#### Reviewer #1:

### **Comment:**

The title of the paper shows that this paper indicates the future research direction of OA. However, after reading this paper I found that it does not provide us with any new research ideas and clues about OA research. We all know that there has been no breakthrough in research related to drug strategies for OA, and we also know that molecular diagnosis for OA is necessary. In addition, the exploration of key signalling targets has been something that OA researchers are doing. In summary, this paper has no highlights that can be identified and does not present any new ideas. It is suggested that specific future research directions can be proposed in relation to previous research results of your team or current research hotspots of OA, such as the classification of OA subtypes based on single-cell sequencing technology, or how to more effectively implement exercise and self-management for OA patients, which are recognized as efficient treatment strategies for early OA patients.

# Authors reply:

Thanks to the reviewer for his critical comments. As commented by the reviewer, we did not present any new ideas for OA research but wanted to highlight the ongoing direction of OA research to the readers. We identified the current hotspots of research in OA management and tried to give on overview of its impact on the management of OA in future. We did not want to be biased about the direction in which our team is working instead we presented an overview of the progress in the field of OA research to make its more comprehensive to the readers. However, upon the suggestions of the reviewer the content has been revised and presented as suggested to make it more informative to the readers.

#### Reviewer #2:

### **Comment:**

This paper gives a personal message by drawing readers' attention to the current challenges regarding management of osteoarthritis and a view of the future perspective which includes distinguishing the clinical phenotypes, and molecular endotypes.

# **Authors reply:**

Thanks to the reviewer for understanding of our message to the readers.

#### Comment:

Taking into consideration the policy of World Journal of Orthopaedics regarding non-commissioned editorials as well as the recent issues, scope, and style of published editorials, I believe that this Editorial could be a good fit after taking into consideration the following points:

# **Authors reply:**

Thanks to the reviewer for the encouraging comments.

1. I suggest using a punchy title (for example Osteoarthritis, an old wine in a new bottle).

# **Authors reply:**

The title has been revised as suggested to make it catchier to grab the readers' attention.

### **Comment:**

2. I recommend to trimming your text down to eliminate all redundant words and try to say everything relevant in as few words as possible, make your main text short, concise and limit the number of words under 1000.

# **Authors reply:**

The content has been trimmed down to 1000 words as suggested and all redundant material has been removed.

#### **Comment:**

3. The figure title needs to be below the figure.

# **Authors reply:**

Amended as suggested.

#### Comment:

4. I suggest providing more available evidence supporting the Future research regarding key biomarkers and also assess the counterevidence.

## **Authors reply:**

Future research perspectives regarding the biomarkers, phenotypic and genotypic subtypes of Osteoarthritis have been added with their references as suggested.

### **Comment:**

5. You should grant a tailpiece of a clear conclusion.

## **Authors reply:**

A concluding tailpiece has been added to make a clear concluding statement to the readers.

### **Comment:**

6. Furthermore, you should insert a brief acknowledgements section.

# **Authors reply:**

Acknowledgement section has been added as suggested.

## Reviewer #3:

# **Comment:**

The editorial article is well written, but the content needs more information about phenotype and endotype of OA and its relation.

# **Authors reply:**

Thanks to the review for his supporting comments. As suggested more information on the phenotypic and endotypic subtypes of OA described till date and its relation to the OA management has been added.