

THE PHYSICAL ACTIVITY PROFILE AND THE USE OF MEDICATION BY THE SOUTH AFRICAN DEFENCE FORCE PERSONNEL

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1. INTRODUCTION

Exercise has consistently been identified as a behavioral intervention likely to reduce morbidity and mortality, underscoring its importance as a major preventive health behaviour (Paffenbarger & Hyde 1984). However recent population estimates indicate that 41-51 percent of adults between 41-64 years of age remain sedentary (Powell et al., 1986). It is further estimated that of those Americans who do begin an exercise programme 50% will discontinue within the first six months (Martin & Dubbert, 1986) and of those who are physically active less than 20% will exercise at levels likely to accrue health benefits (Powell et al., 1986). Associated with this physical inactivity, the risks of hypokinetic diseases escalate (Aldana et al., 1993).

The leading causes of death in South Africa today are those related to lifestyle for example heart disease, cancer, cerebrovascular disease and accidents. Many of these leading causes of death and disability are largely preventable. In South Africa 59,5% of all death in the white population is due to self inflicted causes (Wyndham, 1981). Research has indicated that these self inflicted chronic illnesses and health risks are the major components of costly health care (Lynch et al., 1992) During the past few years the rapid increase in health care costs in many countries in the world, has been source of grave concern (Harvey et al., 1993). According to the Representative Association for Medical Scheme, the average increase in health care costs in South Africa during 1989 was 20%.

As a result various health promotion programmes and strategies were developed to counter act the financial burden of health care costs (Aldana et al., 1993). The major aim in these health promotion programmes was to encourage the individual to take responsibility for their own health by changing some of their destructive habits. A destructive lifestyle can contribute significantly to chronic diseases which in turn causes health care costs to escalate (Fries et al., 1993). Fries indicated further that preventable diseases form up to 70% of the burden of illness. Medical care costs for the most expensive employee in an organization often exceeds \$100 000 dollars per year (Logan In: Lynch et al., 1992). Financial losses due to diseases that were associated with physical inactivity were found to exceed \$9 million a year due to a loss in salaries and man-hours among executives of large companies (Shephard, 1785).

Physical fitness programme represent an integral component in the health promotion domain and exercise training is widely advocated in the prevention and treatment of several "chronic" health problems (Davis et al., 1979). In this case results have indicated that an improvement in the physical condition of the individual results in an improved health status and also reduced health care costs (Blair et al., 1989; Breuleux et al, 1993). Unfortunately exercise programs are often ineffective in achieving these changes with poor participant compliance forming a big part of the problem (Franklin & Rubenfire 1980).

2. METHOD

The data reported in this paper formed part of a research study which involved medical and army headquarters personnel of a command in an urban town in the Western Transvaal region. A matter of concern is the low percentage of people participating on in physical activity at regular basis. As stratified random sample was drawn from the personnel of this medical and army headquarters in this command. Each respondent completed a questionnaire, dealing with personal and health habits under



the supervision of a qualified biokineticist (exercise physiologist). In the paper the physical activity profile and the intake of medicine in respondents 25 - 40 years are dealt with.

2.1. PHYSICAL ACTIVITY INDEX (PAI)

The physical Activity profile of every respondent was determined by using the procedures suggested by Sharkey (1984). According to these procedures a person who trains 3 times a week (frequency = 4), for 20 - 30 minutes per session (duration = 3) and at an intensity of 60 - 70% of their age adjusted maximal heart rate (intensity = 3), will receive a physical index of 36 ($4 \times 3 \times 3 = 36$).

In the determine the physical activity profile of the respondents they were classified into 2 groups based on their physical activity index i.e. (0 - 35) inactive and moderately active and (36+) highly active. The reason for this classification is that according to the American College of Sports Medicine (1991) this index (36+) could represent physical activity which can benefit the personal health of an individual.

Therefore in the further analysis of the medicine intake and the type of medicine only the two groups namely a physically inactive (PAI=0-35) and an active group (PAI=36+) were used. This was also necessary so as to avoid small groups in the various categories as only some of the respondents were using medication.

2.2. MEDICINE INTAKE

The profile of the intake of medicine by the respondents was gathered from the information centre of the medical service. In this respect the following classification was made by a physician and pharmacologist regarding the type of medicine namely chronic, intermediate and acute. Chronic medication use reflects medication intake of a chronic nature which was used for 6 months and longer. Intermediate refers to a use of 1 - 6 months and acute to a 5 - 30 days intake.

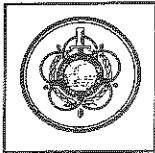
Statistical analysis of the data was done by a Statistical Consultation Service by using the SAS (SAS Institute Inc, 1988) programmes.

3. RESULTS AND DISCUSSION

From Table 1 it is clear that the physical activity amongst men and women decreases, this is the same tendency that occurs as described world wide. In the age 25 -39 years 68% and 76% of the men and women respectively were inactive. For the older group 40 - 55 years the percentage of inactivity increased to 82% and 90% respectively. It is also clear that men tend to be more active than their counterparts.

Table 1. The physical activity profile of men and women (age 25-39 and 40-55years) in the South African Defence Force personnel.

| | MEN | | | | WOMEN | | | |
|----------------------------|---------------|----|--------------|----|---------------|----|--------------|----|
| | 25-39 (n=100) | | 40-55 (n=90) | | 25-39 (n=100) | | 40-55 (n=85) | |
| | n | % | n | % | n | % | n | % |
| <i>Physically Inactive</i> | 68 | 68 | 74 | 82 | 76 | 76 | 77 | 90 |
| <i>Physically active</i> | 32 | 32 | 16 | 18 | 24 | 24 | 8 | 10 |

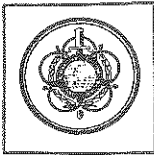


The limited number of people - both male and female and all age groups who participate in physical activity on a regular basis is a matter of great concern. Physical exercise is widely advocated in the prevention and treatment of several chronic health problems and in the maintaining good health in advanced life (Gordon & Gibbons, 1990). Furthermore it has been indicated that a more active lifestyle can reduce health costs (Breuleux et al., 1993), a problem which is, at this stage, a vital one in South Africa. Medical aid schemes are under great pressure as a result of the sky rocketing costs of health care. One of the various strategies which is propagated is that exercise must be recognised as a lifetime pursuit rather than as a periodic effort to obtain increased physical fitness and that everyone should accept responsibility for their own health. Unfortunately this philosophy of taking responsibility for one's towards own health is not propagated strong enough in South Africa. In most of our companies and societies we find people who are more "illness orientated" than "health orientated", which creates the attitude that somebody else will take responsibility for our own health.

Table 2. The physical activity profile and medicine intake per person in the South African Defence Force

| | <i>Men</i> | | | | <i>Women</i> | | | |
|------------------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| | 25-39 (n=100) | | 40-55 (n=90) | | 25-39 (n=100) | | 40-55 (n=85) | |
| | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> |
| | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) | n (%) |
| <i>Total Group</i> | 32 (32) | 68 (68) | 16 (18) | 74 (82) | 24 (24) | 76 (76) | 8 (10) | 77 (90) |
| <i>Medicated Group</i> | 5 (6.4) | 25 (36.8) | 4 (25) | 45 (60.8) | 8 (33) | 40 (52.6) | 2 (25) | 55 (71.4) |
| <i>% Per Group</i> | 15.6 | 36.8 | 25 | 60.8 | 33 | 52.6 | 25 | 71.4 |

From Table 2 it is clear that in all age groups (men and women) the physically active groups took less medicine than the inactive groups. This is the tendency under all the age groups but is more prominent in the older age group for both men and women. Literature confirms that aging can, in most cases, be associated with a decrease in physical activity and in an increased consumption of medication (Shephard, 1978 & Aldana et al., 1993). For the men in the active group 25% of the active group were taking medicine compared to the 60% of the inactive group. For the women the corresponding figures were 25% versus 71,4%. When considering the active and the inactive group separately it is clear that a lower percentage of medication was taken by the active than in the inactive group 15,6% vs 36,8% (men 25-39 years), 25% vs 60,8% (men 40-55 years), 33% vs 52,6% (women 25-39 years), and 25% vs 71,4% (women 40-55 years). The higher use of medicine by the inactive men and women group in the age 40-55 may be due to hypokinetic diseases.



Tabel 3 The frequency of medication (per intake) used by physically active and inactive men and women (age 25-39 and 40-55) in the South African Defence Force.

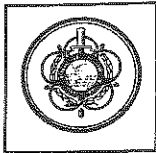
| | <i>Men</i> | | | | <i>Women</i> | | | | | |
|---------------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---|---|
| | 25-39 (n=50) | | 40-55 (n=74) | | 25-39 (n=98) | | 40-55 (n=123) | | | |
| | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> | <i>Active</i> | <i>Inactive</i> | | |
| | n | % | n | % | n | % | n | % | n | % |
| <i>Chronic</i> | 6 (12) | 16 (32) | 12 (16.2) | 26 (35.1) | 20 (20.4) | 42 (42.9) | 15 (15.2) | 92 (74.8) | | |
| <i>Intermediate</i> | 3 (6) | 8 (16) | 6 (8.1) | 8 (10.8) | 5 (5.1) | 9 (9.2) | 2 (1.6) | 6 (4.9) | | |
| <i>Acute</i> | 5 (10) | 12 (24) | 10 (13.5) | 12 (16.2) | 9 (9.1) | 13 (13.3) | 3 (2.4) | 5 (4.1) | | |

From the usage of medication that is tabled above it is clear that the medication of a chronic nature (intake of longer than 6 months) forms the major portion of intake. That is applicable to all age groups of women and men. When the medication intake was further analyzed it seems clear that the cardiovascular medication of the chronic type was predominantly used by the respondents in all age groups. This chronic medication may be related to a destructive lifestyle as suggested by research literature (Fries et al., 1993).

Palm (1978) indicated that preventable diseases, to which a physically active lifestyle can contribute significantly constitutes 30% of all the health care costs in South Africa. Just as poor health habits place the individual at "risk" of health problems, so to do they place the individual at risk of the associated high medical costs.

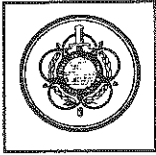
4. CONCLUSION

From this study it is clear that there is reason for great concern at the state of physical inactivity that was identified among a representative number of the South African defence force personnel in so called "white collar jobs". An increased intake of medicine especially of a chronic nature accompanies this problem. These results imply the need of new intervention strategies and health promotion programmes to promote "self responsibility" for each individual's own health. It is clear that one of the simplest way to improve one's health and quality of life as well as effect a decrease in health care utilization and costs is to take the responsibility of becoming more active.



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