**Review report**

I would like to thank the authors of the manuscript for making the revisions recommended in the earlier reviews. I have provided below my comments and suggestions to improve the manuscript.

**Abstract**

* Page 1, In the methods subsection, consider replacing “Cross sectional comparative study” with “A comparative cross-sectional study was conducted based on data collected from”
* Consider deleting ‘(n=158)’
* Consider replacing “with age limit between 40 years to” to “aged 40 years or older”
* Consider deleting “to onward according to inclusion criteria taken”
* Page 1, In the methods subsection, please include a sentence describing the statistical analysis preformed
* Page 2, In the Results subsection, I believe the following text is not relevant for this subsection, please consider removing it

“Lahore is a major urban center whereas Sialkot is an Industrial city and not as urbanized as Lahore. Studies have shown that lifestyle in major urban centers is more sedentary than smaller cities despite this no difference in result was seen among ADL’s of patients of Knee Osteoarthritis of both cities. 158 patients selected, out of which 53 were male and 105 were female.”

* Page 2, Results subsection, “that there is not any significant difference in the health related quality of life among both groups”

I believe that we can't say this based on the p-value unless some sort of criteria for clinical significance of the difference is used. Please consider taking out the statement. The only claim we can make is that there was no **statistically** significant difference.

**Keywords**

Please consider adding the terms**:** SF-12, Lahore, Sialkot

**Introduction**

* Page 3, second paragraph, the term “this is more marked in people of Asian”. Is there concrete evidence to support this claim? If so please indicate, If not, please consider taking out the statement.
* Page 3, second paragraph, the term “Some study describe that 23% pain increases of 55 years people and 39% of 65 years.[5]” this study doesn't show this statistic. please indicate which study shows that
* Before writing the objective, please address the following:

What is the research gap, were there similar studies performed before? What have they not addressed that this study will answer?

* Why the need to compare the two cities? Is there an aspect expected to show the two cities different in HQoL associated with HQoL of osteoarthritis?

**Literature review**

* The last paragraph, “According to literature review it is obvious that OA of knee joints really affects the quality of life and those patients who live in urban cities and well aware about disease process are having good health related activities levels.”

Please consider revising the sentence

* “our study we compare two urban cities with one more urbanized, but results were same”

In my opinion, findings should not be presented here.

**Methodology**

* Page 6, sampling technique, “Data was calculated by using convenience sampling method.”

I believe that sample size calculation and the act of selecting the calculated sample size for data collection are different activities. So, the fact that the authors took 158 patients in a convenience sampling technique does not necessarily determined the number 158. However, if the authors did not determine a sample size but collected data on patients they managed to find in a specific period of time that should be mentioned under 'Sample size' section.

* Page 6, inclusion criteria**,** what was the rational to focus on grade 3 and 4. Why were not the other grades not included? If decision is made to stick to the grade and 4, I believe the authors could consider adding in the text of the manuscript as well as the title the term moderate to severe OA. This is because the level of HRQoL reported by patients is likely to depend on severity among other factors. So this should be made clear to readers.
* What is the rationale for the age bracket
* Page 6, Exclusion criteria, Please briefly comment on the rationale for the exclusion criteria
* Page 7, Data collection procedure, “The identity of the researcher kept anonymous.”

Why? Or do you mean the identity of the participants? If so, how was anonymity ensured?

* Page 7, Data collection procedure, “After taking informed consent patients were requested to fill questionnaire.”

Was it oral or written? Please describe

All sentences related to ethical considerations should be moved to the Ethical consideration section

* Page 7, statistical procedure, please consider writing this section in full sentences explaining how each statistical test was used.
* Page 7, operational definition,

“include the 4 points (general health, mental stress, disturbance in activity of daily living and social activity) SF”

I believe SF 12 v2 is defined to describe 2 components (physical and mental) which are described by eight domains (physical functioning, role physical, bodily pain, general health, energy/vitality, social functioning, role emotional and mental health) derived from the 12 questions. In light of this, please reconsider the statement provided above or justify it.

* “Transformation of score = Actual raw score – lowest possible raw score \* 100

 **/** Possible raw score “ please check the denominator ‘possible raw score’ whether it is written properly or not.

* Please also provide reference to the transformation score formula
* “Ethical issue”, please consider renaming it as “Ethical considerations”

Also, please consider writing the statements in full sentences to form a meaningful paragraph. Also by adding the ethical issues commented on above, to be moved here

**Results**

* Page 8, “Participants were equally selected from Lahore and Sialkot (79 from each city).”

Why equal number for the two cities? You mentioned Lahore has 11 million people and Sialkot less than one million. How do you rationalize the selection of equal sample from each?

* Have other data been collected? Education, occupation, co-morbidities…?
* Page 8, Table 2, I believe the main data in Table 2 is already mentioned in the text. So it can be deleted
* Tables 3, 4 and 5 , please refer to the comments and examples provided on how to improve the three tables in the **appendix** below
* Page 12, Table 6, I believe the mean score provided in Table 6 is not an appropriate way to summarize the SF12. The Physical and mental component are not supposed to be combined as done in Table 6. As suggested above please use the PCS and MCS to summarize and compare SF 12 of he two cities.

**Limitation**

* Please write the limitations section is a coherent manner forming a meaningful and well reasoned paragraph with the three ideas you mentioned.

**Conclusion**

* How about the other specific aspects, the different dimensions of the HQoL? This should be addressed as well

**Recommendations**

* The recommendations seem to not emanate from the findings of the study. For example the recommendations for studies internationally and in different other countries, how did this come about from your study? What finding prompted this recommendation? I believe the recommendations should be limited to the context of the study like the second, third and fourth the points mentioned.
* Please write the recommendations in a paragraph in a coherent manner.

In summary, I believe the authors should revisit their manuscript and its findings in light of the comments provided here, especially the way the scores are calculated and presented.

**Appendix**

The tables 3, 4, and 5 can be combined in one table as follows

NB. Please make sure of recoding of negatively worded questions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | City  | Response categories (%) | Chi-square  | P-value |
| 1 | 2 | 3 | 4 | 5 |
| Limitation in moderate activities (PF) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Limitation in climbing several flights of stairs (PF) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Less accomplished due to physical health?l (RP) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Limited in work or other activities due to physical health? (RP) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Pain interfere with your normal work (BP) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| In general, would you say your health is (GH) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Did you have a lot of energy?? (VT) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Interference with your social activities? (SF)  | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Less accomplished due to emotional problem (RE) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Less careful in work or activity due to emotional problem (RE)  | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Feeling calm and peaceful (MH) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |
| Feeling downhearted and depressed (MH) | Lahore  |  |  |  |  |  |  |  |
| Sialkot  |  |  |  |  |  |

I believe the scores for the eight dimensions of the SF 12 items should be presented as follows

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable  | PF  | RP  | BP  | GH  | VT  | SF  | RE  | MH |
|  | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) | Mean (SD) |
| Sex  |  |  |  |  |  |  |  |  |
|  Male  |  |  |  |  |  |  |  |  |
|  Female  |  |  |  |  |  |  |  |  |
| City  |  |  |  |  |  |  |  |  |
|  Lahore |  |  |  |  |  |  |  |  |
|  Sialkot |  |  |  |  |  |  |  |  |

PF: physical functioning RP: role physical BP: bodily pain GH: general health

VT: energy / vitality SF: Social functioning RE: role emotional MH: mental health

In addition, the Physical component summary and mental component summary could be provided as follows

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable**  | **Physical component summary**  | **Mental component summary**  | **t** | **p-value**  |
| **Mean**  | **SD** | **Mean** | **SD** |
| **Sex** |  |  |  |  |  |  |
|  Male  |  |  |  |  |
|  Female  |  |  |  |  |
| **City**  |  |  |  |  |  |  |
|  Lahore  |  |  |  |  |
|  Sialkot  |  |  |  |  |

PS. The authors could check other published manuscripts which employed SF12 on how the results were reported in tables. A PubMed search with the term ‘SF 12’ can bring a lot of nice examples