

## THE INFLUENCE OF **SAFETY** ON **STRESS** IN A WORKING ENVIRONMENT

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### INTRODUCTION

Safety requires the same kind of continuing attention and effort given to research, teaching and analysis. Every person should be aware that bad or improper planning, organization, leadership and control **can** cause increased stress and anxiety which diminish employee effectiveness<sup>1</sup>.

Apart from large industries where protective clothing are worn regularly, it is often forgotten that the staff of biological institutions are also exposed to environmental stress on a daily basis (From room temperature of **20°C** to coldrooms with a temperature of **-30°C**; exposure to Radio activity; handling HIV and Hepatitis **viruses**, etc.). Because of these conditions, despite a work shortage, there **was** a decline in the number of job applications. We would therefore like to communicate to you, the measures Western Blood Transfusion Service (WPBTS) **has** introduced for the procurement of knowledge to foster welfare and education and add to the material prosperity and happiness of the employees and thus reduce stress. To be able to identify in time the risk factors in the human environment and their negative effects, a continuous monitoring is **necessary**, including integrated environmental, social and health statistics.

### METHODS

All the staff-members exposed **risk** factors were interviewed, examined medically **and asked** to complete a structured questionnaire. A safety program was introduced and a safety practitioner appointed<sup>2</sup>. After analysis of the results of the interview and questionnaire, the organization was divided into no-, low-, and high risk areas. **All staff** had to wear protective clothing (**i.e.** laboratory coats) in the low risk areas. In the high risk areas, where other sources of health **risk** occurred especially those associated with stress that do not only **cause** occupational disease, but increase psychobiological vulnerability<sup>3</sup>, **staff** had to wear additional protection such as gloves and masks and were monitored more frequently. The **needs** and expectations of the **staff** were **taken** into consideration and the management tried to place the **staff** in an environment best suited to fit the personal **needs** of the staff. Safety representatives were appointed in each **area** and they meet with management on a monthly basis. The same questionnaire was repeated after two years.

### RESULTS:

The results obtained indicated the presence of a large variety of stressors. **An** edited analysis of some of the main features of the two questionnaires **can** be **seen** in Table 1 and Table 2 respectively.

	TABLE 1			TABLE 2		
	High risk (%)	Low risk (%)	Total (%)	High risk (%)	Low risk (%)	Total (%)
Stressful	73	26	50	41	20	31
Monotonous	1	35	18	2	32	17
Mentally exhausting	59	21	40	30	12	21
Insufficient time	80	36	58	14	20	17
Workload to great	86	41	64	17	27	22
Headaches	45	25	35	43	20	31
Adequate safety precautions	55	56	56	84	86	85
Management support	46	42	44	44	35	40

In the present study the individual stressors had the highest frequency, followed by organizational based stressors. It was noted that a high frequency (**87%**) of stress was consistently present in a specific satellite laboratory. Further investigation revealed that **this** was a small laboratory with a staff of 15. **This** laboratory is situated **on** the ground floor, with its windows facing a quad of a 12 storey building, creating a claustrophobic atmosphere. Furthermore the staff are exposed to noises from fridges, generators etc. WPBTS **has** a workforce of 426 persons of whom 56% work in high-, 29% in low- and in 15% **no risk** areas. Over a **period** of two **years** preceding the introduction of the program, 85 and 97 incidents were reported during 1988 and 1989 respectively. After the introduction of safety measures the reported incidents decreased to 68 in 1990 and 64 in 1991. In addition applicants for positions more than doubled in the last year.

## CONCLUSION

The present study succeeded in identifying a wide range of factors contribution **to** stress. The introduction of the safety program and a lighter workload contributed to reducing stress by 20% ensuring more efficiency. The fact that more job applications were received indicated that a safe environment will increase the availability of staff. The most striking finding in **this** study was the level of negativity toward organizational based stressors, including ergonomical factors over which the individual has little control. Safety requirements must therefore not only be considered fundamental to the design of processes, but facilities must be constructed to ensure ergonomical freedom. In addition, managers and supervisors must be trained in basic ergonomics and physiological principles **so** that they **can** provide an ongoing support to **staff** and acquire information on which future decisions regarding environmental and job design **can** be based.

## REFERENCES:

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3. Yousefi, V. The role of occupational health and hygiene in industry. *National Safety & Occupational Hygiene* 3, 1991.