



Research Article

STUDY OF MUSCLE ENDURANCE AMONG SECURITY PEOPLE

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ABSTRACT

Background- Muscular endurance is the ability of a muscle or group of muscles to sustain repeated contractions against a resistance for an extended period of time. Muscular endurance is one of the components of muscular fitness, along with muscular strength and power. Since security people are prone to a lot of work the muscle endurance can be checked using a hand grip test

Aim- To Study the muscle endurance in security people.

Objective- To study the muscle endurance in security people.

Methodology- 50 participants were involved and their muscle endurance were checked used a hand grip

Results- From the research conducted it was evident that there was not much difference between the muscle endurance of a normal and security person

Conclusion- There was no significant change in the muscle endurance of security people with that to normal people. We conclude that there are several other factors that alter the muscle endurance.

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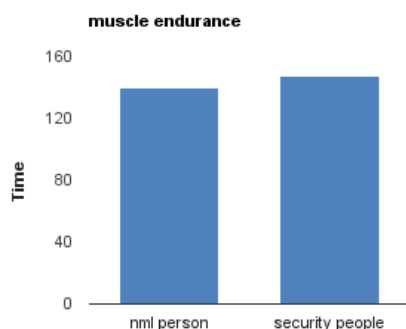
INTRODUCTION

Muscular endurance is the ability of a muscle or a group of muscles to sustain repeated contractions against a resistance for an extended period of time. Muscular endurance is one of the components of muscular fitness, along with muscular strength and power (1). Grip strength is widely used due to the portability and practicality (3). The grip varies from person to person depending on the occupation, age and many other factors (10). Since security people are prone to a lot of work the muscle endurance can be checked using a handgrip test (1). Depending on the work load the muscle endurance changes. (2) Security people will have greater muscle endurance than the people of other occupations due to the differences in the work. Security people have to lift heavy loads, stand for long, would not have regular breaks and their work pressure would be more than the rest. Other Longitudinal studies concluded that the grip strength declines with increasing age, disability and it affects the health related quality of life(2). Muscular endurance can be tested using the dynamometer, handgrip and many other equipments.(6). Grip strength is widely used for estimating whole body strength but there is a lack of information relating to grip endurance (5). Muscle endurance is an important aspect of physical performance and needs to be considered when assessing musculoskeletal function. Recent studies have examined the association between impairments of muscle endurance and underlying pathology relating to morbidity. The main aim of

the present study was to determine the endurance characteristics among security people using a handgrip. (5)

MATERIALS AND METHODS

A study was done among 50 security people of age groups 21-56 among of which 25 were people of control group and 25 were security people. Only normal security people without any systemic diseases are included for the study. Security person with diabetes, hypertension, cvs disorder, nervous disorder and muscular problems are excluded from the study. Included security people were given the hand grip and asked to hold as long as they can. They were not given any breaks. (1) Participants who were recreationally active and who had full pain free range of motion at the knee and wrist were included. Participants were recruited from different companies (3). All of the participants were right handed and hence the muscle endurance of the right hand was studied. Most of the researchers believed that right hand grip is stronger than the other hand. Handgrip was used on all the participants. All the participants were standing while the hand grip was being used. (2)



RESULTS

The mean time in seconds for security people was 147.68 seconds and for normal people it was 140.12 seconds.

The P value of normal and security people was 0.2266 and is shown to be insignificant.

DISCUSSION

From the research the shows that the muscle endurance between normal people and security people vary insignificantly. The p value indicates that there is not much difference when the muscular endurance of normal people are compared with that of the security people. Results may vary because the period of duration of their work among the security people were not recorded and hence the intensity of work done by each person will be different.

Greater the age of the person the muscular endurance was seen to reduce (6). Studies also proved that the right hand was more dominant to such tests and had more muscle endurance than the left hand (7). Some of the people used their left hands as they are more dominant with the left side due which the muscle endurance on comparison can reduce. Conditions like back pain, musculoskeletal disorders, chronic back pain and joint pains are responsible for a decline in the muscle endurance (4). Muscle fatigue altered the strength of the muscle by affecting the peripheral muscle (8). Changes in the relaxation rate altered the muscle fatigue which in turn determined the muscle strength (9). The strength of the muscle was seen to be higher in obese people provided that they had a healthy nutrition. But some of the participants may not have had a proper intake that day and thus will show a difference in results. Besides all the physical factors gender differences were also seen to show slight differences (2). Due to the fact that a maximal effort was required during the endurance tests, participant motivation was vital. (3)

CONCLUSION

There was no significant change in the muscle endurance of security people with that to normal people. We conclude that posture, gender, handedness, nutritional status, wrist and forearm position, arm support, age time factor, forearm girth, psychological factor, temperature, altitude, oxygen, fatigue, nutrition, smoking, alcohol should also be considered while assessing the muscle endurance (2).

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