# Article information:

In vitro digestion of eight types of wholegrains and their dietary recommendations for different populations - ScienceDirect  
<https://www.sciencedirect.com/science/article/abs/pii/S0308814621020756>

# Article summary:

1. Wholegrains, which contain bran, germ, and endosperm, are nutritionally superior to refined grains. They are rich in starch, protein, and dietary fiber, which have different effects on human health.

2. The study investigated the in vitro digestibility of starch and protein in eight different wholegrains and their porridges. Cooking treatment improved the starch digestibility of all grains and the protein digestibility of most grains.

3. Porridges made from oats, quinoa, or buckwheat are considered healthier due to their lower glycemic index (GI) and glycemic load (GL), higher protein quality, and dietary fiber content. However, proso millet porridge had lower nutritional benefits compared to other porridges.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

对于上述文章的批判性分析，以下是一些观点和问题：

1. 偏见来源：文章没有提及作者的背景或潜在利益冲突，这可能导致偏见。读者无法确定作者是否有与研究相关的商业或财务关系。

2. 片面报道：文章只关注了全谷物的营养成分和消化特性，但没有提及其他可能的风险或副作用。全谷物可能含有抗营养物质或过敏原，这些方面也应该被考虑。

3. 无根据的主张：文章声称燕麦、藜麦和荞麦粥是更健康的食物选择，但没有提供足够的证据来支持这一主张。其他因素如口感、价格、可用性等也应该被考虑。

4. 缺失的考虑点：文章没有讨论不同人群对全谷物消化和吸收能力的差异。不同年龄段、健康状况和生理特征的人可能对全谷物有不同的反应。

5. 所提出主张的缺失证据：文章没有提供足够的数据或实验证据来支持其结论。仅凭少量样本进行体外消化试验并不能完全反映人体内的消化过程。

6. 未探索的反驳：文章没有提及可能存在的反对意见或研究结果。这种选择性报道可能导致读者对全谷物的真实效果和风险缺乏全面了解。

7. 宣传内容：文章中使用了一些宣传性语言，如“更健康的食物”和“鼓励增加膳食纤维摄入量”。这种语言可能会误导读者，并使他们认为全谷物是唯一正确的选择。

总体而言，上述文章在提供关于全谷物营养成分和消化特性方面的信息时存在一些问题。它缺乏客观性、全面性和科学依据，需要更多研究来支持其结论。同时，作者应该更加透明地披露潜在利益冲突，并考虑到其他可能存在的风险和限制。

# Topics for further research:

* 作者背景和利益冲突
* 全谷物的其他风险和副作用
* 燕麦、藜麦和荞麦粥的健康优势的证据
* 不同人群对全谷物的消化和吸收能力的差异
* 文章结论的证据支持
* 反对意见和研究结果

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