

**PROFILE OF
SICKNESS ABSENTEEISM
AT THE
CONSUL GLASS FACTORY
CLAYVILLE, MIDRAND
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DECLARATION

I, Dr Fathima Suleman, declare that:

- (i) The research reported in this dissertation, except where otherwise indicated, is my original research;
- (ii) This dissertation has not been submitted for any degree or examination at any other university;
- (iii) This dissertation does not contain another person's data, pictures, graphs or other information unless specifically acknowledged as being sourced from other persons;
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- (v) This dissertation does not contain text, graphics or tables copied from the internet.

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ABSTRACT

INTRODUCTION

Sick leave absenteeism is a recognized problem in all work sectors. The financial impact of sick leave has been well-documented. A profile of sick leave records can establish the extent of the sick leave problem in a workplace, the associated and predisposing factors for sick leave and the patterns of sick leave amongst workers. A baseline profile of the sick leave patterns in a workplace should be a preliminary step toward developing a programme aimed at the improvement of workers' health and attendance at work.

AIM OF THE STUDY

The aim of this study was to profile recorded sick leave for 2004 amongst permanent workers at the Consul Factory in Olifantsfontein, Midrand, Johannesburg in order to make recommendations to management.

METHODS

This was a cross-sectional study using a retrospective review of sick leave records of permanent workers at the Consul Glass factory for 2004. Information gathered included the demographic profile of workers who recorded sick leave, the frequency of sick leave, associated factors for sick leave, health care choices of workers with sick leave and the reasons for sick leave. Descriptive and analytic statistics have been presented.

RESULTS

- Workers over the age of fifty years had sick leave of longer duration compared to those younger than 50 years old ($p < 0.05$). The median hours taken off for sick leave was higher in the male subgroup compared to the female subgroup of workers in the study population ($p < 0.05$);

- Workers from the production areas had more sick leave episodes for the year than workers from the non-production areas ($p < 0.05$).
- Workers with bronchitis working in the production areas of the factory, had longer duration of sick leave compared to workers with bronchitis working in the non-production areas of the factory ($p < 0.05$);
- Workers on a variable shift schedule took more sick leave on days of the week that were unlinked to weekends and public holidays ($p < 0.05$). A longer duration of sick leave occurred with certified sick leave compared with self reported sick leave ($p < 0.05$);
- In the study population, the majority were not medical aid members. Medical aid members had a longer duration of sick leave per episode compared to non-medical aid members ($p < 0.05$);
- Respiratory tract infection was the most common reason for sick leave. Of the ten most common reasons for sick leave, there was a significant difference in the mean number of hours of sick leave taken per episode for dental treatment and backache ($p < 0.05$);
- There was a significant difference in the mean number of hours of sick leave recommended by the four different sources of sick notes ($p < 0.05$);
- There was a significant association for worker interviews/counselling by the Human Resources' Department official and the worker having had four or more episodes of sick leave for the year ($p < 0.05$).

CONCLUSION

The profile of sick leave at this company identified important associations with sick leave patterns. These significant findings provide management with baseline information, which can be used for the development of workplace interventions to address the taking of sick leave at the Consul Glass factory.

CHAPTER ONE

INTRODUCTION

1.1. BACKGROUND

The Consul Glass factory is situated in Olifantsfontein, Midrand, Johannesburg. The factory has been established in the area since 1980. The permanent worker population, at the time of the study, was derived mainly from the surrounding residential areas. The company had 210 permanent workers in 2004. The permanent worker population had a male predominance with 94.8% (n=199) male workers and 5.2 % (n=11) female workers.

1.1.1. Work Processes and Hazards

The main work activity focused on the production of glass bottles and containers for commercial use. Raw materials were received, stored and transported to the production area. From this area, the final product was transported to the inspections area for quality checks before being packaged and dispatched.

There were many work areas, which supported or were directly involved in production activities. These work areas included the maintenance department, machine services, engineering and technical departments.

The main production area was the Batch Plant. This plant was located on two floors; the ground and first floors. There were separate areas for off loading of raw materials and a control room. The production area had other smaller subsections, which included the mould shop, melting area, forming area, inspection and packaging area, stores and the warehouse.

The main hazards associated with the production of glass were:

1. **Physical:** thermal hazards that were present included heat and cold, noise, illumination and glare. Very high temperatures are required for the production of glass;
2. **Electrical hazards:** generators, electrical cables, wire installations and power points;
3. **Chemical hazards:** multiple chemicals were used in the production area. There existed the possibility of exposure to fumes, vapours, mists and irritant, flammable gasses in this area.

The main raw materials used in the production of glass were fine sand (with silica dust content), limestone and soda ash;

4. **Ergonomic hazards:** manual material handling, moving machinery and work involving elevated positions;
5. **Psychological hazards:** extended shift work, boredom and repetitive tasks, stressful environments with set output targets and the pressure to perform to meet these production targets.

The work areas not directly involved in production activities were the administration and management sections of the factory. The administration and management work areas included: the Human Resources' Department, finance department, secretarial and administrative departments, safety, health, environment and quality management.

The administrative and management areas involved mainly office work. The main hazards were ergonomic involving work at computer workstations, seated work for most of the shift and repetitive tasks involving the upper limbs; especially the wrist and hands. The other hazards that were present in these areas were illumination and glare and psychological hazards related to work-related stress.

1.1.2. The shift system operational at the factory

There were two shift systems operating at the factory. The day shift workers worked shifts on week days only. The other shift in operation at the factory involved a mixture of day and night shifts in the form of a shift rotation work schedule. This shift included work on weekends, public holidays, both day and night on a rotating schedule basis that included variable start and end times. In the production area, there were three shift work teams that worked sequentially to cover continuous production through the day and night throughout the year except during shut-down periods for repairs and maintenance.

The shift rotation schedule was as follows:

1. 6am till 2pm for 2 days
2. 2pm till 10pm for 2 days
3. 10pm till 6am for 3 days

4. 2 days off work

Workers on shift rotation schedule work belonged to one of three teams and had erratic start and finishing times dependent on their position in the cycle.

1.1.3. Sick leave recording and policies

The company had human resource policies pertaining to sick leave which were aligned to section 23 of the Basic Conditions of Employment Act, 1997 (No 75 of 1997)¹ and the Labour Relations Act 1995 (No 66 of 1995)².

As per legislated provisions, permanently employed workers at the factory, were allowed sick leave cycles of thirty days paid sick leave that could be taken over a 36 month period. Workers were allowed to self-report sick leave for two days. For sick leave of more than two days' duration a medical certificate was required. Sick leave was recorded as hours-off work. The recording of sick leave accommodated partial shifts and hours taken off work as sick leave.

The Human Resources' Department managed the administrative aspects of sick leave, the recording of sick leave allowances, the recording of duration and episodes of sick leave as well as the interviewing and counselling of workers with frequent sick leave. In addition the Human Resources' Department liaised with the clinic staff for fitness medicals for workers and worker disability management.

In the year preceding the study the recording of sick leave was prioritized by management as a means of detecting frequent episodes of sick leave. A record keeping system for sick leave was established. This was the joint responsibility of the Human Resources' Department and the occupational health clinic.

Separate files were dedicated to sick leave records for permanent workers. This filing arrangement was intended for the storage of sick leave notes and written records of self reported illness, which had been processed by the Human Resources' Department. The company's on-site occupational health clinic jointly with company management had the responsibility of the prevention and management of health problems of workers, improving the health of workers and addressing sick leave.

The occupational health clinic was an in-house facility with a permanent clinic sister employed by the company and a part-time contracted occupational medical practitioner. The occupational health clinic offered all permanent workers primary health care in addition to occupational health services.

The occupational health nurse was available every week-day and was on-call for emergencies after hours. The occupational medical practitioner attended the clinic twice a week.

The sick leave records had not been profiled previously. The Human Resources' Department and the clinic reported on the frequency of sick leave on a monthly and annual basis.

The following figure details the process that was followed for sick leave recording and the management of frequent sick leave cases. *(Figure 1)*

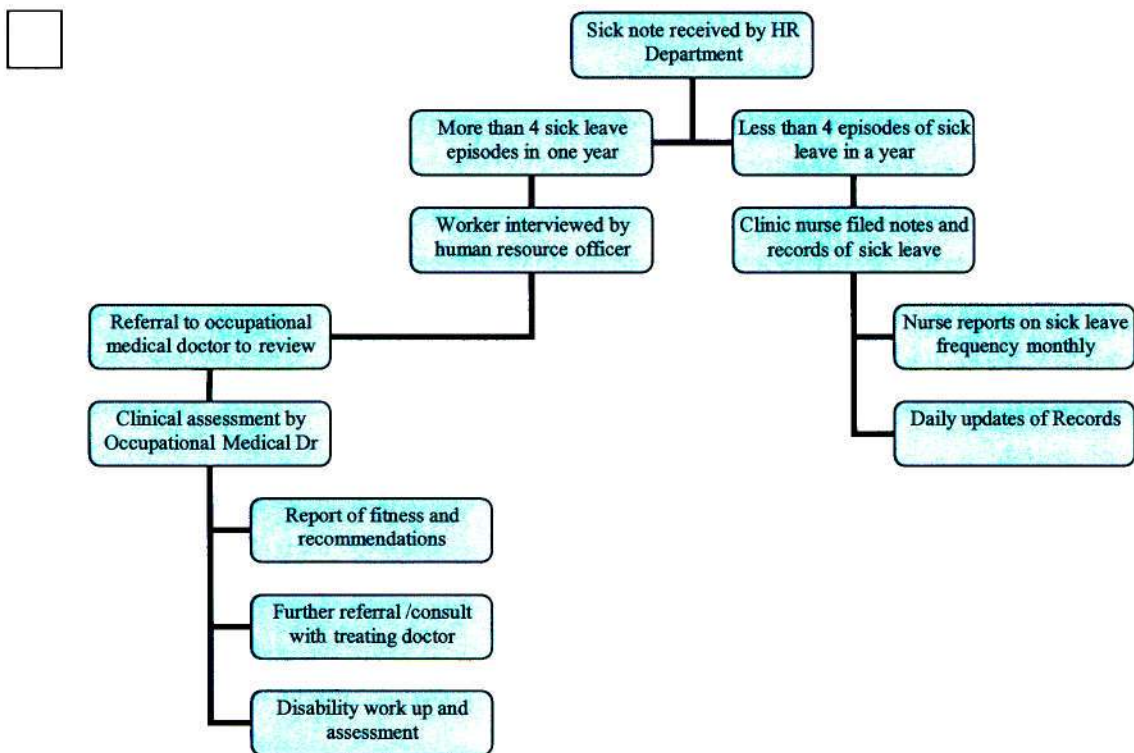


FIGURE 1: *Flow diagram depicting the process followed in the management of sick leave at the factory*

Some of the permanent workers who recorded sick leave were medical aid members. At the time of the study, the company did not stipulate in employment contracts that permanent workers should belong to a medical aid scheme.

At the time of the study, there was no formal HIV/AIDS (Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome) policy at the factory. The occupational health clinic offered health promotion, Voluntary Counseling and Testing(VCT) and supportive care for infected workers. VCT was conducted by the clinic nurse who had formal training in pre- and post counselling. Workers could voluntarily disclose their HIV status and those who tested positive during VCT were referred out for further tests and definitive management. Although antiretroviral treatment (ART) for HIV was not provided at the occupational health clinic, prophylactic antibiotics, immune boosters and nutritional supplements were dispensed to workers known to be infected with HIV.

1.2. THE MOTIVATION FOR THE STUDY

The factory management had implemented a sick leave recording system. Management perceived sick leave rates to be high amongst the workers in the factory. Management and trade unions recognized the necessity to review the existing sick leave records so that a comprehensive profile of the sick leave problem could be established.

Apart from sick leave rates, further information about the frequency of sick leave episodes and associated factors for sick leave could be derived. The profile of sick leave can be considered a preliminary step in the development of a programme to address the problem of sick leave at the factory. On a broader scale, information from this study could contribute to a broader population based study of sick leave in South African Industry.

The workplace specific profile of sick leave can inform the planning of appropriate interventions to limit sick leave, implemented for the benefit of a specific workforce. The potential source of information in the form of records of sick leave at the clinic was comprehensive and included both self reported and certified sick leave. The duplication of sick leave recording and reporting by the clinic and the Human Resources' Department meant that the sick leave records were reasonably accurate as the rates reported by both departments were compared in management

reports. The existence of available, accessible and reasonably complete source of information meant that the study would require minimal additional resources and time to be carried out.

1.3. THE AIM OF THE STUDY

This study was aimed at establishing an industry specific sick leave profile at the Consul Glass Factory in Olifantsfontein.

1.4. STUDY OBJECTIVES

The objectives of the study were as follows:

- 1.4.1 To provide a profile of workers with recorded sick leave with respect to demographics (sex, ethnicity and age), medical aid membership, source of the sick note, type of work and work-shift;
- 1.4.2 To describe the frequency of self reported and medically certified sick leave;
- 1.4.3 To describe sick leave patterns;
- 1.4.5 To describe the most frequent reasons for sick leave reflected on sick leave notes and records;
- 1.4.6 To describe the frequency of interviews and counselling sessions for frequent sick leave.

1.5. DEFINITION OF TERMS

- 1.5.1 *Sickness absenteeism/ sick leave*: refers to absence from work due to ill health or injury;
- 1.5.2 *Self reported sick leave*: refers to sick leave unaccompanied by a sick leave certificate/note;

- 1.5.3 ***Certified sick leave:*** refers to sick leave accompanied by a sick leave certificate/note issued by a medical practitioner registered with the Health Professions Council of South Africa;
- 1.5.4 ***Sick note/ medical certificate:*** refers to a note issued by a health practitioner registered by a Health Professions Council established by an Act of Parliament. The note confirms attendance for health care and the date recommended for return to work. The diagnosis may be reflected with the patients consent;
- 1.5.5 ***Traditional healer:*** refers to alternative health practitioners such as herbalists and faith healers;
- 1.5.6 ***State/ Public health care service:*** refers to health services provided by government funded hospitals and clinics;
- 1.5.7 ***Private Health care service:*** refers to health services in the private sector such as private clinics, general practices and private hospitals. For this study, the occupational health clinic financed and provided on the factory site by the employer was considered a private health care service;
- 1.5.8 ***Employee/ Worker:*** refers to a person who was permanently employed at the Consul factory, Olifantsfontein, Midrand Johannesburg during the time of the study;
- 1.5.9 ***Occupational medical practitioner:*** refers to a person entitled to practice as a medical practitioner in terms of section 17 of the Medical, Dental and Supplementary Health Professions Act, 1974 with an additional qualification in occupational health;
- 1.5.10 ***Public Holiday:*** means any day that is a public holiday in terms of the Public Holidays Act, 1994 (No 36 of 1994);
- 1.5.11 ***Trade Union:*** means an association of employees whose principal purpose is to regulate relations between employees and employers, including any employer's organizations;

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTION

Sick leave is a recognized problem in industry and it affects productivity, costs and the economy.³

Sick leave has been considered an expression of the complex relationship between health and work and as an indicator of a working population's health status². It is considered a valid predictor of the health of working populations and may be used as an indicator of the functioning of companies'.⁴

The following literature review, while defining the concept of sick leave will also focus on the determinants of sick leave, including the demographics of workers who take sick leave and the economic impact of sick leave on industry. The review will further examine existing legislative provisions for sick leave among workers and present an outline of interventions, which have been adopted in industry by management structures to address the problem of sick leave. There is a paucity of peer reviewed academic publications specifically addressing the problem of sick leave in South African industry. Information for this review was drawn from published scientific literature and business reports. A review of the scientific literature was initiated with searches within PubMed, the Social Citations Index and sociologic abstracts. The key word entries for the searches included "sick leave", "industry", "South Africa" and "HIV".

The scientific studies reviewed included cross-sectional surveys, interventional prospective cohort studies and systematic reviews.

2.2. DEFINITIONS OF SICK LEAVE:

There are multiple definitions of sick leave. The World Health Organization defines sick leave as being absence from work due to ill health.⁵ It has been defined as time away from work excluding holidays, strikes or lay-offs from work.⁶ It has also been defined as absence from work attributed by the employee to illness or injury and accepted as such by the employer.³ Sick leave occurs when work capacity is affected by ill health.⁴

Sick leave is however not simply an indicator of ill health, but should also be regarded as reflecting a conscious choice on the part of the person influenced by factors that encourage or discourage absence or presence at work. It is a form of coping behaviour.^{7,8}

Sickness absence is important not only as an indicator of the functioning of companies' and workers' health status but also as a measure of the use of health services and as a cause of lost productivity^{9,10}

Sick leave is a provision for workers to recuperate from illness. An illness is a symptom experience, which can include features such as pain or distress, restriction of normal activities or the reduced ability to participate in life activities in the manner the person wishes.¹¹

2.3 THE EXTENT OF THE PROBLEM OF SICK LEAVE

The extent of the problem of sick leave has been described in studies as rates of absence, percentage of total work time and workdays lost.¹² The extent of sick leave is described in studies as the frequency of episodes and the number of days of sick leave taken. In studies measuring sick leave, the frequency of sick leave is measured as the number of sick leave episodes during the year of the worker population at risk of sick leave during the study period. The sick leave rate is calculated as the number of days during the study period of the number of persons at risk of sick leave during the study period.¹² The extent of the problem is evident from the findings of a South African survey that reported that 60% of South African workers had taken sick leave in one year.¹³ From studies conducted abroad, "The Confederation of British Industry" noted that in 1996 sickness absence represented about 3, 7% of total working time.¹⁴ In Belgium the national work absence rate was 7 % in 1995.¹⁵ In the USA, the total days lost due to sickness absence were estimated to represent 3%-7% of the regularly scheduled work days signifying a loss of about 550 million work days each year for industry.¹⁶ A survey of the private sector in Singapore in 1995 found a sick leave rate of 14.4% with an average of 3.2 days of sick leave days per person per year.¹⁷

The extent of the problem of sick leave in South Africa is affected by the HIV/epidemic in Africa.^{18,19} Increased sick leave due to HIV/AIDS related morbidity has been described in studies on HIV in the workplace.^{18,19}

Sub-Saharan Africa has the highest prevalence of HIV/AIDS in the world. In the Southern African region, the HIV epidemic is significant with studies showing the HIV prevalence in the workforce ranging from 7.9% to 25%.^{18,19} In a recent survey of South African industry, the prevalence rate for HIV in the workforce, was found to be 11.4%.¹⁸

2.4. THE ECONOMIC IMPACT OF SICK LEAVE

The economic impact of sick leave affects the international and national economies of countries, the competitiveness of industry in terms of increased labour costs and costs of production, social benefit costs and the cost of disability insurances; and ultimately workers for whom long term sick leave and disability may mean loss of income.²⁰⁻² Employers who are faced with competitive pressures and tightening labour markets are therefore concerned about the economic impact of sick leave.³

The economic impact of sick leave includes the effects of lost productivity, labour turnover and long term disability burden.^{3,5} These effects have influenced European Union governments to prioritise sick leave policy development.⁵

The costs of employee absence have been described as being direct or indirect; with direct costs including sick pay, overtime, extra staff, management and administration costs, and loss of production.³ Indirect costs include the disruption of service provision, failure to meet service demands with resultant poor performance and complaints, cost of recruitment, selection, training and management of those who replace absent staff, low morale, loss of valuable skills and experience.³

Studies from various countries have measured and compared the economic effects of sick leave and provide a picture of the extent of the financial impact of sick leave.

In the United Kingdom 177 million days were lost in 1994 due to sickness absence and this has been calculated at 11 billion pounds which is similar to the annual expenditure for the National Health Service.³ The International Labour Organisation estimated the cost of work absence and loss of productivity at US-\$200 billion a year for the United States of America (USA) with comparable figures reported for European countries.²⁰⁻²²

Studies on the economic impact of sick leave on workers have been shown that workers also bear the consequences of the cost of sick leave.²³ Workers are affected mainly if financial penalties are associated with not meeting output targets and where there is team production in the workplace resulting in a higher work burden on other team members.²³

In the South African context the economic impact of sick leave must be reviewed in conjunction with the economic effects of the HIV/AIDS epidemic.^{19,24-6} HIV/AIDS infection affects all sizes of industry and has the potential to increase costs for both large and small employers.¹⁹

Similar to the economic effect of sick leave, studies on the economic effect of HIV on the workforce show economic effects due to increasing labour costs for business and threats to the competitiveness of industry.^{19,24-6} In a recent study on the cost of HIV in Southern African industry, it was found that all large firms surveyed in the study faced increased labour costs as a result of HIV.¹⁹ The increase in labour costs for industry in the Southern African region, ranged from minimal to up to 8 %. In South African industry specifically, HIV/ AIDS accounted for a 3% increase in labour costs.¹⁹

The costs of the HIV epidemic to industry has been attributed to direct and indirect costs.^{19,24-6} Direct costs such as benefits payments to sick staff, medical care and recruitment and training costs from replacing sick or dead employees and increasing costs for workplace HIV prevention and treatment services.^{19,24-6} Indirect costs include the effects of increased leave and absenteeism, reduced productivity as AIDS weakens worker's physical and mental capacities, a loss of institutional memory and experience as individuals are forced to leave their jobs and the erosion of staff morale.^{19,24-6}

2.5. SOCIO-DEMOGRAPHICS OF SICK LEAVE

Studies on sick leave have shown an association with socio-demographic factors such as age, sex, shift work and sick leave patterns among working populations.^{3,27-9}

Studies have shown, age tends to be negatively related to sick leave. The number of episodes of sick leave per person has been found to be highest among young workers and declines as the age increases. Younger workers appear to take more episodes of sick leave, peaking at the ages of 28 years and 37 years.^{27-9, 30-1}

The duration of sick leave taken by workers appears to differ with age. Studies have shown that older workers tended to have longer periods of sick leave whilst younger workers had more episodes of sick leave.³² Long term sick leave was found to be higher in workers immediately prior to pensionable age. This was considered a reflection of the health status of workers in this age group.³²

Older workers tended to conserve sick leave as a cushion for serious illness and incapacity.³²⁻⁴ Workers over pensionable age were found to have lower absence rates.³² This was attributed to the fact that the decision to continue working past pensionable age was determined by their good health status and their need to present themselves as “competent and good employees”.³² This resulted in the “healthy worker effect” where workers who were in good health continued working past retirement age compared to those who were ill and who retired from work.³² Therefore the worker population past pensionable age may reflect those older workers who do not require as much sick leave as would have been expected for older workers because they have a good health profile.²⁷⁻³²

In a study amongst construction workers in Ireland, the main reasons for early retirement on health grounds for older workers were cardiovascular disease and musculoskeletal disorders.²⁵ For younger construction workers injuries and infectious disease were the most frequent reasons for sick leave.³³ Older workers were found to have taken more sick leave for chronic ailments compared to younger workers who had taken sick leave mainly for acute illness.³³

Studies have shown that females and in particular pregnant females take more sick leave than males.³⁴⁻⁷ Specific to female workers, pregnancy has been shown to have an impact on the sex difference in sick leave.³⁴⁻⁷ Studies have shown that non-pregnant females took more sick leave than males.³⁴⁻⁷ Amplifying the sex difference for the taking of sick leave, pregnant females were found to take more sick leave than non-pregnant females.³⁴⁻⁷ Pregnancy was also shown to be associated with higher long-term sick leave.³⁴⁻⁷

Studies have shown that comparing between sexes, females with mental health problems and alcohol dependence had a higher frequency, incidence and duration of sick leave than their male counterparts.^{34,38-40} A study conducted in Sweden on women with alcohol dependence/abuse revealed a strong association between alcohol dependence/ abuse and sick leave which increased considerably in the presence of additional psychiatric disorders.³⁸ In particular females with

undiagnosed psychiatric disorders have been associated with increased medical visits and increased sick leave.⁴⁰

Women in active job positions which had high demands and a high degree of job control were found to have a higher risk of sick leave.⁴¹ Studies found that parents, especially females, were more likely to use sick leave benefits to care for ill children.³⁴

Studies have been conducted on the impact of sex group dominance in the workplace on sick leave rates.⁴⁰ It was found that higher sick leave rates occur in the female sex in strongly male dominated and strongly female dominated workplaces.⁴⁰

Female dominated workplaces developed more tolerant norms towards sick leave resulting in higher sick leave rates that affected both sex groups.⁴⁰

Studies have shown that in strongly male dominated workplaces, the minority female sex group displayed higher sick leave rates.⁴⁰ This was attributed to special problems faced by the minority sex group in the workplace such as increased pressure to attend and perform at work as well as a perceived lower group tolerance to absence from work.⁴¹⁻²

In terms of the effect of ethnic origins of worker on sick leave, this factor cannot be studied in isolation as there a number of co-existent socio-economic and cultural factors that could also affect sick leave.⁴⁰ A cohort study on two different ethnic groups of workers in two different countries, looked at long term sick leave and the socioeconomic effects of sick leave in the different ethnic groups.⁴¹ The study showed a significant difference in long term sick leave and socio-economic effects of sick leave in the matched cohorts.⁴¹

British workers had higher long term sick leave and less significant socio-economic effects whilst on long term sick leave, compared to the matched Japanese cohorts.⁴² However the behavioural risk factors for sick leave and self rated health indices contributing to sick leave hat were studied were consistently associated as reliable predictors of sick leave in both cohorts .⁴²

Relevant to South African industry, the sociodemographics of sick leave is reviewed with the sociodemographics of the HIV/AIDS epidemic which is a significant factor for sick leave.¹⁸ Studies on HIV prevalence in industry has shown that HIV prevalence in the workforce varies

with socio-demographic variables of age, sex, race group, education level and geographic location.^{18,24}

In South Africa, the demographics of the HIV epidemic amongst the workforce indicates prevalence rates amongst female workers at 12.8% and amongst male workers at 9.5%.^{18,43} With respect to age the prevalence peaked earlier in women in the 20-30 year age group and later in men- in the 30-39 year age group.^{18,43} HIV prevalence was found to be highest amongst black workers followed in descending order of frequency, by white workers, coloured workers and Indian workers.^{18,43}

HIV was also found to be more prevalent amongst unskilled and skilled labour compared to managers.¹⁸

2.6. THE DETERMINANTS / FACTORS INFLUENCING SICK LEAVE

Theories on organizational behaviour have implied that illness is unavoidable and something over which the individual has little or no control.²¹⁻² However many studies on sick leave have established that there are numerous factors that can influence the taking of sick leave and these will be discussed in this section. These associated factors, influence the use of sick leave benefits as well as the decision to return to work.³ Sick leave can be multi-causal and the causes may be simple, multiple, complex and inter-related.³

There are variations in the presentation of sick leave, which can be attributed to the variations between workplaces and the severity of illness amongst workers.

Workers may take sick leave for serious illness, minor illness or they may present to work whilst ill.⁴² The factors, which influence these presentations, will be discussed in greater detail below. Studies have shown that sickness absence is not solely determined by ill health but is also influenced by various other factors and that regaining health does not necessarily mean a return to work.^{42,44-5} Various factors have been cited in studies on sick leave as having a significant influence on sick leave. These are: regulations in the welfare system, the presence and limitations of social insurance provisions, social attitudes towards sick leave, the presence of epidemics, the economic situation of the country (unemployment rate, depression in the economy), social circumstances of the worker, ethnic characteristics which influence attitudes to work, physical

location geographical/regional which influences the accessibility to workplaces, psychosocial and organisational factors such as workplace culture, the accessibility and quality of health service provision, the environmental factors at work such as the type of work and individual behavioural risk factors for sick leave were consistently found to be reliable determinants of sickness absence.^{3, 17, 23,27,29,46-7}

For this discussion the numerous factors/determinants of sick leave have been grouped as cultural factors, organizational/work factors, personal/ worker factors, socioeconomic factors, and social factors that influence the taking of sick leave. These will be discussed in more detail hereunder.

2.6.1 Cultural factors

The cultural factors associated with sick leave cannot be discussed without considering social factors that impact on sick leave as taking sick leave by socio-political- ethnic It is known that the presence of ill health may or may not result in sick leave.^{4, 42} Studies on sick leave have shown that although the main reason for absenteeism from work is ill health the presence of ill health does not always equate to incapability for work.⁴ Some ill workers may still be able to meet the inherent requirements of their jobs although with increased work-effort.⁴² The decision to be put off work for ill health is therefore dependant on various co-existent factors.⁴⁴

The term “sickness presenteeism” refers to those workers who work when ill.⁴² Working while ill has been thought to increase the risk of further ill health and more sick leave for serious health problems due to incomplete recuperation from illness and the lingering symptoms.⁴²⁻⁴ Occupational groups with high “sickness presenteeism” have also been associated with high sickness absenteeism.^{42,44-7}

In this section a brief discussion on the theories in sociology on the “*sick role*” will precede the explanation of the concept of “*absence cultures*” found in the literature.

The “sick role” is a sociological concept.⁴⁸ It is defined as the role assumed by an ill person as expected by society, and in turn how society is expected to relate to the ill.⁴⁸ There is a difference between disease which is an objective diagnosis assigned by a doctor or health professional and “illness” which is the subjective experience of being unwell with an associated change in social role.⁴⁸

Theories on the “sick role” have changed over a period of time as views on illness and the management thereof has also undergone radical changes.⁴⁸ The classic theories referred to patients as being excused from social duties such as work, family obligations and self care tasks and had relinquished self determination by complete reliance on the doctor who provided confidential care. The doctor was accorded a high social status.⁴⁸

Modifications to the classic theory revised the” sick role” to include chronic conditions where the continuance of socio-economic functioning as an important aspect of the affected person’s role.⁴⁸ The sick person with chronic illness is now expected to develop in-depth knowledge of the disease process, self treat and self manage aspects of the illness and society is expected to accommodate disabled people. ⁴⁸

Researchers have identified and described the concept of “absentee cultures” amongst workers.⁷ This has been described, as a factor for explaining variations in workplace absenteeism.⁷

Culture is the product of shared beliefs about what is reasonable, normal and sufficient as a cause of behaviour in other words “what is legitimate”⁴⁸

The “absence culture” refers to a group norm.⁵ It is determined by the existence of local norms, a common understanding and shared meaning of a group of employees and supervisors on the shop floor of what is considered to be legal absenteeism.^{7, 48}

The development of absence cultures can be considered as a collective negotiated coping strategy to handle existing work conditions.^{7,48}

The “absence culture” is determined by the level of trust and cultural salience as well as the “psychological” contract relating to absence within the organization.^{7,48} It has been shown that in workplaces that have an intolerant group absence norm, workers are less apt to report sick.^{7,48}

The development of group norms has been described in female dominated workplaces where the development of norms that were more tolerant to sickness absence resulted in higher sick leave rates. The impact of social-cultural conditions and attitudes towards pregnancy also influenced whether pregnant women took sick leave for minor ailments in pregnancy.^{35,40,49,50} The social conditions and attitudes of pregnant workers to the pregnancy state have been also been cited as reasons for the higher rates of sick leave in this group .^{35,49,50}

The provision of special leave for pregnant women for common symptoms in pregnancy such as backache, so as to avoid the use of sick leave benefits did not show a significant decrease in sick leave rates.³⁵ This could be attributed to the ‘sick role’ adopted by pregnant women.⁴⁹ Despite the provision which allowed leave without the need to be labelled “ill”, however instead of the expected decline in sick leave, there was a rise in sick leave rates amongst pregnant women for the common symptom of backache.³⁵ The reasons for this was that social and cultural influences, attitudes and perceptions about pregnancy affected how women perceived their ‘sick role’ in pregnancy which resulted in pregnant women taking sick leave instead of using the special leave provisions.³⁶

2.6.2 Work and organizational factors

There are many various work characteristics that can influence sick leave.^{3,4} These characteristics vary in different work settings. There are industry-specific characteristics which can influence on sick leave.^{3,32,33} Companies’ differ in management style, worker population demographics and hazards.¹ Worker populations and industry type vary in terms of establishment size and the type of work such as administrative work, light physical and heavy physically demanding work.¹ The factors that are associated with sick leave have been shown to vary in different workplaces and amongst worker populations.^{3,4}

There is an interaction between work factors, managers and workers affecting attitudes towards work and the taking of sick leave.^{3,27,34} This is further influenced by unique demographic factors in a workforce such worker age and sex, and the presence or absence of socio-cultural factors cited above. Therefore work factors cannot be viewed in isolation as there may be a number of co-existent influences.^{3,27,34}

The work factors will be discussed as those work factors relating to management and those factors pertaining to relationships between management and the workers. This will be followed by those factors that are inherent in the type of work such as hazards that could affect workers health.

Studies on sick leave have cited the following work factors as being significant influences on sick leave. These are management style, the quality of leadership style intolerant group norms where management may be perceived as being intolerant of sick leave, industrial relations, work

group dynamics , labour turnover, lack of participation in decision making, co-worker relationships, opportunities for advancement and the level of workplace morale, worker support and worker role.^{3,27,32,34} Other factors in management include sick leave entitlements, sick pay benefits, personnel policies, job security, management procedures, workplace organization, incentive and reward systems including overtime remuneration and length of service awards as well as the size of the enterprise.^{3,27,32,34}

Work factors relevant to the type of work includes the type, nature and size of the industry, working conditions, working long hours, work overload and pressure and the effects of these on personal lives, the presence or lack of control over work, environmental hazards, occupational health service provision, shift work and the presence or absence of flexible work patterns^{3,27,32,34}

Studies have shown that the presence of organisational changes such as retrenchments and down-sizing affects sick leave by creating insecurity of employment resulting in workers taking less sick leave.⁵¹⁻³

Further discussion will focus on a few of the work factors influencing sick leave in more depth.

Studies have shown that the presence of lower job control has been associated with a higher risk of sick leave than higher job control.⁵⁴⁻⁵ However in female workers a higher job control has also been associated with higher sick leave.⁵⁵ The risk of sick leave is higher when workers with higher levels of job control face a decline in job control e.g. demotion.⁵⁴⁻⁷

Worker autonomy and the right to make decisions about sick leave is a factor that that could influence sick leave behaviour.⁵⁴⁻⁷ Workers who are able to take sick leave for minor illness without the need for a sick leave note also means that workers can self treat minor illness instead of attending a registered medical practitioner's rooms for a sick leave note.^{28,58} There is however concern that workers may use the option of self administered sick leave for non illness purposes.

A Norwegian one-year work-life intervention field study to improve occupational health and reduce absenteeism amongst municipal health care sector workers, showed that there was no evidence of misuse of the self administered sick leave and that positive subjective health effects were found among those who used the option of self administered sick leave with no effects on the overall absenteeism rates.⁵⁸ Self administered sick leave resulted in worker autonomy which resulted in positive subjective health effects .⁵⁸

The presence of low work satisfaction is associated with higher long term and short term sick leave while an increased authority over decisions at work has been associated with improved quality of work and reduced sick leave and psychosomatic complaints.^{23,58} In a study investigating the role of psychological and social constraints on absenteeism it was found that workers who felt *advantaged* displayed reduced sickness absence.⁵⁷

Long term exposure to shift work or extended hours of work has been attributed as having deleterious effects on the health on workers.⁵⁹ Shift work has been found to affect workers by predisposing them to gastrointestinal disorders, cardiovascular disease, anxiety and depression.⁵⁰ The features of the shift systems that operate in industry impacts on the wellbeing, performance and sleep-patterns of workers with effects on their health and therefore sick leave requirements.⁵⁹

The type of occupation such as professional, clerical or production work influenced sick leave rates.^{33,45,60,61} Higher rates of sick leave were found amongst hospital workers, mining and automotive industry workers where physical tasks were required compared to workers at university with more sedentary type of work.⁶⁰ It has been shown in some studies that members of occupational groups whose everyday tasks involve high responsibility such as providing welfare services, patient care, teaching or instruction have a substantially increased risk of being at work when sick because of the pressure to attend work resulting in lower sick leave rates in these worker groups.^{33,45,60}

Work involving heavy physical loads with bending and twisting movements during the course of tasks and exposure to vibration has been associated with higher long and short term sick leave^{33,45,60}. Heavy lifting, physically arduous and monotonous movements were associated with increased risk of illness amongst women and men.⁶⁰⁻² The physical arrangement of the workstation has been cited as a factor that can result in sick leave for musculoskeletal disorders.⁶⁰⁻²

With reference to occupational disease and it's effects on sick leave; the past and present exposure to certain workplace hazards and other co-existing factors; influences the morbidity of workers.⁴ An example of this is the effects of chronic low level silica dust exposure which predisposes workers to the development of silicosis.⁶³ This condition may present or progress years after cessation of silica dust exposure meaning that workers in a non exposed environment can still display the health effects of past exposure to silica.⁶³ Silica dust exposure in the absence

of silicosis and with definite silicosis are both, risk factors for tuberculosis.⁶³ It was found that because infection with HIV is also a risk factor for TB, the risk of TB is greatly increased among workers with silicosis and HIV in a multiplicative interaction.⁶³ Silica dust exposure, smoking and TB are in turn risk factors for chronic airflow limitation.⁶³

Work pressure and the non-replacement of absent workers increases the workload on peers and this may influence sick workers not to take sick leave when it is required.^{19,23}

Work factors such as the type of job contract, sick leave entitlements and benefits and the presence or absence of job security will be discussed further. Studies have shown that temporary workers have less sickness absence than permanent workers.⁶⁴

This is explained by the fact that the presence or absence of job security influences sick leave behaviour.^{23,64} The conditions of employment such as in temporary positions and the presence of insecurity of employment (such as contract work) have been associated with lower sick leave.^{23,46,64}

Studies have also shown that the employment status of contract workers who are ill is affected by sickness absence.^{23,46,64} High rates of sickness absenteeism increased the risk of job termination and unemployment in temporary employment affecting mainly women.^{46,64}

The term "sickness presenteeism" refers to those workers who work when ill.⁴⁴ Working while ill has been thought to increase the risk of further ill health and more sick leave for serious health problems due to incomplete recuperation from illness and the lingering symptoms.^{4,47}

Occupational groups, therefore, with high "sickness presenteeism" has also been associated with high sickness absenteeism.^{4,47}

In workplaces where attendance requirements are such that absence affects the worker and workmates or a third party resulted in ill workers presenting to work, resulting in sickness "presenteeism".⁴⁸ For temporary workers, studies have shown that sickness absence was one of the factors associated with potential non-renewal of a temporary job contract and consequently could be an additional cause of sickness "presenteeism".^{4,46-7}

In contrast workers who have permanent jobs are protected by job security and access to disability pensions and they therefore have higher sick leave rates than temporary workers as they can use the option of sick leave without the possibility of job loss.^{4,46-7}

The provision of an occupational health service is regarded as a factor that can affect sickness absence at the organizational level.⁶⁴ Workers who have access to medical care at work have less need to take time off work for minor illness.⁶⁴ Primary health care as part of the occupational health service means that workers can be offered these facilities whilst at work obviating the need to take time off work.⁶⁵

2.6.3. Worker or personal factors

There is a link between personal/worker factors and socioeconomic factors affecting sick leave. Individual factors include demographic factors such as the age and sex, personality characteristics, presence of life crises, job satisfaction, physical factors such as the presence of medical conditions and illness, accidents, family responsibilities, alcohol/ drug abuse, social activities, personal work ethic, job expectations, level of education, personal values and expectations and hobbies.³

Physical factors such as obesity has been found to be a factor for higher sick leave amongst asthmatic workers who had respiratory illness.^{66,67}

Personal work ethic and the motivation to work are factors that have been shown to be associated with sick leave for minor illness.⁶⁸⁻⁹ Motivational factors particularly, have been associated with taking sick leave for minor illnesses such as the common cold.⁶⁸⁻⁹

Low levels of personal commitment to work and low job satisfaction are factors that increase the chances of taking sick leave.⁶⁸⁻⁹

A cohort study conducted over a period of three years on a working population in the Netherlands found that workers who practiced sport took sick leave less often and had shorter periods of sick leave than their non sport practicing counterparts especially if their work was of a sedentary nature.⁷⁰

The personality characteristics and personal values of the worker has been shown to affect sick leave.⁷¹ Workers on long extended sick leave for chronic illness reasons such as chronic backache were shown to have inferior functioning on social, somatic and control factors.⁷¹ Therefore they responded well to the use of cognitive behavioural interventions and preventative physical therapy.⁷¹⁻² These modalities can therefore be considered in the prevention of long term disability in these workers.⁷¹⁻²

The use of alcohol has been shown to affect sick leave.⁷² Workers with a history of increased alcohol consumption have been shown to have higher sick leave rate.⁷²

In South Africa, there is a high prevalence of alcohol use with a high per capita consumption of alcohol. Surveys of South African households indicate that 50% of males and 20% of females drink alcohol in South Africa.⁷³

The adult per capita consumption in South Africa in 2000 was estimated to be 10.2 litres of pure alcohol per year, or 12.4 litres of pure alcohol per year, or 12.4 litres when adjusted for unrecorded consumption of home brewed alcohol.⁷⁵⁻⁶ The amount consumed per drinker is approximately 20 litres of absolute alcohol per year, which is one of the highest consumption rates for alcohol worldwide.⁷³⁻⁴

2.6.4. Socioeconomic factors

The influence of socioeconomic factors on sick leave has been explored from the point of factors in society that could affect sick leave as well as the effect of sick leave entitlements and social security provisions. In modern society, sick leave is regarded as a fundamental human right.³

In the UK and several other developed countries, a paradox exists where despite there being higher standards of living, health provision and improved working environments; there have been associated rising trends in sick leave.³

Social pressures for attendance at work are influenced by economic conditions prevalent at the time, the unemployment rate, the economic climate prevalent and the presence or absence of social security benefits.^{3,8}

Sick leave benefits and the presence or absence of paid sick leave can influence the decision to take sick leave when ill.⁴

The social protection system present in a country influences the progress of ill health to sickness absence in terms of paid sick leave provisions.⁸ Often public policies from governments are aimed at controlling the budget of the social protection systems due to financial constraints, which results in a reduction of the sick leave benefits allocated for workers.^{8,21}

These policies often do not take include sick leave entitlements for contract workers who do not have access to paid sick leave and do not have the benefit of job security.^{4,46,47} Contract workers would therefore, opt to work whilst ill even when they require leave from work for recovery from illness.^{8,21,46,47}

The presence of poor social support structures such as poor transport infrastructure with long distances from residential areas and work , poor health care accessibility has been are cited as barriers to work attendance.³ Poor social support for the care and rehabilitation for ill workers has also been associated with higher long term sick leave.^{13,23,75-6}

3. REASONS FOR SICK LEAVE

Studies have shown that although there are a variety of illness both acute and chronic that workers can have there are a few common reasons for sick leave and also some conditions that are associated with higher sick leave rates. The causes of sick leave vary between different groups of employees in the same organisation and can fluctuate.³

In the following discussion the most common illnesses that are furnished as reasons for sick leave will be discussed first and then those medical conditions that are associated with higher sick leave.

In a study of reasons for sickness absence it was found that most sick leave episodes were short term and attributed to minor illness.^{17,27,29}

Acute infections predominate and accounts for the higher rate of sick leave of short duration.^{17,27,29} Upper respiratory tract infection is the main reason for sick leave followed by stays in hospital, gastrointestinal problems, muscle and joint pains and headaches.^{4,17,27,29}

52% of South African employees surveyed in 60 companies', were booked off sick with respiratory illness in the winter of 2006.¹³ The respiratory illness included influenza which accounted for 16% of the total days absent for the South African workforce in 2006.¹³ This correlates with studies that have shown that influenza may account for 10-12% of all sickness absence from work.⁷⁷

Looking at those conditions that have been associated with higher sick leave rates it was found that workers with a history of *chronic lower backache, migraine, mental health problems, burnout and job stress, fatigue and chronic illness* had higher sick leave rates.^{29,39,79-81}

In a cohort study conducted in France it was shown sickness absenteeism was statistically higher in migraine prone individuals than in non-headache prone subjects.^{39,81}

Burn-out is related to increased risk of future illness, absenteeism and poor health.⁸² Burn-out is defined as a gradually developing syndrome caused by prolonged stress at work.⁸² It is a three dimensional syndrome consisting of components of exhaustion, cynicism and lack of professional efficacy.⁸² The prevention of burn-out amongst workers has been encouraged as this can reduce future absenteeism with major economic benefits and impact on work.⁸²

Long term sick leave has been associated with chronic fatigue, chronic disease and chronic backache.^{29,39,79-81}

In a study conducted in Sweden it was found that the presence of mental health problems resulted in higher sick leave rates due to various other medical problems.³⁹

Studies on the impact of the *HIV epidemic* has shown negative effects on productivity and sick leave rates with the resultant increased costs of labour.^{18,19,24-6,83-4} The reasons for this have been found to be protracted ill health and death among the workforce.^{18,19,24-6,83-4}

Studies on the effects of the HIV/AIDS epidemic in industry has shown that the prevalence of HIV amongst workers is a significant factor for taking more sick leave.^{18,19} HIV infection is characterised by slowly progressive immune deficiency ; prolonged period of clinical latency and a variable course which on average lasts eight years.²⁶ If untreated, the majority of patients develop serious morbid events and AIDS defining illnesses.²⁶ With the progression of the disease more morbid events are expected and therefore more sick leave amongst workers.¹⁹ The effects of

frequent morbidity associated with HIV infection and prolonged recovery times- results in more frequent and longer sick leave episodes.¹⁸⁻⁹

Studies have shown that workers who ultimately terminated employment because of AIDS took between 11 and 68 more paid sick leave days in their final year of service.^{19,84} Most companies experienced increased use of sick leave in the penultimate year of service amongst workers with AIDS.^{19,26} Workers with HIV/AIDS infection were found to be less productive on the days they attended work.^{19,26} Workers who had died or taken disability retirement because of AIDS were found to be 22-63% less productive in their last year of service than before they became ill.^{19,26} The result of this was that where team work was essential compensatory changes in the work schedules and work loads of colleagues were made to meet targets and in some cases supervisors compensated by working overtime.^{18,19,26}

Musculoskeletal disorders with mainly backache have been associated strongly with long term sick leave.^{61,85} Studies have shown that few workers who were off on sick leave for lower back pain for longer than six months returned to their previous jobs.^{61,85}

Workers with chronic diseases such as hypertension, ischaemic heart disease, ulcers and neurotic disorders have been shown to have higher sick leave rates when work entailed low job control and higher physical demands.⁸⁵

4. SICK LEAVE PATTERNS

In most studies on sick leave, short duration sick leave episodes and sick leave for minor illness reasons predominate.^{3, 17,27,32,33} There are few studies on sick leave patterns and these have shown that sick leave patterns are complex and associated with various factors.⁸⁶⁻⁷

The presentation of sick leave is variable. There is a wide spectrum for the presentation and severity of disease and recovery times for individuals vary due to various factors.^{3,86} The common patterns of sick leave described in studies refer to the days of the week taken as sick leave, “extended weekend” sick leave, sick leave duration and long term sick leave.⁸⁶⁻⁷

The influence of the days of the week taken as sick leave has been attributed to progressive worker fatigue as the work-week continued.⁸⁷ This would account for a sick leave pattern showing rising rates of sick leave from Monday to Friday in workers who work on weekdays.

Poor worker morale was cited as the reason for declining sick leave rates over a work week i.e. more frequent sick leave taken by workers on the initial days of the workweek and a progressive decline in sick leave taken over the latter days of the week.⁸⁷

However this explanation can only apply to acute short duration illness in workers who work a Monday to Friday work week.⁸⁶⁻⁷ It does not take into consideration shift workers who have irregular times of work and may have days off work during the week. It does not account for the effects of long term illness, admissions to hospital and recovery periods required post surgery that require weeks of sick leave instead of a few days off.⁸⁶⁻⁷

High percentages of absenteeism on Mondays and Fridays can be a useful alert to administrators to identify underperformance amongst workers.⁸⁸ Sick leave on days associated with days off work could create “extended weekend” breaks from work. In a study in Norway, weekend-linked sick leave was found to contribute only marginally to the total days lost due to sick leave.⁸⁶

Extended weekends off due to sick leave have been associated with the male sex, younger age and lower income.⁴⁰ The reasons cited for this trend has been use of alcohol over weekends, psychosocial problems and poor motivation to work.^{39,40,72}

5. ADDRESSING THE PROBLEM OF SICK LEAVE.

Addressing the problem of sick leave is important in industry where sickness absence levels may be financially significant.²¹⁻² Those who bear the economic burden of these costs may want to intervene to reduce them.²¹⁻²

Addressing the problem of sick leave is important as the beneficiaries of any reduction in sick leave are workers, employers, society, individual countries and the global economy.²⁰⁻²

In the following section the interventions for addressing the problem of sick leave will be discussed. The discussion will commence with the different levels of intervention to address the problem of sick leave on a global scale. Thereafter interventions that can occur at the level of individual workplaces will be discussed in more detail. This will include sick leave record keeping and auditing and further discussion on the interventions that were previously studied.

5.1. Interventions to address sick leave

The interventions to address the problem of sick leave occur at various levels. The first level is at the level of legislated provisions by government which provide for unemployment and social security benefits and state health and welfare resources.^{14,20-1} The other levels of interventions include workplace programmes (preventative, therapeutic and rehabilitative) to address sick leave and disability in the workplace.⁷⁵⁻⁹ Other interventions focus on the societal level and includes access to quality preventative, therapeutic and rehabilitative facilities designed to improve workers' overall health.⁷⁵⁻⁹

To address sick leave on a global level, the International Labour Organisation (ILO) has guidelines on sick leave benefits, disability management and rehabilitation.²⁰ On a national level, countries have varying policies on sick leave and long term disability management which are often driven with economic various degrees of economic constraints.²⁰⁻² Therefore, the type of sick leave benefits for workers depends on a country's legislated provision for this.

The presence or absence of a social protection system for ill workers and sick leave benefits, has been discussed earlier as a significant factor for sick leave.⁴ The provision of paid sick leave benefits influences whether workers take sick leave when ill.⁴ This has two effects: workers with paid sick leave benefits may take sick leave for minor illness reasons, whilst those workers without paid sick leave benefits may shorten their sick leave despite the need for further sick leave.^{8,68-9} Therefore limiting social benefits for workers may not be the suitable option for countries that need to limit the sick leave problem. Other options, such as those adopted by European Union governments, include the introduction of special programmes aimed at encouraging long-term absentees back to work should be considered.^{15,21,89} The rehabilitation of workers with chronic illness such as chronic backache with long sick leave duration depends on access to rehabilitation facilities and phased return to work programmes.^{21,89}

Addressing the problem of sick leave in industry has been shown to be most effective when approached in a proactive manner with preventative strategies aimed at identifying the worker at risk of sick leave and establishing the framework to address associated factors with sick leave.²²

Literature on workplace interventions for sick leave focused on various aspects of sick leave management at work. The first focus has been on sick leave monitoring/audit programmes in the

workplace. The second focus has been on the measures adopted by employers' to control sick leave and the effects of these measures. The third focus has been on measures that encourage worker attendance. All of the above aspects will be covered in this section.

5.1.1. Workplace Interventions to address the problem of sick leave

It is expected that industry would intervene to address the problem of sick leave; in a study conducted in Singapore it was found 60% private sector companies' and manufacturing industries implemented some form of intervention aimed at controlling sick leave.¹⁷

Sick leave auditing or monitoring programmes in the workplace is a useful tool to gather information about sick leave at a specific workplace.⁹⁰⁻¹

It is important to analyse comprehensively the organizations sickness absence problem to develop policies and procedures that are unique as well as sensitive to that particular organisation.³

A sick leave monitoring programme's main focus should be the acquisition of useful information to establish the extent of the problem and the identification of where the absence problems exist in an organization.⁹⁰ The information gathered from sick leave records can inform the design and evaluation of interventions to address the problem of sick leave.^{3,90-1}

Assessment of the size and trends of sickness absence provides evidence to persuade others that sickness absence is a problem and the basis for devising effective absence management interventions.^{3,91}

A comprehensive description of an organization's absence problem allows for benchmarking using external and internal comparisons and can aid in calculations of costs.^{3,21-2,90-1}

Comprehensive information on the sick leave history of workers has been found to be a useful tool. Information that has been cited as important in the literature is a history of previous sick leave episodes.^{3,75} Young workers with a low sick leave record were shown to have a greater chance of returning to work after a long term illness episode than those that had a history of high sick leave requirements.⁷⁵ They also required less rehabilitation for the return to work than workers with a high sick leave record.⁷⁵

Recording the pattern of sick leave such as the days of the week taken off as sick leave can provide information on "extended weekend" sick leave absences.^{40,86-7} This has been shown to be useful in the management of sick leave as the presence of this pattern may mean that there may be motivational problems in the workforce or the presence of psychosocial problem that will need further investigation.^{40,86-7}

Changes in the sick leave requirements of workers can be monitored for the early identification of pathology which can be followed by immediate medical and/or occupational health intervention.⁹⁰⁻¹ The recognition of anomalies in attendance and "abnormal" sick leave rates in specific areas of work can aid the recognition of work factors that may affect the health of workers.⁹¹ The aim is to allow workers to access the correct management earlier, so that they remain healthy and productive.⁹⁰⁻¹

Therefore as part of the sick leave monitoring, there should be provisions for workers to access both preventative and curative healthcare.⁹¹

Various studies have described interventions that have been implemented in industry to address sick leave. The effectiveness of sick leave control programmes are questionable and it has been found that manager's ratings of effectiveness of absence control programmes did not correlate with actual effectiveness.^{3,55-6}

There is a possibility that workers may perceive both the monitoring of sick leave and the interventions as preliminaries to punitive action against them, therefore the programme should be based on the upfront buy-in and consent of employees, the employer and trade unions.⁹¹ Although the management of attendance at work is often a line management responsibility, a positive approach to tackling absence requires close cooperation with human resources management, line management and workers' representatives and the health service.^{3,65}

The interventions that are used, require careful selection and studies have shown that sick leave policies that are ill-planned may result in other human resource problems.^{27,89-90} This included the indiscriminate use of disincentives which penalized both legitimate and illegitimate absences.^{3,90-1}

It was also found that pressure applied by the employer in terms of monitoring sick leave resulted in change in the patterns of sick leave and the reasons furnished for minor illness towards those with greater legitimacy.⁶⁹

Selection of an absence control intervention must reflect the uniqueness of the particular work environment and be based on a systematic understanding of the absence problem and employee characteristics.^{3,90-1}

The most common interventions that are implemented exert some form of control over the employee's absence which include counselling, return-to-work interviews, the use of the organization's disciplinary policy for disciplinary procedures and the provision of incentives such as attendance bonuses.^{3,17}

5.1.2. The effects of workplace interventions and the prevention of the taking of sick leave

Some workplace interventions to address the problem of sick leave will be reviewed in more detail below.

Studies have shown that successful interventions use training and organizational approaches to increase worker participation in decision making and problem solving.⁷¹ The provision of increased worker support, better communication and feedback between management and workers are factors that can enhance the psychological health of workers and decrease levels of sickness absence.^{56-7,71} It has been found that work environments that are pleasant for workers with incentives to be productive, and where they feel motivated can influence sick leave by reducing work stress.^{3,53,79}

Studies on the introduction of opportunities in the workplace for workers to adjust their work effort by either choosing other work tasks or working at slower pace, did not affect sick leave rates for both male and female workers.⁴⁸ Ergonomic interventions in the workplace have been shown to be effective in facilitating the return-to work of workers who were on long term sick leave of 3 to 4 months duration for lower back pain.⁸⁹

As discussed previously, in the section addressing cultural influences on sick leave, the provision of special leave for pregnant women for common symptoms in pregnancy, to avoid the use of sick leave benefits did not show a significant decrease in sick leave rates.³⁵

The provision of emotional support for workers who had taken sick leave ironically prolonged sickness absence.⁷⁹ This could be due to the lack of pressure to attend work and prolonging of the “sick role”.^{49,79}

The effects of financial incentives have been described in studies on sick leave.^{32,57,93} Policies to increase attendance with rewards for good attendance such as attendance bonuses has been shown to reduce sick leave taken by workers, however this intervention has been described as being inconsistent in effectiveness.³ The presence of financial rewards results in the pressure to attend work with increased risk of sickness presenteeism amongst workers.^{3,44-6}

The shortening of the work-hours per week for nurses, from 40 to 38 hours per week did not decrease sick leave rates significantly although it reduced absenteeism for other reasons.⁹⁴ The reason for this could be that nurses who work shifts were allowed sufficient time off work for the completion of tasks that would have impacted on their attendance at work.⁹³ However the unchanged sick leave rate meant that sick leave in this group may have been associated with other factors than extended shifts.⁹³ Other studies however have shown positive effects on sick leave when flexible scheduling and control over the beginning and end of the workday was introduced as it improved job control and worker autonomy.^{3,28,32,57,93}

Other successful interventions that have shown to reduce sick leave rates is the improvement of the psychological health of workers by the use of training and organizational approaches to increase participation in decision making and problem solving and communication.^{28,57}

Studies have shown that there are predictive factors for future sick leave absences.^{82, 83} The identification of the predictors of sick leave is useful to develop interventions to reduce sick leave.⁹⁵⁻⁶

Employees at risk of sick leave can be identified and interventions directed at the prevention of sickness absence can be implemented.⁹⁵⁻⁶ Screening to determine which employees are eligible for early intervention can be developed to identify and deal with specific psychosocial health complaints which may be preventable.⁹⁵⁻⁶ The prevention of progression of psychosocial problems will mean less serious illness later on and therefore will influence absentee rates.⁹⁵⁻⁶

Three levels of intervention has been suggested which include prevention of sick leave for workers not immediately at risk, interventions for workers with frequent sick leave on the second

level and interventions for workers that are on long term sick leave to prevent further deterioration.⁹⁶

The provision of wellness and occupational health programmes in the workplace is an intervention that can be used to improve worker attendance at work.⁵⁵ Interventions such as weight reduction schemes and weight maintenance programmes have been proposed as interventions that could reduce sick leave.⁶⁶⁻⁷

Interventions to address the problem of sick leave in South African industry are aided by interventions and programmes to address the HIV/AIDS problem in the workforce.⁸⁴ The implementation of comprehensive HIV/AIDS programmes were pioneered in large industry and the mining sector.^{24,84} These were proactive responses to the HIV/AIDS epidemic designed to meet legislative requirements and fulfil the principles of corporate social responsibility.^{24,84} The rollout of ART in 2003 did not meet the treatment target rates expected and therefore industry was approached as a major role player for the provision of definitive ART for workers.^{24,84}

The types of interventions described in studies include prevalence studies to assess the impact of HIV on the workforce and to enable human resource and cost planning.^{18,19,24} To address the problem of HIV directly, companies in particular the larger industries and mining sectors have implemented prevention and treatment programmes including HIV awareness and education activities, condom promotion and VCT for HIV, peer education and ART provision.^{18,24,26,84} The clinical efficacy of these programmes has been studied however the effects of these interventions on employee productivity and labour costs have not been clear.^{19,84}

The benefits that have been cited for the provision of ART and HIV care in the workplace, is reduced absenteeism due to convenience of receiving treatment and monitoring tests at work.^{26,84} The other benefits cited include the reduction of morbidity of workers, retaining skilled workers who are productive for longer thereby saving on retraining costs, improving worker morale and relying less on employee benefits.^{19,24,84}

Although there are significant costs attached to a comprehensive HIV management programme, studies have shown that the costs of the programme reduced over time with beneficial effects on sick leave rates and health care utilisation.^{24,84} It was found that TB co-infection rates declined in workers on a comprehensive HIV management programme.⁸⁴

6. THE ROLE OF THE OCCUPATIONAL HEALTH SERVICE WITH RESPECT TO SICK LEAVE MANAGEMENT

The main aim of an occupational health service and employee wellness programme is to keep workers healthy and at work.^{65,91} The importance of understanding sick leave patterns and factors associated with sick leave is therefore crucial for all individuals involved in management of companies', occupational health and public health. Studies have shown that hazardous work can produce negative effects on health and ill health can produce low productivity.^{65,91}

The Occupational Health Clinic is a resource within companies', that could be further facilitated to deliver interventions to reduce sickness absence with the aim to achieve a healthy workplace and workforce.³ These interventions include wellness programmes, medical screenings, health risk assessments and recommendations for limiting health risks in the workplace.

The occupational health service is often involved with the monitoring of sick leave and the provision of medical advice where necessary. The service should not be used to "police" sick leave.^{65,91} The physical assessment of workers should be aimed at determining the extent of ill health, the prognosis with regard to return to work, work adjustments and medical steps to expedite the return to work.⁹¹

The provision of occupational health services to reduce sick leave has been implemented by the Dutch government in 1994 when legislation was passed that required employers to engage certified occupational health services in order to help them manage sickness absence better.⁶⁵

However the actual benefit of having an occupational health service in order to reduce sick leave is not clear.⁶⁵ In the Netherlands research carried out in 1992 to determine if there is a beneficial association between occupational health care provision and the reduction of sickness absenteeism indicated that the relationship between occupational health care and sick leave was complex and that there was no evidence to support a beneficial effect of an occupational health service on sick leave rates.⁶⁵

In South Africa, although there are occupational health services in many large industries, the workers in small and medium enterprises do not have similar provisions. Therefore, the provision of occupational health services in all industries, to reduce sick leave by improving worker's health, is ideal but not at present feasible in this country.

7. LEGAL AND ETHICAL ISSUES PERTAINING TO SICK LEAVE

The following section focuses on the legal and ethical issues pertaining to sick leave. The focus is on the legislation pertaining to sick leave present in South Africa, the professional guidelines for medical practitioners provided by the professional governing body for medical professionals- the Health Professions Council of South Africa (HPCSA).⁹⁹ The ethical concerns and role of the occupational medical practitioner are discussed.

In South Africa legislation pertaining to sick leave includes section 23 of Basic Conditions of Employment Act, 1997 (No 75 of 1997) and the Labour Relations Act 1995 (No 66 of 1995).^{1,2}

In South Africa, company policies and sick leave management programmes need to comply with the Labour Relations Act, Occupational Health and Safety Act and the Employment Equity Act.^{2, 99,100-2}

Section 23 of the Basic Conditions of Employment Act, 1997 stipulates that in order for an employee to receive payment for sick leave he/she has to produce a medical certificate if the sick leave is for more than two consecutive days or if the sick leave occurred on two occasions during an eight-week period.¹

An employee who is off sick for two days or more is obliged to hand in a sick certificate completed by a person registered with a professional statutory board like the Health Professions Council of South Africa (HPCSA) stating the employees' inability to fulfil his/her duties. The medical certificate has to be issued by a medical practitioner registered with a professional council established by an Act of Parliament i.e. the Health Professions Council of South Africa.¹

The Act further states that a diagnosis does not have to be reflected on the certificate and that disclosure of a medical illness is the employee's prerogative.¹ However, the duration of the employee's absence must be stipulated.¹

Section 188 of the Labour Relations Act of 1995 delineates dismissal for incapacity, which may be permanent or temporary.² If the employee is absent for unreasonably long periods. An employer may dismiss the employee on the ground of incapacity due to ill health.² If the employee is absent for extensive periods the employer must investigate all possible alternatives short of dismissal.²

The Health Professions Council of South Africa has issued guidelines for medical practitioners on sick leave notes.⁹⁹ The guidelines take cognisance of the doctor's duty towards his /her patient and the role of his /her findings can impact in the future employment of the patient.⁹⁹ The guidelines emphasise that a patient is entitled to the privacy of his /her information.⁹⁹ Informed consent is essential and doctors are not obliged to disclose the nature of the illness unless the patient gives specific consent to it.⁹⁹ A medical certificate can provide important information when decisions are made on the incapacity of the employee.⁹⁹

Medical practitioners have been reminded to be aware of the specific circumstances when approached by a patient for a medical report.⁹⁹ A doctor should in all circumstances act in an ethically correct manner by giving an objective and scientific opinion.⁹⁹

The HPCSA has defined the criteria for valid sick leave notes.

A valid sick leave note should contain the following details:

1. The name, address and qualification of the practitioner
2. The name of the patient and his/her employment number if applicable.
3. The date and time of the medical examination
4. It must be stated whether the certificate is being issued as a result of personal observations by a practitioner during an examination or as a result of information received from the patient and based on acceptable medical grounds.
5. A description of the illness, disorder or malady in layman's terminology with the informed consent of the patient. If the patient is not ready to consent, the practitioner shall specify that in his or her opinion based on an examination of such patient, such patient is unfit to work without reflecting a reason for sick leave.
6. A statement indicating whether the patient is totally indisposed for duty or is able to perform less strenuous duties in the work situation.
7. The exact period of recommended sick leave and the date of issue of the certificate as well as the initial, surname, and registration number of the practitioner who issued the certificate.

In terms of medical reports requested by a patient, the HPCSA guidelines states that a practitioner shall issue a brief factual report to a patient where such patient requires the information concerning himself or herself.⁹⁹

The occupational health professional involved in a sick leave monitoring programme has to comply with ethical guidelines of the professional regulatory body in the country.⁹⁹

The International Labour Organisation, a tripartite organization of the social partners has published technical and ethical guidance which states that occupational health professionals should not be required by the employer to verify reasons for absence from work.⁴³ This is so as to protect the relationship of trust that is essential for open and honest communication between patient and health care professionals.⁵²

In Holland general practitioners have refused to certify the reason for absence from work since the beginning of the 20th century in order to protect the confidential relationship with their patients.⁵³ There have been similar pressures in the United Kingdom, Germany and Spain amongst Occupational medical practitioners who do not wish to verify the reasons for absence.⁵³ In Germany the verification of the reason of absence by an occupational health professional is unethical.⁵⁵

From the above literature survey, it is evident that there have been numerous studies on sick leave with a variety of aspects covered relevant to sick leave in industry. Studies have focused on the problem of sick leave and the factors associated with sick leave as well as the interventions to address the problem of sick leave. It can be concluded that the problem of sick leave is complex with many associated factors. Each workplace and workforce have a unique set of factors that affect sick leave behaviour and that interventions for controlling sick leave should take into account these factors.

CHAPTER 3

METHODS

1.1. METHODOLOGY

The study was a cross-sectional study involving a review of sick leave records that were filed in 2004. The study site was the Consul Glass Factory situated in Olifantsfontein, Midrand, Johannesburg. The study population consisted of the permanent workers (n=160) who had sick leave recorded for the period between the 1st January and the 31st December 2004.

1.2. DATA SOURCE, COLLECTION AND HANDLING

The data sources were the sick leave records and sick leave notes filed at the occupational health clinic. Data were collected through an anonymous retrospective review of sick leave records of self-reported illness and sick leave notes that were submitted to the clinic in 2004. There were therefore two main data sources: the sick leave notes and written records of self-reported sick leave.

All data were collected by the author weekly over six sessions between the 1st August and 3rd October 2005. The clinic was visited at pre-arranged times by arrangement with the clinic sister. The clinic sister made the sick leave files for 2004 available to the author. The duration of each data collection session was 6 hours. The data collection tool was a Microsoft Excel spreadsheet designed for the purpose. Anonymity of individuals was preserved by the use of research identification numbers for entries into the data collection tool.

1.3. DATA ANALYSIS

The data were captured in Excel and imported and analysed using the Statistical Package for Social Sciences (SPSS) version 3 (Chicago, Illinois, USA).

Variables for which data were collected:

- Age, sex and ethnicity;
- Work area;

- Shift type;
- Frequency of sick leave and duration of sick leave episodes;
- Type of health care accessed;
- Medical certification or self reported illness; and
- The reason for absence or diagnoses reflected on the sick leave notes and records.

The data were captured on frequency tables as categorical variables. Each variable was dichotomized (exposed and non-exposed). One person may have had multiple episodes of sick leave. Therefore, data were recorded at both the episode and person levels. One row of data was allocated for each episode of sick leave and multiple rows per person were possible.

Allowances were made for the skewness of the data during the analysis. To describe normally distributed numeric data, means and standard deviations were presented. For skewed data sets, the data were further explored using non-parametric tests.

Quantitative variables that showed a skewed distribution such as age, episodes of sick leave and hours of sick leave were further analysed using non-parametric tests such as the Mann-Whitney, Kruskal-Wallis tests and Spearman's correlation tests. The acceptable level of significance was $p < 0.05$.

Associations between categorical variables such as sex and work area were investigated using cross tabulation and Chi square tests. The student's t-test was used to test for differences in means of continuous variables between groups.

1.4. ETHICAL CONSIDERATIONS

Anonymity was maintained throughout the research. Each file was assigned a research identification number. Workers' permission was obtained collectively from the designated shop steward /worker's representative of the active trade union at the factory.

Permission to conduct the study was obtained from the company manager and from the occupational medical practitioner responsible for the management of the occupational health clinic.

The protocol for this study was approved by the Ethics Committee at the University of KwaZulu-Natal.

CHAPTER 4

RESULTS

The results of the study will be presented in the sequence of the objectives listed in Chapter 1 (pages 6 and 7).

The demographic data of the study population will be presented with the factors associated with the taking of sick leave. The frequency, type and duration of sick leave and information from sick leave notes will be presented thereafter. Information on the interview and counselling sessions for frequent episodes of sick leave will follow.

4.1. DEMOGRAPHIC PROFILE OF WORKERS WHO HAD TAKEN SICK LEAVE IN 2004 AND THE ASSOCIATED DEMOGRAPHIC FACTORS FOR SICK LEAVE WITH RESPECT TO WORKER AGE,SEX AND RACE.

4.1.1. Age, Sex and Race

- A total of 160 workers took sick leave during 2004, the year of the study period. These 160 workers accounted for 346 episodes of sick leave. 76.2 % of the total permanent worker population at the factory had taken sick leave in 2004.
- There was a male dominance amongst the workers who had taken sick leave with 95.6% (n=153) being male workers and 4.4% (n=7) female workers.
- The mean age of the workers who took sick leave was 38.1 years (SD: 8.0). The minimum age was 22 and the maximum age was 61 years; it was found that 38% of workers were between the ages of 31 to 40 followed by 33.8% between the ages of 41 to 50 years.

(Figure II)

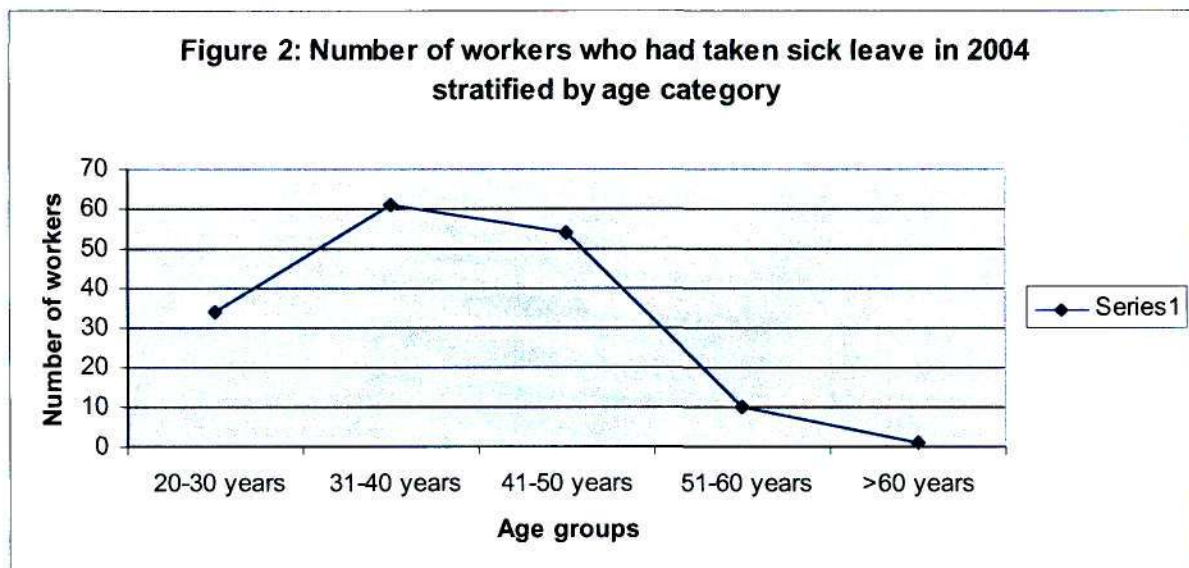


FIGURE II: STRATIFICATION BY AGE CATEGORY

- The mean age for males was 38.3 years (SD: 7.99) and for females was 32.7 years (SD: 6.10). There was no significant difference for mean age when stratified by sex (t test, $p=0.07$);
- The majority of the male workers (98%; $n=150$) worked in areas involved in glass production while 2% ($n=3$) worked in the non-production areas. Among the female workers 85.7% ($n=6$) of worked in non-production areas whilst 14.3% ($n=1$) worked in production areas;
- The mean age for workers who had taken sick leave stratified by department was 38.7 years (SD: 8.26) for the production departments and 36.4 years (SD: 7.00) for the non-production departments.

There was no significant difference in the mean age of the workers who had taken sick leave in production and non-production areas (Independent samples t test, $p=0.11$).

The mean number of hours taken by the over fifty year old subgroup of workers was higher than the below fifty year old subgroup in the study population. Comparison of the mean between the two age groups revealed a significant difference in the mean hours of sick leave taken ($p < 0.05$, Independent samples t-test).

There was no significant correlation between older age and the number of episodes of sick leave in the year ($p=0.296$, Spearman rho test). (*Table 1*)

TABLE 1: MEAN HOURS OF SICK LEAVE STRATIFIED BY AGE CATEGORY

Age group	Number	Mean hours of sick leave	Standard deviation (SD)	p value*
< 50 years	149	44.1	30.8	0.296
> 50 years	11	69.1	74.9	
*Spearman's-rho test				

4.1.2. Sex as an associated factor for sick leave

No significant difference could be demonstrated between sex groups and the number of episodes of sick leave taken ($p=0.13$, Mann Whitney Test).

The ethnic origin of the study population indicated a predominance of Black workers with 64% being Black workers ($n=103$) followed by 28% white workers ($n=45$), 4% ($n=6$) coloured workers and 4% ($n=6$) Indian workers. (*Figure III*)

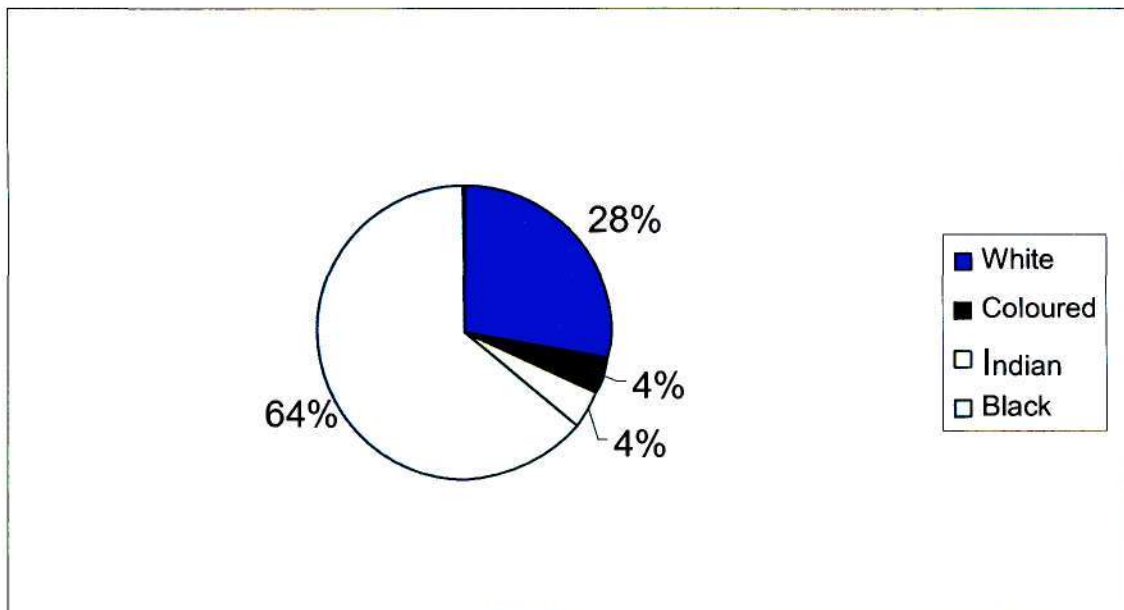


FIGURE III: STRATIFICATION BY ETHNIC GROUP

4.2. WORK FACTORS AND SICK LEAVE

4.2.1. Department/ Shift type

Workers assigned to the production areas of the factory accounted for 93.8% (n=150) of the sick leave records which were submitted during the study period. Sick leave records that were derived from workers assigned to non- production activities such as the administrative and management departments of the factory, accounted for 6.2%(n=10) .

Stratifying by shift type, 61.3 %(n=98) of workers who took sick leave worked a shift rotation schedule (combination of night and day shifts) and 38.7% (n=62) worked day shifts only.

4.2.2. Shift type as an associated factor for sick leave

The day shift workers (n=62) had a mean of one (1) episode of sick leave for the year. The mean duration of the sick leave episodes taken was 21 hours.

The shift rotation schedule workers (n= 98) had a mean of two (2) episodes of sick leave and 21.3 hours of sick leave taken off for the year.

There was no significant association demonstrable between shift rotation schedule worked and the number of episodes of sick leave for the year (p=0.79, Mann Whitney Test).

There was a significant difference in the number of hours of sick leave taken off between shift rotation work and day shift work (p<0.05 Mann Whitney test).

4.2.3. Work area/ type of work as an associated factor for sick leave

A significant association existed between work in the production areas and more frequent number of episodes of sick leave (p<0.05, Mann Whitney Test).

No significant association was shown between work in production areas and longer duration of sick leave / more hours taken off on sick leave (p= 0.64, Chi square test).

4.3. MEDICAL AID AND HEALTH CARE CHOICES OF WORKERS WHO HAD TAKEN SICK LEAVE

4.3.1. Medical Aid Membership and the type of health care accessed

Workers who belonged to a medical aid scheme accounted for 25% (n=40) of the workers who took sick leave at the time of the study.

- Stratifying medical aid membership by age group, 7.5% (n=3) of the workers who reported sick leave, and who were medical aid members, were in the over fifty-year age group;
- Stratifying medical aid membership by work area, 95%(n=38) of the workers who reported sick leave and were medical aid members worked in the production areas of the factory.

Sick leave notes were present in 92.8% (n=321) of the clinic sick leave records (n=346). It was found that:

- 94.4 %(n=303) of the sick leave notes were issued by medical practitioners from the private health care sector;
- 5.3 % (n=17) were issued by medical practitioners from the state health services; and
- 0.3 % (n=1) by traditional health practitioners.

4.3.2. Medical Aid Membership as an associated factor for sick leave

Amongst the workers with sick leave, both medical aid and non-medical aid members had a median of two episodes of sick leave. Workers with medical aid had a median of fifty hours off work for the year due to sick leave and non- medical aid members had a median of 32 hours off work due to sick leave for the year.

- A significant association was demonstrated between medical aid membership and taking a higher number of total hours of sick leave per person for the year. ($p < 0.05$, Mann Whitney test);
- There was no significant association shown between medical aid membership and the number of episodes of sick leave for the year. ($p = 0.10$, Mann Whitney Test).

No significant association was demonstrated between medical aid membership and certified sick leave ($p = 0.70$; Chi square test).

- There was no significant association between medical aid membership and the number of hours of sick leave per episode. ($p = 0.75$, Chi square test).

4.4. THE FREQUENCY AND DURATION OF SICK LEAVE, TYPES OF SICK LEAVE, AND REASONS FOR SICK LEAVE FACTORS ASSOCIATED WITH LONGER DURATION OF SICK LEAVE

4.4.1. Frequency of the hours off work due to sick leave in 2004

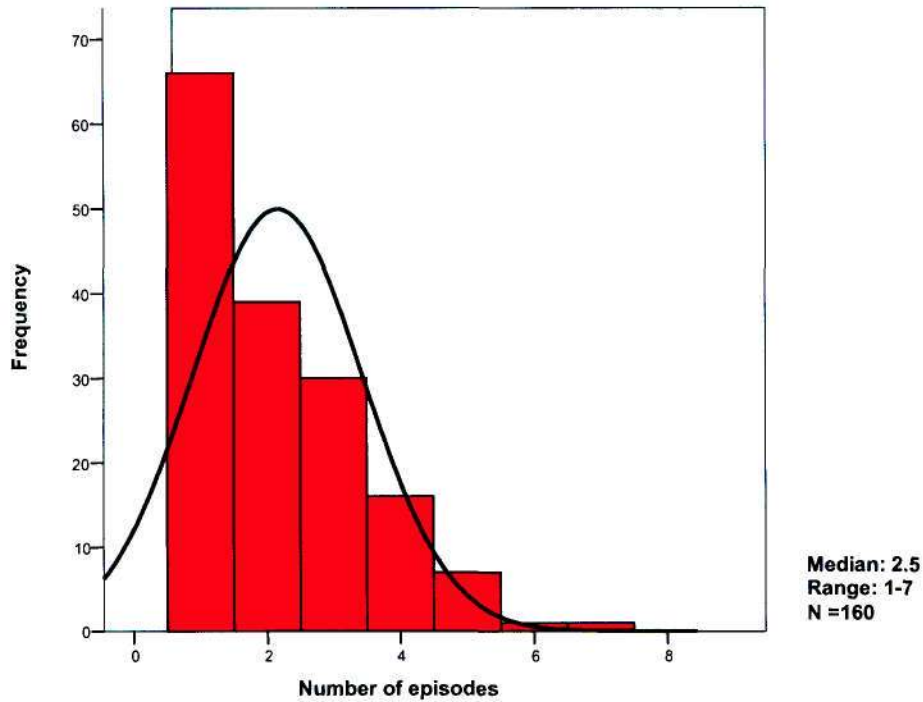
The total hours taken off work due to sick leave for 2004 were 7331 hours. The median number of hours taken off work per episode of sick leave was sixteen hours (range 2–184 hours).

4.4.2. Episodes of sick leave

As mentioned earlier the 160 workers who had sick leave had in total 346 different episodes of sick leave for the year. The range of episodes of sick leave per worker for the year was one (1) to seven (7) episodes of sick leave with a median of 2.5 episodes of sick leave per worker predominating.

Most workers (41.3 %; $n = 66$) had only one episode of sick leave for the study period, while approximately 24.4% ($n = 39$) of those workers who reported sick leave had two episodes for the year. The number of workers having more than two episodes of sick leave declined with an increasing number of episodes. (*Figure IV*)

FIGURE IV: THE FREQUENCY OF THE NUMBER OF EPISODES OF SICK LEAVE



4.4.3. Self reported vs. medically certified sick leave episodes

Of the total episodes of sick leave (n=346), 92.8 % (n=321) of the episodes of sick leave was certified sick leave and 7.2 % (n=25) was self-reported sick leave. The mean number of hours taken off on sick leave for self-reported illness was 9.3 hours and 22 hours for certified sick leave.

There was a significant difference in the mean number of hours taken off on sick leave between self reported sick leave and medically certified sick leave (Independent samples t-test $p < 0.05$).

(Table 2)

TABLE 2: TYPES OF SICK LEAVE RECORDED

Type of sick leave	Mean hours (SD)	Episodes (%)	p-value*
Self reported	9.3 (4.3)	25 (7.2)	p<0.05
Medically certified	22.1(17.7)	321(92.8)	
*Independent samples t-test			

4.4.3. Episodes of sick leave stratified by work area

Stratifying by the two main work areas in the factory, the median number of episodes of sick leave for workers from the production departments was two episodes (range 1-7) and a median of one episode (range 1-2) for those from non production departments.

4.4.4. Episodes of sick leave stratified by sex group

The group of female workers who had sick leave, had a median of one episode of sick leave (range 1-2) compared to the male group with a median of two episodes of sick leave (range 1-7).

(Table 3)

TABLE 3: EPISODES OF SICK LEAVE STRATIFIED BY SEX GROUP

Sex	Test of frequency	Number of episodes
Female	Median	1.00
	Range	1 to 2
Male	Median	2.00
	Range	1 to 7

4.4.5. Reasons for sick leave

In 9.8% (n=34) of records the reason for the worker having taken sick leave was not reflected.

The reasons for sick leave were recorded in medical terms as reflected on the sick leave notes and files.

- A total of 101 different reasons of absence were recorded that reflected a wide spectrum of medical reasons for absence. These included acute illness, chronic disease, trauma and hospitalisation;
- There was a predominance of respiratory tract infections. Upper respiratory tract infection predominated followed by influenza and bronchitis. The other common reasons for sick leave were dental problems and gastrointestinal disorders. *(Table 4)*

TABLE 4: ANALYSIS OF THE COMMON REASONS FOR SICK LEAVE

Reasons	Frequency of diagnoses N=346 (100%)	Mean hours off work (SD)	95% Confidence Intervals
Upper respiratory tract infection	27.0 (7.8%)	21.0 (7.7)	18.1 – 24.0
Influenza	22.0 (6.4%)	16.7 (7.8)	13.5-20.0
Bronchitis	21.0 (6.1%)	21.1 (6.6)	18.3-24.0
Dental treatment	17.0 (4.9%)	11.5 (12.6)	5.6-17.5
Gastroenteritis	17.0 (4.9%)	18.1 (6.7)	15.0-21.3
Backache	14.0 (4.0%)	25.7 (18.6)	16.0-35.5
Sinusitis	12.0 (3.5%)	22.7 (9.5)	17.3-28.1
Tonsillitis	11.0 (3.2%)	18.2 (9.4)	12.7-23.7
Gastritis	9.0 (2.6%)	16.9 (8.4)	11.4-22.4
Headaches	6.0 (1.7%)	25.3 (14.7)	13.6-37.1

4.4.6. Hours taken off work due to sick leave stratified by the most common diagnoses reflected on sick notes

The most frequent of the top ten diagnoses in the sick leave records, was upper respiratory tract infection and the least frequent was headaches. The median hours taken off on sick leave for upper respiratory tract infection, bronchitis and headache were the same (24 hours). The lowest median hours booked off on sick leave was for the reason dental treatment (8 hours). For the reasons backache and sinusitis, workers were booked off on sick leave for a median of twenty hours. For the diagnoses gastroenteritis, influenza, tonsillitis and gastritis a median of sixteen hours of sick leave was issued.

Conducting multiple comparisons between the median hours taken off per episode of sick leave and the common reasons for sick leave, the difference in mean hours were significant. ($p < 0.05$, Kruskal Wallis test). When comparing the median hours taken off work for sick leave there was a significant difference between the reasons dental treatment and backache ($p < 0.05$). Workers reporting backache had taken an average of fourteen hours more than workers that reported dental treatment as a reason for sick leave. (*Table 5*)

TABLE 5: HOURS TAKEN OFF WORK DUE TO SICK LEAVE STRATIFIED BY THE MOST COMMON DIAGNOSES REFLECTED ON SICK NOTES

Variable	Diagnoses	Median hours of sick leave	p value*
Diagnoses	Upper respiratory tract infection	24	<0.05
	Influenza	16	
	Bronchitis	24	
	Dental treatment	8	
	Gastroenteritis	16	
	Backache	20	
	Sinusitis	20	
	Tonsillitis	16	
	Gastritis	16	
	Headaches	24	
*Kruskal –Wallis			

4.4.8. Work area as an associated factor for longer duration of sick leave

4.4.8.1. Work area: Hours taken off work per episode irrespective of the reason for sick leave

Irrespective of the reason for sick leave, there was no significant association between the hours of sick leave taken per episode of sick leave and the work area ($p=0.64$, Mann Whitney).

4.4.8.2. Total hours of sick leave taken for the year for the common reasons stratified by the work area

Of the ten most common diagnoses, only three were reflected as reasons for sick leave for workers from *both* the production and non-production areas. All ten reasons were reflected in the records of workers from the production areas. The three diagnoses common to workers of both work areas were backache, bronchitis and influenza.

The ten common reasons for sick leave were derived mainly from sick leave notes from workers in the production areas as they recorded the majority of the sick leave episodes. For the reasons backache, bronchitis and influenza a comparison of the mean hours taken off by workers, in different work areas, was conducted.

- The workers with bronchitis and working in production areas had a mean of 21.8 hours off on sick leave. Workers with the same diagnosis of bronchitis, from the non-production area were on sick leave for a mean of eight hours.
- There was a significant difference in the mean number of hours taken off work due to a diagnosis of bronchitis when comparing production and non-production areas. ($p<0.05$, Independent samples t-test). (*Table 6*)

TABLE 6: HOURS TAKEN OFF WORK PER EPISODE STRATIFIED BY COMMON DIAGNOSES FROM BOTH PRODUCTION AND NON-PRODUCTION AREAS.

Diagnosis		Mean hours for the year	N	Standard Deviation	p value*
Influenza	Production	16.40	20	7.989	0.55
	Non production	20.00	2	5.657	
	Total	16.73	22	7.772	
Bronchitis	Production	21.80	20	6.014	<0.05
	Non production	8.00	1	.	
	Total	21.14	21	6.590	
Backache	Production	22.67	12	10.138	0.66
	Non production	44.00	2	50.912	
	Total	25.71	14	18.611	
*Independent samples t-test					

4.4.8.3. Hours taken off work due to sick leave stratified by sex and shift

Male workers had a median of forty hours of sick leave for the year, while females had median of sixteen hours. There was a significant association between male sex and taking a longer duration of sick leave. ($p < 0.05$, Mann Whitney Test)

There was no significant association between the duration of sick leave taken and the type of shift worked ($p = 0.10$, Mann Whitney Test). (*Table 7*)

TABLE 7: HOURS TAKEN OFF WORK DUE TO SICK LEAVE STRATIFIED BY SEX AND SHIFT WORKED

Variable	Groups	Median hours of sick leave	p value*
Sex	Male	40	<0.05
	Female	16	
Shift	Day shift	16	0.10
	Shift rotation schedule	16	
*Mann-Whitney			

4.4.8.4. Hours off work due to sick leave stratified by medical aid membership, health care choice and type of reported sick leave.

The median hours of sick leave issued on sick leave notes from the private and public health sectors were equivalent (sixteen hours). The median hours booked off work as sick leave by the occupational health service was equal to the hours of sick leave taken by workers that were self treated (eight hours). There was a significant difference in the median hours booked off work for the various healthcare choices of workers who had taken sick leave ($p < 0.05$ Kruskal Wallis test). There was a significant difference in the median hours taken as sick leave when comparing medically certified and self reported sick leave ($p < 0.05$, Mann Whitney test). (*Table 8*)

TABLE 8: HOURS OFF WORK DUE TO SICK LEAVE STRATIFIED HEALTH CARE CHOICES AND THE TYPE OF REPORTED SICK LEAVE

Variable	Groups	Median total hours of sick leave per annum	p value*
Health care choice	Private sector	16	<0.05*
	Public sector	16	
	Self treated	8	
	Occupational health service	8	
Type of reported sick leave	Medically certified/sick leave note	16	<0.05**
	Self -reported	8	
Kruskal Wallis* Mann Whitney**			

4.5. SICK LEAVE PATTERNS

4.5.1 Extended Weekends (Monday or Friday linked sick leave) /Extended Public Holidays (Public Holiday linked sick leave)

Categorizing sick leave according to days of the week taken off work revealed that 70.5% (n=244) of the sick leave episodes included a Monday or Friday. Sick leave days that were linked to public holidays accounted for 9.5% (n=33) of the sick leave episodes.

Sick leave that were unlinked to weekends (Monday/Friday) or public holidays accounted for 19.9 % (n=69) of the sick leave episodes.

A significant association was shown between shift rotation schedule work and sick leave on days of the week unlinked to weekends. ($p < 0.05$, Chi square test)

No significant associations were found for either day shift and shift rotation schedule work and sick leave on days that could have resulted in extended weekends or extended public holidays.

4.6. INTERVIEWS /COUNSELLING FOR SICK LEAVE EPISODES

21.3 % (n=34) of the study population had interviews with human resource management staff, counselling and referrals to the clinic in 2004.

A significant correlation was shown between having had interviews /counselling and workers having more than four episodes of sick leave. ($p < 0.05$ - Mann Whitney Test).

No significant association was found for interviews and counselling for sick leave episodes taken less than four times in the year.

CHAPTER 5

DISCUSSION

Studies have shown that profiling sick leave records can assist with determining the extent of the sick leave problem in a workplace and the identification of associated factors for sick leave.⁹¹

The extent of the sick leave problem in a workforce should be a guide for management to intervene to limit sick leave.⁹¹ Further profiling of sick leave for the associated factors for sick leave can guide interventions and assist with the development of a worker attendance improvement programme to limit sick leave.^{3,91} The overall aim of such a programme will be to decrease the sick leave requirements of workers by addressing and limiting relevant associated factors for sick leave.^{3,91} An improvement in worker attendance will benefit all stakeholders-workers, employers and society by positively affecting productivity and decreasing the financial burden of sick leave.^{3,91}

This study used a limited data source readily available to both the Human Resources' Department and clinic staff at the factory.

The discussion will focus on the key findings of the study pertaining to:

- The demographic profile of the study;
- The frequency of sick leave for the study period;
- The factors associated with frequent or longer duration of sick leave, the varying presentations of sick leave including the type of recorded sick leave and sick leave patterns;
- The information derived from sick leave records including the source of sick leave notes, the health choices of the workers and the health reasons that were provided for sick leave; and
- The use of sick leave profiles as the basis of developing worker attendance improvement plans

Reference will be made to relevant aspects of the legislative framework pertaining to sick leave in South Africa in the discussion of the findings of this study.

5.1. DEMOGRAPHIC PROFILE AND ASSOCIATED FACTORS

5.1.1 Age

In South Africa, the Medical Research Council has reported that more than half the deaths due to chronic disease occurs in people younger than 65 years old.¹⁰³ The increase in chronic disease is resulting in more premature deaths due to heart and blood vessel disease in the age group 34-64 years.¹⁰⁰ This is expected to rise by 41% between 2007 and 2030.¹⁰³ This means that the economically active working population in South Africa will be most affected.

In this study, workers older than 50 years of age had a longer duration of sick leave per episode as compared to those workers who were younger than 50 years old. Workers in the over 50 age group can be divided into those younger than pensionable age and those workers who opted to work after pensionable age. The study group did not have any workers older than pensionable age therefore a comparison could not be made.

The sick leave pattern seen in the over 50 year age group could be attributed to the severity of illness and poor healing associated with aging which would result in longer recovery periods. The co-existence of chronic disease which is expected to be higher in this age group compared to younger workers, could also mean that these workers may require to visit hospitals and specialist clinic for medical care.^{32,61,103} Studies have shown that workers approaching pensionable age have longer periods of sick leave because they no longer “conserve” sick leave as a cushion for serious illness.³² They are expected to have medical conditions that have higher sick leave requirements.^{32,61,103}

In this study the most frequent sick leave was taken by the 30-40 year age group. A recent prevalence study for HIV in South African industry has shown that this age group has the highest prevalence of HIV predominantly amongst unskilled, black males.¹⁸ Since the study population

was male dominant, the prevalence of HIV is therefore expected to be higher in the 30-40 year age group.¹⁸

Therefore, the age group predicted to have the highest prevalence of HIV using results from other studies, also had the highest number of sick leave episodes.¹⁸

5.1.2 Sex

Studies report that women generally have a higher rate of absence and more days of sickness absence than men.³⁴⁻⁸ The reasons found in the literature to explain this were the effects of pregnancy in working women, the pressures of high job demands, inability to cope with a high degree of job control, poor child care provisions and other factors such as bullying and victimization at work.^{3,34-8}

Higher sick leave rates amongst females have also been described in female dominated workplaces where the development of tolerant norms towards sick leave found amongst the female workforce, resulted in higher sick leave rates.⁴¹ This means that females in these work environments would perceive management which is female dominated to be more tolerant and understanding towards sick leave compared to a male dominated establishment.⁴¹

In this study however, there was a male dominance in the permanent workforce and therefore those workers who reported sick leave were mainly male workers.

The female group of workers with recorded sick leave had fewer episodes and a shorter duration of sick leave compared to the male group. Possible contributing factors for this includes the fact that female workers who recorded sick leave were on average younger than their male counterparts, had recorded a shorter duration of sick leave per episode suggesting that minor illness may be the reason for sick leave and the females who reported sick leave worked mainly in sedentary jobs involving office work.^{71,85,89}

5.1.3 Ethnic Origins

The ethnic origins of the study group mirrored the main ethnic groups present in South Africa with Black African worker predominance and lesser representation of other ethnic groups. The

impact of ethnicity on sick leave behaviour can be viewed from the context of the cultural influences on the “sick role”.⁴²⁻⁹ The social, religious and cultural differences between the ethnic groups influences the ‘sick role’ that is adopted as well as workers’ perception of illness and health seeking behaviour.⁴⁹ This impacts on health choices such as the use of traditional healers, seeking medical treatment for minor illness that could be self treated and the duration of sick leave required.⁴⁹

5.2. SICK LEAVE FREQUENCY AND DURATION

For the study period, 76.2% of the permanent workforce had recorded sick leave; compared to other population wide surveys on sick leave, this was a high overall rate of sick leave.^{17,77} While sick leave can be an indicator of a worker population’s health status, the higher sick leave rate seen in this study may be an indicator of the community’s health status and high acute infectious disease burden.⁴

The reasons for the higher sick rate for 2004 in this study, compared to other studies, may be explained by the influenza and other acute viral illness epidemics as these were the reasons for sick leave that predominated in the records.⁷⁷ However other reasons such as the burden of infectious disease in South Africa, the unique nutritional and socio-economic factors affecting South African workers, exposure to environmental pollution in both work and home environments, must also be considered.⁹¹

South Africa is known to have a high infectious disease burden.¹⁰⁰ Studies on the impact of infectious disease such as tuberculosis and HIV on the worker population in third world countries have shown the negative impact of these conditions on attendance to work, productivity and work performance^{19,26}. At the time of the study the HIV prevalence for the study population was unknown however the 11.4% prevalence found in other surveys in South African industry can be a reasonable estimate of the problem in this factory.¹⁸

Besides the burden of infectious disease on South African working populations there are reports that a significant burden of diseases of lifestyle such as hypertension, diabetes, and hypercholesterolemia with stroke and ischemic heart disease is also present and is rising in

prevalence in tandem with infectious disease.¹⁰³ The ages of people affected by this correlates with the active working population in South Africa.¹⁰³

The higher rate of sick leave in this study group may therefore be explained by the fact that they are at risk of both infectious diseases that are prevalent in third world countries as well as the diseases of lifestyle that is prevalent in the first world.¹⁰³ The sick leave rate in this study population may not correlate well with rates of sick leave in other studies conducted in countries abroad; either of eastern or western origin, because unique factors were present in this worker group.

Other factors unique to this study population is the type of work and the hazards that were associated with it.⁴ A work factor found to significantly affect sick leave in this study group was working in the production areas of the factory. Unlike work in the non-production areas with mainly office work, work in production area involved shift rotation work schedules, physically demanding and hazardous tasks in the factory such as exposure to heat, silica dust, chemicals as well as high job demands from the pressure to perform and meet targets for production.

Studies on the effect of the type of work on sick leave has indicated that higher sick leave use occurs in workers involved with physical work.^{60-1,64,71,85,89} Studies have shown lower sick leave rates in office workers compared to workers involved in physical activity.^{85,89} The findings of this study correlates with other studies on the effects of physical work on sick leave.^{85,89} Most of the sick leave recorded was that of workers from the areas involved with production activities with fewer from workers working in an office environment.

5.3. ASSOCIATED FACTORS FOR SICK LEAVE

The factors that will be discussed will include the impact of the type of work contract on sick leave, the effect of work area and type of hazards on sick leave and the effect of medical aid membership on sick leave.

5.3.1 The type of job contract

Studies have shown that the type of job contract affects sick leave taken.^{4,46} This study involved the use of sick leave records of permanent workers at the factory. There were no sick leave records of temporary contract workers and this particular group of workers was not studied.

Studies have shown that the presence of paid sick leave and social security benefits has been associated with higher sick leave allowance utilisation.^{4,32,46} Permanent workers who have job security and access to sick leave provisions have shown higher rates of sick leave compared with contract /temporary workers.⁴⁶

It has also been shown that contract workers with frequent sick leave have a higher risk of non-renewal of their contracts, which is more likely if they are female workers.⁴⁶ Contract workers who have insecure jobs have lower sick leave rates as there exists the possibility of their contracts being terminated on the basis of sick leave taken during their employment.^{4,32,46}

In this study, the workers who were permanently employed with sick leave benefits, job security and “protection” by the legislation regarding sick leave were more likely to use these benefits without fear of termination of their employment. This could have contributed to the high sick leave rate in comparison with population wide surveys on sick leave.⁷⁷

5.3.2 The work area

The type of work that workers were engaged in affected sick leave in terms of the number of episodes of sick leave taken for the year as well as the duration of sick leave episodes. In this study, working in the production area of the factory was significantly associated with more episodes of sick leave. Workers in the production area also had a statistically significant association with longer duration of sick leave for the reason bronchitis. These findings support the argument that workers in the production area may be prone to sick leave and required longer recuperation times.^{60,61,64,71,85,89}

The longer period required for production workers to recover from bronchitis compared to non-production workers meant that workplace hazards could be contributing to the problem e.g.

chemical and fine dust and silica exposure in the production area may be aggravating bronchitis and predisposing workers to respiratory problems resulting in longer recovery times.^{25,76} Chronic low-level silica dust exposure as expected in the production areas of this factory, in combination with smoking and tuberculosis is a documented risk factor for chronic airflow limitation.^{25,76}

The production area had other hazards that could affect the health of workers, such as shift rotation schedule work, physical labour, chemical exposure, dust exposure, heat and cold.^{4,59,69,70} This means that the control of these hazards in the production area should be reviewed for effectiveness as workers health may be affected by poorly controlled respiratory hazards.

5.3.3 Shift work

Studies on shift work and sick leave found that shift work was associated with higher sick leave rates.⁵⁹ In this study; no significant difference was shown between shift work with variable schedules and day shift work in terms of the number of episodes and the duration of sick leave for the year.

The reason for the difference in this study population could be that there were only two shifts in this factory. Some workers in the production and non-production areas worked day shifts.

The comparable results on sick leave episodes and duration between day shift and shift schedule workers can be explained by the fact that shift rotation schedule work was a mixture of day and night shift. This rotating shift schedule meant that workers had different times off which would include weekdays, weekends and public holidays.

This could also indicate the benefits of the shift schedule at this factory, which did not operate on a fixed shift schedule such as fixed night duty. Workers who worked varying shift schedules had different starting and ending times for work with enough time between shift changes to rest sufficient to allow full recovery between shifts.

5.3.4 Medical Aid Membership

Medical aid membership meant that workers would have access to a wider range of medical care than non-members, including access to private medical care. Although workers with medical aid

had similar frequencies of episodes of sick leave as non-members, they had longer duration of leave per episode. This could indicate that they may have sought medical care for more serious illness; medical aid members who have limited annual benefits may conserve their medical aid funds and visits to the medical practitioner for more serious illness episodes whilst self treating minor illness.

Workers who had medical aid benefits were allowed prescribed minimum benefits according to the amended Medicines Schemes Act (No, 131 of 1998).¹⁰⁴ They would have been able to access tests and treatment for HIV in the private health care sector more readily than non medical aid members.¹⁰⁴ It is unclear if medical aid membership had a beneficial effect in reducing sick leave since medical aid membership did not significantly affect the number of episodes of sick leave that workers took for the year.

5.4. SICK LEAVE FREQUENCY AND DURATION, TYPE OF REPORTED SICK LEAVE, HEALTH CARE CHOICES

Studies have shown that most of the sick leave is due to minor illnesses and are of short-term duration.^{3, 69, 78} Similar to other sick leave profiles short spells of sick leave of two days' duration and two episodes of sick leave for the year predominated in this study.

In South African legislation, section 23 of the Basic Conditions of Employment Act, 1997 stipulates that in order for an employee to be entitled to paid sick leave he /she has to produce a medical certificate if the sick leave is for more than two consecutive days or if the sick leave occurred on two occasions during an eight-week period.¹

After the two day period, if further sick leave is taken then a sick certificate must be completed by a medical doctor registered with the Health Professions Council of South Africa.^{1, 98} The duration of the employee's absence must be stipulated on the medical certificate.^{1, 98}

The duration of self-reported sick leave is limited to two days as stipulated in the Basic Conditions of Employment Act.¹ This provision in the Act encourages workers who have minor illness to self treat themselves for a period of two days.¹ In this study, more self reported sick leave was expected because of the predominance of short durations of sick leave. However, the majority of sick leave episodes were accompanied by a sick leave note.

Certified sick leave is determined by the health professional's judgment.⁹⁸ The employer accepted both self-reported and certified sick leave as per the legal framework.

The significant difference in the hours taken off as certified sick leave compared to self reported sick leave found in this study was expected, as there are time limits in place for self reported illness after which a sick leave note was required. It is expected that sick leave accompanied by a certificate would on average be longer than the two day period allowed for self reported sick leave.

Self reported sick leave offers workers autonomy in the decision to be on sick leave for minor short duration illness episodes. There are concerns that the provision regarding self reported sick leave could lead to abuse of the option. The legal allowance of two days of self reported illness supports the autonomy of workers and acts as an encouragement for workers to self treat minor illness.²⁷

An intervention study in Norway on municipal workers with a similar mix of workers involved in sedentary and physical work as in this study, allowed the provision of generous annual self reported sick leave.⁵⁸ It was concluded that the self reported option was not misused and did not affect the annual sick leave rate.⁵⁸ This may differ in South Africa where the population differs from the Norwegian population in terms of health care accessibility, demographics, socio-economic profiles, levels of education, disease profiles, and social benefit allowances.^{58,60-2,64}

In this study, there existed the possibility that workers may have utilized the provision of self reported sick leave to shorten their period taken off work for illness reasons and to avoid visiting a doctor as it may cost them a consultation fee. This could mean that workers who were not fully recovered from the illness episode could have presented themselves for work. This could result in "sickness presenteeism" where workers who are ill present for work with negative effects on job performance, risk of injury on duty and the risk of lingering illness, with the spread of infectious diseases to fellow workers.⁴⁴⁻⁶

The presentation of a sick leave note was also associated with a significantly longer duration of sick leave per episode. An explanation for this could be that the medical practitioners may issue

sick leave notes for periods that were longer than the recovery period. The longer period off sick for minor illness accompanied by a sick leave note may mean that workers could be staying off longer on sick leave than the time that is required to recover from the illness.

There are no clear guidelines for health professionals for the duration of “acceptable” sick leave periods for the various medical conditions.⁹⁹ Professional judgement and ethics is relied upon as patients differ in their presentation and pathology;⁹⁹ this would explain the variation in duration of sick leave recommended on sick notes from different health professionals for the same diagnosis, at different consultations, with the same patient.

Medical practitioners’ who do not have knowledge of the workplace hazards and job demands may not be accurate judges of the period for recovery to be fit to return to work. This could result in workers, who may not be fit yet, to re-commence work increasing the risk of further injury or it could also result in workers who have recovered sufficiently being off sick for a longer period than is necessary.

Information on the health preferences of the study population was derived from the source of sick leave notes. Workers produced sick leave notes from a variety of health care sources. Most of the sick leave notes were issued by private medical practitioners; it was concluded that workers in this study chose private medical care above other health care options.

The predominance of sick leave notes from private health care facilities as compared to the other sources reflected the easier access to private medical facilities, personal health care preferences for private medical care and the presence of the financial means to access private medical services. Workers who fear disclosure of their HIV status to management may avoid utilisation of the onsite clinic whilst choosing private health care for quicker access. As permanent workers with a regular income, workers had the financial means for funding private medical care. The study found that the sources of sick leave note for non- medical aid and medical aid members showed that private care was the only source of sick notes for medical aid members and the most common source of sick notes for non- medical aid members. This meant that those workers who were not on medical aid benefits bore the cost of consultation fees.

Despite the cost involved in seeking private medical care, many workers who could have self reported minor illness, visited the doctor and presented a sick leave note to the company. The reason for this could be that sick leave notes may be regarded by workers to be more acceptable to management and fellow workers as proof of illness compared to self reported illness.^{69,78} There is thus the possibility that workers may perceive management as being intolerant towards sick leave.^{3,69,78} This perception may be due to the sick leave monitoring programme and workers being aware that management was keeping a record of sick leave and interviewing workers with frequent sick leave.

The other reason for the higher than expected certified sick leave, may be the higher healthcare utilisation in this study population. Workers may be reluctant to self treat minor illness. This may be attributed to the influence of the “sick role” and the cultural influences on sick leave in this study group.⁴⁹ Instead of self treating minor illness, workers may have chosen to consult a medical doctor instead.

This type of health seeking behaviour is in keeping with the older sociological theories on “sick role” which included the relinquishment of self determination by the patient in favour of reliance on the doctor.⁴⁹ This “sick role” seems to be more applicable to this study population compared to the modern sociological theories on “sick role” which includes a greater self treatment and self-reliance component in the management of disease.⁴⁹ The lack of self treated minor illness could be due to workers not being knowledgeable enough about minor illnesses or the lack of confidence to self- treat minor illness.^{69,78}

This was contrary to what was expected as there was an established occupational health service offering primary health care with preventative and health promotion aspects to all permanent workers. It was expected that the workers at this factory would have a level of health education and health literacy above that of the general population⁶⁵ and this would have made them more confident to self-treat minor illness. This may also mean that the existent health education initiatives were not be as effective as they should have been. The effectiveness of any further health education initiatives in this worker population can be assessed using the incidence of self reported illness and self treated illness as an indicator.

In this study, it was found that the occupational health service provided fewer sick notes and issued fewer hours off on sick leave than other private and state medical facilities that were accessed by the workers. The reasons for this could be that workers who had presented to the clinic were “less ill” than those that did not attend work at all. Those workers who presented to work whilst ill or who took ill at work were most likely not ill enough to self report sick leave prior to attending work.

It is expected that workers on duty had presented to the clinic because their illness had progressed or worsened and were then booked off on sick leave by the occupational health nurse. In addition, given the knowledge of workplace hazards and tasks, the occupational health nurse may have issued fewer sick leave notes, as she was aware of the work demands and hazards at work to make a more accurate judgement on the time that the worker would require off work on sick leave. A review of the worker prior to re-commencement of work ensured that the worker was fit to start work. The nurse was also able to recommend alternative work that would be suitable for workers with conditions that did not indispose the worker totally such as soft tissue injuries, sprains and common colds.

There were fewer sick leave notes from the state medical services indicating less utilisation of this facility. Most state health services’ outpatients and primary health clinics operate during work hours and only deal with emergencies after hours. Accessing state medical services for minor illness and chronic medication could therefore pose a problem for workers who need to take the time off work to attend clinics and hospitals during the day. These services are notoriously overburdened and the long waiting periods means that workers may have to spend long periods of time in queues. Therefore, in terms of healthcare choices, the predominance of sick leave notes from private medical care sources, which are accessible after hours even for minor ailments and non- emergency follow-up consultations, was as expected.

The high frequency of sick leave days coinciding with weekends meant that workers may be taking sick leave on days so as to extend weekends off work.⁸⁶⁻⁸ There was a statistically significant association between shift rotation schedule work and sick leave days on weekdays. This could mean that shift rotation schedule workers who would have odd days off work, may extend these periods off work with sick leave on weekdays.

The use of sick leave as a means to increase scheduled time off work means that the decision to take sick leave could be influenced by workers choice.³⁻⁴ There exists the possibility of workers seeking health care and requesting sick leave on specific days, may be aimed at extending weekends and periods off work.⁸⁶⁻⁸ However the decision to issue the sick leave note should be at the discretion of the attending medical practitioner and his /her professional judgment.⁹⁹

There have been guidelines from the Health Professions Council regarding the issuing of sick leave notes and best practice for this in an attempt to remind members of their ethical obligations and the possibility of misuse of sick leave benefits.⁹⁹

5.5. REASONS GIVEN FOR CERTIFIED AND SELF REPORTED SICK LEAVE

The Basic Conditions of Employment Act and the Health Professions Council of South Africa (HPCSA) guidelines about the issuing of sick leave notes states that a diagnosis does not have to be reflected on the sick leave note and that disclosure of a medical illness is the employee's prerogative.^{1,98}

The reason for this is to maintain confidentiality and to provide workers with the authority to consent to disclosure of medical information to a third party.^{1,98}

In this study, despite the legal provision for non-disclosure only a limited number of sick leave notes did not reflect a diagnosis or reason for absence. Those sick notes that reflected a reason for the absence varied in the terminology used and the preciseness of the diagnosis; examples of vague diagnoses included “medical condition”, “chest problem”, “and surgical procedure”. There was a spectrum of medical terminology for similar medical conditions. Misclassification of the diagnoses was possible as the diagnoses were vague and open to various interpretations. The most common reasons provided for sick leave showed a predominance of conditions that affected the respiratory tract and acute infections. This correlates well with other surveys on sick leave, which also displayed similar profiles for the reason for sick leave.⁴¹⁻²

The accuracy of records on self reported illness was also questionable. There was an indication that workers may have a perceived management as intolerant to sick leave at this workplace as alluded to earlier.^{3,41} Studies have shown that workers who perceive an intolerant attitude to sick leave by management or colleagues may either present to work whilst ill or give a reason for self

reported illness that they perceive is more acceptable or “legitimate”.^{41,69,78} This means that the reasons provided by workers for self reported sick leave may not be accurate or true. Workers who self report illness may present a reason to management, which they perceive, is acceptable.

The reason provided may reflect actual illness or the symptom complex that was present. Although not legitimate, sick leave may also be utilized for non-illness reasons.³ Studies have shown that sick leave may be utilised for child care, transport problems and other non-medical reasons.^{3,4,69,78} The validity of the reasons for self reported illness is therefore questionable.

5.6. THE BENEFIT OF PROFILING SICK LEAVE

The literature has indicated that profiling sick leave can assist with the development of interventions designed to reduce sick leave in a workplace.⁹¹ The presence of an “absence auditing programme” at a company should ideally be allied to a worker attendance improvement plan as the information from the one should assist the other.⁹¹ Measures to improve workers’ health and wellbeing should be the focus of industry in attempts to reduce sick leave rates.

Information on sick leave collected on workers in the occupational health care setting, if accurate and complete, can contribute to wider population level analysis of the burden of sick leave and of the health of the worker population. It can also assist in health service planning.^{3,11,49}

Health service planning is the process of predicting what services will be required in the future based on the patterns of disease.¹¹ The occupational health service should be tailored to meet the needs identified by the study. Information on sick leave in a specific workforce can enable occupational health services to be designed according to the need of the workers, and the preventative initiatives should be planned and targeted.^{65,91}

The presence of preventable conditions such as influenza as one of the top 10 commonest reasons for absence would support the provision of influenza vaccinations to worker groups that may be more susceptible to the disease. Similarly, the presence of backache as a common reason for sick leave would support ergonomic re-evaluation of the workplace and the provision of

secondary care such as chiropractors and physiotherapists for back care workshops for production workers involved with physical tasks of lifting and bending.^{60,61,64,71,85,89}

The provision of on-site mobile dental care services, would assist workers with dental problems and dental hygiene obviating the need to use sick leave for this problem therefore assisting worker attendance.

From profiling the reasons for sick leave, workers with backache or related musculoskeletal disorders should be further evaluated taking cognizance of the work station to eliminate work factors that may have initiated the condition or which may exacerbate an existing problem. Armed with evidence of illness that could be aggravated by the task, adjustments to the work area should follow. This should be a negotiated process with input from employees affected, fellow workers and safety representatives. The introduction of suitable adjustments would also aim to prevent other workers becoming ill or injured.^{85,89}

5.7. INTERVENTIONS TO MANAGE SICK LEAVE

The process of counselling and interviewing workers with frequent episodes of sick leave has been documented as being a common intervention for managing sickness absence³ and this was also the approach adopted for sick leave management at this factory. Interventions such as interviews and counselling have been shown to have limited value in the management of sick leave.^{3,41}

The finding of this study shows that the Human Resources' Department consistently interviewed and counselled those workers with more than 4 episodes of sick leave for a year. The use of frequent episodes as opposed to duration of episodes was chosen to initiate interventions such as the referral of the worker for further medical assessment.

The procedure was consistently applied for the period under study; however, the choice of frequent sick leave as opposed to change in the pattern of sick leave for a worker must be investigated further. Workers who consistently take frequent sick leave need interventions as had been stipulated in this factory. However, workers who have attended work consistently, who suddenly seem to require more sick leave may alert the health care team to intervene and investigate the reason for this. This is very relevant in the South African context where workers

with chronic infections such as tuberculosis and HIV may cope for a period of time before becoming ill enough to require sick leave. Early detection may assist workers to access health care earlier.

Workers who had well controlled chronic illnesses on medication, such as those workers on anti-retroviral treatment who require regular follow-up visits to specialist clinics may require frequent yet short duration episodes of sick leave. They would not require the intervention of counselling. Therefore, interventions should be tailored to individual case needs and should be initiated after the medical team has assessed the worker; workers with frequent sick leave requirements may be penalised by a system that identifies all workers with frequent sick leave for interviews and counselling.

A system of tracking workers' sick leave and determining the point at which sick leave is of concern and requires further action, such as interviews and assessments, must be negotiated between the employer, the employee and the health care team.

CHAPTER 6

LIMITATIONS, CONCLUSIONS, RECOMMENDATIONS

6.1. LIMITATIONS

The study was limited to sick leave records for a year period for permanent workers at the factory. The information was derived from written records at the clinic and was dependent on the completeness and correctness of this information source. As a result, there existed the possibility of information bias.

The sick leave recording system was a duplicated process with two departments involved viz. the Human Resources' Department and the clinic. The records were dependent on the accuracy and diligence of the data capturers in the human resource department and the clinic. The absence of an electronic recording system meant that data may have been missed or lost as the sick notes and records were transported between departments, recorded manually and then filed away.

The reason for self-reported sick leave relied on verbal communication from the worker to the human resource official and the interpretation of information from the worker by the human resource official. The relaying of information and the recording from verbal communication meant that the self reported reasons for sick leave were unreliable. This further introduced interpreter/ information bias to the study.

The sick leave records that were present were not comprehensive enough to include data on various other factors that could be associated with sick leave.

6.2. CONCLUSION

The profile of sick leave at this company indicated sick leave was taken mainly by male workers, workers assigned to areas of the factory involved with production of glass and doing shift rotation schedule work. Although workers with medical aid and older workers over the age of 50 years had the same number of sick leave episodes as compared to workers without medical aid membership and aged younger than 50 years, they had a longer duration of sick leave.

For the diagnosis of bronchitis, workers in production areas had a longer duration of absence compared to workers in the non-production areas. Workers had less self reported illness episodes. They presented sick notes for absences that were of short duration of less than 48 hours. The main source of sick notes was from the private health sector.

The World Health Organisation (WHO) defines health literacy as the cognitive and social skills that a person has that will motivate and enable access of information and understand and use information to maintain good health.⁵

Factors that need to be considered for improving worker attendance would be: providing intensive worker education that is socio-culturally appropriate, improve health literacy, encouraging the disclosure of chronic disease states by promoting an accepting work environment so that accommodation can be facilitated for attendance to hospitals, reviewing of the shift system and control measures in the production work area to limit hazards to health.

The main areas that need to be focused upon in future worker attendance improvement plans would be to prioritise the health of all workers in terms of medical screening for chronic disease and wellness programmes. A significant number of the sick leave episodes were attributed to respiratory illness as well as dental care. Preventative measures such as health education on dental hygiene, nutrition and the provision of the influenza vaccine to all workers can be offered to workers at the clinic.

The provision of “wellness” programmes aimed at back care, dental care and general health and well-being coupled with more comprehensive primary health care available for workers on site and expanding the scope of the current health service should impact on the ability of workers to self treat minor illness and limit visits to the doctor for more serious illness. The effect of these interventions can be re-evaluated periodically for effectiveness.

This study indicates that a limited data source that was readily available at the factory and accessible to clinic and human resources staff could be effectively utilized to profile sick leave and provide guidance on further interventions to address sick leave.

Further analyses of sick leave records over a few years would be useful in identifying sick leave patterns over a period of time. Should there be interventions such as a worker attendance improvement plans then the effect of these interventions on sick leave patterns can be determined.

6.3. RECOMMENDATIONS

The findings of this study indicate that the company would benefit from the implementation of a Sick Leave Management Programme. The development of a Sick Leave Management Programme should incorporate both the monitoring of sick leave and interventions to improve worker attendance.

6.3.1 Recommended components of a Sick Leave Management Programme

6.3.1.1 Policy

A policy document on the key elements that will be incorporated into the sick leave management programme has to be decided upon. A policy on sick leave management must be aligned to a company policy on HIV/AIDS in the workplace.²⁴ Managing the HIV problem in the workplace should be an integral part of a sick leave management programme at the factory.²⁴ The policy indicates management's commitment to address the problems of sick leave and HIV as a major factor for sick leave in a proactive manner.

Policies should be developed through group agreement by the worker representatives, employer and the occupational health service about the sick leave management programme. This will encourage co-operation of all three groups in the implementation thereof.

Once developed the policy must be made available to all staff (current and newly employed). The main aim should be the improvement of worker's health. Staff should be made aware that the monitoring of sick leave is not intended as a punitive measure.

By accepting and participating in a sick leave management programme, workers are likely to perceive the programme as beneficial.

6.3.1.2 Sick Leave Management Team

For accurate monitoring of sick leave there needs to be a designated team who are responsible for sick leave notes and self reported sick leave messages. Human resources management, the occupational health clinic and workers should be represented on the team. All three representatives should be responsible for developing a worker attendance improvement plan and designing interventions aimed at reducing sick leave.

The human resources official in charge of sick leave monitoring should receive all sick leave messages and notes and should be responsible for all the legal and financial aspects of sick leave affecting workers contractual obligations. The occupational health nurse should receive these sick leave records from the human resources official for the purpose of profiling the sick leave.

Further confidential information from workers can be recorded in the sick leave records kept at the clinic, which will only be accessed by the health care team. The worker representative should be responsible for the relaying of information regarding sick leave monitoring and interventions to all workers and representing them on issues regarding sick leave in the workplace.

6.3.1.3 Electronic Recording System

An electronic sick leave recording system can be used to collect the sick leave data from the outset and to provide quick, reliable and accurate reference for further analysis. The early identification of workers who are seriously ill and who require further medical intervention can also be accomplished through accurate sick leave records and profiles.

6.3.1.4 Targets for intervention

An increase in the number of days used for sick leave and a change in sick leave pattern should be used as an indication for referring workers. The referral of workers with frequent sick leave to the occupational health clinic for assessment should be targeted at workers at earlier than 4 episodes of sick leave for the year, as this target may be too many episodes of sick leave and may mean that the reason for sick leave may be detected and referred too late. A change in the sick leave pattern of a worker should alert the health care team to intervene and assess the worker earlier.

6.3.1.5 Programmes for worker well-being:

The sick leave recording system should be aligned with a programme to promote worker well-being and improve worker attendance. The support of positive lifestyle choices should be the driving force of preventative and wellness programmes. A worker wellness programme must pro-actively address worker's health by creating awareness about preventable disease, early detection of infectious diseases such as tuberculosis and HIV, screening for diseases such as breast cancer, prostate cancer and cervical cancer.

The programme should be allied to other workplace programmes such as community screening for early detection of disease and employee assistance programmes aimed at stress, financial and time management. All of these programmes are aimed at positively influencing workers health and thereby reducing sick leave.

To aid health education and literacy, workers must have access to appropriate resources such as health education pamphlets and magazines as well as talks on a variety of health topics. The provision of an on-site gymnasium and organising sports days can encourage workers to become physically active in an attempt to address chronic diseases of lifestyle related to obesity and inactivity such as diabetes mellitus and hypertension.

The on-site canteen would benefit from consultation with a dietician to provide culturally acceptable and healthy meals for all workers. As part of the wellness programme immunisation for diseases such as influenza should be offered to all workers free of charge before winter. The provision of free vision screening for workers and dental hygiene services should be added as part of the health service.

6.3.1.5 Occupational Health Services

The use of the on site clinic service should be optimised. Qualitative studies focusing on worker utilisation of the service and studies on workers' perceptions of the service should be conducted to provide information regarding the barriers affecting maximal utilisation of the facility and services provided. A comprehensive HIV management programme can be offered to all workers at the occupational health clinic.. In addition to the VCT for HIV offered onsite, a workplace

programme for ART access or provision for all workers should be considered. In South Africa, the amended Medical Schemes Act (No. 131 of 1998)¹⁰⁴, stipulates that all medical aids have HIV treatment cover under the prescribed minimum benefits. There are two options which can be considered to ensure that all workers are provided with ART when they require it viz. an employer sponsored comprehensive HIV treatment programme or universal medical aid coverage for all workers. The first option means that the employer sponsors a programme for HIV management such as the Aurum programme, a contracted HIV management company.⁸⁴ The alternative option includes subsidised universal medical aid for all workers at the factory which will cover HIV treatment. With all workers able to access HIV treatment either through medical aid or employer sponsored treatment programmes sick leave utilisation is expected to decrease.^{24,84}

6.3.1.6 Return to work review

Self reported sick leave should be followed with a brief questionnaire on return to work. Self reported absence data from workers have been shown to reflect the actual reasons for sick leave reliably. By completing a questionnaire more reliable records of self reported illness can be gathered for further studies. This would provide more information on the reasons for self reported sick leave with input from the worker, avoiding interpreter bias.

6.3.1.7 Health Risk Assessments:

Work factors that are associated with sick leave such as extended shift work, and highly physically demanding work should be reviewed with the aim of developing suitable control measures to reduce the impact on workers health and improve worker attendance.

The sick leave recording system should be aligned to the health risk assessment at the factory. Knowledge of sick leave patterns could reveal a preponderance of back pain or other musculo-skeletal problems such as upper limb disorder in a specific work area with a particular task. This could alert management to a work-related reason for sick leave. When a worker returns to work with a musculoskeletal disorder such as backache, the work area should be inspected and modification of the work station should be considered to prevent worsening of the problem.

The risk assessment can then be reviewed with this in mind and further investigation may be indicated e.g. an ergonomic survey. By identifying simple adjustments to the work station other workers may be protected from the same problem. The effects in the long term would therefore mean fewer sick leaves for the same reason.

6.3.1.8 Further Research:

Potential areas for further research were identified. These include investigating the impact of the type of work contract on sick leave in the worker population by comparing the two groups of contract and permanent workers.

At present sick leave of permanent workers are recorded. By recording the sick leave of contract workers a comparative study can be conducted to determine the influence of job insecurity and the absence of sick leave benefits on sick leave frequency.

Further studies on the challenges faced by the minority ethnic groups and female would shed light on the influence of their minority status on sick leave and therefore health.

An HIV prevalence study at the factory will assist with the planning of health services and human resource utilisation and management of the sick leave problem.

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ANNEXURES

Ethics Approval

Data collection sheet

Letters of permission to conduct study

ANNEXURES

1 September 2005

Dr F Suleman
c/o Dr S Naidoo
COEH
Nelson R Mandela School of Medicine

Dear Dr Suleman

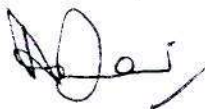
PROTOCOL : A profile of sickness absenteeism at the Consul Glass Factory, Clayville, Midrand for 2004. F Suleman, COEH. Ref.: H167/05

A sub-Committee of the Biomedical Research Ethics Committee considered the abovementioned application and the protocol was approved. A full sitting of the Committee was advised of this study at its meeting held on 5 July 2005 pending permission being obtained from the CEO : Consul Glass, the Trade Union, the Head of the Clinic concerned and approval from the Postgraduate Education Committee. These conditions have now been met, the study is given full ethics approval and may begin as at today's date : 1 September 2005.

This approval is valid for one year from 1 September 2005. To ensure continuous approval, an application for recertification should be submitted a couple of months before the expiry date. In addition, when consent is a requirement, the consent process will need to be repeated annually.

May I take this opportunity to wish you everything of the best with your study. Please send the Biomedical Research Ethics Committee a copy of your report once completed.

Yours sincerely



PROFESSOR A DHALI
Chair : Biomedical Research Ethics Committee

c.c. Dr S Naidoo, COEH
Mr S Siboto, Postgraduate Education

**Nelson R Mandela School of Medicine, College of Health Sciences,
Head: Bioethics, Medical Law and Research Ethics**

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Founding Campuses:



Edgewood



Howard College



Medical School



Pietermaritzburg



Westville

FROM: DR FATHIMA SULEMAN
MBChB(NATAL),Dip For Med(SA), DOH

DATE: 18/07/05

16 VILLA PELLUZZI,
334 BASSON STREET,
RUSLOUW.
CELL: 0825653758
EMAIL: fathimasuleman@yahoo.co.uk

To : DR M H THERON.
CEO/MANAGER CONSUL CLAYVILLE
TRADE UNION REP- CLAYVILLE.

RE: *Research project at Consul Clayville for Master's in Occupational Health- A profile of sick notes of workers for 2004.*

I am currently busy with the master's in occupational health at the University of Natal and as part of the course I will need to complete a research project.

I would like to request permission to conduct a study at your clinic that will involve a review of records of sick leave. No worker involvement is required and the research will be anonymous with strict protection of worker confidentiality. Ethics approval will be sought from the research and ethics committee at the University of Natal.

The information will be of value to both worker and employer as it can feed into a policy or programme that can be used to reduce sick leave at your factory.

I appreciate your help.

Many thanks



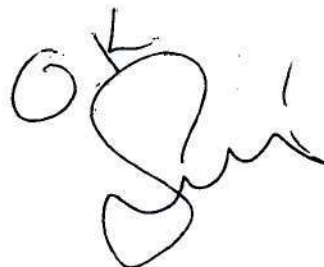
DR FATHIMA SULEMAN

PERMISSION GRANTED
AND APPROVED.



20 JULY 2005

DR. M.H. THERON
POSBUS 969
GROENKLOOF
PRETORIA 0027
TEL. : 346-3597





Consol Glass Factory
Po Box 324
Clayville
1665

2005-07-25

To: Dr Fathima Suleman
334 Basson Street
Ruslouw

Re:: Research project at Consol Glass Factory for Master 's in Occupational Health – A profile of sick notes of workers for 2004.

This letter serves to inform you that you are granted a permission to conduct a study at our clinic which will involve a review of records of sick leave. Our understanding is that this will be strictly confidential.

Yours faithfully

Tana Greyling (Human Resources Manager)

Clayville

11 Axle Road, Olifantsfontein, 1666 P.O. Box 342, Olifantsfontein, Gauteng RSA
TEL: (011) 316 2581 FAX: (011) 316 1069

Directors: R T Vice (Chairman)[†], M Arnold (Group Managing Director)[†],
A W B Band[†], S D Jagoe[†], S W Mncwango[†], K Nayager, H C Turner[†]
Divisional Directors: R J Blackie, D Carolin, J H E du Plessis, B T Rodger
Company Secretary: H R Falgate [†]Non-executive ^{*}British

Consol Limited Reg. No. 1946/021828/06



Consol

GLASS

Consol Glass Factory
Po Box 324
Clayville
1665
2005-07-25

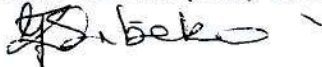
To: Dr Fathima Suleman
334 Basson Street
Ruslouw

Re.: Research project at Consol Glass Factory for Master 's in Occupational Health – A profile of sick notes of workers for 2004.

This letter serves to inform you that you are granted a permission to conduct a study at our clinic which will involve a review of records of sick leave. Our understanding is that this will be strictly confidential.

Yours faithfully

Gibars Sebeko (Shop steward)



Clayville

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Divisional Directors: R J Blackie, D Carolin, J H E du Plessis, B T Rodger
Company Secretary: H R Falgate [†]Non-executive ^{*}British

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