



Original Research Article

Health Related Quality of Life in Adults with Neck Pain: A Cross Sectional Survey

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ABSTRACT

Background: Neck pain is a common musculoskeletal problem which affects a substantial proportion of people. Purpose of this study is to quantify the potential impact of neck pain and disability on quality of life in variant age group.

Methods: 75 Participants with chronic neck pain were recruited. They were divided into 3 different age group; young age (18-25), middle age (26-40) and old age (41-60). Northwick Park neck pain Questionnaire was used to measure neck pain and the consequent disability. The SF-36 was used to measure Health related Quality of life (HRQoL).

Results: Northwick Park neck pain questionnaire score was highest in older age group (38.38%). Also, the highly affected component was carrying objects (52%), followed by sleeping (42%) and reading (41%). SF-36 Score was lowest (50.36%) in older age group compared to middle age (61.27%) and young age group (52.59%). Analysis revealed moderate negative correlation between neck pain and the SF-36 score (r value = -0.53, -0.57, -0.58).

Conclusion: This study presents the relationship between neck pain and HRQoL. Neck pain has an impact on health-related quality of life. It was also evident that the association of HRQoL of with neck pain and disability was greater in old age group.

Key words: neck pain, quality of life, SF-36.

INTRODUCTION

Neck pain is a common musculoskeletal problem that will affect a substantial proportion of people at some point in their lives.^[1] The lifetime prevalence of neck pain in different countries is high, with more than two thirds of individuals experiencing a problem with neck pain.^[2] Approximately 34.4%-54% of the general population experience neck pain in a 12 month period.^[3] Neck pain may

affect an individual at any age. As age differs so does the workload, structural and degenerative changes and thus the pain vary in intensity and disability accordingly in younger, middle and older adult group. Quality of life is a global construct that encompasses physical, social and psychological functioning, work role functioning, and vitality. Occupational and vocational activities of daily living of individuals vary according to age.

Worldwide, health surveys have shown poor quality of life in chronic cases; mental disorders were more common among people with chronic back and neck pain than those without.^[4] Neck pain is believed to impact on one's general health and health related QOL (HRQOL). The literature suggests that physical and mental HRQoL is worse for individuals with neck pain compared to those without neck pain. Thus treating patients with neck pain symptoms as well as addressing the psychosocial factor appears to be more effective than simply providing palliative neck pain therapy and level of mental status untreated. Purpose of this study is to quantify the potential impact of neck pain and disability on quality of life by examining physical and mental subscales in variant age group. Thus, providing an insight to the physiotherapists as to the contribution of neck pain to overall health status of patient in variant age group.

MATERIALS & METHODS

Subjects: Participants with chronic neck pain were recruited from the outpatient Orthopedic and Rehabilitation Departments. Patients with neck pain (with or without arm symptoms) for over 6 months met the participant selection criterion. Patients were identified based on symptoms, physical signs and imaging study results by physicians. Patients suffering from other types of pain such as shoulder diseases, inflammatory, rheumatic disease were excluded. The written informed consent was obtained from all participants.

Instruments: Northwick Park neck pain Questionnaire (NPQ) was used to measure neck pain and the consequent disability. The NPQ has been found to be reliable and valid for patients with neck pain;^[5] it consists of nine five-part questions that assess the subject's symptoms, from which a score is obtained. Subjects were required to answer all the questions except question 9 on

driving, which was omitted if the patient did not drive a car when in good health. The scores to the questions were summed and converted to a percentage score, as recommended by Leak et al. (1994). The higher the percentage, the greater the disability and vice versa.^[6,7] SF-36 was used to measure Health related Quality of life (HRQoL). SF-36 is designed to provide a global measure of HRQoL. It comprises eight interrelated health dimensions: physical functioning; role-limitations resulting from physical health problems; bodily pain; general health; vitality (energy/fatigue); social functioning; role-limitations resulting from emotional problems; mental health (psychological distress/psychological well-being); and reported health transition. SF-36 is a valid and reliable measure for clinical and general populations with a reported interclass correlation coefficient (ICC) of 0.85.^[8]

Procedure: 75 Patients meeting the eligibility criteria were invited to participate in this study. They were explained about the study and were divided into 3 different age groups and defined as young age (18-25), middle age (26-40) and old age (41-60), 25 patients in each group. The participants participated in personal interviews, and the questionnaire was completed in a quiet room. The questionnaire contained demographic questions, Northwick Park neck pain Questionnaire and SF-36. Data analysis and graphical representation was done. A parametric correlation test was used to correlate the disability and quality of life of same group of subjects (Karl Pearson correlation test). Results Northwick Park neck pain questionnaire score was highest in older age group (38.38%). Also, the highly affected component was carrying objects (52%), followed by sleeping (42%) and reading (41%) as seen in old age group. SF-36 Score was lowest (50.36%) in older age group compared to middle age (61.27%) and

young age group (52.59%). This shows that increased neck pain and disability affected the quality of life.

Association between neck pain and health-related quality of life

The relationships between HRQOL and Neck pain scores were tested with Pearson’s correlation coefficients. Statistical analyses were performed with SPSS software. The association between Scores of Northwick Pain Questionnaire and SF-36 score are presented in Table 1. Analysis

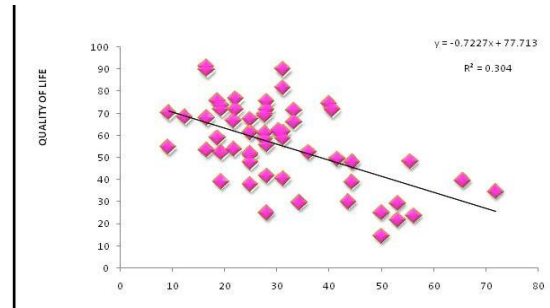
revealed moderate negative correlation between neck pain and SF-36 score (r value = -0.53, -0.57, -0.58 respectively in three age groups). There is statistically significant association between neck pain and quality of life. Table 2 shows that in young and old age group both physical health and mental health were almost equally affected and in middle age group physical health was affected more than mental health. Graph 1 shows the correlation between scores of Northwick Pain Questionnaire and SF-36 score.

Table 1: The association between Scores of Northwick Pain Questionnaire and SF-36 score.

	Age	Neck disability	Standard Deviation (SD)	SF 36	S.D.	R^2	R	(p)
Young age group	18-25	28.78	9.48	52.59	19.97	0.29	-0.53	0.005
Middle age group	26-40	28.56	14.08	61.27	18	0.32	-0.57	0.003
Old age group	41-60	38.38	15.42	50.37	14.91	0.33	-0.58	0.002

Table 2: Percentage of SF-36 scores in three age groups.

Age group	Physical health	Mental health
Young (18-25 yrs)	52.87%	52.27%
Middle (26-40 yrs)	58.67%	68.87%
Old (41-60)	49.79%	50.94%



Graph 1: Co-relation between Scores of Northwick Pain Questionnaire and SF-36 score.

DISCUSSION

Purpose of the study was to correlate the impact of neck pain and disability on one’s quality of life and to compare the impact of these symptoms among patients of varying age. From the study it is reported that there is significant association between HRQOL and neck pain with disability and is evident in each age group. It is observed that patients with neck pain express both physical and mental affection which

hampers the ability to participate in day to day activities thus affecting HRQOL. The physical pain can be attributed to improper ergonomics and poor posture leading to altered biomechanics of spine resulting into neck musculature weakness and scapular instability. This causes bodily pain and affects activities like sleeping, reading, driving, carrying heavy objects and so on. This affection of daily activities reduces physical and social functioning of an

individual with encompassing progressive anxiety, fatigue and depression enrouting towards mental and psychosocial problems along with physical pain. From the study it was also evident that the association of HRQOL of with neck pain and disability was highly significant in old age group. The reason for this may be, due to continuous and prolonged loading of facet joints with bad posture and other stresses, degenerative process sets in leading to greater disability. This degenerative process leads to wear and tear of facet joints and intervertebral discs with characteristics of osteophyte formation, narrowing of intervertebral foramina with or without compression of nerve roots. All of these are responsible for varying grades of disability which also starts affecting the mental health of an individual because of its prolonged course of the disease. Also in older adult group, the level of pain perceived is higher as compared to middle and younger adult group because as age increases, pain threshold decreases and also there is age related deterioration in endogenous pain inhibitory system and alteration in peripheral A – delta fibers nociceptive function.^[9] The demographic data of our cases were similar to the study done at department of physical medicine, BSMMU Dhaka, concluding that neck pain may affect at any age but is common in elderly and commonest cause of neck pain is cervical spondylosis.^[10] The level of neck pain and its related disability depends on job and sports related stresses in younger and middle age group are modifiable in nature. This group which is the studying and the working age group has more of muscle spasms with strains and sprains which are associated with stress or bad posture. This leads to myofascial pain which is modifiable by ergonomics and lifestyle modification. Whereas, in older adults, the leading cause of neck pain is degenerative changes which are almost irreversible and non modifiable

leading to greater disability and poor QOL of an individual. This analysis suggests that neck pain of increasing severity should not be seen in isolation but rather as a hindrance to improve the QOL. These results are useful for the Physical Therapist for rehabilitation and prognosis of patients with significant neck pain.

CONCLUSION

This study presents the relationship between neck pain and HRQoL. There is tangibly significant neck disability and QOL affection among variant age group. Quality of life was significantly affected as the age increased. The information provided in this cross-sectional analysis warrants further investigation into the association between grade of neck pain and HRQoL by means of a prospective research design that would inform causality. Future research should address the associations between neck pain and co morbidities that may tend to aggregate in subjects with poorer health status and chronic diseases.

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