

Author's reply – Out-of-pocket payment and financial risk protection for breast cancer treatment: a prospective study from India

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We thank Dr. Sharma and Dr. Chakraborty¹ for sharing their insights on our paper “Out-of-pocket payment and financial risk protection for breast cancer treatment: a prospective study from India.”² We are thankful for acknowledging our findings on low reimbursement of breast cancer treatment and suggesting a nationwide study from various healthcare setups to provide reliable estimates on financial catastrophe of breast cancer treatment in India. We provide some explanation on a) generalisation of cost based on single centred study, b) non-availability of cost-of-care estimate by varying treatment strategies and molecular sub-type c) non-availability of cost-of-care estimate due to adverse effects of treatment.

The supplementary material (SM Text S1) of our paper gives adequate description of Tata Memorial Centre (TMC), a publicly funded tertiary care hospital in Mumbai. In our paper we have specified that the majority of the patients treated in the TMC, avail services at subsidised rate. Our study was limited to TMC, Mumbai the largest amongst all the TMCs in the country. The study site has been described throughout the paper and in the abstract. We have already acknowledged the lack of generalizability as one of the study limitations and hence there is no intent of misleading public or private insurance systems.² Moreover, the variation in costs of treatment in institutions like TMC and others private health centres underscores the need for a more representative assessment of treatment expenses across various healthcare settings as Dr Sharma and Dr Chakraborty have suggested.¹

Thank you for pointing out the need for understanding financial implication by subtypes in breast cancer.¹ A detailed presentation of the results according to the various treatment related factors and molecular subtypes is beyond the scope of our paper. However, we

describe the brief results of the estimates by molecular subtype from our sample. Of the 429 patients, 29.3% of the patients had Triple negative breast cancer (TNBC), 31.3% had her2neu positive, and 39.4% had luminal tumours. The total cost and medical cost of treatment was the highest for her2neu positive (₹ 299,562 and ₹ 191,378 respectively) compared to other subtypes. Similarly, the reimbursement share was also highest for her2neu positive compared to other (53% vs. 39%) subtypes.

Dr. Sharma and colleagues' publication is a great insight into anaemia during dose dense chemotherapy for breast cancer in Indian patients and its effect on continuation of treatment with focus on clinical factors affecting the outcome.³ However, it does not provide a disaggregated cost of treatment or details regarding total cost incurred. Our paper is solely focused on estimating the cost, out-of-pocket payment, and financial risk protection mechanisms of breast cancer patients, with continued capture and breakdown of cost data at successive visits. Apart from a single cost of ₹ 0.17 million mentioned, there is little comparison between the two papers as one is a quantification of events during an intervention whereas another is a deep dive into understanding economic gradient of breast cancer treatment. We are also limited by the paucity of cost data in the cited publication from further comments.^{1,3} As per Table S3 of supplementary material in our paper, the median total cost of treatment was ₹ 0.21 million with a third interquartile value of ₹ 0.35 million.² The authors have misread the total medical cost in the table as total cost of treatment.¹

We welcome the suggestion to report adverse event rates and correlate it with increased costs. We will be working on this suggestion in our further publications when we report the in-depth variation of the expenditure according to various treatment strategies.



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As has been previously alluded to, facilities at TMC, Mumbai work within a framework of subsidy and/or charity for several patients. Also of note is the robust support system Mumbai has evolved for patients with cancer owing to the long history of this city's association with treatment of cancer. We agree that the non-medical costs in our paper tend to be on a lower side and probably cannot undermine several community contributions towards that end. However, high financial burden estimates despite this reflects the need to encourage further studies that analyse cancer expenditure in detail in different health setups.

In conclusion, we agree with the authors in advocating for more cost directed research across various healthcare settings for obtaining a more accurate estimation of treatment costs. We believe the heterogeneity of healthcare expenditure patterns across different care models within the country poses challenges for the insurance policy makers in weighing the pros and cons of single centred studies.

Nonetheless, the value of the real-world data on out-of-pocket payment specifically studied for the commonest cancer among Indian women cannot be discounted.

Declaration of interests

None.

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