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Commentary on Evidence Summaries

Are routine general health checks in healthy adults effective in preventing morbidity and mortality due to cardiovascular diseases and cancer? Commentary on an Evidence Summary

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1. Commentary

The Cochrane review on “General health checks in adults for reducing morbidity and mortality from disease” concluded that the medical check-ups did not significantly alter overall morbidity or mortality nor did it alter disease specific mortality related to cardiovascular disease or cancer. The significance of this review and its implication to provision of health check-ups need to be evaluated particularly in reference to the health outcomes in less developed countries where the awareness and access to care is much less.¹

2. Does the review have sufficient internal validity? Yes

The investigators used well-defined comprehensive search criteria and identified and included participants in 14 randomized trials in 73 manuscripts of health check-ups compared with no health check-ups. They excluded studies targeting older people (>65 years) and those targeting any specific disease screening (e.g. prostate cancer, diabetes etc.).

The quality of individual studies were assessed using standard bias assessment tools and sensitivity analysis was carried out to evaluate the effect of various biases in the results of the review. The review authors chose a valid primary outcome of total mortality; and follow up varied between 4 and 22 years in different studies. The impact of heterogeneity was evaluated for different outcomes. Summative effects were calculated and graphically presented. GRADE criteria was used to assess the strength of evidence in conclusion and was noted to be high for total mortality and cancer deaths and moderate for cardiovascular mortality.

3. Can we apply the results of the review to the conditions seen in low and middle-income countries? Not sure

The studies included in the analysis were from developed countries in Europe and America. The maximum weight was given to a WHO study done on work place interventions. The age of the subjects included in the study varied from 18 to 64 years. We need to understand if these factors are likely to be

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different in other environments and if the results can be generalized. Health check-up is an intervention which is widely prevalent in India and other countries. It impacts the health of large populations who undergo these tests. Therefore small absolute risk differences in the outcome may be relevant in terms of clinical and public health perspectives. The overall effect on total mortality shows a point-estimate of 0.99 RR but has a confidence interval which varies from 0.95 to 1.03. This means that a 3% benefit on total mortality has not been ruled out by the study.

In addition, the age group of people enrolled varied from 18 to 64 years in the WHO study that contributed the most weight to the study. The younger age group and work place intervention generally reflect younger and healthier people and this could have contributed to the lack of benefit noticed in the pooled analysis.

The authors have recognized incomplete outcome data assessment as an important weakness in the individual studies. Though these have been partially taken into account in the sensitivity analysis, the bias in outcome assessment on the net effect in either direction cannot be excluded completely.

4. Conclusion

General health check-ups do not seem to provide significant health benefits if the population accessing it is primarily healthy and young. The results of the study should not be used to throw the baby with the bath water and deny health check-ups to populations at higher risk profile.

Conflicts of interest

The author has none to declare.

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