The authors present a review on interventions in patients with liver cirrhosis to improve sarcopenia. The subject has not previously been treated extensively in the literature, so the present study adds to the knowledge in the field. The manuscript is well written and well structured. However, I have some minor comments

1. Why were the interventions chosen already in the introduction? Should not the literature search show which interventions were relevant?

   The references in the introduction sections are adjusted. Reference number 46 was removed

2. Why was liver fibrosis added to the search terms when the manuscript is about cirrhosis?

   Liver fibrosis was added to expand search and not to miss any relevant study. However, only studies assessing interventions to improve sarcopenia in cirrhosis were included in the study.

3. In the fourth paragraph in the discussion I believe that the author should be more cautious than to recommend exercise and nutritional supplementation because of the scarce evidence. Perhaps 'can be considered' or something would be more appropriate.

   This has been fixed in the discussion section

4. Lack discussion about the different etiologies of cirrhosis regarding outcome

   Interventional studies done so far included patients with cirrhosis regardless of etiology. Only 2 studies included in the review were done on chronic hep C cirrhosis. Hence, data regarding improvement of sarcopenia in cirrhosis with respect to different etiologies are scarce and were not mentioned in the discussion section.

Reviewer # 2: The authors conducted a systematic review regarding the intervention to the cirrhotic patients with sarcopenia. Generally, the manuscript is well written. Unfortunately, there is only one study that showed improved mortality or morbidity by intervention and some of the rest of included studies just proved improvement of sarcopenia. Therefore, the clinical significance of the improvement of sarcopenia in cirrhotic patients remains unknown, which is the crucial point of this study and at least it needs to be discussed as a limitation. Ref 30 should be quoted as “Yamanaka-Okumura” et al, not as “Okumura” et al.

1. This limitation is mentioned in the discussion section
2. “Okumura” et al changed to “Yamanaka-Okumura” et al

Reviewer # 3: In this systematic review, the authors attempted to find appropriate nutritional and exercise interventions for improvement of sarcopenia in cirrhotic patients. Base on the results of analyses, it was recommended to have early supervised exercise with BCAA supplementation. This article suggested some directions in the management of such patients.

Reviewer # 4: Naseer et al conducted a solid well written systematic review of interventions for cirrhotic patients with sarcopenia. They evaluated 24 studies that reported diverse outcomes to include improvement in anatomic muscle mass, strength and physical function. The authors have taken on a timely and important topic of rapidly growing interest in hepatology. The studies they reviewed include reports that assess frailty, the loss of functional capacity and reserve, within a broad definition of sarcopenia and report functional rather than anatomic outcomes as endpoints. There is a growing body of literature in cirrhosis that is focused on frailty functionally defined instead of sarcopenia anatomically defined, including an important new liver frailty index (LFI), Lai et al, Hepatology 2017;66:564. It is critical for the field that we acknowledge that cirrhotic sarcopenia and frailty identify the same fundamental pathophysiologic disturbance in liver disease, and that we can expect to encounter potentially discrepant outcomes depending on how the problem is measured, as shown, for example, by the difference in transplant outcomes predicted by 6 minute walk distance and not predicted by CT measured sarcopenia (Yadav et al, Clin Transplant. 2015;29:134). A systematic review should address this key issue. If the literature search terms of the current manuscript were re-scoped to identify comparative studies, RCTs and clinical trials addressing not only sarcopenia but also frailty in cirrhosis, would any other reports have been identified? If so they should be included and considered.

Answer: The concept of frailty is rapidly evolving in cirrhosis. Aims of this systematic review were rescoped again. Literature search was done with the search term “interventions to improve frailty in cirrhosis”. However, no new intervention study specifically targeting frailty identified. Most of the studies published so far focused on the assessment of frailty or development of new tools to identify prevalence of frailty in cirrhotic population. Study published by Lai et al, Hepatology 2017;66:564 introduced the concept of liver frailty index (LFI) used grip strength, timed chair stands and balance testing as a measure for frailty. Grip strength and six-minute walk test were assessed in few of the included study as measure of sarcopenia, but nothing exclusively came up with search term frailty.