

# Occurrence of Low Diastolic Pressure and Cardiovascular Disease are More Common in Elderly that Could Explain Higher Mortality Rate in this population

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**Title:** Occurrence of Low Diastolic Pressure and Cardiovascular Disease are More Common in Elderly that Could Explain Higher Mortality Rate in this population

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Letter to Editor:

With great interest, I read the paper entitled “Evaluation of Optimal Diastolic Blood Pressure (BP) Range Among Adults With Treated Systolic Blood Pressure Less Than 130 mmHg” by Li et al. (1) They found that diastolic BP less than 60 is associated with worse outcome in patients with age of over 50. (1) However, they have a major flaw in their data analysis as they did not adjust for age and any other risk factors in any multivariate analysis. We know that age is the most important factor for all cause or any mortality and hypertension rate increases with age. Patients with diastolic BP of < 60 in this study had much higher age that can clearly explain why this group had higher mortality. It is surprising that no multivariate adjustment was done in this study. As it can be seen from the table, mean age in patients with diastolic BP < 60 was 77.1 which was much higher than in other groups (66.9, 62.2 and 59.0). This is a very strong and highly significant difference. Looking at different age groups, I found similar issue with age cut offs. Patients with an

age of <65 were only representing 23.1% of the population with diastolic BP <60 vs 44.8% in the next group of patients with diastolic BP between 60-70. Furthermore, not only they did not adjust their data for age, they also did not look at many other risk factors that are associated with hypertension needing adjustment. In large meta-analysis that was performed by Riaz et al. (2), they found that risk factors for hypertension includes smoking, obesity, diabetes mellitus, stress and anxiety which are all also risk factors for higher mortality. In their table, the authors document that the patients with diastolic BP of < 60 also had much higher significant history of cardiovascular disease as another unadjusted risk factor. Furthermore, they did not include other important risk factors commonly occurring in elderly such as presence of renal disease or chronic obstructive lung disease. I really hope that the authors will perform multivariate adjustment after reading this letter. Based on such a large difference in age distribution, we may not observe higher mortality rate in patients with diastolic BP of < 60 vs others after appropriate multivariate adjustment. Otherwise, the result of this study will be meaningless and very misleading.

## References:

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