Review of: "Medical Nutrition Therapy in Hospitalized Pulmonary Tuberculosis Patients: A Retrospective Analysis of Its Effect on Monocyte-to-Lymphocyte Ratio (MLR), Neutrophil-to-Lymphocyte Ratio (NLR), and Prognostic Nutritional Index (PNI)"

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Potential competing interests: No potential competing interests to declare.

This is a retrospective study on the impact of medical nutrition therapy (MNT) on hospitalized pulmonary tuberculosis (PTB) patients. Here are the key points:

- **Malnutrition and PTB:** The study establishes a link between malnutrition and PTB. Malnutrition weakens the immune system and makes people more susceptible to infections. PTB itself can also lead to malnutrition due to factors like appetite loss and malabsorption.
- **MNT and its benefits:** The study investigates the effects of MNT on malnourished PTB patients. They found that MNT significantly improved the following:
    - Nutritional intake (energy, protein, carbs, and fat)
    - MLR (monocyte-to-lymphocyte ratio)
    - NLR (neutrophil-to-lymphocyte ratio)
    - PNI (prognostic nutritional index) While MNT improved these markers, the study acknowledges that it cannot definitively say how much of the improvement is due to MNT alone, as patients also received standard PTB treatment.
- **MLR, NLR, and PNI as markers:** The study suggests that MLR, NLR, and PNI can be used as cost-effective indicators of response to PTB treatment, including MNT.
- **Adequate nutrition is key:** The study highlights the importance of ensuring adequate energy and protein intake during MNT for better outcomes.

Overall, the study emphasizes that MNT plays a vital role in improving the clinical condition of hospitalized malnourished PTB patients.

There are some points to improve.

- **Calorie and protein intake:** While the study mentions intake levels (1500 kcal and 75g), it would be stronger if it

presented the data as kcal/kg/day and g/kg/day. This adjusts for individual body weight and provides a more accurate picture of nutrient intake relative to body size.

- **Reference quality:** The quality and relevance of references can significantly impact a study. Using high-impact journals and studies directly related to MNT, PTB, and nutritional markers would strengthen the paper.
- **Limited discussion:** The discussion should delve deeper into potential mechanisms by which MNT might improve clinical outcomes. For instance, it could discuss how improved nutrition might enhance immune function or reduce inflammation.
- **Confounding factors:** The authors acknowledge potential confounding factors like standard PTB treatment, but the study design doesn't account for them. Ideally, the study would collect data on these factors and perform statistical analysis to adjust for their influence.
- **Table 3 analysis:** A regression analysis in Table 3 would be more informative than just a comparison based on arbitrary cut-off points. This would reveal the strength and direction of the association between nutrient intake and MLR/NLR changes.
- **Table 1 baseline analysis:** Performing statistical tests like chi-square on variables in Table 1 would be beneficial. This would confirm if there are any significant differences in baseline characteristics between the groups (e.g., gender distribution, length of stay) which could influence outcomes.
- **Sample size:** The study doesn't mention the sample size. A larger sample size would increase the generalizability of the findings.
- **Long-term follow-up:** The study only assesses changes during hospitalization. Ideally, a follow-up after discharge could show the sustainability of the observed improvements.

Conclusion:

The paper provides a good starting point, but more data, robust statistical analysis, and a deeper discussion are necessary to strengthen the conclusions. Addressing these limitations would create a more impactful and informative study.