

## Response to comments

### **Survival of women with locally advanced breast cancer at a teaching hospital in Lahore**

This letter is in response to the comments raised by Kashif Shafique and Saira S Mirza regarding potential mistakes in statistical methods in our article published recently in JPMA.<sup>1</sup> The paper was part of 3rd International Network for Cancer Treatment and Registration (INCTR) workshop on 'scientific paper writing'. The aim of the workshop was to help young physicians from limited-resource countries to effectively write and present their research. Both general and scientific contents of paper were evaluated. Lastly, the reason for submitting this paper in your prestigious journal was to target the readership in Pakistan as we are still far behind in our understanding of breast cancer in our specific population as a result of very limited research.

We have a well developed breast cancer clinic where patients' records are maintained at each visit. Lost to follow-up patients are regularly contacted (through telephone, mail or in person) to maintain an updated dataset. As a result of a well maintained breast cancer clinic and the dedication to clinical research, we have produced important papers from our department and this is probably the only data on breast cancer prognostic factors and survivals from Pakistan.<sup>2,3</sup>

In the current paper, we evaluated the outcomes of locally advanced breast cancer (LABC) that accounts for

over 65% of breast cancers presenting at Jinnah Hospital, Lahore. The basic purpose of this 'retrospective evaluation' was to address two important issues; firstly, the mode of presentation of LABC in our patient population and secondly, major pitfalls and hurdles which we encounter (and may result in inferior survivals) in the management of these patients. In terms of statistical methods, two concerns were raised by the readers.

First concern was the improper methodology with regards to 'censoring dates'. Patients were included from July 1997 and censored at June 2006, as clearly mentioned in the text. Also, reader's comments regarding the inclusion of patients after year 2000 are confusing. We included these patients because we had a complete follow-up data of our patients. Therefore, a survival analysis beyond year 2000 was justified.

Second concern was regarding the exclusion of age, body mass index (BMI) and co-morbid conditions from Cox-Regression model analysis. While some individual studies have concluded high Body Mass Index (BMI) as significant predictor of poor survival as mentioned by reader, labelling this indicator as the 'most common determinant of survival' is questionable and is being tested in more detail in upcoming randomized trials. The most

important predictors survivals in LABC are tumour size, nodal involvement and hormonal receptor status,<sup>4</sup> as also concluded in our paper. We did include age in this model and it was not-significant (and for that reason we did not mention these in the table). Most likely explanation of is that majority of our patients would not recall their age correctly. We have plans to test BMI in more detail as prognostic indicator in 'Pakistani women' in our future projects. While calculating overall survival, deaths from all causes were included in analysis unless it was well known that the death was due to a co-morbid condition. All patients, for whom the cause of death was not available after recurrence, were censored after first recurrence. Thus, the chances of bias are less likely.

This is a dilemma that we always refer to the foreign data which is not the representation of our patient population. An in depth knowledge of the subject is also mandatory. We do not have statisticians available at

every institution and as a result of it; the young researchers have to learn everything on their own. Statistical workshops for post-graduate students provide only a superficial knowledge and are not enough to cover all areas. The suggestions to cope with these difficulties is beyond the scope of this letter. There is a need to address these issues and encourage the rare ongoing clinical research in Pakistan.

## References

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2. Aziz Z, Iqbal J, Akram M. Predictive and Prognostic Factors Associated with Event Free and Overall (APJCO) Survival Outcomes in Patients with Stage I-III Breast Cancer: A Report from a Developing Country. *APJCO* 2008; 4: 81-90.
3. Aziz Z, Iqbal J, Akram M. Effects of Social Class Disparities on Disease Stage, Quality of Treatment and Survival Outcomes in Breast Cancer Patients from Developing Countries. *Breast J* 2008; pp 14.
4. Giordano SH. Update on Locally Advanced Breast Cancer. *The Oncologist* 2003; 8: 521-30.