Flu vaccine could protect against serious heart and stroke complications

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The rate of seasonal flu vaccinations among high-risk groups such as people over age 50 and nursing home residents is extremely low, and those who do get their flu vaccination significantly lower their cardiovascular risks for heart attack, TIA (transient ischemic attack), death and cardiac arrest, according to preliminary research to be

presented July 27-30, 2020, at the virtual American Heart Association's Basic Cardiovascular Sciences 2020 Scientific Sessions. The meeting is a premier global exchange of the latest advances in basic cardiovascular science including research in fields like microRNAs, cardiac gene and cell therapy, and cardiac development.

The stress the influenza infection puts on the body may increase the risk of having a heart attack or stroke, which researchers note is well-known.

"These groups should have the highest vaccination rates because they are the most at risk; however, our findings show the opposite—flu vaccinations are under-utilized," said Roshni A. Mandania, B.S., lead author of the study and M.D. Candidate Class of 2021 at Texas Tech University Health Sciences Center Paul L. Foster School of Medicine in El Paso, Texas. "As health care providers, we must do everything we can to ensure our most vulnerable populations are protected against the flu and its serious complications."

Using information from the 2014 National Inpatient Sample, the largest database of U.S. hospitals, researchers under the guidance of Debabrata Mukherjee, M.D., Chief of Cardiovascular Services at Texas Tech University Medical Center at El Paso, assessed the rate at which the flu vaccine was administered to patients designated by the Centers for Disease Control as high-risk (for the flu and its complications). The database includes people over age 50, HIV/AIDS patients, those residing in nursing homes and people who are obese. Researchers examined the impact of the flu vaccine on cardiovascular outcomes between patients who got vaccinated during hospitalization and those who did not.

Of more than 7 million high-risk patients hospitalized, researchers found:

- only 168,325 received the flu vaccine;

- adults age 50 and over were significantly less likely to be vaccinated compared to the general population (1.8% versus 15.3%);
- however, the adults age 50 and over who were vaccinated had better outcomes in the year following vaccination, with a 28% lower risk of heart attack, a 73% lower risk of death, a 47% lower risk of TIA and an 85% lower risk of cardiac arrest;
- the vaccination rate for patients with HIV/AIDS was 2.21%, compared to 8.2% who were free from this disease;
- the vaccination rate for nursing home residents was 1.8%, versus 9.5% for those who live independently;
- among obese patients, 2.4% were vaccinated, compared to 9% with a healthy weight;
- cardiovascular outcomes were similar to adults over age 50 across the high-risk groups.

"The results we found are staggering. It's hard to ignore the positive effect the flu vaccine can have on serious cardiac complications," Mandania said. "Some people don't view flu vaccinations as necessary or important, and many may face barriers accessing health care including receiving the flu vaccine."

In this study, researchers assessed immunization solely in the hospital so it is possible some individuals may have received the flu vaccine in an outpatient setting. "Nevertheless, our study highlights the marked under-underutilization of flu vaccine in high-risk groups and underscores the need for a health care policy initiative to increase flu vaccinations among all patients and especially in high-risk groups," Mandania said.

According to the American Heart Association's Chief Medical Officer for Prevention, Eduardo Sanchez, M.D., M.P.H., FAAFP, this study provides additional merit for an Association project.

"We have partnered with the American Lung Association and the American Diabetes Association to collectively deliver a message to providers and to the general public that all adults and all children, by and large, should be getting influenza vaccinations year after year. In particular, for patients who have chronic diseases like high blood pressure, diabetes or emphysema, it is critically important to get the annual flu vaccine. The potentially serious complications of the flu are far, far greater for those with chronic diseases," said Sanchez.

Provided by American Heart Association