Projected impact of polypill use among US adults: Medication use, cardiovascular risk reduction, and side effects.

published by gcaudle2 on Mon, 08/19/2013 - 3:03pm

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Publication Type

Journal Article

Year of Publication

2011

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Journal

Am Heart J

Volume

161

Issue

4

Pagination

719-25

Date Published

2011 Apr

ISSN

1097-6744

Keywords

Cardiovascular Diseases, Drug Combinations, Female, Humans, Incidence, Male, Middle Aged, Questionnaires, Risk Factors

Abstract

BACKGROUND: Polypills, which include multiple medications for reducing cardiovascular disease (CVD) risk in a single pill, have been proposed for population-wide use. The number of US adults eligible for polypills and potential benefits are unknown.

METHODS: The National Health and Nutrition Examination Survey 2003-2004 and 2007-2008 were analyzed to estimate treatment rates for medications proposed for inclusion in polypills (aspirin, statin, an angiotensin-converting enzyme [ACE] inhibitor, and a thiazide-type diuretic for those without and a β-blocker for those with a history of myocardial infarction) among US adults. The number of coronary heart disease (CHD) and stroke events potentially prevented through polypill use was projected by published meta-analyses and 3 large population-based cohort studies. Two polypill eligibility criteria were analyzed: (1) US adults ≥55 years and (2) US adults with a history of CVD.

RESULTS: There are 67.6 million US adults ≥55 years and 15.4 million US adults with a history of CVD and, thus, eligible for polypills using the 2 outlined criteria. In 2007 to 2008, 37.3% of US adults ≥55 years and 57.0% of those with a history of CVD were taking statins. Use of other polypill medications was also low. Polypill use by US adults aged ≥55 years is projected to potentially prevent 3.2 million CHD events and 1.7 million strokes over 10 years. Among those with a history of CVD, the potential to prevent of 0.9 million CHD events and 0.5 million strokes is projected.
CONCLUSIONS: Polypills have the potential to lower CVD incidence substantially among US adults.

DOI 10.1016/j.ahj.2010.12.019
Alternate Journal Am. Heart J.
PubMed ID 21473971
PubMed Central ID PMC3093765
Grant List R21 HL089625-01A1 / HL / NHLBI NIH HHS / United States