

## Perception of Quality of Life in Periarthritis Patients – A Cross Sectional Analysis

Prasana K.<sup>1</sup>, Mohanraj K.<sup>2</sup>, Sam Thamburaj A.<sup>3</sup>, Ramya K.<sup>4\*</sup>, Mallika S.<sup>4</sup> and Prabhakaradoss D.<sup>2</sup>

<sup>1</sup>Ph.D. Scholar, Vinayaka Mission's College of Physiotherapy,  
Vinayaka Missions's Research Foundation (Deemed to be University), Salem (Tamil Nadu), India.

<sup>2</sup>Professor, Vinayaka Mission's College of Physiotherapy,  
Vinayaka Missions's Research Foundation (Deemed to be University), Salem (Tamil Nadu), India.

<sup>3</sup>Principal & Professor, Vinayaka Mission's College of Physiotherapy,  
Vinayaka Missions's Research Foundation (Deemed to be University), Salem (Tamil Nadu), India.

<sup>4</sup>Associate Professor, Vinayaka Mission's College of Physiotherapy,  
Vinayaka Missions's Research Foundation (Deemed to be University), Salem (Tamil Nadu), India.

(Corresponding author: Ramya K. \*)

(Received: 07 January 2023; Revised: 17 February 2023; Accepted: 19 February 2023; Published: 23 February 2023)

(Published by Research Trend)

**ABSTRACT:** Biopsychosocial health model accentuates on the physiological pathology and handling the disease with certain psychological distress that might be due to any potential or assumed belief that affects the social life of the patients like work and family circumstances and culturally bothers them. Hence any treatment procedure should consider all the pathological, social and cultural reasons that impede them from taking treatment. This study was conducted to find out the perception of quality of life in periarthritis patients. Periarthritis is one condition that affects the life of the individual and makes them feel crippled. The questionnaire was designed particularly for this study and was circulated online and offline. The participants were from entire Tamil Nadu who suffered from periarthritis. The questioner was a close ended type with 10 questions that assessed various components of quality of life. Out of the 732 participants, 48 were excluded and 684 were taken into final analysis. The results of the study revealed that most of the subjects had been suffering from Periarthritis for more than three months and it was found to disturb their sleep pattern and quality of life. They affirmed that the condition has made their life dependent on others for their activities of daily living and they felt pathetic about it, as it has reduced their confidence and independence. This cross sectional study showed light upon the emotional component of the health status, which if not dealt will lead to depression. There was a challenge of making the participants fill in the questionnaire in out-patient departments. It needed a remainder for handing over the filled printouts at the outpatient department from where it was issued.

**Keywords:** Periarthritis, Quality of Life, Activities of Daily Living, Shoulder Pain, Disability.

### INTRODUCTION

Periarthritis is a very common shoulder problem that occurs in middle aged people. It is characterised by insidious onset, progressive pain and loss of active and passive mobility in the glenohumeral joint (Neviaser and Neviaser 2011). It might be associated with diabetes mellitus (Hand *et al.*, 2007). The underlying pathology is due to the fibrosis of soft tissue or injury to the rotator cuff muscles, capsule and ligaments (Pal *et al.*, 1986). It has a prevalence of 3 to 5 % in general population and a high incidence of 50 % in diabetic cases (Lee *et al.*, 1973). It is reported that 36.02% of males and 48.07% of females are affected by shoulder pain in Indian population which might or might not end up in periarthritis shoulder (Singh *et al.*, 2015). Pain and disability are the main symptoms of the disease. The pain that interferes with the sleep pattern and the disability that limits the activities of daily living are the confounding factors which pose a serious threat to the emotional quotient of the patients. This causes an emotional burst out in patients. The dependence on

others for their day to day activities reduces the quality of their life, produces anxiety, and in long term depression (Hallman *et al.*, 2019). Any treatment that aims to counteract the disease should take into consideration of the mental trauma caused by pain and disability. And also the willingness to work at full capacity is reduced because of the disease and disability. There was an increase in application of sick leave due to neck and shoulder pain among community workers (Bagheri *et al.*, 2016). Hence this study was intended to find out the perception of quality of life among periarthritis patients.

Cho *et al.* (2012) conducted a study to assess the sleep pattern and quality of life in periarthritis patients and evaluated the correlation between the pain, disability, sleep pattern and quality of life. The study revealed a positive correlation between the pain and quality of life and rationalised that as pain increases it affects the activities of daily living of periarthritis patients and tolls their entire health status. Shaffer *et al.* (1992) formulated a study among sixty-two periarthritis patients to signify

the long term effect of the treatment process and evaluated the impact of range of motion and pain on sleep pattern and quality of life. The study revealed that as the forward flexion and elevation of the shoulder improved the perceived pain was lessened and the quality of life revamped in later stages of rehabilitation. The long term experience of pain and disability may result in anxiety and mood swings in periarthritis patients (Celiker *et al.*, 1997) and may cause significant changes in anxiety traits of long term musculoskeletal injury sufferers (Onen *et al.*, 2005) leading to an altered quality of life. Any kind of rehabilitation needs addressing the current issue along with return back to pre-morbid stage both physically, mentally and emotionally and that forms the fundamental of biopsychosocial model of health.

## METHODS

The study was a cross sectional survey analysis done both in online and offline means between December 2021 and May 2022. A questionnaire to evaluate the quality of life was framed from the already existing tools. The questions designed for this study were close-ended type with Yes-No answer or any other objective that was already in printed format. Some questions allowed multiple answering. As the questions did not require any rating the need for validity and reliability are ruled out. The generalisation of the study was used only for predicting the quality of life of periarthritis patients and was in no way judgemental. Hence the self-questionnaire did not require any content on construct validity. The questionnaire used in the study is presented in Table 1. The questioner was circulated through online by a file created in google form for the convenience of answering. Printed version of the same questioner was circulated in various out-patient centers and instruction was given to the staff to issue the questioner to patients with shoulder pain complaint.

The criteria for participation in the study was, anyone aged between 40 to 60 years and residing in any of the villages, towns and cities of Tamil Nadu, with complaints of shoulder pain and associated neck pain for at least a month were included in the study. Both the genders were included in the study and there was no specific size fixed for the study. Maximum potential subjects were encouraged to participate. Any kind of fracture in upper limb, and neurological conditions like stroke related shoulder pain, parkinsonism were excluded. Medical and paramedical personnel were excluded from the study to reduce the bias of the result. Instructions were given for diligent answering of the questions from their own perspective and none of the questions required any search in search engines. All the subjects initially filled their basic demographic data like age, sex, side affected, occupation and place of living. The offline forms were collected from the 42 volunteers who consented to be a part of this survey analysis. Though sufficient instructions were given to avoid the bias, a post-test analysis of the answers was done by the researcher and the relevant answers alone were taken into the study consideration.

**Statistical Analysis.** The data were nominal in character and hence the results were displayed as percentage.

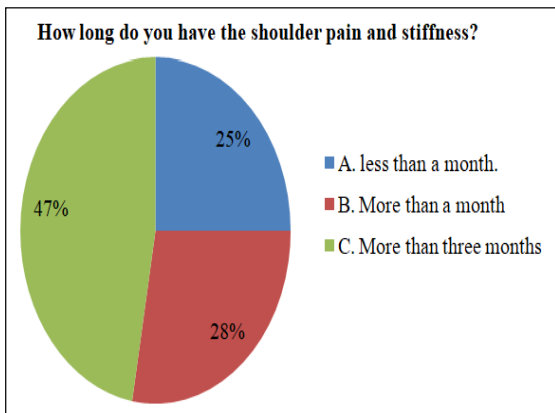
## RESULTS AND DISCUSSION

In the cross sectional analysis, 732 subjects participated in the study, out of which 48 responses were excluded, the reason being either irrelevant answering or answering same option number for all questions. Hence only 684 responses were taken into consideration for final analysis. The mean age of the participants was 52.3 years with 431 female and 253 male participants. 68% of the participants were right side affected and 68% of participants were graduates and 76% of participants were working population. The results of the main questions are displayed from Figs. 1-5.

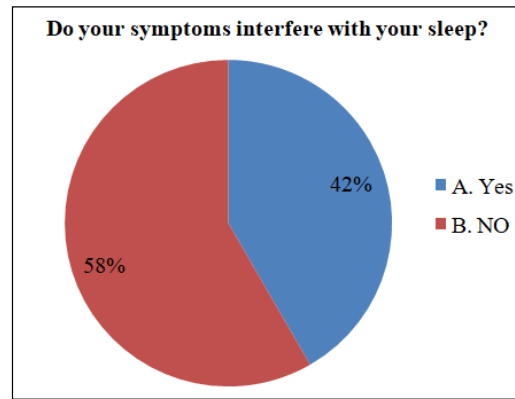
The study was conducted to analyse the perception of Quality of Life in periarthritis shoulder patients in Tamil Nadu. The responses were encouraging that the authors intend to carryout the same to larger population and globally. The main intention of the authors was to throw light on the biopsychosocial model of health and to show sufficient interest in the psychological well-being of the patients. To cater more population both online and off line mode of survey was chosen. There were some problems initially in accessing the right subjects. But after continuous meet with the health care personnel of the concerned centres, and sufficient training of the volunteers these problems were overcome. The authors explained the necessity, the importance, and the need to address the psychological well- being of their patients for successful practise after which there was a pooling of responses. The questions were closed ended type and the participants chose any one of the best options they felt relevant to their experience. A space was provided to write a note of their experience if they were willing, though it was not analysed in the study. This provision was given to encourage them to voice their views on the present symptoms.

The first question dealt with analysing the duration of the condition for which 47% of the participants reported that they experience shoulder pain for more than three months. According to Tiwari *et al.* (2015) periarthritis is a condition that presents both in male and female, mostly after forty years of age and the persistent pain is associated with the duration of symptoms. They found a remarkable feature of persistent pain over four months duration with disability in most of the activities of daily living. The second question dealt with which component of the symptom made them cripple, for which 54% responded as disability. Sivasubramaniyan *et al.* (2022) reported a greater percentage of periarthritis patients presenting with disability of movement as the most crippling component than pain as a limiting factor. It was generalised that as the patient moves into the thawing stage of the disease, disability component exceeds the pain component in respect to quality of life. For the 3<sup>rd</sup> and 4<sup>th</sup> question on sleep disturbance and pattern of sleep 42% responded that they had sleep disturbances and 56% complained that they were mostly awake which suggest the poor sleep pattern. Ding *et al.* (2014) suggested and evaluated the effect of sleep disturbance on influence as an influential part of the a pin in adhesive capsulitis patients. Pittsburg sleep quality index was evaluated and showed a 87.6% of patients with sleep disturbance

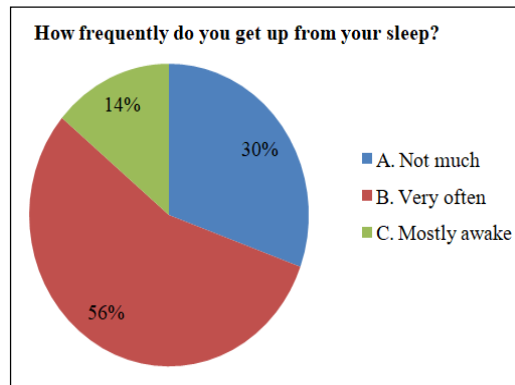
which directly or indirectly posed a threat to their working capacity and influenced their work place satisfaction. For a question on the lethargy to work because of their symptom 52% responded unwillingness to carry out their regular schedule just because of pain. Most importantly, 56% of the participants replied that they were dependent on others for their activities of daily living and 50% felt pathetic about it. About the dependence on various activities of daily living, 11% of the participants depended for nothing, 42% for combing, 31% for fastening a brassier or a pant belt, 8% for the chores, 5% for driving, and 3% for shopping. Interestingly, 83% of the respondents reported about their mood swings and the overall rating of their quality of life was pathetic to 33% of the respondents and worst to 33% of the participants. The analysis of the study showed that the participants emotionally suffered more because of disability rather than pain. Though pain was equally causing mental trauma, the disability which made them dependent on others made them seclusive. This was the most neglected part that many health care practitioners neglect due to insufficient time or lack of exploration. The current study suggest that along with the physical problem, the mental issues that the patients face because of the present medical condition should also be addressed to reintegrate the overall well-being in the individual.



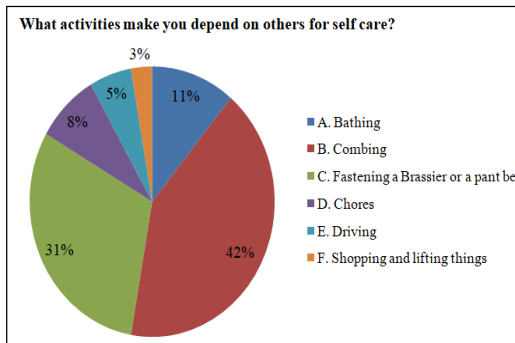
**Fig. 1.** Results from Question 1 – Duration of Shoulder Pain.



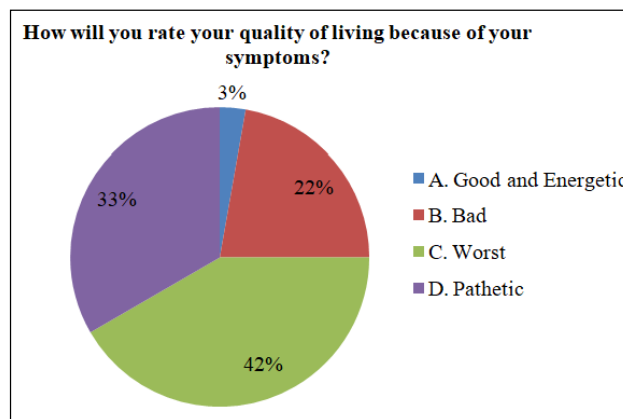
**Fig. 2.** Results of Question 3.



**Fig. 3.** Results of Question 4.



**Fig. 4.** Results of Question 8.



**Fig. 5.** Results of Question 10.

**Table 1: Questionnaire for Cross Sectional Analysis.**

Questionnaire		
<b>Name:</b>	<b>Age/Sex:</b>	<b>Side Affected:</b>
<b>Residing at:</b>		<b>Qualification:</b>
<ul style="list-style-type: none"> <li>• <b>The questions below pertain to your understanding of the problem and to help us choose a holistic protocol.</b></li> <li>• <b>Logical and relevant answering is needed.</b></li> <li>• <b>The privacy of your answers will be maintained.</b></li> </ul>		
<p><b>1. How long do you have the shoulder pain and stiffness?</b>            A. less than a month.            B. More than a month            C. More than three months</p> <p><b>2. Which one do you feel is more crippling?</b>            A. Pain            B. Disability</p> <p><b>3. Do your symptoms interfere with your sleep?</b>            A. Yes            B. NO</p> <p><b>4. How frequently do you get up from sleep?</b>            A. Not much            B. Very often            C. Mostly awake</p> <p><b>5. Do you feel like not doing your work or take leave from work because of your pain and disability?</b>            A. Yes            B. NO</p> <p><b>6. Do frequently do you depend on others for your ADL?</b>            A. Mostly            B. Not much            C. Always.</p> <p><b>7. How do you feel depending on others for your ADL?</b>            A. Happy            B. Miserable            C. Pathetic</p> <p><b>8. What activities make you depend on others for self care?</b>            A. Bathing            B. Combing            C. Fastening a Brassier or a pant belt            D. Chores            E. Driving            F. Shopping and lifting things</p> <p><b>9. Do you have mood swings because of your symptoms?</b>            A. Yes            B. No</p> <p><b>10. How will you rate your Quality of Living because of your symptoms?</b>            A. Good and Energetic            B. Bad            C. Worst            D. Pathetic</p> <p><b>Note: Question 8 &amp; 10 requires multiple answering</b></p>		

## CONCLUSIONS

This cross sectional study suggested that the peri-arthritis patients suffer from poor quality of life other than the pain and disability. Hence the emotional component of the disease should also be addressed for overall well-being.

## FUTURE SCOPE

The gaps identified in this current study can be addressed to reduce the pain and improve the range of motion and quality of life in peri-arthritis patients.

**Acknowledgement.** The authors are thankful and grateful to the vinayaka Mission's Research foundation for providing the platform for conducting the study and ensuring the smooth carrying out of the required procedures.

**Conflict of Interest.** None.

## REFERENCES

- Bagheri, F., Ebrahimzadeh, M. H., Moradi, A. and Bidgoli, H. F. (2016). Factors Associated with Pain, Disability and Quality of Life in Patients Suffering from Frozen Shoulder. *The archives of bone and joint surgery*, 4(3), 243-247.
- Celiker, R., Borman, P., Öktem, F., Gökçe-Kutsal, Y. and Başgöze, O. (1997). Psychological disturbance in fibromyalgia: relation to pain severity. *Clinical rheumatology*, 16, 179-184.
- Cho, C. H., Jung, S. W., Son, E. S. and Hwang, I. S. (2012). Sleep status and quality of life in patients with frozen shoulder. *Journal of the Korean Orthopaedic Association*, 47(3), 205-210.
- Ding, H., Tang, Y., Xue, Y., Yang, Z., Li, Z., He, D. and Zong, Y. (2014). A report on the prevalence of depression and anxiety in patients with frozen shoulder and their relations to disease status. *Psychology, health & medicine*, 19(6), 730-737.
- Hallman, D. M., Holtermann, A., Dencker-Larsen, S., Jørgensen, M. B. and Rasmussen, C. D. N. (2019). Are trajectories of neck-shoulder pain associated with sick leave and work ability in workers? A 1-year prospective study. *BMJ open*, 9(3), e022006.
- Hand, G. C. R., Athanasou, N. A., Matthews, T. and Carr, A. J. (2007). The pathology of frozen shoulder. *The Journal of bone and joint surgery. British volume*, 89(7), 928-932.
- Lee, M., Haq, A. M., Wright, V. and Longton, E. B. (1973). Peri-arthritis of the shoulder: a controlled trial of physiotherapy. *Physiotherapy*, 59(10), 312-315.
- Neviaser, A. S. and Neviaser, R. J. (2011). Adhesive capsulitis of the shoulder. *JAAOS-Journal of the American Academy of Orthopaedic Surgeons*, 19(9), 536-542.
- Onen, S. H., Onen, F., Courpron, P. and Dubray, C. (2005). How pain and analgesics disturb sleep. *The Clinical journal of pain*, 21(5), 422-431.
- Pal, B., Anderson, J., Dick, W. C. and Griffiths, I. D. (1986). Limitation of joint mobility and shoulder capsulitis in insulin-and non-insulin-dependent diabetes mellitus. *Rheumatology*, 25(2), 147-151.
- Shaffer, B., Tibone, J. E. and Kerlan, R. K. (1992). Frozen shoulder. A long-term follow-up. *JBJS*, 74(5), 738-746.
- Singh, S., Gill, S., Mohammad, F., Kumar, S., Kumar, D. and Kumar, S. (2015). Prevalence of shoulder disorders in tertiary care centre. *Int J Res Med Sci*, 3(4), 917-20.
- Sivasubramanian, K., Pragassame, S. A., Srinivasan, B. and Ajithkumar, S. (2022). Effectiveness of Gong's mobilization on pain and functional ability in patient with Peri-arthritis shoulder. *YMER*, 21, 115-27.
- Tiwari, M., Khanna, V., Maddhesia, G. and Ghuse, I. (2015). Role and efficacy of TENS versus SWD in the management of peri-arthritis shoulder. *Indian J Orthop Surg*, 1(4), 211-214.

**How to cite this article:** Prasana K., Mohanraj K., Sam Thamburaj A., Ramya K., Mallika S. and Prabhakaradoss D. (2023). Perception of Quality of Life in Peri-arthritis Patients – A Cross Sectional Analysis. *Biological Forum – An International Journal*, 15(2): 1224-1228.