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PREVELANCE OF VARICOSE VEINS AND ITS ASSOCIATION WITH QUALITY OF LIFE IN BLUE COLLARS (DRIVERS)

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ABSTRACT

Background: Varicose veins are tortuous, enlarged veins, typically measuring three millimeters or more, present under the skin. Chronic varicose veins can have a substantial impact on an individual's standard of life quality.
Objectives: To see the prevalence of varicose veins To see the association of varicose veins with quality of life in blue collars (drivers).
Materials and Methods: The study design was a cross- sectional survey. A sample of 91 blue collar workers (drivers) at 3 different Faisalabad bus terminals were evaluated, and varicose vein symptoms such as swelling, skin trophic changes, discomfort, and swollen, twisted, subcutaneous veins that could be seen or felt clinically when standing were assessed. The varicose veins were identified using the Perthes' and Brodie-Trendelenburg tests. The VEINES - QOL/Sym questionnaire was utilized for collection of information. Version 21 of SPSS was utilized for analyzing the data.
Results: The average age of the drivers was 38.83 ±9.227 years. Varicose veins prevalence was found to be 8.8% in blue collars (drivers). A significant association ($p<0.05$) has been observed between quality of life and varicose veins.
Conclusion: Varicose veins have been estimated to affect 8.8% of blue- collar workers (drivers). A significant association has been identified between quality of life and varicose veins.

Keywords: Blue collars, Drivers, Quality of life, Veins , Varicose Veins , DVT

INTRODUCTION:

Chronic vein disease (CVI) is a severe condition characterized by visible telangiectasia, reticular veins, and varicose veins (VVs). It affects a significant portion of the population and can be asymptomatic but cause aesthetic concerns or significant manifestations. Varicose veins, tangled and swollen veins, can affect up to 40% of adults, with greater frequencies among overweight people and women who have had over two gestations. They can be caused by hormonal issues, lifestyle, acquired, or hereditary risk factors. Estrogen's impact on VV development may contribute to the greater rate in females. Smoking is a malleable risk indicator for VVs and serious persistent venous disease, including venous ulcers. VVs are most commonly found among larger and smaller saphenous veins, but they may also appear in branch channels. The prevalence rate of VVs is lower in developing countries compared to industrialized countries, with an estimated 33% of the general population affected between the ages of 18 and 64. Traffic cops, who must stand for extended periods, are most likely to suffer from VVs due to their physical demands. Vascular varicosities are classified using the classification of CEAP, which considers class, etiology, anatomy, and pathophysiology. Varicose veins affect 10-30% of individuals worldwide, with factors like prolonged standing, sedentary lifestyle, pregnancy, and family history contributing to their prevalence. Nurses, especially those with long hours of standing, are more prone to experiencing vein varicosities. A thorough examination is necessary to identify primary or secondary varicose veins, which can be determined through physical examination, compression tests, and other tests. The Brodie-Trendelenburg test and Perthes test are useful tests for differentiating between superficial and deep venous insufficiency. If a clinical evaluation does not reveal the cause of VVs, venous ultrasound should be conducted to assess deep or superficial vein reflux. Varicose veins may worsen and spread further if underlying causes are not addressed, leading to lower limb edema and vascular ulceration. Treatment options include externally compressed clothing, lifestyle changes, controlling cardiovascular risk factors, peripheral edema treatment, elevating the affected limb, and medical therapy. Emergency medical service is required for patients with bleeding varicose veins, and multimodal treatment strategies may be needed for those with unresponsive symptoms, recurring VV hemorrhage, and superficial thrombo-phlebitis.

Varicose veins, a common issue worldwide, can significantly impact an individual's quality of life. Treatment options include stab or micro-incision phlebectomy, which requires minimal anesthesia. Endovenous procedures have replaced surgical stripping for larger and smaller saphenous veins, but they can cause side effects like hemostasis, infection, nerve damage, ecchymosis, scarring, and deep vein thrombosis (DVT). Surgical stripping is better than catheterization when the greater saphenous vein is near the skin surface, aneurysmal, or excessively twisted, and after unsuccessful endovenous therapy attempts. Healthcare professionals should be aware of how varicose veins impact patients' quality of life, as passive range of mobility data may not capture all aspects. The VEINES-QOL/Sym questionnaire is a reliable tool for assessing clinical signs and life quality of people with acute Deep Vein Thrombosis, covering psychological impact, limits in everyday activities, and symptoms resulting from CVDL.

MATERIAL AND METHODS

It was observational cross-sectional research. The research was carried out among the blue collars (drivers) from different bus stations. The research was conducted successfully and completed in 4 months. A study recruited 91 individuals with varicose veins using the purposive sample technique. Symptoms included swelling, skin trophic changes, pain, and

bulging convoluted veins. The study used both inclusive and exclusive criteria to determine participant eligibility. The inclusion criteria included symptomatic varicose vein patients aged 21-60 years, driving for over two years, working at least six hours, sitting for more than four hours, having no previous lower limb venous disease, and having written consent. The exclusion criteria included recent fractures, trauma, lower limb surgeries, liver or cardiac issues, neurological deficits, skin conditions like dermatitis, spider angioma, and patients with systemic illness. Participants were also required to be willing to participate and give written consent. The study aimed to identify potential health risks and improve patient outcomes.

Perthes' test and The Brodie-Trendelenburg test were used to diagnose varicose veins. The VEINES-QOL/Sym questionnaire was used to assess life quality. Varicosities emptied during heel lifts, and reflux occurred when veins remained swollen. Deep venous occlusion was suspected. The Brodie-Trendelenburg Test was used to assess life quality. The VINES-QOL/Sym questionnaire scored individuals with varicose veins based on night symptoms and overall quality of life. The VINES-QOL/Sym score is used to calculate QoL in individuals with varicose veins. The first question scores from 0 to 4, with the second question providing descriptive information. The score is reversible for questions 3, 6, and 7. The higher the score, the higher the QoL (105). The total score is converted into percentages using the formula QOL score/total score x100.

The study used SPSS version 20 for statistical analysis to determine the prevalence of VVs in blue collar drivers and its association with quality of life. Participants provided informed consent forms before recruitment. The research followed the University of Faisalabad's ethical guidelines, ensuring participant rights were protected. The study received approval from the Ethical Committee and a data collection letter. Participants were provided with a brief overview and informed consent.

Results:

The study's findings revealed a notable prevalence of varicose veins among blue collar workers . The study categorized the participants into different age groups.The average age was 38.83 ± 9.227 years. The majority of blue collar workers worked from 6 to 7 hours. The number of daily hours of prolonged sitting among blue collar workers varied.

The study surveyed 91 drivers, revealing that 1.1% experienced heavy legs daily, 1.1% experienced aching legs daily, 3.3% experienced swelling in legs daily, 4.4% experienced leg cramps at night every day, 5.5% experienced leg cramps at night every day, 6.6% experienced heat or burning sensations in legs daily, and 6.7% never experienced swelling in legs in the past four weeks. The majority of drivers reported experiencing leg cramps at night every day, heat or burning sensations in legs daily, restless legs every day, throbbing pain in legs daily, itching in legs several times a week, tingling sensations in legs every day, and 56% never experienced tingling sensations in the past four weeks. 27.5% of drivers had limited daily activities at work, while 72% said their activities are not limited at work. Blue collar workers' responses to leg problems included cutting down time spent on work, accomplishing less than desired, limited in work or other activities, difficulty performing work or other activities, interference with work, leg pain, concern about leg appearance, feeling agitated, burdening family, bumping into things, and the impact of legs on clothing choices. They also reported having burden to family, bumping into things, and the impact of legs on clothing choices. 56% of blue collar workers had excellent quality of life, 33% had good QOL, 5.5% had fair, and 5.5% had poor quality of life.

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Participant's ages are described in below table

Table 1 Age distribution

	Age groups	Frequency	%age	Valid %age	Cumulative %age
Valid	**21-30**	9	20.9	0.9	0.9
	31-40	34	37.4	7.4	8.2
	41-50	28	30.8	0.8	9.0
	51-60	10	11.0	1.0	00.0
	Total	**91**	**100.0**	**00.0**	

Table 1 shows the age distribution of the subjects, categorized as 21-30 years, 31-40 years, 41-50 years, and above 51-60 years. The study found that 19 participants were in the 21-30 years age group, 34 in the 31-40 years age group, 28 in the 41-50 years age group, and 10 in the 51-60 years age group, with an average age of 38.83 ± 9.227 years.

Prevalence of Varicose veins

Table 2 **Varicose vein** Prevalence

Frequency			%age	Valid %age	Cumulative %age
Valid	Yes		.8	.8	.8
	No	3	1.2	1.2	00.0
	Total	1	00.0	00.0	

Table 2 reveals the prevalence of varicose veins in blue collar workers, with 8 participants having varicose veins and 83 without.

Assessment of quality of life

Table 3: Quality of life

		Frequency	%age	Valid %age	Cumulative %age
Excellent	0-100%	1	6.0	6.0	6.0
Good	5-89%	0	3.0	3.0	9.0
Fair	0-74%		.5	.5	4.5

oor:	0-59%		.5	.5	00.0
ery poor	40%				00
	otal	1	00.0	00.0	

Table 3 reveals that 56% of blue collar workers have excellent quality of life, 33% have good QOL, 5.5% have fair QOL, and 5.5% have poor QOL.

Chi Square tests: significant association between blue-collar workers' age and varicose veins

Table 4 Association between Varicose Vein and Age

	Value	**Df**	**symptotic Significance (2-ided)**
earson Chi-Square	8.767	3	.033
ikelihood Ratio	8.702	3	.034
inear-by-Linear ssociation	3.142	1	.076

Table 4 shows the results of the chi square test.The results indicate a significant association between blue-collar workers' age and varicose veins, with a p-value of 0.076 indicating a weak linear association, despite a statistically significant association between age and varicose veins.

Cross-Tabulation between Prevalence of Varicose Vein and Quality of life.

Table 5 Cross-Tabulation between Prevalence of Varicose Vein and Quality of life

Quality of life						
		xcellent	**ood**	**air**	**oor**	**otal**
aricose vein	**Yes**					
	No	1	9			3
otal		51	0		5	5

Table 5 shows the Cross-Tabulation between Prevalence of Varicose Vein and Quality of life. Out of 8 participants having varicose veins, 5 had poor quality of life, 2 had fair and 1 had good.

Association between Varicose Vein and Quality of life

Table 6 Association between Varicose Vein and Quality of life

	Value	df	Asymptotic Significance	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi- Square	3.979	3	000	000	
Likelihood Ratio	8.679	3	000	000	
Linear-by-Linear Association	5.930	1	000	000	000
N of Valid Cases	1				

Table 6 shows The chi square test results, it show a significant correlation between varicose veins and quality of life ($p<0.05$). The Likelihood Ratio Chi-Square value is 38.679, indicating a significant association. The Linear-by-Linear association value is 45.930, indicating a strong linear trend between the two variables. This suggests a constant linear trend in the relationship between varicose veins and quality of life.

DISCUSSION:

Chronic venous disease (CVD) is a condition characterized by reduced flexibility in vein walls and malfunctioning valves, leading to blood buildup and expansion. It affects up to 40% of adults, with a higher prevalence among overweight individuals. In industrialized nations, CVDs are a significant source of discomfort and impairment, posing significant medical and financial challenges. This study aimed to determine the frequency of varicose veins in blue-collar workers and their relationship to quality of life. The results showed that drivers had a low prevalence of varicose veins (8.8%), with a significant association found between varicose veins and quality of life.

Out of eight drivers with varicose veins, four were aged between 31 and 40 years, one between 41 and 50 years, and three between 50 and 60 years. The most common age group when VVs formed was between 30 and 40 years old. Three of the eight drivers with varicose veins had a normal BMI, consistent with previous studies in Egypt and Greece.

The study only recruited male participants, as most drivers are male. Chronic venous disorders are more common in people working in prolonged seated or static postures, with standing positions having higher rates of CVS. The study found no statistically significant association between varicose veins with BMI and daily sitting hours, but a significant association was observed in the age of blue-collar workers.

Varicose veins (VVs) are common symptoms of varicose veins, which worsen with prolonged standing. A study found that 1.1% of drivers experienced heavy legs in all days, 15.4% experienced aching legs every day, and 50.5% had never experienced aching legs in the past one month. The prevalence of VVs was found to be only 8.8% in blue collar workers, with a low prevalence in drivers having prolonged sitting.

VVs are more prevalent in blue collar workers, with an estimated 33% of people aged 18-64 affected by them. The cost of treating VVs increases significantly with additional prevalence. In

Western nations, 10%-15% of men and 20%-25% of women have VVs, while non-Hispanic Whites have a higher prevalence (18%) compared to Asians (26%).
In Asia, surveys have shown that 45% of people have mild to severe VVs, with an average frequency of 8.39% in China. In southern Taiwan, 24.2% of people reported VVs in the lower part of their leg. In the UK, 33% of people have lower limb VVs. Patients typically experience discomfort, swelling, heaviness, and tingling as signs and symptoms, but others are asymptomatic.
Research on varicose veins (VVs) has shown varying prevalence rates across different countries. In Iran, 73.1% of participants had lower limb VVs, while in Saudi Arabia, it was 62.0%. In Pakistan, 16% of participants had VVs, while the total prevalence of CVD was 39%. In Egypt, over 51% of the population had VVs. In Germany, 14.3% of VVs were observed. The Cook Islands and New Guinea had the lowest prevalence rates, while Italy and the United States had the highest rates. In Spain, over 5.6% of the population had VVs. In South Wales, 57% of women and 63% in men had VVs, with 71% in individuals aged 60-91. In South Korea, 31.3% of VVs were found. Blue collar workers, particularly drivers, had a higher prevalence. A study in Saudi Arabia found 47.7% of VVs in female hairstylists, with a high prevalence associated with prolonged standing. The low prevalence in the current study may be due to the occupation of the target population, as varicose veins are more pronounced in occupations associated with prolonged sitting.
Persistent varicose veins can negatively impact a person's quality of life, with risk factors including age, parity, body weight, and prolonged standing or sitting. A study found a significant association between life quality (QoL) and varicose veins, with 5 participants having poor QoL, 2 having fair QoL, and 1 having good QoL. However, concurrent venous disease is believed to cause the decline in physical quality of life in VV patients. Previous research has shown lower QoL in VV patients compared to those without the condition.

LIMITATIONS:

The study has limitations, including driver reluctance and uncooperative behavior in providing data, the inability to confirm causality due to a single point-of-time assessment of varicose veins and quality of life, and the self-reported data on quality of life potentially leading to bias.

CONCLUSION:

A study found that 8.8% of blue-collar workers (drivers) had varicose veins, a relatively low prevalence. A significant correlation was found between varicose veins and quality of life. The study also found that 90% of drivers were smokers, indicating a potential concern. However, no risk factors or association between smoking and varicose veins were evaluated.
Further research is recommended to evaluate risk factors and organize educational programs for drivers to promote protection, early detection, and proper management.

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