



Risk of Carpal Tunnel Syndrome in Occupational Vs Non-Occupational Population using Database Analysis – A Population Based Review

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Abstract—

Carpal Tunnel is made up of tendons and ligaments, Median nerve passes through it and is located inside the wrist. Carpal tunnel syndrome is the painful, tingling and numbness sensation in the hand and arm due to the compression of the median nerve. Methods - Database such as google scholar, pubmed and Scopus were searched and the collected data were analysed. Results – results show that workers working in the production and heavy lifting jobs were at high risk of cts. Conclusion – Adequate interval of rest should be given in between work to prevent cts.

Index Terms—cts carpal tunnel syndrome.

I. INTRODUCTION

Carpal tunnel is located inside the wrist made up of tendons and ligaments, the median nerve passes through it. Carpal tunnel syndrome is the painful, tingling and numbness sensation in the hand and arm caused by the compression in the median nerve. This study was conducted to find out which people are more prone to risk of carpal tunnel syndrome – Occupational vs non-Occupational.

II. METHODS

Database such as google scholar, pubmed and Scopus were searched in English using keywords carpal tunnel syndrome population, cts, cts workers, cts population based, etc. The collected data were analysed.

III. SUMMARY

The study involves 2 population: Occupational - Meat industry workers who do heavy lifting 434, Fish processing plants 69, Shocker manufacturing workers 140, Construction Industries 116, Manual tea harvesters 56, Aerospace Workers 10, Food packaging workers 50, Textile industry 6, Keyboard users at work 2465, Electrical assembly workers 104, Ski manufacturing workers 106,400, Forestry workers 65, Quarry drillers 145, Female automobile assembly workers 60, US naval personnel 9, Carpet layers from workshops in turkey 70, Canadian dental hygiene 1066, Supermarket workers 56, Plumbers 330, Poultry workers 93. Non-Occupational – Pregnancy, Sexual intercourse.

CTS commonly occurs in jobs involving repetitive works.

[2] High risk of carpal tunnel syndrome is found in Korea as technology intensive industry is becoming more. [3] Repetitive strain injuries often leads to cts. [4] Manual tea harvesters do repetitive work which leads to cts but are not at high risk as they are not involved in heavy lifting which causes pressure on the median nerve. [6] The workers in the textile industry already have inflammation in the median nerve on their right hand which shows that they are already at risk of cts. [8] Frequent keyboard user's data were analysed and found that they were at low risk for cts. [10] The data indicated that keyboard and computer users were at lower risk of cts. [11] Repetitive hand movements, forceful hand pressure and awkward hand posture are found to be higher risk of cts. [14] Carpal tunnel syndrome is more prevalent among ski manufacturing workers as they perform repetitive hand movements. [13] Heavy lifting is the most common cause for cts as the data from research work found showed that workers in the meat processing industry in Italy were found to be high risk of cts as it involves repetitive work and they were associated with heavy object lifting. [1] Aerospace workers are found to be at high risk of cts because they frequently use drill gun, flat sander, router gun and angle grinder and they were involved in heavy lifting. [7] Occupational history is taken into consideration among construction workers a most construction workers come have a history of heavy lifting and repetitive work in previous jobs. [5] Analysing the Non occupational risk factors we found that Pregnant woman are at risk of cts but can be treated using physiotherapy as the symptoms are milder. [9] People who have sexual intercourse frequently are at risk of cts especially woman as they use the wrists as anchors for the support of the upper body in certain position [13].

IV. RESULTS

Results of occupational and non-occupational study shows that people working in the production and heavy lifting jobs were at high risk of cts. Non occupational study shows that factors such as pregnancy and sexual intercourse were less risk than occupational factors.

V. DISCUSSION

In the meat and fish processing plant factory increased pressure on the hand showed increased risk of cts. Lifting heavy items puts pressure on the hand hence pressure in the median nerve causing cts. Analysing from the database computer-based employees and non-occupational people were at less risk compared with production and heavy lifting workers.

VI. CONCLUSION

Adequate interval of rest should be given to factory workers in between work to prevent cts.

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