

Prevalence of Muscle Cramps in Elderly Women

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Abstract:

Muscle cramp is common among elderly women. A cramp is a rapid, spontaneous painful contraction of a muscle causing an obvious knot inside the muscle. Cramps occur for a few minutes and are sudden. Stretching of the muscle may relieve the cramps. Cramps are painful and may awake patient from sleep, as well as delay from the rest.

Objective:

To find the prevalence of muscle cramps in elderly women.

Methods:

Cross-sectional study was conducted and data were collected from 150 women visiting different hospitals in Lahore, through non-probability convenient sampling technique. The collected data were analyzed statistically by SPSS version 21.0.

Results:

The prevalence of muscle cramps among the participant were found to be 56.0%. Total 150 participants were observed, among which 66 participants did not had muscle cramps (44%).

Conclusions:

The study concluded that muscle cramps were common among elderly women above 50 years of age, a small number of people showed more cramps per week, several of them had sleep trouble due to muscle cramps. Muscle cramps in elder women affected their social life.

Keywords:

Muscle cramps, prevalence, elderly women

Introduction:

A cramp is defined as a sudden, involuntary painful contraction of a muscle causing a palpable knot in the muscle. Cramps are for the

few minutes and sudden. Stretching of the muscle may relieve the cramps¹. Cramps are painful and may awake patient from sleep, as well as delay from the rest. There are different mechanisms to explain the cramps, but the leg cramps have unknown cause yet². Motor neurons originate the cramps instead of the muscles in which the side effects are experienced and mechanisms are unknown³. In many people cause is unknown, there are many factors responsible for the cramps. The medicines which cause leg cramps are diuretics, nifedepine, β -agonists, steroids, morphine, cimetidine, and statins. About 53% of the patients are taking quinine for the cramps. Cramps have also been related with condition like Uremia, Hypomagnesaemia, Thyroid, Diabetes, Hypocalcemia, and Hypokalemia, so, blood glucose, TSH test, serum calcium, serum magnesium, serum potassium level⁴. Non-pharmacological treatment is stretching of a muscle, heat application, massage, proper exercise, nerve stimulation. There is no requirement of any kind of surgical procedures⁵. A painful muscle spasm occurs during or after any physical activity is associated with muscle cramps. It is usually localized muscle cramping that occurs occasionally in different muscles as calf, hamstring or quadriceps muscles⁶. Leg cramps are very painful and last up to 9 minutes. The acute incident may be followed by hours of recurrent episodes and lasting pain. Leg cramps are typically at nighttime and are related to sleep deprivation. It involves calf muscles, but ankle and thigh cramps are common. Leg muscle cramps are described as a spasm, shrinking, ache, strain, tetany, swelling, or seizure. Cramps are isometric or may cause extreme plantar flexion of foot². Cramps in muscle are associated with age as increase age or poor health of

elders. Other factors which are responsible for cramps are leg claudication, pregnancy, neuropathy, vascular disease, angina, and arthritis. Existing predominance information recommends that 37–50% of elder population have such leg cramps. In one examination, 24% of patients with spasms revealed that they were "extremely troubling"⁷. A nerve root compression or a vascular disease are also responsible for leg cramps. With some reports it has been observed that leg cramps are related Lumbar Spinal Stenosis, also, it is unclear whether the surgical intervention affects leg cramps in patients with Lumbar spinal stenosis⁸.

According to Hensley JG, 30% pregnant women had leg cramps while 26% suffered from restless leg syndrome⁸. According to the Kraus PD *et al.*, muscle cramps were more common in diabetes 2, leg muscle cramps did not affect or disable the patients with type 1 diabetes⁹. Findings of Young G revealed that leg spasms were normal and their occurrences was associated with age. About 50 % of individuals going to hospital facility had a leg cramp for a 1 month, and more than 66% of individuals aged more than 50 years had encountered leg cramp issues¹⁰. A cross sectional study by Grandner MA and Winkelman JW, concluded that NLC happening >5x every month were accounted for 6% of the grown-up US population. Rest unsettling influence side effects and health conditions were related with higher recurrence of NLC, proposing that NLC was a marker, and perhaps patron to poor rest and general condition¹¹. In inference, muscle cramps during dialysis are important issue and situation worrying the patient's life. There are many new advances to treat and prevent this common clinical problem such as minimizing inter dialytic weight gain, prolonging dialysis session time to reduce ultra filtration rate, using sodium modeling, and avoiding hypotension may reduce cramps during dialysis. They may be treated with bolus hypertonic saline or dextrose and local heating and massage of the cramped muscle. Avoidance of cramps may include an experience of vitamin E¹². According to the study of Braulick K *et al.*, critical and genuine hypo-hydration with direct electrolyte loss did not

affect weakness when exhaustion and exercise force were controlled. Neuromuscular control might be more imperative in the beginning of muscle cramp than dehydrate or electrolyte imbalance¹³.

This study had interrogated the prevalence of muscle cramps in elder women and it was important because it was very common in elderly women due to many causes and can affect their daily activities. The prevalence can be reduced by creating awareness through health education in elderly women in the society.

Methods:

A cross-sectional study design was used to conduct this survey. Questionnaire related to leg cramps was used to collect data. Cramp prevalence CIPA PREVALENCE questionnaire was completed by 150 participants from different hospitals through non-probability convenient sampling and sample size was calculated by Epitools sample size calculator. Data were collected in 2 months from different hospitals of Lahore. The inclusion criteria was female patients above 50 years of age. While Exclusion criteria was pregnant women, pre-menopausal women, having recent traumas and fractures. Data were analyzed by the SPSS version 21.0. Results were shown through the percentages and the frequencies of the variables.

Results:

The total population of current study was 150, 84(56%) women had leg cramps and 66(44%) did not had leg cramps (Table 1).

Muscle Cramps	Frequency	Percentage
Yes	84	56%
No	66	44%
Total	150	100.0%

Table 1: Prevalence of Muscle Cramps

Total respondents were 84 with muscle cramp, out of which 77(91.7%) women had sleep disturbance and 7(8.3%) women did not had sleep disturbance, Table 2.

Sleep Disturbance	Frequency	Percentage
Yes	77	91.7%
No	7	8.3%
Total	84	100.0%

Table 2: Sleep Disturbance due to Muscle Cramps
Out of 84 subjects, 11(13.1%) women were having cramps on both sides of leg, while 73 (86.9%) women were having cramps on one side of the leg (Table 3).

Dimensions	Frequency	Percentage
Both Sides	11	13.1%
One Side	73	86.9%
Total	84	100.0%

Table 3: Dimension of Muscle Cramps
Out of 84 subjects 65 (77.3%) women had cramps in calves muscle, while 7 (8.4%) had cramp in feet and 12 (14.3%) women had cramps in thigh (Table 4).

Muscles Cramps	Frequency	Percentage
Calves	65	77.3%
Feet	7	8.4%
Thigh	12	14.3%
Total	84	100.0%

Table 4: Location of Muscle cramps

Figure 1 showed the cramps related to the endocrine disorders. 36 women had diabetes, 20 women had neuropathy, 7 women had hyperthyroidism and 5 women had hypothyroidism and 16 women had none.

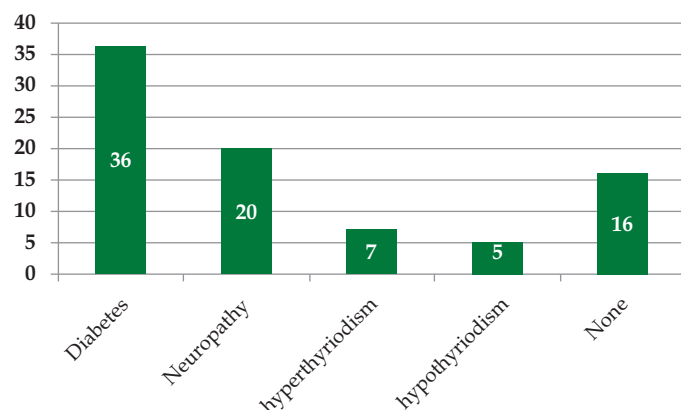


Figure 1: Muscle cramps in Endocrine Disorders

Figure 2 showed the cramps related to the renal disorders. 4 women had renal insufficiency, 12 women had dialysis and 68 women had none.

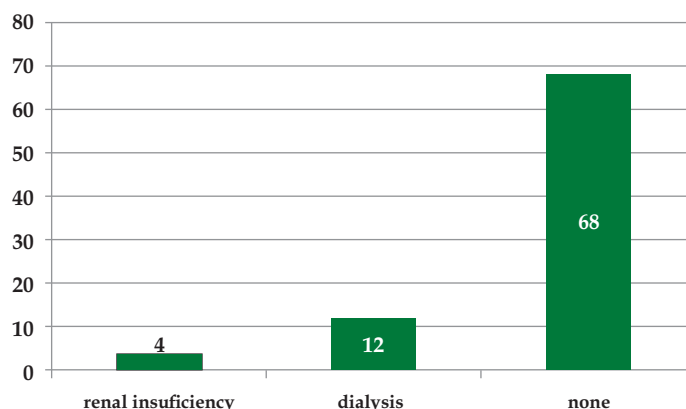


Figure 2: Muscle cramps in Renal Disorders

Discussion:

Muscle cramp is common among elderly women. A cramp is a rapid, spontaneous painful contraction of a muscle causing an obvious knot inside the muscle. Although there are more studies on the muscle cramps, its occurrence and average of cramps in a week or month and its risk factors like diabetes, hemodialysis, peripheral neuropathy, and hypertension. Current study showed that it was common in age above 50 years and also effected the sleep and walk. 77 patient out of 84 (91%) patients from sleep as well. According to the survey of Blyton F *et al.*, 80 adults were taken having leg muscle cramps and reviewed period of first cramp was 50 years. Also most adults had sleep disturbance¹⁴. Current study showed muscle cramp was a common issue in hypertension and neuropathies, out of 84 women 36 women had diabetes. 20 had peripheral neuropathies and 12 women had cramp associated with dialysis. In a case control study on the factors associated with night time leg cramps by Hawke F *et al.*, 160 adults were chosen. 80 people were experiencing leg calf muscle cramps and the study showed the association of cramps with hemodialysis and peripheral neuropathies¹⁵. According to the current study the total population was 150, out of which 84 women above 50 years had the muscle cramps and experienced it more than once in a week. According to the study of

Maisonneuve H *et al.*, in primary care cramps were very common in women and effected their sleep and 50% people had cramps more than once a week¹. According to current study, out of 84 participants 63 (75%) patients were taking treatment to relieve from cramps whether it was an oral medication or exercise. The study of Hallegraeff JM *et al.*, suggested that night stretching before going to sleep reduced the frequency and chances of nocturnal muscle cramps in older adults¹⁶. Out of 84, patients 36 diabetic participants had muscle cramps while 20 had peripheral neuropathies and both were the common risk factors for muscle cramps. According to the study and finding of Katzberg H *et al.*, the unadjusted prevalence of issues in our patients was reliable with these reports: 75.5% in type 2 diabetes (range, 45-78%) and 57.5% in type 1 diabetes (range, 24-34%). Neuropathy, a risk factor for advancement of issues based on peripheral nerve hyper volatility was observed to be the most vital factor deciding improvement of issues in our diabetic patient¹⁷.

Conclusions:

The study concluded that muscle cramp was common among elderly women above 50 years of age, a small number of people showed more cramps per week, several of them had sleep trouble due to muscle cramp. Muscle cramps in elder women affected their social life.

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