

QUALITY OF LIFE IN PATIENTS WITH PERIPHERAL ARTERIAL OCCLUSIVE DISEASE ATTENDING TERTIARY CARE HOSPITAL

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HOW TO CITE THIS ARTICLE:

Rahul J. Shirol, Chethan T.K, Aatish Shetty, Kurian Ninan, Shreshta Bhat. "Quality of life in patients with peripheral arterial occlusive disease attending tertiary care hospital". Journal of Evolution of Medical and Dental Sciences 2013; Vol. 2, Issue 52, December 30; Page: 10295-10300.

ABSTRACT: Peripheral arterial occlusive disease (PAOD) is a prevalent atherosclerotic disorder characterized by exertional limb pain, loss of limb and a high mortality rate. All the aspects of health status, life style, life satisfaction, mental state or well-being together reflect the multi-dimensional nature of Quality of Life in an individual. **MATERIAL & METHODS:** A cross sectional study was conducted over a period of 6 months from October 2012 to March 2013. Patients with signs and symptoms of peripheral arterial occlusive disease were referred for further evaluation by Color Doppler Ultrasonography to the Department of Radiodiagnosis. The evaluation of QOL in respondents with PAOD was performed, by means of WHOQOL-BREF questionnaire, after obtaining clearance from the Institution's Ethics Committee. **RESULTS:** The mean scores in each of the four domains for both men and women were found to be similar. The difference between men and women was not found to be statistically significant for any of the four domains. The mean scores of the gangrene absent groups and gangrene present groups were found to differ significantly in the domains of physical ($p=0.025$), psychological ($p=0.031$), environmental ($p=0.048$) and social relations ($p=0.017$). The mean scores of the age groups of <40 years, 40-50 years, 51-60 years, 60-70 years and >70 years were found to differ significantly in the domains of physical ($p=0.046$), psychological ($p=0.037$). The mean scores, of the groups according to the Stage of PAD in accordance with Fontaine classification, were found to differ significantly in the domains of physical ($p=0.0316$), psychological ($p=0.0241$), environmental ($p=0.0472$) and social relations ($p=0.0126$).

KEYWORDS: - Quality of life (QOL), WHOQOL BREF, Peripheral arterial occlusive disease (PAOD)

INTRODUCTION: Peripheral arterial occlusive disease (PAOD) is a prevalent atherosclerotic disorder characterized by exertional limb pain, loss of limb, and a high mortality rate¹. Intermittent claudication is the most common symptom in patients with PAOD². All patients with PAOD of any severity must successfully normalize atherosclerosis risk factors. PAOD as a chronic disease is associated with physical, psychological and social distress for elderly patients and their families³. People with PAOD have a significant disability that also affects psychosocial and emotional aspects of their quality of life^{4,5}. All the aspects of "health status", "life style", "life satisfaction", "mental state" or "well-being" together reflect the multi-dimensional nature of Quality of Life in an individual⁶. The World Health Organization defines the QoL as "subjectively perceived physical, mental and social well-being and not only the absence of disease"⁵⁻⁸. A broad definition of QoL includes duration of life, impairment, functional status (social, psychological, and physical), and health perceptions⁵⁻⁸. QoL evaluation is carried out by means of generic and specific QoL questionnaire. According to the WHO, the generic instruments World Health Organization Quality of Life-100 (WHOQOL-100) and WHOQOL-BREF measure the impact of disease on the QOL of people and can be used in clinical trials or epidemiological studies, since they facilitate the comprehension

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of the disease and the developing of new treatments. These instruments are of great importance for establishing the baseline score of QOL and serve to monitor changes throughout the interventions performed^{9, 10, and 11}.

MATERIAL AND METHODS:

Study setting: Department of Radiology, K.S hedge medical academy.

Study design & duration: A cross sectional study was conducted over a period of 6 months, from October 2012 to march 2013.

Study participants: Patients with signs and symptoms of peripheral arterial occlusive disease referred for evaluation for imaging by Color Doppler Ultrasonography to the Department of Radiodiagnosis at K.S.Hegde Medical Academy, Mangalore

Sample size: 60 patients

Inclusion criteria: Referred cases of peripheral vascular disease to the department of radiology

Exclusion criteria: Patients who were unwilling to participate in the study.

Method of data collection: Patients with peripheral arterial occlusive disease referred for evaluation for imaging by Color Doppler Ultrasonography to the department of Radio diagnosis. Written consent was obtained. The baseline data, co-morbidities and personal history were collected. We evaluated the effect of selected health aspects (stage of PAOD in accordance with Fontaine classification, diabetes mellitus, hypertension, hyperlipidemia, obesity, smoking), demographic (age, sex) and on QoL in respondents with PAOD. The stages of PAOD in accordance with Fontaine classification are characterized by³: stage I – asymptomatic, stage IIa – intermittent claudication, pain-free walking distance >200 m, IIb– intermittent claudication, pain-free walking distance <200 m, stage IIb – intermittent claudication, pain-free walking distance <50 m, III – rest pain, IV – ischemic lesion (ulcer, gangrene, and necrosis). The evaluation of QoL in respondents with PAOD was performed by means of WHOQOL-BREF¹²⁻¹³, after obtaining ethical clearance from the Institutions Ethics Committee. The translated Kannada version of this instrument was pretested on a subsample before it was used on the study population to ensure feasibility and acceptability. For comprehensive assessment, one item from each of the 24 facets contained in the WHOQOL-100 was included; in addition, two items from the QOL and general health facets were also included. Each item was rated on a five point scale (1-5). The raw score of each domain was calculated, and then computed as ranging between 0-100. Five per cent of the questionnaires were rechecked by another author to assess the quality& reliability of the data.

Statistical analysis:The data was entered into excel spread sheet and transferred into SPSS 17 version. Data was tabulated and analyzed using the statistical package of SPSS 17.0 version. T-test and one-way ANOVA test were applied to compare the mean scores of different variables under the four domains and a P value of <0.05 was considered significant.

RESULTS: Out of the 60 patients 48 (80%) were male patients and 12 (20%) were female patients. Out of the 60 patients, majority of the patients belonged to the age group 61-70 years. There were 20 (33.3%) patients in the age group of 61-70 years, 18 (30%) patients in the age group of 51-60 years,

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followed by 4 (6.6%) patients in the age group 40-50 years and 10 patients(16.6%) in the age group of more than 70 years and 8 (13.3%) less than 40 years.

40-50years age group had the least number of patients with 4 patients (6.6%) suggesting that peripheral vascular disease is seen rarely in the younger age group. All the patients in the study had claudication pain. Majority of the patients had grade III claudication based on modified Boyd classification with 30(50%) patients, followed by grade II with 20patients and grade IV with 10 patients. In our study of patients with peripheral arterial disease, we found that 8 patients had gangrene and all patients with gangrene had a history of smoking. In our study of patients with peripheral arterial disease we found that 36 out of 60 patients had history of smoking with more than 20 pack years.

In our study diabetes mellitus was the most common co-morbidity associated with PVD which was present in 34 patients, followed by hypertension in 14 patients, hyperlipidemia present in 6 patients and 2 patients had Takayasu's arteritis.

VARIABLES	MEAN SCORES OF DOMAINS			
	PHYSICAL	PSYCHOLOGICAL	SOCIAL	ENVIRNOMENTAL
Male (n=48)	42.3	48.6	54.3	62.8
Female (n=12)	41.9	48.3	54.1	60.3
P value	0.132	0.234	0.342	0.148
Gangrene absent (n=52)	47.0	51.3	59.2	66.4
Gangrene present(n=8)	36.9	48.1	45.8	58.5
P value	0.025	0.031	0.017	0.048

TABLE 1: Compares the mean scores in physical, psychological, social relations and environmental domains with reference to the sex (male/female) and the gangrene status

The mean scores, in each of the four domains for both men and women, were found to be similar. The difference between the two groups was not found to be statistically significant for any of the four domains.

The mean scores of the gangrene absent group and gangrene present group were found to differ significantly in the domains of physical (p=0.025), psychological (p=0.031), environmental (p=0.048) and social relations (p=0.017). Hence, the overall well-being was significantly affected for those who had gangrene

AGE GROUP	PHYSICAL	PSYCHOLOGICAL	SOCIAL	ENVIRNOMENTAL
<40years(n=8)	45.1	52.8	55.6	64.8
40-50years(n=4)	43.5	48.5	53.5	62.5
51-60years (n=18)	41.7	47.4	51.3	57.2
61-70 years(n= 20)	38	45	51	56
> 70years (n=10)	37.2	43.2	48.2	55.2
PValue	0.046	0.037	0.0567	0.062

TABLE 2: Compares the mean scores in physical, psychological, social relations and environmental domains with reference to various age groups

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The mean scores of the age groups of <40years, 40-50 years, 51-60 years, 60–70 years and >70 years were found to differ significantly in the domains of physical (p=0.046) & psychological (p=0.037).

FONTAINE -CLASSIFICATION	PHYSICAL	PSYCHOLOGICAL	SOCIAL	ENVIRNOENTAL
I(n=6)	48.8	59.8	57.4	66.9
II a(n=12)	41.7	52.4	54.7	63.7
IIb< 200(n=16)	40.2	48.7	53.2	57.2
IIb< 50 (n=12)	39.4	45.9	50.3	56.8
III (n=8)	36.1	42.3	44.2	52.6
IV(n=6)	34.3	39.6	42.8	49.1
PValue	0.0316	0.0241	0.0472	0.0126

TABLE 3: Compares the mean scores in physical, psychological, social relations and environmental domains with reference to the Stage of PAD in accordance with Fontaine classification

The mean scores of the groups with reference to the Stage of PAD in accordance with Fontaine classification were found to differ significantly in the domains of physical (p=0.0316), psychological (p=0.0241), environmental (p=0.0472) and social relations (p=0.0126). Hence, the overall well-being was significantly affected as the grading increased.

DISCUSSION AND CONCLUSION: Our results have shown that with increasing age and with a higher stage of PAOD in accordance with Fontaine classification, the quality of life declines. The mean scores of the age groups of the patients were found to differ significantly in the physical and psychological domains. The mean scores of the groups according to the Stage of PAD in accordance with Fontaine classification were found to differ significantly in the all four domains.

In the previous study conducted by Ladislav Slovák et al⁸, there was a statistically significant difference in Quality of Life in respondents with PAD depending on age (p <0.01) and stage of PAOD (p < 0.01) in accordance with the Fontaine classification. The effect of other health, demographic and psychosocial aspects was statistically insignificant.

In our study, the mean scores of differences between the groups with reference to gender, that is male and female, were not found to be statistically significant for any of the 4 domains.

Even in the previous study, it was found that the mean scores of males were slightly better than that of females except for the physical domain which was slightly better among the latter. But the differences between the groups were not found to be statistically significant for any of the four domains¹⁴.

Our results correspond to the fact that PAOD is a chronic disorder characterized by exertional limb pain, loss of limb, and a high mortality rate. Because of its chronic nature, it often has a negative impact on patients' Quality of Life.

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Date of Submission: 03/12/2013.
Date of Peer Review: 04/12/2013.
Date of Acceptance: 13/12/2013.
Date of Publishing: 27/12/2013