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PREVALENCE OF CARPAL TUNNEL SYNDROME EVENTS AT SANGLAH GENERAL HOSPITAL DENPASAR IN 2012-2014

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Abstract: **Carpal Tunnel Syndrome is a condition that is quite common in the age of the work, the risk of CTS high in work involving pressure high exposure, high strength, repetitive work, and tools that vibrate Physical factors involved and studied extensively in work-related CTS include repetition, force, posture, external pressure, and getaran.Carpal Tunnel Syndrome (CTS) is a mono-upper extremity peripheral neuropathy, caused by compression of the median nerve as it passes through the carpal tunnel to the wrist. The research objective To determine the prevalence of carpal tunnel syndrome in adults in Sanglah General Hospital. This research is deskritifobservasional using cross-sectional approach to determine the number of cases of carpal tunnel syndrome in the General Hospital Sanglah, Denpasar Subjects in this study were all patients with carpal tunnel syndrome in the General Hospital Sanglah, Denpasar, Bali since January 2012 to December 2014. Looking at the data by age and gender who have Carpal Tunnel Syndrome most in the age group 41-55 years of 41.7%, by gender showed that patients with Carpal Tunnel Syndrome most in the female gender by 62 , 5%.**

Keywords: **carpal tunnel syndrome mono-upper extremity peripheral neuropathy, compression of the median nerve.**

I. INTRODUCTION

Carpal Tunnel Syndrome is a fairly common condition at the age of people working [2], a high risk of CTS in work that involves high exposure pressure, high strength, repetitive work, and vibrating devices. At risk jobs including, grinder, cashier, and meat packing, car seat sewing workers, aircraft engineers, grocery store workers, and small parts liner assembly [1]. Carpal Tunnel Syndrome (CTS) is a peripheral mono-neuropathy of the upper limb, caused by compression the median nerve when passing through the carpal tunnel to the wrist. In the carpal tunnel the median nerve is immediately located beneath the palmaris longus tendon and anterior to the flexor tendon. Conditions that reduce the size of the tunnel, or swell the structure contained in it, compressing the median nerve against the transverse ligament at the top of the carpal tunnel. Such conditions can cause trauma, congenital, or due to systemic or inflammatory effects. CTS causes include diabetes mellitus, rheumatoid arthritis, acromegaly, hypothyroidism, pregnancy and tenosynovitis. This review focuses, on the causes of work. After a general description of CTS, epidemiology in the working age population, which presents a clinical and investigative picture, attention is paid to the predominant and estimated risk factors in the workplace, and optimal compensation, prevention and management of work related to cases.[2] physical examination and results electrophysiology research. Patients with mild symptoms of CTS can be managed with conservative treatment, especially local injection of steroids. However, in moderate to severe cases, surgery is the only treatment that gives medication. The basic principle of surgery is to increase the carpal tunnel volume by dividing the transverse carpal ligament to release pressure on the median nerve [1]. Based on the description above, there are quite a lot of workers who experience carpal tunnel syndrome in the community which will continue to increase along with the increasing number of workers each year. And Indonesia in general and Bali. Until now epidemiological data about carpal tunnel syndrome in Indonesia is very minimal. The epidemiological data is very important to find out how big is the picture of carpal tunnel syndrome and its distribution in Indonesia, and Bali in particular.

II. MATERIAL AND METHODS

A. Subject

Subjects in this study were all carpal tunnel syndrome patients at the Sanglah Central General Hospital, Denpasar, Bali from January 2012 to December 2014. Sampling using all existing populations up to the specified time limit. Samples were obtained from secondary record data. medical records obtained in the Sanglah Hospital medical record storage room. Samples were collected as many as 24 patients who experienced carpal tunnel syndrome. As for the description of each variable, it could be obtained with a descriptive analysis method through the application of *statistical programs for social sciences* (SPSS). The study was carried out in the Orthopedics and Traumatology Section and the Emergency Room at the Sanglah Central General Hospital. Data collection took place in March 2016. The target population in this study is adult patients aged 18-50 years who have carpal tunel syndrome. The affordable population is all adult patients aged 18-50 years who have carpal tunel syndrome who received treatment at the Sanglah Central General Hospital, Denpasar, Bali from January 2012 to December 2014.

In this study the inclusion criteria of the subjects were carpal tunel syndrome, aged 18-50 years, getting medical treatment at Sanglah General Hospital and recorded in medical records at Sanglah General Hospital. Researchers do not provide exclusion criteria for subjects. The sample collection technique used is total sampling. Total Sampling is a way of sampling where the determination of samples by using all existing populations up to a predetermined time limit. This study aims to determine the epidemiological picture of carpal tunel syndrome cases with a time limit from January 2012 to December 2014. The sample data used in the study came from secondary data from the Sanglah Hospital Medical Record in 2012-2014.

III. RESULT AND DISCUSSION

Several factors influence the distribution of disease in certain population groups. Groups based on age can be seen in table 1 below by age group

Table 1: Group Based on Age

Respondent Age	f	Percent (%)
Mean (Standart Deviation)	48,21 (13,28)	
Min ; Max	9 ; 70	
Group of Age		
< 10 years	1	4,2
10-25 years	0	0,0
26-40 years	6	25,0
41-55 years	10	41,7
56-70 years	7	29,2
Total	**24**	**100,0**

The average age of patients who have Carpal Tunnel Syndrome is 48 years with a minimum age of those who have experienced Carpal Tunnel Syndrome is 9 years old and the maximum who has Carpal Tunnel Syndrome is 70 years. Based on the age group, it can be seen that the highest number of Carpal Tunnel Syndrome patients in the 41-55 year age group is 41.7% and there are no patients who have Carpal Tunnel Syndrome in the 10-25 year age group at Sanglah Hospital.

The prevalence of Carpal Tunnel Syndrome based on Gender in Sanglah Central General Hospital, Denpasar, Bali in 2012-2014 can be seen in table 2 below

Table 2: Gender Based Prevalence

Sex	f	Percent (%)
Male	9	37,5
Female	15	62,5
Total	**24**	**100,0**

Based on the analysis of the prevalence of Carpal Tunnel Syndrome cases in Sanglah Hospital in 2012-2014 in the female sex was 62.5% and the prevalence in men was 37.5%. That is because the case was obtained by using RM or medical records at Sanglah Central General Hospital Denpasar.

In table 3 below is an attachment of statistical data

Table 3: Statistics

N	Valid	24
	Missing	0
Mean		48,21
Std. Deviation		13,283
Minimum		9
Maximum		70

In this table 4 below is an attachemen of statistical data based on group age

Table 4: Statistical data based on group age

	frequency	**percent**	**Valid percent**	**Cumulative percent**
Valid <10 years	1	4,2	4,2	4,2
20-40 years	8	25,0	25,0	29,2
41-55 years	10	41,7	41,7	70,8
56-70 years	7	29,2	29,2	100,0
total	**24**	**100,0**	**100,0**	

Table 5: Statistical data based on Gender

	frequency	**percent**	**Valid percent**	**Cumulative percent**
Valid Male	9	37,5	37,5	37,5
Female	15	62,5	62,5	100,0
total	**24**	**100,o**	**100,0**	

Based on the age group the prevalence of Carpal Tunnel Syndrome cases in Sanglah Hospital in the age group of less than 10 years (> 10 years) is 4.2%, the age group 26-40 is 25%, the age group 41-55 the prevalence is 41.7%, in the age group 56-70 the prevalence was 29.2%.

Based on the results of data analysis, it is seen that the highest prevalence of cases occurs in the umr group 41-55 due to a condition that is quite common at the age of working people, the risk of high CTS in occupations involving high exposure pressure, high strength, repetitive work, and tools. vibrating device, many active workers at the age of 41-55 Factors such as repetition rates inherent in work, pacing of work activities, work-rest cycles, and torque acting on the wrist are challenging to measure, in most jobs they are very varied. There is no prevalence of Carpal Tunnel Syndrome cases in the age group of 10-25 years at Sanglah Hospital during 2012-2014 due to the small number of workers in jobs involving high exposure pressure, high strength, repetitive work and vibrating devices and age factors. the young are still strong in accepting the burden.

Based on the data, there is a prevalence of age groups under 10 years who experience Carpal Tunnel Syndrome, which is 9 years old, it can occur due to a condition that rarely occurs at the age of 10 years and below. Because it is not the general age of the workers. 10 years.

In this study, there were 24 samples of carpal tunnel syndrome based on sex and age. Most of the samples were female (N: 15, 62.5%) and the rest were male (N: 9, 37.5%). This study showed that women were more more than men. Based on the age group the prevalence of Carpal Tunnel Syndrome cases in Sanglah Hospital in the age group of less than 10 years (> 10 years) is 4.2%, the age group 26-40 is 25%, the age group 41-55 the prevalence is 41.7%, in the age group 56-70 the prevalence was 29.2%.

IV. CONCLUSION

The prevalence of carpal tunnel syndrome cases based on age at the Sanglah .denpasar.bali central general hospital in 2012-2014 was most in the 41-55 years age group of 41.7% and there were no patients who experienced carpal tunnel syndrome in the age group of 10 -25 years in Sanglah Hospital

The prevalence of carpal tunnel syndrome by sex in Sanglah Central General Hospital, Denpasar Bali in 2012-2014 is the patient who experienced the most carpal tunnel syndrome in the female sex by 62.5%.

REFERENCES

[1] Carpal tunnel syndrome Somaiah Aroori, Roy AJ Spence *\ Accepted 1 November 2007

[2] Professor Keith T Palmer, MA DM FFRCP FFOM, Carpal tunnel syndrome: The Role of Occupational Factors of Occupational Medicine, MRC Epidemiology Resource Centre, University of Southampton, UK

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[4] *Scand J Work Environ Health*. Author manuscript; available in PMC 2014 June 03.Published in final edited form as: *Scand J Work Environ Health*. 2013 September 1; 39(5): 495–505. doi:10.5271/sjweh.3351.