OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

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- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
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You can find out more at:

Peer Review

Health Scope
Article DOI: https://doi.org/10.5812/healthscope-162783
Published in: Health Scope: 14(4) ; e162783

Peer Review Report for "Redesign of Pharmaceutical Pictograms for Enhanced Comprehensibility: A Participatory Multi-Step Approach"

Author(s): Yeganeh Jami, Bayram Nejati, Pegah Salimi Pormehr, Davoud Khorasani, Mahnaz Saremi

Review Timeline:

Submit Date:	24 May 2025
Revised Date:	26 Jul 2025
Accepted Date:	27 Jul 2025

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Mohsen poursadeghiyan : Reviewer — 7 Jun 2025

Hello
Weaknesses: It may contain excessive detail on general musculoskeletal disorders before specifically addressing the target population. A more focused narrative might improve clarity. You must search for new related references in this field, such as fundamental and newest studies in training:
DOI: 10.4103/jehp.jehp_1634_23
PMC10362830
Doi:10.4103/jehp.jehp_1536_23 For improve Introduction

Here are my critical assessment comments divided into major and minor categories based on the review of the provided article:

Major Comments:

1. Study Design and Sample Size: The study's sample size of 22 participants, while reaching data saturation, is relatively small for generalizing findings. Consider expanding the sample or including diverse populations to improve robustness. Please improve based below and above and return to me.
2. Cultural Adaptation Limitations: While the study emphasizes cultural relevance, the focus on Iranian users limits external validity. Future studies should validate the pictograms in other cultural contexts. Please improve and mention limitations, etc.
3. Lack of Real-world Testing: The pictograms were not tested in actual clinical or medication-taking environments. Real-world evaluation of comprehension and adherence outcomes is necessary.
4. Measurement of Effectiveness: The study relies heavily on qualitative feedback without quantitative measures of pictogram comprehension or impact on medication adherence. Please improve based below and above and return to me.
5. Potential Bias in Selection: Participants were selected based on low literacy and specific age groups, which might introduce bias. Broader demographic sampling is needed. Please improve based below and above and return to me.
6. Language and Literacy Barriers: The reliance on Farsi labels and cultural context limits applicability to non-Farsi-speaking populations. The approach should consider multilingual or universal symbols.
7. Design Iteration and Consensus: The consensus process among experts, while thorough, may still reflect subjective preferences. Including more objective criteria or end-user testing metrics would strengthen the validation. Use related references for improvement, such as below and above comment and return to me.
8. Limited Scope of Pictograms: Only eight pictograms were redesigned, which might not cover the full spectrum of medication instructions, limiting utility. Use related references for improvement, such as below and above comment and return to me.
9. Absence of Long-term Follow-up: No assessment of whether improved pictogram understanding translates into better adherence or safety over time.
10. Potential Overemphasis on Visual Style: The focus on visual consistency and cultural relevance could overshadow the importance of universal understandability, risking overly localized designs that may not be adaptable elsewhere. Use related references for improvement, such as below and above comment and return to me.

Minor Comments:

1. Clarity in Method Description: Clarify the criteria used to select the original USPs for redesign to better understand the initial understanding issues. Use related references for improvement, such as below and above comment and return to me.
2. Details on Draw-it Technique: Expand on how the draw-it activity was analyzed (e.g., coding, thematic analysis) for transparency.
3. Figures and Tables: Improve figure clarity and ensure all images, especially in figures, are high resolution for better interpretability.
4. Language and Typographical Errors: Minor grammatical/typographical issues throughout should be corrected for a polished presentation.

5. Details on Expert Panel: Provide more information about the composition, expertise, and number of experts involved in consensus meetings.
6. Participant Demographics: Include more detailed demographic data (e.g., education level, urban/rural residence) for better context.
7. Abstract and Keywords: Ensure keywords are comprehensive and aligned with the content for better indexing.
8. References Formatting: Standardize the reference list formatting for clarity. Such as this related references format PMID or DOI:
For tool design: PMID: 35677277 or software design: PMCID: PMC6174048 for model: DOI: 10.32598/JAEHR.10.3.1254 or some part in other Digital Object Identifier, such as in model:
http://dorl.net/dor/20.1001.1.2251807.1402.13.1.10.7
9. Ethical Considerations: Briefly specify how confidentiality and data protection were maintained.
10. Conclusion Tone: Slightly temper claims regarding the potential impact, emphasizing that further empirical validation is required.
11. Discussion and Conclusion: A thorough analysis and interpretation of the study findings in the upcoming sections could significantly strengthen the scientific contribution of the article. Use new updated references, such as all above and below:
DOI: 10.4103/jehp.jehp_370_24
doi: 10.18502/ijph.v51i11.11176.
Effectiveness of training program...
DOI: 10.4103/jehp.jehp_492_21

Mohammad Khammarnia : Reviewer

17 Jun 2025

Dear Authors,
• It is suggested that the title of the manuscript emphasize the prevention of medical errors or medication errors
• Abstract: Select key words from the MeSH database.
• Edit reference format based on the journal guidelines. See the latest published papers in the Health Scope Journal.
• Check sentence format in line 49.
• Method section: kindly indicate to Ethical considerations of the study and the Consent form completion.
• Result section: line 155, “Their health literacy scores ranged from 67 to 132”. How health literacy scores were obtained?

Best,

davood balarak : Reviewer

21 Jun 2025

Dear Authors:
This is a promising and valuable study that applies user-centered design to an

important health issue, with culturally informed methods. However, the lack of follow-up validation and small sample size mean its conclusions should be seen as exploratory rather than definitive. Further research is needed to assess effectiveness across broader demographics. Also, the topic is highly relevant, especially in addressing medication non-adherence among older and low-literate populations, which is a major public health concern.

Only 22 participants were involved. While saturation is claimed, generalizability is limited, especially for a diverse population like Iran's.

Lack of Quantitative Evaluation: The study stops short of testing the effectiveness or comprehension rate of the new pictograms compared to the original ones.

The abstract doesn't explain how participant drawings influenced final designs, or how user feedback was systematically integrated.

There's no indication that the new pictograms were formally tested for comprehension or usability in a broader or different population, which is crucial before recommending them for widespread use.

The last paragraph of the Introduction should include the study objectives/procedures in brief.

The authors do not mention whether any statistical treatment of data was performed.

Quantitative information should be provided in the abstract.

Please improve the novelty of the statement with a focus on the novelty.

Some of the references used are very old, and their use in this article is not justified. Please try to use articles from the last few years.

Some phrasing in the article is awkward or grammatically unclear, which could affect its professional tone or impact (e.g., "design features which as fit possible as to the mental schema" is confusing).

Babak Fazli : Associate Editor

21 Jun 2025

Reviewer 1:

Hello dear

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focus on Iranian users limits external validity. Future studies should validate the pictograms in other cultural contexts. Please improve and mention limitations, etc.
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Reviewer 3:
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Best,

Ramazan Mirzaei : EIC

21 Jun 2025

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Reviewer 3:
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• Check sentence format in line 49.
• Method section: kindly indicate to Ethical considerations of the study and the Consent form completion.
• Result section: line 155, "Their health literacy scores ranged from 67 to 132". How health literacy scores were obtained?
• The authors could use and cite to following papers to improve the quality of the manuscript.

-Prediction of Pralidoxime Dose in Patients with Organophosphate Poisoning Using Machine Learning Techniques

-The Impact of Lighting and Typography on Medication Prescription Reading Errors: An Experimental Study

-Relationship Between Pharmaceutical Knowledge and Probability of Medication Errors Among Nurses: A Cross-sectional Study in the Northwest of Iran in 2020

-Nurses' Decisions in Error Reporting and Disclosing Based on Error Scenarios: A Mixed-method Study

Best,

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewers' Comments + authors’ responses (written in red):

Reviewer 1:

Weaknesses: It may contain excessive detail on general musculoskeletal disorders before specifically addressing the target population. A more focused narrative might improve clarity. You must search for new related references in this field, such as fundamental and newest studies in training:
DOI: 10.4103/jehp.jehp_1634_23
PMC10362830
Doi:10.4103/jehp.jehp_1536_23 For improve Introduction

Response: Thank you for your feedback. It seems there has been a misunderstanding, as our manuscript does not focus on musculoskeletal disorders or training effects. The cited references are not relevant to our study and are not referenced in the paper. Nonetheless, we have revised the manuscript and added recent, relevant references to improve the introduction.

Here are my critical assessment comments divided into major and minor categories based on the review of the provided article:
Major Comments:
1. Study Design and Sample Size: The study’s sample size of 22 participants, while reaching data saturation, is relatively small for generalizing findings. Consider expanding the sample or including diverse populations to improve robustness. Please improve based below and above and return to me.

Response:

Thank you for the comment. As noted in the paper, our sample size was determined based on data saturation, which is an accepted approach in qualitative research. We agree that broader studies with larger and more diverse populations would improve generalizability, and we have acknowledged this as a limitation and suggested it as a direction for future research.

2. Cultural Adaptation Limitations: While the study emphasizes cultural relevance, the focus on Iranian users limits external validity. Future studies should validate the pictograms in other cultural contexts. Please improve and mention the limitations, etc.

Response: As clearly stated, our study aimed to design pictograms specifically for the Iranian community to ensure cultural relevance and understanding. Extending this to other cultures requires further validation in future studies.

3. Lack of Real-world Testing: The pictograms were not tested in actual clinical or medication-taking environments. Real-world evaluation of comprehension and adherence outcomes is necessary.

Response: “The pictograms were not tested in real clinical settings... Future studies should aim to validate the pictograms across different populations.”

This point has already been mentioned in the Strengths and Limitations section. However, to better reflect the issue, this section has been rewritten.

Given the design-focused nature of this study, real-world testing is reserved for follow-up research.

4. Measurement of Effectiveness: The study relies heavily on qualitative feedback without quantitative measures of pictogram comprehension or impact on medication adherence. Please improve based below and above and return to me.

Response: The nature of this study is qualitative, and it was designed and analyzed according to the principles of qualitative research. Qualitative and quantitative methods are distinct approaches, each with its own methodology, as extensively documented in the literature (e.g., Creswell, 2013; Guest et al., 2012). Our study focuses on an in-depth understanding through qualitative feedback, and employing quantitative measures of pictogram comprehension or impact on medication adherence is recommended for future research.

References:

- Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publications.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied Thematic Analysis*. SAGE Publications.

5. Potential Bias in Selection: Participants were selected based on low literacy and specific age groups, which might introduce bias. Broader demographic sampling is needed. Please improve based below and above and return to me.

Response: Designing pictograms for broad public use typically involves testing with low-literacy and elderly groups, as their understanding indicates that others can also comprehend the images. If these groups grasp the visuals correctly, it suggests wide applicability. This approach is supported by the majority of studies in the field. As explored by Wogalter et al. (2010). In https://doi.org/10.1016/S0003-6870(02)00009-1.

6. Language and Literacy Barriers: The reliance on Farsi labels and cultural context limits applicability to non-Farsi-speaking populations. The approach should consider multilingual or universal symbols.

Response: Once again, our pictograms have been designed for use in national settings. As reported by Shekaripour et al. (2020), including non-Farsi labels in pharmaceutical pictograms was attributed to non-understandability.

7. Design Iteration and Consensus: The consensus process among experts, while thorough, may still reflect subjective preferences. Including more objective criteria or end-user testing metrics would strengthen the validation. Use related references for improvement, such as below and above comment and return to me.

Response: Thank you for the comment. While expert consensus was part of the process, the final designs were primarily based on end-user feedback collected through interviews and the draw-it technique. Experts only refined designs that were already grounded in user input. We agree that further end-user testing would add value and have noted this as a limitation and direction for future research.

"Furthermore, the pictograms were not tested in real clinical settings, and the short interview duration may have limited the depth of feedback."

"However, further studies are required to assess the comprehensibility of the developed pharmaceutical pictograms in real-world healthcare settings."

8. Limited Scope of Pictograms: Only eight pictograms were redesigned,

which might not cover the full spectrum of medication instructions, limiting utility. Use related references for improvement, such as below and above comment and return to me.

Response: We appreciate the comment. Focusing on a manageable number of pictograms—eight in this case—allowed us to conduct detailed analysis and iterative refinement. This approach is consistent with similar studies (https://doi.org/10.1080/17538068.2022.2056292) that redesigned only nine pictograms for in-depth development. Broader application is planned for future phases.

9. Absence of Long-term Follow-up: No assessment of whether improved pictogram understanding translates into better adherence or safety over time.

Response: We believe this comment, while important, does not represent a major limitation of the current study. Given the study's methodology, conducting a prospective long-term follow-up was beyond its scope. Our focus was on the design process and presenting a collaborative design method. As clearly stated in the Strengths and Limitations section, assessing long-term effects requires future research.

10. Potential Overemphasis on Visual Style: The focus on visual consistency and cultural relevance could overshadow the importance of universal understandability, risking overly localized designs that may not be adaptable elsewhere. Use related references for improvement, such as below and above comment and return to me.

Response: We appreciate this point. We aimed to balance cultural specificity with clarity and simplicity—design principles that support both local and broader comprehension. As discussed in the Discussion, this approach follows the ergonomic literature, which emphasizes the importance of user characteristics in comprehension (McDougall et al., 1999; Dowse, 2020). Cross-cultural testing is the planned next step.

Minor Comments:
1. Clarity in Method Description: Clarify the criteria used to select the original USPs for redesign to better understand the initial understanding issues. Use related references for improvement, such as below and above comment and return to me.

Thank you for your comment. As explained in the Pictograms Selection section, nine experienced pharmacists were involved in ranking 24 previously reported low-performing pictograms based on their relevance and potential utility in national medication labeling. This process, which involved two steps, led to the selection of eight USPs for the study. This approach ensured both an evidence-based selection and expert validation. If specific areas require further clarification, we would be happy to elaborate.

2. Details on Draw-it Technique: Expand on how the draw-it activity was analyzed (e.g., coding, thematic analysis) for transparency.

Response: Thank you. The draw-it technique was used as a **visual elicitation tool** to help participants express their mental images of medication instructions, especially when verbal articulation was difficult. As described in the *Methods* section, drawings were reviewed to identify **common patterns** and **frequently repeated visual elements**, which then informed the preliminary design of each pictogram. While this analysis was not coded in a formal thematic way, it followed an inductive, **pattern-recognition approach** consistent with participatory design methodology. The sentence *"This technique helped participants express their mental concepts visually, especially when verbal expression was difficult, allowing the researchers to better understand their intended meanings"* has been added to clarify this point (In the Background section), and also, there is a comprehensive explanation of the technique in the Method. "This technique helped participants express their mental concepts visually, especially when verbal expression was difficult, allowing the researchers to better understand their intended meanings."

3. Figures and Tables: Improve figure clarity and ensure all images, especially in figures, are high resolution for better interpretability.

Response: Done

4. Language and Typographical Errors: Minor grammatical/typographical issues throughout should be corrected for a polished presentation.

Response: Thank you. The manuscript has been carefully reviewed and revised for language clarity, grammar, and formatting. Some co-authors with international affiliations contributed to the editing. All typographical and awkward phrasing, including the sentence "design features which as fit possible to the mental schema," have been corrected:

However, the optimal design features that best align with the mental schemas of prospective users remain under investigation.

5. Details on Expert Panel: Provide more information about the composition, expertise, and number of experts involved in consensus meetings.

Response: This information is provided in the Participants section, last paragraph. The panel consisted of four experts, including one pharmacologist, two ergonomists with expertise in cognitive design, and one professional graphic designer. All had relevant experience in pictogram evaluation and healthcare communication.

6. Participant Demographics: Include more detailed demographic data (e.g., education level, urban/rural residence) for better context.

Response: Participants were clients of a selected healthcare center in Tehran who met the inclusion criteria and were interested in participating in the study. A note has been added to the manuscript indicating that participants were Tehran residents. Regarding education level, previous studies have shown that health literacy is a more accurate predictor of pictogram comprehension than academic education. For example, the study "Pharmaceutical indication pictograms for low literacy viewers: Health literacy and comprehension" supports this point. Thus, the study focused on users' health literacy rather than formal education levels.

The following clarification has been added to the manuscript for improved clarity.

7. Abstract and Keywords: Ensure keywords are comprehensive and aligned with the content for better indexing.

Response: Keywords have been reviewed and are aligned with the manuscript content. Some keywords were modified to better align with the MeSH database.

8. References Formatting: Standardize the reference list formatting for clarity. Such as this related references format PMID or DOI:

For tool design: PMID: 35677277 or software design: PMCID: PMC6174048 for model: DOI: 10.32598/JAEHR.10.3.1254 or some part in other Digital Object Identifier, such as in model:
http://dorl.net/dor/20.1001.1.2251807.1402.13.1.10.7

Response: References have been formatted according to the journal's guidelines. Please kindly specify any specific issues so we can address them accordingly.

9. Ethical Considerations: Briefly specify how confidentiality and data protection were maintained.

Response: Thank you. As this study did not involve personal identifiers or clinical data, standard data protection measures were not applicable. However, the study received ethical approval from the Ethics Committee of Shahid Beheshti University (IR.SBMU.PHNS.REC.1400.107), and verbal informed consent was obtained from all participants before participation.

10. Conclusion Tone: Slightly temper claims regarding the potential impact, emphasizing that further empirical validation is required.

Response: We believe the current conclusion already reflects this balance. It notes that the designs are anticipated to improve adherence and that further empirical validation is required:

"Future studies are required to assess the comprehensibility of the developed pharmaceutical pictograms in real-world healthcare settings."
Nonetheless, if specific wording is still of concern, we are open to further revisions.

11. Discussion and Conclusion: A thorough analysis and interpretation of the study findings in the upcoming sections could significantly strengthen the scientific contribution of the article. Use new updated references, such as all above and below:
DOI: 10.4103/jehp.jehp_370_24
doi: 10.18502/ijph.v51i11.11176.
Effectiveness of training program...
DOI: 10.4103/jehp.jehp_492_21

Response: We appreciate the suggestion. However, some of the references mentioned do not directly relate to the subject of pictogram design or

participatory research and appear to be from unrelated fields (e.g., organophosphate poisoning or training program evaluations). To maintain **relevance and academic integrity**, we have chosen to reference **recent and thematically appropriate studies** already included in our manuscript (e.g., Dowse, 2020; Vaillancourt et al., 2022; McDougall et al., 1999). We are happy to add further relevant citations if suggested by reviewers or the editor.

Reviewer 2:
This is a promising and valuable study that applies user-centered design to an important health issue, with culturally informed methods. However, the lack of follow-up validation and small sample size mean its conclusions should be seen as exploratory rather than definitive. Further research is needed to assess effectiveness across broader demographics. Also, the topic is highly relevant, especially in addressing medication non-adherence among older and low-literate populations, which is a major public health concern. Only 22 participants were involved. While saturation is claimed, generalizability is limited, especially for a diverse population like Iran's.

Response: We sincerely thank the reviewer for their positive feedback and recognition of the relevance of this study. Also, thank you for raising this point. We reached data saturation with 22 participants, as discussed in the Participants section. Nonetheless, we fully agree that a larger and more diverse sample would improve external validity. This is clearly addressed in the Strengths and Limitations section. Rewrite all sections AND HIGHLIGHTED.

Lack of Quantitative Evaluation: The study stops short of testing the effectiveness or comprehension rate of the new pictograms compared to the original ones.

Response: We appreciate this observation. As this was a qualitative, design-focused study, we employed participatory methods (interviews and the draw-it technique) to explore user perceptions and generate improvements. We agree that quantitative testing (e.g., comprehension rates, adherence outcomes) would be valuable, and we have explicitly recommended this as a direction for future research in the Conclusion:

"Future studies are required to assess the comprehensibility of the developed pharmaceutical pictograms in real-world healthcare settings."

The abstract doesn't explain how participant drawings influenced final designs, or how user feedback was systematically integrated.

Response: Thank you. Due to abstract length constraints, we had to limit the level of detail. However, the full manuscript describes this clearly in the Procedure and Expert Meeting Findings sections. Participant drawings were used to identify visual patterns, which informed initial redesigns later reviewed and refined by experts.

There's no indication that the new pictograms were formally tested for comprehension or usability in a broader or different population, which is crucial before recommending them for widespread use.

Response: We agree and have addressed this in the Conclusion and Limitations sections. This study focused on initial design development using a participatory and iterative method. As you correctly note, validation in broader populations is essential before implementation, and we have stated this as a necessary next step:

"...further studies are required to assess the comprehensibility of the developed pharmaceutical pictograms in real-world healthcare settings."

The last paragraph of the Introduction should include the study objectives/procedures in brief.

Response: Thank you. A sentence has been added to the start of the final paragraph of the Introduction to clarify the objective:

"The objective of this study was to redesign medication pictograms using a user-centered approach to improve their comprehensibility and relevance."

The authors do not mention whether any statistical treatment of data was performed.

Response: Correct. This was a qualitative design study, and as such, no statistical analysis was conducted. We focused on exploring user perspectives and iteratively improving pictograms based on their visual and verbal feedback.

Quantitative information should be provided in the abstract.

Response: The abstract includes relevant quantitative details, such as sample size (22 participants), number of images drawn (34), and expert involvement. It also mentions that data saturation was reached. These provide sufficient quantitative context for a qualitative study. Also, it briefly mentions interviews and the draw-it technique as the data collection methods.

Please improve the novelty of the statement with a focus on the novelty.

Response: Thank you. A sentence highlighting the **novelty** of this study has been added to the Introduction to reinforce the study's contribution:

"This study adopts a participatory, multi-step design approach—including the draw-it technique—to tailor pharmaceutical pictograms to the mental models of low-literate Iranian adults. This user-informed method offers a novel contribution to improving visual communication in medication labeling."

Some of the references used are very old, and their use in this article is not justified. Please try to use articles from the last few years.

Response: We have reviewed our references and ensured that the majority are **recent (post-2015)** and **relevant**. A few foundational or frequently cited works (e.g., McDougall et al., 1999; Dowse & Ehlers, 2001) were retained due to their ongoing significance in pictogram and HFE research. Some recent and relevant references were added. We remain open to adding further **recent and relevant references** if the editor suggests specific ones.

Some phrasing in the article is awkward or grammatically unclear, which could affect its professional tone or impact (e.g., "design features which as fit possible as to the mental schema" is confusing).

Response: Thank you. The manuscript has undergone a **full language revision** to ensure clarity and professionalism. Ambiguous sentences, such as *"design features which as fit possible as to the mental schema"*, have been rewritten for better readability and precision.:

However, the optimal design features that best align with the mental schemas of prospective users remain under investigation.

Reviewer 3:
Dear Authors,
• It is suggested that the title of the manuscript emphasize the prevention of medical errors or medication errors

Response: Thank you for the suggestion. While prevention of medication errors is indeed an important **indirect outcome** of better pictogram design, the **primary aim** of this study was to improve **comprehensibility** through user-centered visual communication. Therefore, we believe the current title accurately reflects the study's scope and objectives and prefer to keep it unchanged.

• Abstract: Select key words from the MeSH database.

Response: Thank you for the helpful comment. We have checked the keywords and made the necessary revisions to align them with the MeSH database.

• Edit reference format based on the journal guidelines. See the latest published papers in the Health Scope journal.

Response: The reference formatting has been reviewed and revised to comply with the **Health Scope journal guidelines**. We have ensured consistency in citation style, including DOI, PMID, and PMCID formatting where applicable.

• Check sentence format in line 49.

Response: Thank you for pointing this out. The sentence at line 49 has been reviewed.

• Method section: kindly indicate to Ethical considerations of the study and Consent form completion.

Response: As recommended, the following statement has been included in the Methods section- Procedure:

"Ethical approval for this study was obtained before its commencement (IR.SBMU.PHNS.REC.1400.107). All participants provided written and verbal informed consent before participation."

• Result section: line 155, "Their health literacy scores ranged from 67 to 132". How health literacy scores were obtained?

Response: Thank you. The method for obtaining health literacy scores is described in the Participants section, where we note that participants completed a validated health literacy questionnaire. This is referenced in the first paragraph of the Results section and cross-referenced with our methodology section for clarity.

Response: Thank you for recommending these relevant studies. We have reviewed the suggested references and integrated those most aligned with our topic into the manuscript to **enhance the depth of discussion and strengthen the literature review**.

Reviewer Assistant Comments:

These comments were generated by an AI based on your manuscript. Please review them and consider incorporating the suggestions to enhance your article.

Based on the content of the abstract provided, the study design appears to be a cross-sectional study. Therefore, I will use the STROBE cross-sectional checklist to perform the peer review.

Here are the results of the peer review based on the STROBE-cross-sectional checklist:

1. **Title and Abstract**
    - **Question:** Indicate the study's design with a commonly used term in the title or the abstract.
    - **Peer Review:** The abstract does not explicitly mention that the study is a cross-sectional study. It would be beneficial to include this information for clarity.

    Response: Thank you. The necessary change has been made in the abstract.

2. **Abstract**

- **Question:** Provide in the abstract an informative and balanced summary of what was done and what was found.
- **Peer Review:** The abstract provides a clear summary of the study's objectives, methods, results, and conclusions. It effectively communicates the study's findings and significance.

Response: Thank you. So no further modification is needed.

3. **Introduction**

- **Question:** Explain the scientific background and rationale for the investigation being reported.
- **Peer Review:** The background section of the abstract explains the problem of medication non-adherence and the potential solution of using pictorial instructions, providing a clear rationale for the study.

Response: Thank you. So no further modification is needed.

4. **Objectives**

- **Question:** State specific objectives, including any prespecified hypotheses.
- **Peer Review:** The objective of the study is clearly stated as optimizing the design of pharmaceutical pictograms based on Iranian users' opinions.

Response: Thank you. So no further modification is needed.

5. **Methods**

- **Question:** Present key elements of study design early in the paper.
- **Peer Review:** The methods section describes an iterative, multi-step, participatory approach, but it does not explicitly mention the study design as cross-sectional.

Response: Thank you. The necessary change has been made at the beginning of the Methods.

6. **Participants**

- **Question:** Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection.
- **Peer Review:** The abstract mentions that interviews were conducted with Farsi-speaking adults over 40 years old with low literacy, but it lacks details on the setting and dates of data collection.

  Response: Thank you. The date of data collection is clearly stated under **Study design and setting, line 1.** A phrase was added to the **participants section, line 6,** to better indicate the setting of the study.

7. **Study Size**

- **Question:** Explain how the study size was arrived at.
- **Peer Review:** The abstract states that data saturation was achieved with 22 participants, but it does not explain how this number was determined.

  Response: Thank you. A phrase was added to the **participants section, lines 2-3,** to better indicate the saturation meaning.

8. **Results**

- **Question:** Report the number of individuals at each stage of study.
- **Peer Review:** The abstract reports that 22 participants were involved, but it does not provide details on the number of individuals at each stage of the study.

Response: As stated in **the last paragraph of the participants section,** 4 experts participated in the study. The number was added to the abstract in order to provide a better reflection of the number of individuals at each stage of the study.

9. **Discussion**

- **Question:** Summarise key results with reference to study objectives.

- **Peer Review:** The abstract summarizes the key results, stating that eight culturally relevant pharmaceutical pictograms were developed.

Response: Thank you. So no further modification is needed.

10. **Limitations**

- **Question:** Discuss limitations of the study, taking into account sources of potential bias or imprecision.
- **Peer Review:** The abstract does not discuss any limitations of the study, which is an important aspect to address.

Response: Thank you, limitations are not mentioned in the abstract, but the extensively noted under the **Strengths and Limitations section.**

11. **Generalisability**

- **Question:** Discuss the generalisability (external validity) of the study results.
- **Peer Review:** The abstract suggests that future research should assess the comprehensibility and effectiveness of the pictograms in broader or different populations, hinting at considerations for generalisability.

Response: A phrase was added to the end of the abstract (discussion) to rectify this.

Major Comments:

- The study design should be explicitly mentioned as cross-sectional in the title or abstract.
- The abstract should include a discussion of the study's limitations.

Response: Done.

Minor Comments:

- More details on the setting and dates of data collection would enhance the clarity of the methods section.

- An explanation of how the study size was determined would provide more insight into the study's methodology.

  Response: Done.

OPEN PEER REVIEW

Revision (1)

Babak Fazli : Associate Editor — 27 Jul 2025

Dear EIC:
All the reviewer comments and suggestions have been carefully considered and fully implemented by the author.

Ramazan Mirzaei : EIC — 27 Jul 2025

Dear Authors,
The manuscript entitled: Redesign of pharmaceutical pictograms for enhanced comprehensibility: A participatory multi-step approach" has reached the criteria for publication in the Health Scope journal. The decision is to accept.
Best,