognize the need for counselling, and should s/he not have the necessary skills, s/he should refer the

woman to the relevant facility." DENOSA goes on to say that if we know that we do not have the right skill to counsel women, we should refer her to the appropriate place. In spite of this, many nurses still discourage people from terminating a pregnancy, either by refusing to help them or by giving information aimed to discourage them.

For further information, contact the Marie Stopes Clinic Advisory Service on telephone 011 482 6234.



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Life Line regards itself as an emotional First Aid station. Without the services it provides, anxiety levels in our society will rise even higher. This could lead to an increase in alcoholism, rape, drug abuse, crime and violence, and in turn, to the breakdown of the

family unit. Problems like these are an enormous drain on the already over-stretched welfare and health services in South Africa.

A wide range of services are offered by the various Life Line centres throughout South Africa.

- 24 hour telephone counselling service
- AIDS and HIV counselling
- rape counselling
- crisis response team
- face-to-face counselling (by appointment)
 - trauma counselling
 - training and outreach programmes for other welfare organisations and the broader community
 - training courses for business in communication and basic skills

Sexual health resources in South Africa

Most patients (and many health workers) lack basic information about sexuality and sexually transmitted diseases. It is important to be informed and to act as a resource so patients can make informed decisions about treatment and prevention. This will contribute to fostering a sense of control that will lessen the negative impact of the diagnosis and help patients to modify risks.

The Department of Health has recently produced a very useful Sexual Health Resource Directory containing a wealth of reference sources including details on text books, patient education pamphlets, sexual health training opportunities,

conferences and many free resources including Internet newsletters and web-sites. Local contacts are also included for Provincial HIV/AIDS and STD Co-ordinators and the AIDS Training, Information and Counselling Centres (ATICCs.).

Other sexual health resources recently reviewed and available for distribution from the Department include:

- New national guidelines for the syndromic management of STDs
- Training manuals
- Wall charts of the STD management algorithms
- STD educational flipcharts for clinic or community-based education
- Genital models
- Patient education leaflets on STDs, condom use and the links between STDs and HIV spread in the community

**For further information, contact Dr Graham Neilsen
Tel: (012) 312-0131 or
Fax: (012) 326-2891**

Contact Life Line to obtain the telephone number of the centre closest to you.

- Johannesburg (011) 728-1331
- Durban (031) 303-1344
- Port Elizabeth (041) 55-8565
- Cape Town (021) 461-1113
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