

REVIEWER'S REPORT

Manuscript No.: IJAR-58411

Title: Consumer Awareness, Perception, and Acceptance of Moringa-Infused Probiotic Products and Their Perceived Role in Metabolic Health

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revision ..YES.....

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		–		
Techn. Quality			–	
Clarity			–	
Significance		–		

Reviewer's ID: JPR-094

Detailed Reviewer's Report

Reviewer's Report

Overall Assessment

The manuscript addresses an emerging topic in functional foods by investigating consumer awareness, perceptions, and purchase intentions toward moringa-infused probiotic products. The topic is timely and relevant to nutrition, food science, and public health. However, the manuscript has several methodological, presentation, and scientific interpretation issues that should be addressed before publication.

Strengths

1. **Novel Research Topic**

* The study explores consumer acceptance of moringa-infused probiotic products, an area with limited published research.

2. **Relevant Public Health Importance**

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* Functional foods and metabolic health are current research priorities, making the study relevant to researchers and the food industry.

3. ****Clear Objectives****

* The research objectives are well defined and align with the study design.

4. ****Appropriate Statistical Analysis****

* Reliability analysis, chi-square test, t-test, ANOVA, correlation, and regression analyses were appropriately included for the survey data.

5. ****Logical Organization****

* The manuscript follows the standard scientific structure (Abstract, Introduction, Methods, Results, Discussion, Conclusion).

Weaknesses

Major Weaknesses

1. **Small Sample Size******

* Only 100 participants were included, limiting statistical power and generalizability.

2. **Convenience Sampling******

* Non-probability sampling introduces selection bias and limits external validity.

3. **Cross-sectional Design******

* The study cannot establish causal relationships.

4. **Limited Novel Scientific Contribution******

* The study evaluates perceptions rather than biological efficacy or clinical outcomes.

5. **Questionnaire Validation******

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* Content validity is briefly mentioned, but questionnaire development and validation require more detail.

6. **Low Regression Predictive Power**

* The regression model explains only about 8.7% of the variance in purchase intention ($R^2 = 0.087$), indicating that many important determinants remain unexplored.

Minor Weaknesses

- * Numerous grammatical and formatting errors.
- * Scientific names (e.g., *Moringa oleifera*) should be italicized consistently.
- * Several spacing and punctuation inconsistencies.
- * Figure quality and table formatting should be improved.
- * Discussion should compare findings more extensively with recent international studies.

Key Points

- * Moderate awareness of moringa and probiotics among consumers.
- * Positive consumer perception despite limited scientific knowledge.
- * Very high purchase intention (98%).
- * Prior awareness significantly influenced perceived health benefits.
- * Education level affected consumer choice factors.
- * Functional foods containing moringa show promising market potential.

Significance

The manuscript contributes to the growing literature on consumer behavior regarding functional foods. It provides useful preliminary evidence for:

- * Functional food product development
- * Consumer nutrition education
- * Marketing strategies

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- * Future intervention studies
- * Public health nutrition research

However, its contribution remains exploratory because it measures perceptions rather than actual health outcomes.

Recommendations for Improvement

1. Increase sample size to at least 300–500 participants.
2. Use probability-based sampling methods.
3. Include participants from multiple regions or countries.
4. Provide detailed questionnaire validation procedures.
5. Report effect sizes and confidence intervals.
6. Improve English language editing.
7. Expand the discussion with comparisons to recent international literature.
8. Explain the practical implications of the low R^2 value.
9. Include study limitations more comprehensively.
10. Improve figure quality and formatting.

Reviewer's Recommendation

****Recommendation:** **Major Revision****

Justification

Although the manuscript addresses an important and emerging topic and employs appropriate statistical analyses, substantial revisions are necessary to improve methodological clarity, scientific interpretation, language quality, and overall presentation. The study has merit and potential for publication after comprehensive revision, but it is ****not yet suitable for acceptance in its current form****.

Detailed Justification for Major Revision (Issue-wise Reviewer's Comments)

Recommendation: MAJOR REVISION

The manuscript presents an interesting and relevant topic; however, several scientific, methodological, statistical, and presentation-related issues substantially limit its quality.

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The following major concerns should be addressed before the manuscript can be considered for publication.

Issue No.	Issue Identified	Reason for Major Revision
1	Insufficient novelty	The manuscript mainly evaluates consumer perception and purchase intention rather than providing new scientific evidence on the efficacy of moringa-infused probiotics. Similar consumer perception studies have already been published.
2	Small sample size (n = 100)	A sample of only 100 participants is inadequate for broad generalization of findings and reduces statistical power.
3	Convenience sampling	Participants were selected using convenience sampling, introducing selection bias and limiting external validity.
4	Cross-sectional study design	The design only measures associations and cannot establish causal relationships between awareness and purchase intention.
5	Limited questionnaire validation	Although content validity and Cronbach's alpha are reported, details of questionnaire development, item generation, expert review, and construct validation are insufficient.
6	Poor description of inclusion/exclusion criteria	Participant eligibility criteria are inadequately described, affecting reproducibility.
7	Ethical approval information missing	The manuscript mentions informed consent but does not provide Institutional Ethics Committee approval number or approval date.
8	Limited demographic diversity	Most participants were urban, well educated, and young adults, reducing representativeness.
9	Weak scientific knowledge among participants	Most respondents lacked scientific understanding of moringa and probiotics, making perception results less reliable.
10	Very high purchase intention (98%) appears unrealistic	Nearly universal willingness to purchase may indicate response bias or social desirability bias and should be discussed.
11	Low regression explanatory power ($R^2 = 0.087$)	The regression model explains only 8.7% of the variance in purchase intention, indicating that important predictors are missing.
12	No multicollinearity	Correlations among predictors are relatively high, yet no

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Issue No.	Issue Identified	Reason for Major Revision
	assessment	VIF or tolerance statistics are reported.
13	Discussion lacks depth	Results are only briefly compared with previous studies and do not sufficiently explain similarities, differences, or underlying mechanisms.
14	Overstated conclusions	The conclusion suggests strong future potential despite evidence being limited to consumer perceptions rather than clinical or product-performance outcomes.
15	Limitations section is inadequate	Important limitations such as convenience sampling, regional bias, response bias, and lack of causal inference require more detailed discussion.
16	Language and grammar issues	Numerous grammatical errors, spacing problems, inconsistent terminology, and formatting issues reduce readability throughout the manuscript.
17	Formatting inconsistencies	Scientific names such as <i>Moringa oleifera</i> are inconsistently formatted, tables and figures need standardization, and spacing around references is inconsistent.
18	Figures require improvement	Figures are basic SPSS outputs with limited quality and should be improved to meet journal publication standards.
19	Limited practical implications	The manuscript provides little discussion on how the findings could inform food manufacturers, policymakers, or public health programs.
20	Need for stronger evidence-based interpretation	Claims regarding metabolic health should be interpreted cautiously because the study assessed perceptions rather than biological or clinical outcomes.

Overall Justification for Major Revision

The manuscript addresses a timely topic and has potential value in the field of functional foods and consumer nutrition. However, significant weaknesses in study design, sampling methodology, questionnaire validation, statistical interpretation, discussion, language quality, and presentation reduce its scientific rigor. In particular, the limited sample size, convenience sampling, low explanatory power of the regression model, and overinterpretation of perception-based findings require substantial revision. Addressing these concerns will improve the manuscript's validity, clarity, and overall contribution to the literature. Therefore, **Major Revision** is recommended before the manuscript can be considered for publication.

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