# Quality of Life of Patients with Peripheral Arterial Disease

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**Abstract:** *Peripheral arterial disease (PAD) has a devastating effect on the activities of daily living of these patients which is evident in their compromised quality of life. Symptomatic PAD is associated with severe limitations in physical function, fear and uncertainty, disturbed self-concept and feelings, and interrupted social relationships. Assessing their quality of life gives a broader understanding of the impact of the disease. This study was aimed to assess the quality of life (QOL) of patients with peripheral arterial occlusive disease and adopted cross sectional design. It was conducted among 100 patients with PAD admitted in the vascular unit of a tertiary care hospital in South India. QOL was assessed using 36 – item short form survey questionnaire. The findings of the study revealed that majority of the patients with PAD (88 %) had poor QOL. Among the eight domains assessed, it was found that there is significant role limitation of these patients due to physical health (7.75%) and emotional problems (16.98%). Hence it is recommended that nurses need to structure appropriate nursing care plan incorporating interventions to address the health related quality of life issues of patients with PAD.*
*Key words: Peripheral Arterial Disease, Quality of life, Health related QOL.*

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## I. Introduction

**P**AD also known as peripheral vascular disease (PVD) or peripheral arterial occlusive disease (PAOD) is characterized by a reduction of blood flow to the lower limbs due to atherosclerosis. PAD is an important healthcare problem worldwide due to morbidity and mortality associated with this condition. It is estimated that more than 200 million people have PAD worldwide, with a spectrum of symptoms from none to severe (Fowkes F G et al,. 2008). According to the report on epidemiology of PAD published by "THE SAGE GROUP ", it is said that over 20 million people are afflicted with PAD in India. The most common symptom of PAD is claudication, which is characterized by pain, cramping or aching in the calves, thighs or buttocks, initiated by walking and subsides with rest. (Diane et al., 2012). This contributes to severe limitation in physical function particularly walking and activities of daily living causing impaired quality of life.  Apart from physical limitations, PAD also affects mental, social, emotional and sexual function thereby impairing all the domains of specific areas of health status.

The world health organization (WHOQOL,1995) defined quality of life as " an individual 's perception of their position in life, and in the context of cultural and value systems in which they live, and

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also in relation to their goals and expectations. Within the field of healthcare, quality of life is often regarded in terms of how a certain ailment affects a patient on an individual level. Therefore it is important that health-related quality of life is recognized as an important outcome for those with peripheral arterial disease, rather than relying on clinical measures alone, especially as there is often weak correlation between clinical measures of peripheral arterial disease and health-related quality-of-life scores (Muller-Buhl U, Engeser P, Klimm HD, Wiesemann. A, 2003). Most population-based studies investigating the quality of life of patients with PAD, prevalence and risk factors for its development and progression have been based on predominantly western groups. Much less is known about the characteristics of this disease in ethnic minority groups like Indians (Sage group 2009). As a consequence, decisions regarding management of PAD, including risk factor modification, have been made on the basis of majority western populations. These observations motivated the researcher to find the impact of the disease on the quality of life of Indian patients affected with PAD.

## II. Material And Methods

***Design and Setting*:** The study used cross sectional design. The study was conducted at the vascular unit of a tertiary care hospital, South India.

***Sample and Sampling*:** The population consisted of patients who were clinically diagnosed to have PAD for more than 6weeks. Critically ill patients were excluded from the study. About 100 subjects were recruited for the study using consecutive sampling technique.

***Instrument*:** The instrument used for data collection was RAND 36 – item Short Form Survey (SF -36). It assesses eight domains namely physical functioning, bodily pain, role limitations due to physical health problems, emotional problems, emotional wellbeing, social functioning, energy/fatigue, and general health perceptions. All items are scored on a scale from 0 to 100, with 100 representing the highest level of functioning possible. The scores from those items that address each specific area of functional health status are averaged together, for a final score within each of the 8 dimensions measured. QOL for total score as well as for individual domains were calculated with percentages. The scores were categorized by the investigator as poor QOL (<50%), Moderate QOL (50-75%) and good QOL (>75 % ). Literature reports high validity and reliability of SF-36 short form survey.

***Method of data collection:*** Permission to conduct the study was obtained from the respective hospital authorities. Ethical clearance was obtained from the hospital ethics committee. The purpose of the study was explained to the subjects. Written informed consent was obtained from the study participants and they were assured confidentiality of their responses. SF 36 short form survey was administered to them by interview method. Participants were instructed to score each item in the questionnaire based on their experiences. Collected data were entered in SPSS version17 and descriptive statistics was used to analyze the data.

## III. Result

Majority of the study participants (98 %) were males and their mean age was 55.38 years. Most participants (76 %) were smokers. About 28% of the participants had preexisting diseases like diabetes mellitus and hypertension. Nearly (34%) participants had diabetes and 2% had hypertension. Many (65 %) were having an income of lower than 10,000 per month. The study results shows that 88 % of them had poor quality of life and only 2 % demonstrated good quality of life as presented in Figure 1
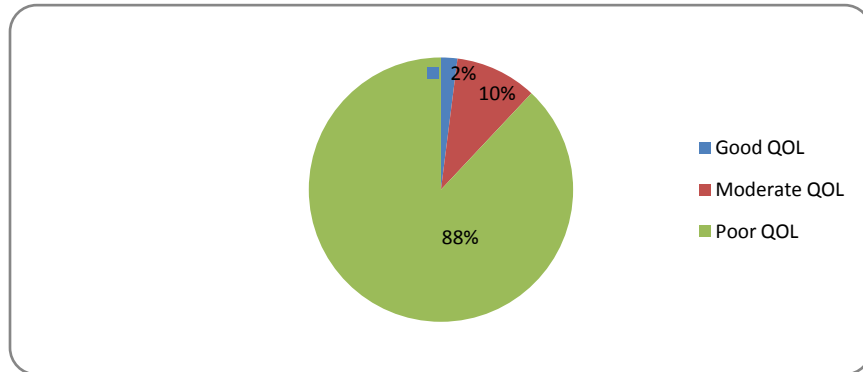
***Fig 1 : Distribution of subjects according to their Quality of life***

Apart from the overall QOL of the study subjects, their QOL in individual domains were also assessed and the mean scores are presented in Table 1. The maximum score for the overall and individual domains QOL is 100.

**Table 1 : Mean scores for the overall and individual domains QOL of patients with PAD**

| QOL domains | Mean Score | Standard deviation |
|---|---|---|
| Overall | 37.41 | 15.74 |
| Physical functioning | 41.12 | 26.078 |
| Role limitations due to physical health | 7.75 | 22.668 |
| | 16.98 | 35.288 |
| Role limitations due to emotional problems | 36.75 | 20.785 |
| Energy / fatigue | 45.24 | 23.508 |
| Emotional well being | 47.44 | 28.891 |
| Social functioning | 29.97 | 27.062 |
| Pain | 49.95 | 20.664 |
| General health | | |

The above table shows that among the eight domains assessed, subjects were found to have poor quality of life in all most all the domains. Maximum QOL score was found in general health (49.95%). Lowest quality of life score was noted in role limitations due to physical health (7.75 % ) and emotional problems (16.98 % ) . Pain is another domain that had a lower score of QOL (29.97 %).

## IV. Discussion

Majority of the patients in the present study (88 %) were found to be experiencing poor quality of life. Several studies (Jo C Dumville et al., 2004 , Joakim,N.,Jan, K., Monica P.,Christine W.H 2012 Judith ,G. R,et al 2008,) report that those with intermittent claudication in the general population have lower health-related quality of life related to physical functioning . It is also reported in the literature that PAD can significantly result in substantial limitations in all aspects of life, including relationship with family and friends and can even compromise a patient's sense of self (Diane Treat Jacobson et al,.2012). In the current study too it was observed that the overall poor quality of life was due to physical and emotional problems that they encountered. Patients expressed that they were not able to carry out their daily activities due to poor physical health and emotional problems.

The mean score for the physical and mental component was accounted for and it was 33.108 and 36.55 respectively, which demonstrates the poor level of health experienced by patients with PAD. The physical component score highlights that this reduction was mainly due to the detrimental effect of the disease on physical health. Pain is identified to be the most important domain that interferes with the quality of life of PAD patients subjecting them to poor health. The investigator has also observed that PAD patients suffer with severe leg pain. This pain disturbs their sleep to the extent that they are unable to lie down and most often found to be sleeping in sitting position with their legs dangling. Peripheral circulation is improved when patients dangle their legs down the bed. Pain also causes impaired mobility and loss of independence. These finding are supported by the study (Rojbin Karakoyun & Cüneyt Köksoy et al .,2014 ) which report that patients with PAD experienced worst pain, general health, social function, emotional status and mental health. Hence, findings of this study are in agreement with the existing body of knowledge in this area.

## V. Conclusion

PAD being a chronic illness, the goal of treatment is disease management and improving QOL by helping people with PAD live productive and satisfying lives. Assessing the quality of life of PAD patients gives a broader understanding of the impact of the disease. Current study finding highlights poor quality of life of these patients. This knowledge would be useful for nurses to structure appropriate nursing care plan incorporating interventions to address the health related quality of life issues. This patient reported outcome measures can also provide information of importance for clinical decision making and assessment of results of different treatment strategies, both in clinical practice and in research

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