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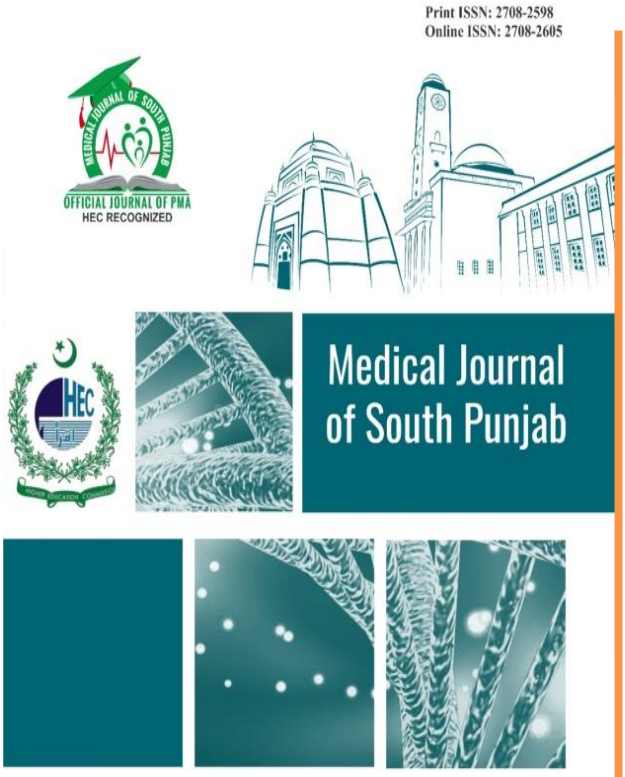

Association of Varicose Veins with Quality of Sleep among Traffic Police

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ABSTRACT

Objective: to assess the relationship between the presence of varicose veins and the quality of sleep among traffic police, recognizing the potential impact of occupational factors on venous health and sleep patterns.

Methods: A cross-sectional study design involved 377 diagnosed traffic police officers aged 30 to 55. Data was collected using convenient sampling methods from traffic police in Lahore, Pakistan. Variables, including varicose vein presence, sleep quality, age, gender, occupation, and working hours, were analyzed. Sleep quality was evaluated using a standardized sleep quality scale questionnaire. The Schwartz test was used to diagnose varicose veins.

Results: The study shows that participants had a high prevalence of varicose veins, with significant associations discovered between prolonged standing and varicose vein development. Furthermore, a considerable proportion reported pain and sleep disturbances, emphasizing varicose veins' impact on sleep quality.

Conclusion: The study finds a positive association between sleep quality and varicose veins among traffic cops, with prolonged standing identified as a critical contributing factor that might affect vascular health and sleep quality.

Keywords: Prolong Standing, Sleep Quality, Traffic Police, Varicose Vein

1. INTRODUCTION

Millions worldwide suffer from varicose veins, characterized by twisted, enlarged veins, typically in the legs, causing pain and discomfort. Chronic venous insufficiency (CVI) includes venous disorders like telangiectasia, reticular veins, and varicose veins (VV), leading to complications such as venous ulcers or thrombosis. VV frequently manifests in the lower limbs and less often in the scrotum and anus, affecting veins like the great saphenous, small, and perforating veins[1].

The incidence of VV varies from 10% to 40%. The National Venous Screening Program in the US found VV prevalence over 30%. VV is more common in women and increases with age, with a prevalence estimated at 5%. Venous insufficiency, characterized by weak leg veins failing to return blood to the heart, leads to blood buildup in the legs. Risk factors include aging, obesity, smoking, sedentary lifestyle, family history, multiple pregnancies, and menopause, all of which affect vein elasticity[2].

Understanding the stages of varicose veins is crucial for effective treatment. Stages range from spider veins to skin changes and ulcers, each requiring different treatments. Studies show a strong link between prolonged standing at work and varicose veins, affecting 20-60% of adults globally, with Asians having a lower incidence of 19%. Varicose veins, often seen as cosmetic, can lead to severe complications like pain, discomfort, ulceration, leg cramps, poor quality of life, absenteeism, and even death[3].

Varicose veins have four stages: visible blood vessels in stage 1, varicose veins at least 3 millimeters wide in stage 2, edema without skin changes in stage 3, and skin color and texture changes in stage 4[4]. Traffic police, due to their demanding work and extended standing, are particularly susceptible to varicose veins, with studies indicating that 25-50% suffer from lower extremity varicosity[5]. Symptoms can lead to missed work, affecting quality of life and sleep. Symptoms often worsen at night due to blood pooling from prolonged standing, causing leg cramps, aches, and itching, disrupting sleep[6]

Studies link venous insufficiency (VV) with occupational factors like prolonged standing and heavy lifting. The risk of VV increases with long hours of standing or walking, and specific work conditions can also elevate this risk[7]. The study examines the correlation between varicose veins and the well-being of traffic control personnel. Traffic police often endure prolonged stationary periods, increasing their susceptibility to varicose veins, leading to discomfort, pain, and disrupted sleep cycles[8].

Understanding the impact of varicose veins on traffic police officers' well-being is crucial due to their role in public safety. The research aims to identify therapies to reduce varicose vein discomfort and improve sleep hygiene, enhancing the health, well-being, and performance of traffic police officers[9,10].

2. METHODOLOGY

A cross-sectional study design was used. The data was collected from All over Lahore traffic police. We were taking three hundred and seventy-seven diagnosed and undiagnosed patients of varicose veins. This was conducted four months after the approval of the synopsis[11]. A Convenient sampling method technique was used we were taking male patients aged 30- to 55-year-old traffic cops stood for 8 hours per day[12]. we were taking those traffic wardens or traffic police who exhibited symptoms and indications of varicose veins[13].

We used the Schwartz test to diagnose the varicose vein We employed a sleep quality scale to assess the quality of sleep, and we conducted a comprehensive sleep quality survey to inquire about the patient's sleep pattern[14]. The PSQI was designed to evaluate overall sleep quality in these traffic police patients Each of the questionnaire's 19 self-reported items belongs to one of seven subcategories: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance PSQI reliability is 85% sensitivity is 89% and specificity is 86.5%[15].

3. RESULTS

The age range among 377 individuals is 30 to 55, with a mean age of 42 and a standard deviation of 7.31 years (fig1). In terms of working hours, 10.1% work 6 hours, 14.3% work 8 hours, and 75.6% work 10 hours (fig2).The table 1 highlights a clear link between prolonged standing and varicose veins. Notably, 276 individuals standing 8-10 hours reported varicose veins, while none reported otherwise. Overall, among 377 surveyed, 301 had varicose veins. The chi-square

test confirms a significant association (X2 = 0.001). Sleep disturbance is reported by 81.4% of the respondents, while 18.6% do not experience sleep disturbance. The sleep disturbance ratings reveal that 24.9% rate it as terrible, 58.1% as fair, 10.6% as good, and 6.4% as excellent. The fig 3 shows a significant correlation between traffic police officers' varicose veins and their sleep quality, highlighting prolonged standing as a significant factor in moderate sleep disorder.

Figure 1: Age of Traffic Police

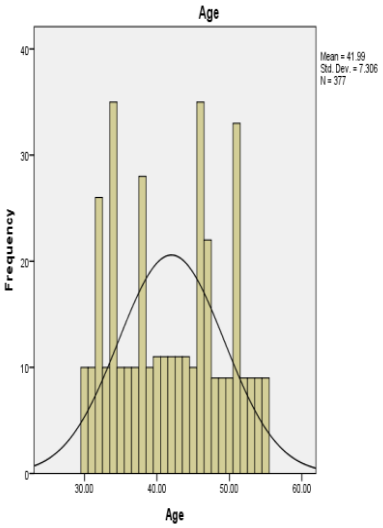

Figure 2: working hours

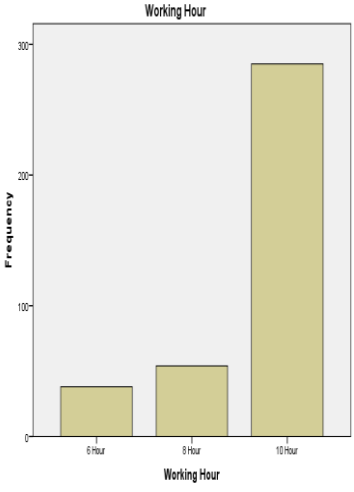

Figure 3: Total Sleep Quality Scale

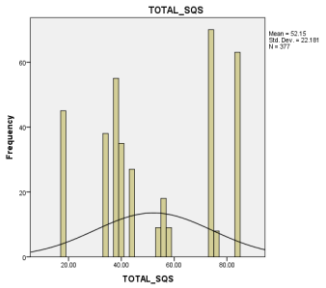

Table 1: Cross Tabulation of Prolonged Standing Duration and Varicose Vein

Prolonged Standing Duration	Varicose Vein		p
	Yes	No	
1-2 Hour	0	16	0.001
3-4 Hour	0	24	
5-7 Hour	0	36	
8-10 Hour	276	0	
More Than 10 Hour	25	0	

Table 2: Cross Tabulation of Sleep Quality Duration and Varicose Vein

Sleep Quality	Varicose Vein		p
	Yes	No	
Mild Sleep Disorder	35	10	0.970
Moderate Sleep Disorder	123	32	
Severe Sleep Disorder	92	22	
Worst Sleep Disorder	51	12	

4. DISCUSSION

This study assesses the prevalence of varicose veins among male traffic officers aged 30 to 55 in Lahore. Data was collected from 377 individuals who met the criteria: male, aged 30-55, employed as traffic police officers, exposed to prolonged standing for 8 hours, and diagnosed with varicose veins at Stages 1 and 2[16]. Exclusion criteria included diabetes, hypertension, mental impairments, sleep problems, lower limb fractures, and cancer. The Rest Quality Scale (SQS) and a pain numerical scale were used[17].

Tara Gaire et al. highlighted that most of the workforce, with an average age above 50, were male. Their survey found that 81.1% of officers worked long shifts, often over 10 hours. This study shows a broader age range, with an average age of 42±7.31, and all 377 participants were male. The lack of female representation is likely due to the job's demanding nature. Despite differences, both studies highlight issues with prolonged work shifts. A recent study noted that 75.6% of officers worked long hours, often standing for extended periods[18].

Sridhar S. et al. focused on obesity prevalence, noting that 77.7% of 139 individuals had abnormal waist circumferences. This study found a lower obesity prevalence based on

BMI, with 26.8% of 377 participants being overweight. This discrepancy may result from lifestyle factors such as fast-food consumption, sedentary work, and alcohol use. Promoting physical activity and healthy eating is crucial for this population[19].

In this study, 79.8% of traffic police reported varicose veins, significantly higher than the 2.91% [20]. The current study found that 81.4% of traffic officers experience sleep disturbances, highlighting the need for interventions like sleep hygiene education, mental health support, and regulated work hours[21]. The study shows a clear correlation between prolonged standing and varicose veins[22].

Overweight or obese individuals are more likely to develop varicose veins[23]. Further research is needed to determine if obesity directly causes varicose veins or exacerbates existing conditions[24].

A literature review revealed that exercise reduces pain and muscle cramps and improves sleep quality in individuals[25].

Sleep disturbance is reported by 81.4% of the respondents, while 18.6% do not experience sleep disturbance. The sleep disturbance ratings reveal that

In this study, sleep quality was not statistically significant (p=0.970) in varicose veins[26].

5. CONCLUSION

The study shows a significant association of prolong standing with varicose vein,which in tern link with moderate sleep disturbance among traffic police officers.The prolong standing is a risk factor among traffic police officers.

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