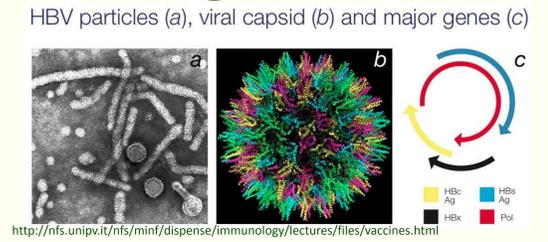
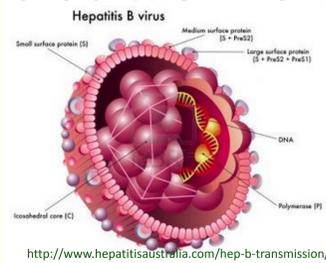


Does education about hepatitis B improve vaccination rates among the homeless population vs the general population?

population vs the general population?

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Intro

Despite the availability of an effective vaccine since 1982 the Center for Disease Control estimates that in the United States there are 18,800 new cases of hepatitis B infection each year with between 700,000 and 1.4 million cases of chronic HBV infection. [9] The homeless have been determined to be at an exceptionally high risk of HBV infection with studies estimating infected rates between 17 – 31% [1][3], much higher than the estimated population infection rate of 4.8% [10]. One of the primary reasons why the incidence is elevated in this population is due to a lack of vaccination as less than 10% are believed to be immunized against HBV [6]. The low vaccination rate despite the availability of free vaccines indicates that this population requires more aggressive interventions than the general population. Of the varied interventions that have been devised to correct this problem we have chosen to investigate the efficacy of educating this population regarding the transmission and pathogenesis of HBV. The studies we reviewed compared educational interventions such as nurse-case-managed interventions, standard HBV interventions with tracking and Art messaging against standard HBV interventions without tracking and control groups not receiving HBV education. All educational interventions provided information regarding the transmission, prevention and diagnosis of HBV, as well as an explanation of the vaccine series and the importance of adherence.

Results

Author	Design	Study Question	Conclusion	Limitations
Larios, et al	Randomized Trial	If MI techniques were incorporated into IDV education about hepatitis would further increase hepatitis knowledge compared to the more standard didactic manner of education	No overall difference compared to MI incorporation into viral hepatitis education however there was a significant [F (1.41, 614.0)= 323, p<.001] increase in knowledge of HBV over time for both groups.	Knowledge changes over time can't be solely attributed to education sessions. Also, done in methadone clinic in urban setting, unknown if these results can be generalized to more rural settings.
Nyamathi, et al	Randomized Trial	What is the effect of a nurse case managed interventional training on the completion of the three series Twinrix HAV/HBV vaccine when compared to a standard intervention with incentives both with and without tracking	Participants in the NCMIT showed a statistically significant increased likelihood of completing the HAV/HBV vaccine series when compared to other educational interventions.	Participants were selected from a limited demographic area and represent a highly mobile and hard to treat group which may limit external generalizability. Also site randomization was utilized instead of individual randomization to prevent cross contamination.
Nyamathi, et al	Randomized Trial	What is the effect of the nurse-led Hepatitis Health Promotion (HHP) and art intervention (AM) on both HIV and hepatitis knowledge and mental health among homeless youth?	Participation in both HHP and AM education sessions showed a statistically significant increase in HBV knowledge. A significant increase in HIV knowledge and mental wellbeing was also found for both groups.	There was a low follow up rate (64%) which is the norm for this population and wellbeing data was based off self report limiting external generalization.
Schwarz, et al	Randomized Trial	To determine if a shelter-based program with a multi-component intervention including reminders, incentives, and free vaccine could improve HBV vaccine coverage compared to baseline rates	Exposure to HBV video increased knowledge of Hepatitis B and increased return rates for vaccine completion	Small trial size, multiple strategies were used in the study rather than just one intervention, lack of follow-up serology available due to the transient nature of the population
Shah, et al	Systematic Review	7 studies evaluated the effectiveness of HBV education on influencing positive behavioral changes	5 of 7 HBV showed positive effects in nurse led programs while 2 were inconclusive. 4 studies measured behavioral changes and saw increases in HBs antigen testing, and vaccine completion.	Disparity between the education interventions used, none of the articles included cost effectiveness or used standardized methods of delivery

PICO

P= Homeless population
I= Education about Hepatitis B and vaccination
C= Vaccinated non-homeless population
O= Increase in completion of vaccination rates

Methodology

Search terms: HBV, education, homeless
Resources utilized: NCBI PubMed database, Google Scholar
PubMed filter: publication dates in the last 10 years, human species only
Google Scholar filter: publication dates 2013 to present, human species only
Retrieval: 10 articles found using the above filters and search terms and databases and 5 articles matched our PICO question.

Discussion

From this collection of studies that focused on types of educational methods to encourage positive behavior changes in high risk populations for viral hepatitis we see there are beneficial effects to most types of educational interventions. Every intervention included education about risk factors, modes of transmission and preventative measures including vaccines and disease testing. Most of the educational meetings were conducted in centers that already had infrastructures for patient education that targeted high risk populations such as homeless shelters or methadone clinics. All educational interventions showed an increase in baseline HBV knowledge however only nurse led interventions showed significant increases when compared to standard educational interventions. This shows that high risk populations will benefit from any educational intervention however increased positive behavioral changes were observed when the education is managed by a healthcare professional with nurses being the most cost effective. Further research is needed to find the most effective methods to deliver educational interventions that would increase patient screening and continuation of care as well as decreased HBV transmission in the high risk transient population.

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