Quality of life of patients with knee osteoarthritis

Rajani Shrestha

Lecturer, Lalitpur Nursing Campus, School of Nursing and Midwifery, Patan Academy of Health Sciences, Lalitpur, Nepal

Correspondence
Ms. Rajani Shrestha
Post Box No: 21885
Email: razni_h@hotmail.com

Abstract

Introductions: Osteoarthritis (OA) is a non-inflammatory degenerative disorder of the joint. It has negative impact on health related quality of life (QOL), both in physical and mental health. This study aimed to assess QOL of patient with knee osteoarthritis.

Methods: A descriptive cross-sectional study was conducted in outpatient department of orthopedic in Patan hospital, Patan Academy of Health Sciences. Non-probability purposive sampling technique was used. Data was collected from 21st July to 18th August 2017 among 125 knee osteoarthritis patients by face-to-face interview using structured interview.

Results: Overall QOL of patients with knee osteoarthritis was good in mental health component mean score (62.09) and poor in physical health with a mean score of (38.18). The physical component of QOL was significantly associated with age (p<0.04) and occupation (p<0.001). There was no association between independent variable and mental component of QOL.

Conclusions: The significant proportion of the patients have poor quality of life in physical health component, but majority of patients have good mental health.

Keywords: knee osteoarthritis, physical and mental health, quality of life

Introductions

Osteoarthritis (OA) is a non-inflammatory degenerative disorder of the joints. It is one of the common joint disease.[1] Osteoarthritis causes functional impairment with disability and handicap, and is a major health problem with impact on quality of life (QOL).[2] It limits the movement of patients in 80% and 25% are unable to perform daily tasks. Pain, difficulty in walking, climbing stairs, performing household chores are some of the disabilities. Symptomatic impact of knee osteoarthritis is estimated at 240/100,000 people per year.[3] Osteoarthritis prevalence rate is increasing in Nepal.[4] Aim of this study is to evaluate the QOL of patient with knee OA visiting Patan Hospital.

Methods

A quantitative, descriptive cross sectional research design was adopted. The study was conducted at the orthopedic outpatient department of Patan hospital, Patan Academy of Health Science (PAHS), Lagankhel, Lalitpur, Nepal. Non-probability purposive sampling technique was used. Sample size was calculated by using prevalence of knee OA.[5]

The data collection instruments consisted of three parts. Part I: Socio-demographic Characteristics, Part II: Questions related to clinical factors and Part III: Questions related to quality of life on physical and mental domain with OA given by RAND 36- Item. Health Survey 1.0 in which physical health component includes physical functioning, general health, pain and role limitation due to physical health. Mental health component includes emotional wellbeing, role limitation due to emotional problem, energy/fatigue and social functioning.[6] The QOL was measured in terms of poor <50% and good >50% score.[7] The instrument was translated into Nepali version and again back translated. Reliability of the tool was maintained by Cronbach's alpha test value is 0.79.

The ethical clearance was obtained from research committee of Tribhuvan University (TU), Institution of Medicine (IOM), Institutional review board (IRB) and Institutional Research Committee (IRC) of Patan Academy of Health Sciences (PAHS). Permission was taken from Hospital director, Nursing director, head of department of orthopedic department and OPD in-charge of Patan hospital.

Informed verbal consent was taken and face-to-face interview was conducted. The measurement of height and weight was also done to calculate BMI by the researcher herself. Data was analyzed using computer package with SPSS software version 23. Analysis and interpretation of the findings were done with the help of descriptive statistics (frequency, percentage, mean and standard deviation). Inferential statistics (Fisher exact test) were used to determine the association between dependent and independent variables

Results

There were 125 patients 63 (50.4%) in age group 61-80 years. The mean age was 58.76±11.70 years, female 104 (83.2%) . Further findings on BMI showed 30 (24%) were overweight and 51 (40.8%) obese. Eighty nine (71.2%) respondents were married, 73 (58.4%) living in joint family, 70 (56%) had family income of more than Rs. 30,000/month.

The mean score of emotional wellbeing was 71.84 and physical health 22.8, (Table 1). The mean score of physical component was 38.18±19.48 and mental component was 62.09±15.97. The prevalence of poor QOL in physical and mental component were 92 (73.6%) and 25 (20%) respectively. Likewise, the prevalence of good QOL in physical and mental component were 33 (26.4%) and 100 (80%) respectively. Age and occupation had There is significant association (p value= 0.04, 0.001) with physical health and no association was found between demographic variables and mental components of the QOL, (Table 2).

82

Journal of Patan Academy of Health Sciences. 2018Dec;5(2):81-84.

Table 1. Mean score of various domains of quality of life (QOL) of knee osteoarthritis (OA) patients (n=125) at orthopedic outpatient of Patan Hospital

Domain	Item	Min	Max	Mean	SD
Physical Functioning	10	5	100	43.72	23.56
Role Limitation due to Physical Health	4	0	100	22.8	36.89
Role Limitation due to Emotional Problem	3	0	100	57.33	20.57
Pain	2	0	87.5	36.84	14.87
Energy/Fatigue	4	10	95	63.4	15.73
Emotional Well-being	5	20	100	71.84	17.02
General Health	5	20	80	49.36	17.58
Social Functioning	2	0	100	55.8	26.68

Table 2. Association between physical component of QOL and socio-demographic characteristics of knee OA patients (n=125) at orthopedic outpatient of Patan Hospital

Characteristics	Poor Score<50%	Good Score >50%	Total N	p
	N (%)	N (%)		
Age				
<= 60.00	45 (66.2)	23 (33.8)	68	
61.00+	47 (73.6)	10 (17.5)	57	0.04*
Sex				
Female	76 (73.1)	28 (26.9)	104	
Male	16 (76.2)	5(23.8)	21	0.50
BMI				
<= 25.00	58 (77.3)	17 (22.7)	75	
25.00+	34 (68.0)	16 (32.0)	50	0.30
Marital Status				
Married	85 (73.3)	31 (26.7)	116	
Unmarried	7 (77.8)	2 (22.2)	9	1.0
Occupation				
house work	33 (75.0)	11 (25.0)	44	
Business	5 (33.3)	10 (66.7)	15	
Farmer	40 (87.0)	6 (13.0)	46	
Office	6 (54.5)	5 (45.5)	11	
Other	8 (88.9)	1 (11.1)	9	0.001*
Types of Family				
Nuclear	35 (68.6)	16 (31.4)	51	
Joint	57 (77)	17 (23.0)	74	0.31

p value <0.05 = significant *significant Fisher exact

Discussions

In our study score for general health was 49.36±17.58, role limitation due to physical health (RLPH) was 22.8± 36.89, role limitation due to emotional problem (RLEP) 57.33±20.57, physical functioning 43.72±23.56 and pain 36.84±14.87 score for energy/fatigue 63.4±15.73, emotional well-being 71.84±17.02 and social functioning 55.8±26.68. Some of these findings are similar to earlier findings from Mangalore, India which showed mean and standard deviation on general health was 49.38±17.51, role

limitation due to emotional problem was 52.45±4.95, role limitation due to physical health 16.62±3.09, physical functioning 51.18±6.91 and bodily pain was50.93±26.24; score for energy/fatigue 49.40±18.64, emotional well-being 33.45±5.92 and social functioning 40.25±26.05.[8]

Another study from Brazil showed that mean score of general health 54.6±19.1, functional limitation 25.1±35.5, RLEP is 38±42.3, RLPH 37.1±27.1, pain 32.9±23.1, vitality (energy/fatigue) 48.7±24.1, mental health (emotional health) 60.1± 27.3 and social

aspect 50.1±29.3. This supports the findings of our present study.[9]

In our study the average quality of life in physical component score was 38.18±19.48 (8.75 to 90). Likewise in mental component score 62.09±15.97 (22 to 90.25) which indicates mental health maintained good in the Knee OA compared to physical health. Similar findings is reported from Turkey with mean physical component score 42.0±13.0, significantly higher than insufficient activity group (33.7±11.3). Likewise in mental component score, physically active group had 48.6±7.3 and inactive group 47.7±9.6.[10]

There was significant association between age (p=0.04), and occupation (p=0.001) with physical health component of the QOL of knee OA patients. There is no significant association between age, sex, BMI, marital status, occupation and type of family of the patients with mental health components. The study findings are supported by the study done in Malaysia on "Health-related QOL in patients with knee OA" which showed that there was no significant association between QOL with different education levels, employment status and marital status. Patients with higher body mass index (BMI) and existence co-morbidities scored lower in most of the QOL domains.[11]

Conclusions

The patients with knee osteoarthritis have good quality of life in mental health components but poor quality of life in physical health components.

Acknowledgements

References

1. Hinkle JL, Cheever KH. Brunner & Suddarth's textbook of medical-surgical nursing. Philadelphia: Lippincott Williams & Wilkins; 2013.
2. Mahmoudi SF, Toulgui E, Jeddou KB, Gaddour M, Jemni S, Khachnaoui F. Quality of life for patient with knee osteoarthritis. Annals of Physical and Rehabilitation Medicine. 2016;59:e158-9. DOI: 10.1016/j.rehab.2016.07.354
3. Mahir L, Belhaj K, Zahi S, Azanmasso H, Lmidmani F, El Fatimi A. Impact of knee osteoarthritis on the quality of life. Annals of Physical and Rehabilitation Medicine. 2016;59:e159 DOI: 10.1016/j.rehab.2016.07.355
4. Neogi T. Joint pain epidemiology: fact sheet. International Association for the Study of Pain. 2016;(11). PDF
5. Buddha B. Creaking joints. Nepali Times. 2013;(32):654. Web link
6. Rand. 36-item short form survey instrument Rand Corporation. 2016. PDF
7. Gandek B. Interpreting the SF-36 health survey. Winnipeg, Manitoba: Canadian Association of Cardiac Rehabilitation. Google Scholar. 2002. Web link
8. Kumar HN, Nagaraj K, Luthra K, Gupta P, Sapar P, Gupta S, Tyagi A. Health-related quality of life among osteoarthritis patients attending primary care clinics of Mangalore city. Int J Med Public Health. 2015;5(1):55-8. DOI: 10.4103/2230-8598.151260
9. Kawano MM, Araujo IL, Castro MC, Matos MA. Assessment of quality of life in patients with knee osteoarthritis. Acta Ortop Bras. 2015;23(6):307-10. DOI: 10.1590/1413-785220152306150596
10. Mesci E, Icagasioglu A, Mesci N, Turgut ST. Relation of physical activity level with quality of life, sleep and depression in patients with knee osteoarthritis. North Clin Istanb. 2015;2(3):215-21. DOI: 10.14744/nci.2015.95867 PDF
11. Zakaria ZF, Bakar AA, Hasmoni HM, Rani FA, Kadir SA. Health-related quality of life in patients with knee osteoarthritis attending two primary care clinics in Malaysia: a cross-sectional study. Asia Pac Fam Med. 2009;8(1):10. DOI: 10.1186/1447-056X-8-1