LETTER TO THE EDITOR

Assessment and reporting considerations for medication knowledge and adherence studies

To the Editor,

We read the article by Okuyan et al.[1] with great interest. Assessing medication knowledge in different contexts and its relationship with medication adherence will help us obtain valuable insights for better research actions in our country. But there are a few points in need for clarification by the authors; we try to mention them in no order of preference.

We think that a typographic error has occurred in the abstract for reporting range of "duration of medication utilization" and the words "3–504 months" have been mistakenly published as "3–504 years".

Most frequently analyzed medications are not well-illustrated in Figure 1. We particularly preferred to see the bar chart in ascending or descending order of frequencies in addition to percentages as data labels instead of Anatomical Therapeutic Chemical (ATC) categories. Moreover, this categorization has not been used further in the article; for example, one might look forward to check if there has been any difference in medication knowledge and/or adherence in different ATC categories or not.

It is obvious from the negative "r" coefficient reported for correlation of total medication knowledge questionnaire score and the medication adherence scale that it is an "inverse" relationship. But for the sake of better understanding of the opposite association of these variables, it might be better to state "inversely and strongly correlated" instead of just "strongly correlated" throughout the article.

Because the nature of knowledge score and adherence variables in medication knowledge evaluation tool and Morisky Medication Adherence Scale is an ordinal variable, it might be better to report median and inter-quartile range for scores and adherences instead of mean and standard deviation. We particularly insist that Mann–Whitney U test for

statistical analysis is well chosen and shows that the authors have considered nonparametric distribution of outcome measures, but the reporting is not in accordance with the nature of variables.

It has been stated that "advanced age (≥ 65 years) was significantly related with low medication knowledge (odds ratio [OR] = 0.29, 95%CI = 0.21–0.41, $p < 0.05$) and adherence (OR = 0.70, 95%CI = 0.51–0.97, $p < 0.05$)". This statement is not consistent with the results shown in Table 2, as the OR = 0.70 is shown for "Patients younger than 65 years". Furthermore, the direction of reported ORs may be misleading; the ORs for the first two predictors of high medication adherence ("high knowledge" and "high school education" that are positive factors) are larger than 1.0; then, the third OR is smaller than 1.0 (if we accept "older" age as the correct word), and at last, the fourth OR ("not being informed by provider" that is a negative factor) is again larger than 1.0. For epidemiologic clarification, we prefer to take a consistent direction in reporting ORs in a way that risk factors tend to increase the chance of an unwanted outcome (usually OR above 1.0) and protective factors cause reduction in the chance of an unfavorable outcome (usually OR below 1.0)[2].

For statistical clarification, it might be better to use "association" instead of "correlation" when one is reporting OR. For correlation (a frequently used term in the article), it might be better to report "r" coefficient.

Finally, one cannot follow the reason for choosing just one random medication from lists of all drugs a patient uses regularly. A missing part in the analysis is categorization according to the number of simultaneous medications in use (i.e., polypharmacy). We expected to see if there was a need for an adjustment regarding the number of medications an individual took. Were there any difference in knowledge and/or adherence in patients with more than four to five medications

with others who use less than two medications? The question might be needed to be answered.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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