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Letter to the Editor

Author's reply to: Comments on the utilization of Mann-Whitney U test and Kaplan-Meier method

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Conflict of Interest
No potential conflict of interest relevant to this article was reported.

Dear Editor,

We are sincerely grateful for the interest shown in our study [1] and the constructive comments by Xie and Li [2]. We read with great interest their letter to the editor.

Nevertheless, we found questionable some of the identified points of concern and respectfully disagree with most of the suggested changes and revisions. First of all, although we agree that early sexual life, multiple sexual partners, smoking, low socioeconomic status, malnutrition, and other factors are associated with the risk of developing cervical cancer, most of them do not have a role as prognostic factors in women who already developed cervical cancer [3]. Therefore, the raised concern that "the omission of these data from the results limits confidence in the research results" is questionable. In the case the 2 groups would differ in one of these factors, the assumption that it would act as a confounder implies that this factor may act as a significant prognostic factor. Additionally, the choice of the surgical approach is usually not guided by these characteristics of the patients [3].

Regarding the Mann-Whitney U test, we want to remember that its use was firstly guided by the absence of a normal distribution in the investigated continuous variables. If a variable is not normally distributed, you cannot use a parametric test, such as the Welch's analysis of variance (ANOVA), because it requests a Gaussian sample distribution. Therefore, it is wrong to recommend the use of the Welch's ANOVA instead of the Mann-Whitney U test in a non-normally distributed variable [4].

The problem regarding the 2 Kaplan-Meier survival curves that cross each other is that they suggest nonproportional hazards, which means that the ratio of hazard functions (deaths per time) is not the same at all time points [5]. Conversely, survival curves that cross each other do not indicate that there are confounding factors. However, because the log-rank test assumes proportional hazards and lost power in this situation [5,6], we agreed to repeat the survival analysis with the Tarone-Ware test [7]. The repeated analysis confirmed the absence of a statistically significant difference in survival.

We thank Xie and Li [2] for the interest shown in our study and the opportunity to clarify some points regarding our work.

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