Association of Effective Patient Communication with Hepatitis B Vaccine Coverage in the United States

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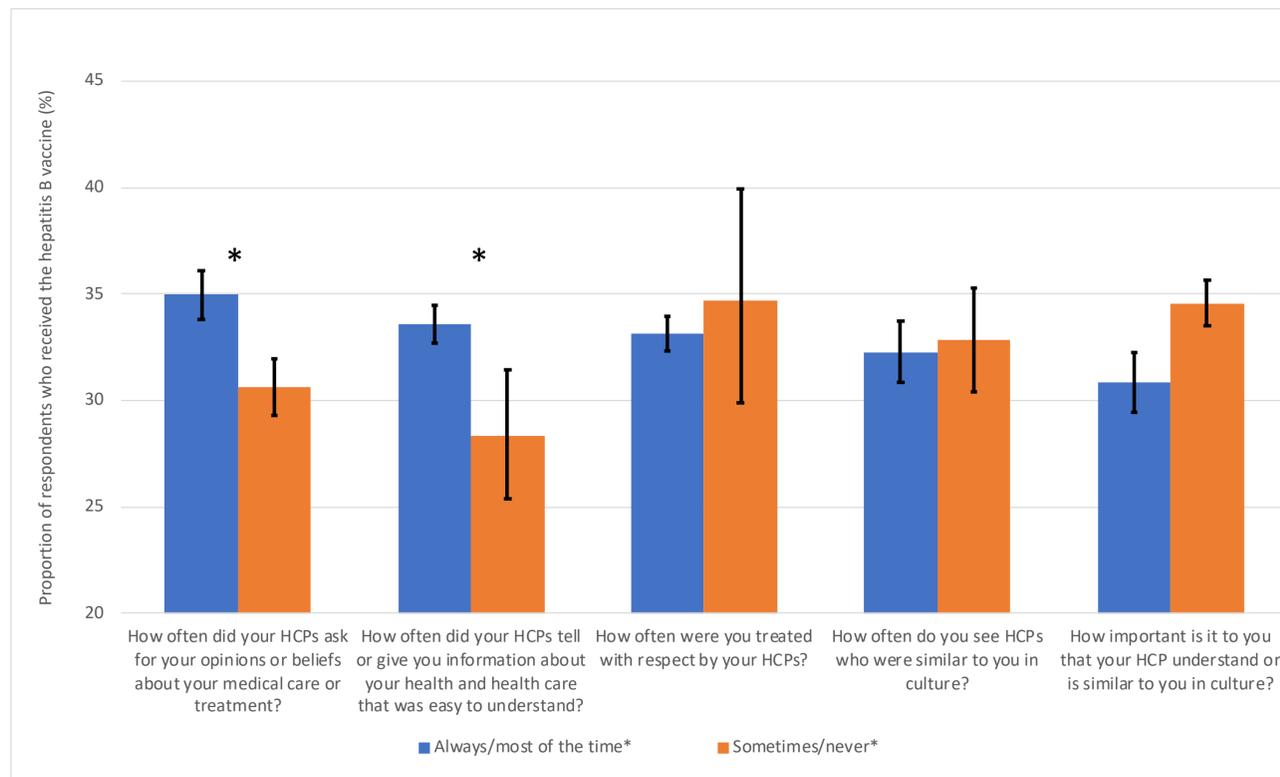
INTRODUCTION

In 2018, the prevalence of past or present hepatitis B virus (HBV) infection in the United States was 4.3%. Evidence of HBV infection was highest among foreign-born adults. As of 2012, the prevalence of hepatitis B vaccine-induced immunity was 25% in the US. Meanwhile, the CDC recommends hepatitis B vaccination for adults who are at-risk for contracting the infection, including sexually-active adults with more than one partner in the past 6 months and those exposed to blood among others.

METHODS

The NHIS (National Health Interview Survey) was queried for respondents in 2017—the only year in which a set of questions were included to assess patient access to effective communication in the past 12 months. Sample-weight adjusted multivariable logistic regressions defined adjusted odds ratios (AOR) and 95% confidence intervals (CI) of receiving the hepatitis B vaccine with response to one of the five questions on effective patient communication and cultural competency as the independent variable of interest, while controlling for relevant sociodemographic and clinical variables. Statistical analyses were conducted using Stata/IC 16.1 (StataCorp) with α=0.05.

FIGURE

Weighted proportions[a] of respondents aged ≥18 years who received the hepatitis B vaccine stratified by answers to the five cultural competency measures from the NHIS 2017.

HCP = healthcare provider
*asterisk denotes statistical significance at p<0.05
*Very/somewhat important (blue) vs. slightly/not at all important (orange) were respondents' answers to the 5th survey question

[a] Adult respondents self-reported their history of receiving "any hepatitis B vaccine". In addition to answers to one of the five cultural competency survey questions, the models were also adjusted for sociodemographic and clinical variables including age, sex, race (non-Hispanic white, non-Hispanic black, Hispanic, Asian, or other), sexual orientation (heterosexual / "straight, that is, not lesbian or gay" or lesbian / gay / bisexual / "something else" / unknown), insurance status (insured or non-insured), nativity (US mainland-born, non-mainland US territory-born, or foreign-born), language spoken (English speaker or non-English speaker), smoking (smoker vs non-smoker), educational attainment (Grade 8, Grade 12 with no diploma, high school diploma, some college, Bachelor's degree, or advanced degree), usual place of care (with or without), socioeconomic status as the ratio of family income to the poverty threshold (<1.00, 1.00-1.99, 2.00 or greater), presence of comorbidities considered high-risk for worse influenza outcomes according to the Advisory Committee on Immunization Practices (no comorbidity, one comorbidity, or two or more comorbidities).

RESULTS

19,371 participants aged 18 or above responded to the effective patient communication and cultural competency questions, with a median age of 54 (IQR 37-67). 66.79% were non-Hispanic white, 54.51% were female, 6.64% were uninsured, 3.17% were non-English speaking, and 16.04% were foreign-born. Respondents who were asked about their opinions and beliefs regarding their care (aOR 1.28, 95% CI 1.18-1.40, p<0.001) and those who were given easy-to-understand information (aOR 1.18, 95% CI 1.00-1.40, p=0.04) were significantly more likely to receive hepatitis B vaccination compared to their counterparts. Non-English-speaking participants (aOR=0.64, 95% CI, 0.46-0.89, p=.01), older, and uninsured individuals were less likely to have received any hepatitis B vaccination (p<.001).

DISCUSSION

Being inoculated against hepatitis B was positively correlated with measures of effective patient communication, and negatively correlated with being a non-English speaker, older, and uninsured. These inequities can be partially explained by implicit biases among healthcare providers, poor health literacy, and lack of healthcare access among others. Lack of effective patient communication has been shown to contribute to those disparities, while effective patient communication is associated with improved outcomes in vaccination, healthcare, and satisfaction. Future studies and policies can build upon these comprehensive findings.