

Dear Authors,

Congratulations on your work!

The Author has produced significant work on drug safety that considers environmental concerns. Please find below the review result for manuscript improvement.

1. BASIC REPORTING

- a. Proofreading is required to ensure the appropriate use of punctuation when writing. Some of the punctuations are in lines 77 and 80. The Author should use $P < 0.001$ for the P-value of $P = 0.000$. The total percentage at the educational level (Table 1) is not 100.0%
- b. The Author wrote an appropriate background but needs to be more careful in reference utilization. Some references published more than 10 years ago are used in the introduction. The use of recent research results in the introduction is encouraged. Line 249-251 stated, "These findings are consistent with those documented in previous studies from the USA, Africa, and other countries (Wieczorkiewicz, Kassamali & Danziger, 2013; Marwa et al., 2021). The study covers only two cities but supports a statement covering many countries.
- c. The Author wrote a well-structured manuscript.
- d. No figure is used.
- e. Raw data is well supplied.

2. EXPERIMENTAL DESIGN

- a. The manuscript meets the original primary research requirement within the journal's Scope.
- b. Overall, the research question is well-defined, relevant & meaningful. It is stated how the research fills an identified knowledge gap. To provide a more precise description, the Author can make some improvements related to the topic, including:

1. **Abstract.** It is mentioned, "*Aim: Therefore, it is necessary to critically evaluate public awareness regarding domestically disposing of unused/expired medicines and develop a plan to address it.*" The Author can rephrase the sentences to **describe the research objectives** better because the research methods do not provide enough support for developing a plan as a research outcome. The methods section should describe the **research method in more detail**. The discussion of research instruments dominates the method, so many significant aspects of the method are not conveyed. **The number of participants mentioned in the method and result sections is inconsistent, and there is no explanation for this inconsistency.** The **results and conclusions should match the research objectives.**

2. **Introduction.** The Author implicitly describes the knowledge gap in the introduction. As stated in lines 97-102, the Author mentions several studies that

reported on the disposal of unused/expired drugs in Saudi Arabia but has not explained the gaps this study will fill. The Author can mention the limitations of previous studies and improvements applied in this study to **explicitly describe the knowledge gap**.

- c. Generally, research shows rigorous investigation performed with sufficient technical & ethical standards, but some improvements can be made in some aspects, including :
1. Study tool. The Author needs to **mention the reference** used to develop the questionnaire and **explain how to ensure the face validity** of the questionnaire so that the questionnaire can function according to the expected purpose, not be ambiguous, and cause misinterpretation.
 2. Researchers need to add **appropriate scientific background to ensure that the sample used adequately** represents the population reached by the study (e.g., sample size calculation). In addition, the Author also needs to explain the method used **to ensure that respondents represent various regions** of Saudi Arabia, as stated in lines 234-236: "Therefore, we conducted this research to understand the current level of awareness and trend of practice among the common public regarding pharmaceutical waste management in various regions of Saudi Arabia. The author must explain how to **ensure that illiterate respondents (Table 1) answer according to their opinions**. Since the questionnaire was distributed online and in written form, Illiterate respondents needed someone else to help them read and answer it.
 3. Lines 162-163 state, "while continuous data were expressed as the mean and standard deviation (\pm SD)." However, the reviewer did not find any data presented in mean and SD. In addition, the researcher used the Likert scale instead of the dichotomous scale but gave binary coding (Line 134-137; supplementary file) so that it did not produce ordinal data according to the data commonly generated by the Likert scale. **Authors need to explain the reasons for the inconsistencies that occur**. The author can explain if there is a change in the research method and the reason for it.
 4. The Author needs to **refer to the data analysis** that supports the statement in the line, "It is also evident from the results that students and well-educated subjects tend to have many unused medications for varied reasons." (lines 185-186)
 5. The author needs to **refer to the data analysis** that supports the statement in lines 271-275: "We found a lack of awareness as an imperative issue among the public towards safe disposal methods for unused/expired medicines; similar results were found in other studies (Corcoran, Winter & Tyler, 2010; Lubick, 2010)."
 6. The author needs to **refer to the data analysis** that supports the statement in the line Line 309-310: "Most of our study's respondents showed interest in learning safe medication disposal methods."
 7. Lines 190-191 state, "Many respondents reported disposing of more than two classifications of unused/expired medications from their homes." The **standards or references used to classify the unused/expired medications** and how to

ensure respondents understand how to classify the medications they dispose of needs to be explained. Some drugs have multiple indications; for example, ibuprofen can be used as an analgesic (pain reliever) and antipyretic (other).

8. The strengths and limitations of the study need to be added

- d. Methods need more detailed information to replicate. The Author can explain in **more detail how to prepare and analyze the data**. The Author should mention the inferential/bivariate test used and why. Researchers need to describe the conditions that must be met to use the test and its alternatives, if any.

3. VALIDITY OF THE FINDINGS

- a. The study has a meaningful impact.
- b. All underlying data have been provided; they are robust, statistically sound, & controlled.
- c. Conclusions must be in line with the study objective. **The conclusion needs to be improved to be well stated, linked to the original research question & limited to supporting results.** The author can start by consistently addressing the study objective, as mentioned in some sections of the manuscript: “**Aim:** Therefore, it is necessary to critically evaluate public awareness regarding domestically disposing of unused/expired medicines and develop a plan to address it (line 47-48)” and “This study will help generate evidence regarding drug usage and disposal patterns among the general public living in five major regions of Saudi Arabia. It will also help identify gaps and barriers in the focus group and frame an appropriate interventional strategy to increase the community's safety and decrease environmental pollution through pharmaceuticals (lines 109-113).” The Author also needs to **mention the vision** stated in the conclusion. “..... and reach new achievements for the Kingdom of Saudi Arabia in alignment with Vision 2030”(lines 324-325).