

Hepatitis B Vaccination in Diabetes Mellitus Patients in the Ambulatory Setting

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Abstract

Based on the recommendations from the CDC and ACIP, all unvaccinated patients with diabetes mellitus who are below the age of 60 years old should be vaccinated for hepatitis B. Also, vaccination should preferably occur right after diagnosis and should be given to those diagnosed in the past and are still unvaccinated. Diabetes mellitus affects 34 million Americans according to the CDC. Diabetic patient are more at risk for hepatitis B given frequent percutaneous blood exposures. The mode by which transmission occurs is thought to be due to use of blood glucometer for more than one person without proper cleaning, poor hand hygiene or cross contamination of supplies especially in community health centers/nursing home. Given these risk it is important for all diabetic patients within a given age group to be vaccinated against hepatitis B. This retrospective chart review investigates how many diabetes mellitus patients of the internal medicine resident clinic are vaccinated with the hepatitis B vaccine.

Background

Studies show that diabetic patients between the age of 23-59 have roughly a two-fold increased risk of hepatitis B infection than those without diabetes. These outbreaks seem to mainly occur in assisted living facilities, community health care centers and nursing homes. The fact that Hepatitis B is transmitted mainly via blood makes diabetes patient at risk given frequent needle sticks for fingerstick glucose monitoring. It has been well demonstrated that there is a relationship between Diabetes mellitus and risk of hepatitis B infection. The importance of hepatitis B vaccination in diabetic patient cannot be overemphasized given the severe organ damage (such as such as liver failure or liver cancer) it could cause if it progresses to a severe infection. To prevent all of these, the CDC has guidelines that suggest that all diabetic patients should get tested to know their status and those that are non immune should receive the 3 dose series of the vaccine. It is also recommended that patients do not share their diabetic equipment and ensure proper sanitization after each use to decrease the rate of transmission

Objective

Our goal is to identify patients with a history of type 1 or type 2 diabetes mellitus who are non-immune to hepatitis B and got vaccinated with the complete hepatitis B series

Methods

- Retrospective Study
- Chart Review via Epic EHR: Lab results and clinic notes were reviewed
- A random sample of 198 Patients between January 2018-December 2019 that fit the inclusion criteria were reviewed in EPIC
- Inclusion criteria: 18-60 years old, diagnosis of type 1 or type 2 diabetes

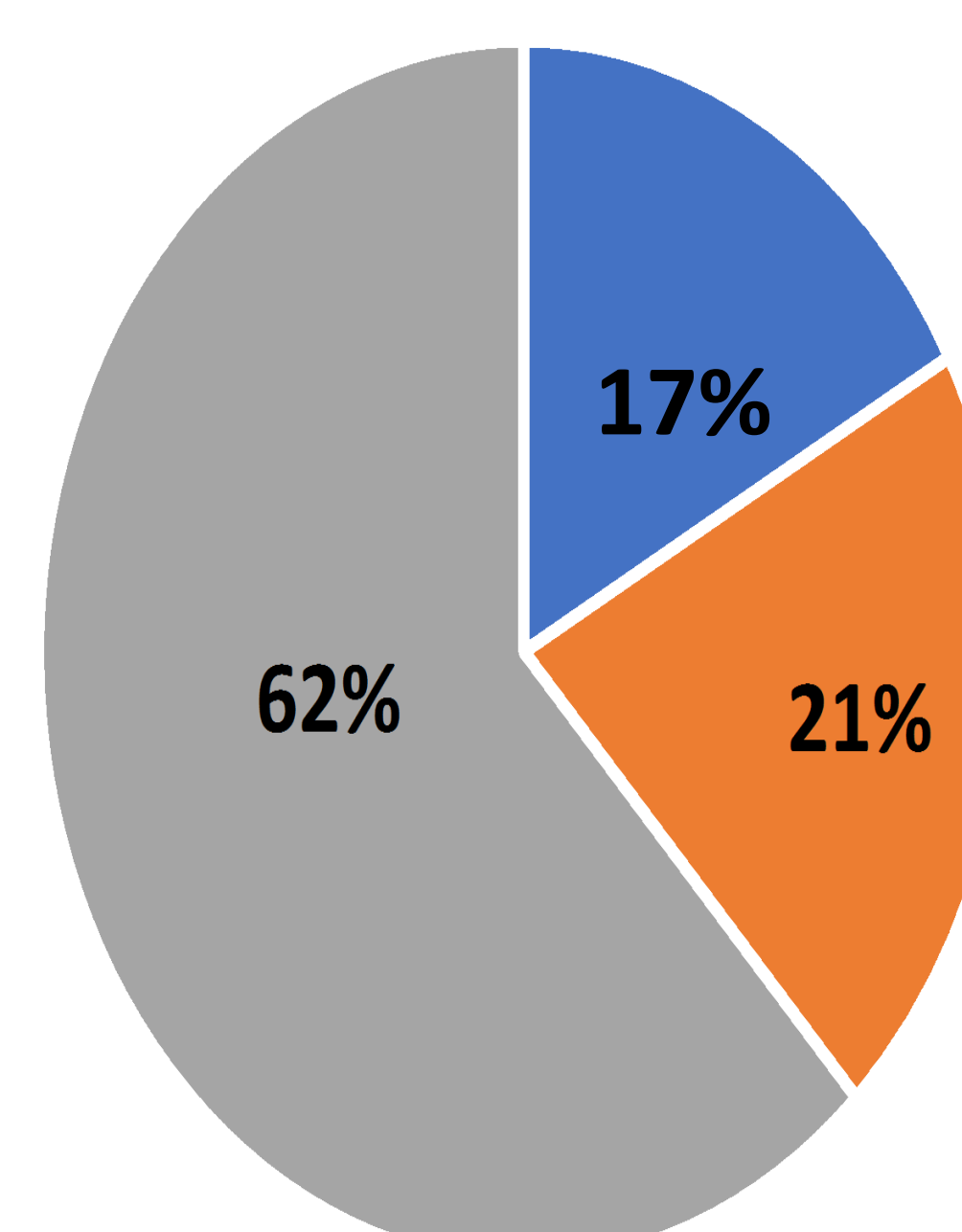
Results/Discussion

- Of the 198 patient charts reviewed, 100 patients were non-immune, and 32 patients were immune to hepatitis B while 66 patients never had a hepatitis B panel obtained
- Of those 100 non-immune patients, 17 patients got vaccinated and 5 out of 17 got the full dose of the vaccine while 21 patients declined vaccination.
- Of the 32 immune patients, 18 patients obtained immunity from natural infection.
- 83% of the non-immune patient did not receive the vaccine while 17% got vaccinated and 5% got the complete series.

Future Directions

- Probe more into why this is the case and develop a strategy to rectify this problem
- Create/restructure dot phrases in EPIC for diabetes vaccination guidelines to include hepatitis B as a reminder to the residents
- Educate the unvaccinated patients who declined vaccination on the benefits of receiving the vaccine by providing resources such as pamphlets/handbooks

Hepatitis B Non-Immune Diabetes Mellitus Patients



■ Vaccinated ■ Declined vaccine ■ Not offered vaccine