

Telephone reminders improved compliance with a second dose of hepatitis B vaccine in high risk adults

Sellors J, Pickard L, Mahony JB, et al. *Understanding and enhancing compliance with the second dose of hepatitis B vaccine: a cohort analysis and a randomized controlled trial.* CMAJ 1997 Jul 15;157:143-8.

Objective

To determine whether telephone contact and postal reminders will increase compliance with a required second dose of hepatitis B vaccine in high risk adults.

Design

Randomised controlled trial.

Setting

A sexually transmitted diseases clinic in Hamilton, Ontario, Canada.

Patients

256 self referred patients (mean age 26 y, 68% men) who were seronegative for hepatitis B virus chose to have the first of 2 doses of the vaccine. 136 adults did not return for their second dose of vaccine within 6 weeks and were enrolled in the study.

Intervention

67 participants were allocated to receive enhanced follow up that included attempted telephone contact at least 3 times over 2 weeks by the clinic receptionist and if unsuccessful, similar attempted contact by the public health nurse. If this was unsuccessful, an appointment reminder letter was sent 3 months after the first dose. 69 participants in the control group were allocated to receive an appointment reminder letter 3 months after the first dose.

Main outcome measure

Attendance at the clinic to receive the second dose of hepatitis B vaccine.

Main results

11 participants in each group returned for their second dose of vaccine before any contact was made. 27 participants in the enhanced group were contacted by telephone and 17 returned for vaccination. 4 participants in the enhanced group and 6 in the control group returned after postal contact. 32 participants (48%) in the enhanced group received their second dose of vaccine by 4 months compared with 17 (25%) in the postal reminder group ($p = 0.008$) (table). When the study participants were included with the 120 participants who returned for their second vaccine within 6 weeks, the total compliance rate remained higher in the enhanced group (72% *v* 60%, $p = 0.02$).

Conclusion

An enhanced programme of telephone follow up and a posted reminder was more effective at increasing compliance with a required second dose of hepatitis B vaccine in high risk patients than a reminder letter alone.

*Compliance with second hepatitis B vaccine dose**

Participants	Enhanced follow up EER	Postal reminders CER	RBI (95% CI)	ABI EER-CER	NNT (CI)
Not returned by 6 weeks	48%	25%	92% (21 to 217)	23%	5 (3 to 14)
All participants	72%	60%	20% (1.8 to 46)	12%	9 (4 to 87)

*Abbreviations defined in glossary; RBI, ABI, NNT, and CI calculated from data in article.

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Commentary

Conflicting research is available on compliance enhancement, indicative of the challenges associated with understanding and modifying behaviour. To study compliance in obtaining a second dose of hepatitis B vaccine, Sellors *et al* selected their subjects from a relatively high risk population of adults attending a sexually transmitted diseases clinic.

An enhanced compliance strategy using telephone and postal reminders did increase the compliance of clients, especially among those with less education. The cost effectiveness ratio is, however, undetermined and possibly minimal given the resource restraint in community health settings.

The study is clear, concise, and replicable in other settings. The results of the study will be relevant to public health professionals working to improve overall adult

immunisation rates. The generalisability of the findings to other clinical settings, however, may be limited and possibly unnecessary given the current approach to hepatitis B vaccination. In the province of Ontario in Canada, universal vaccination strategies are aimed at initiating disease prevention in the adolescent (grade 7) population. Parental involvement renders a different dynamic in the compliance process. Worldwide, the issues of compliance are often mediated by additional cultural and social characteristics that are not within the context of this study's findings.

Acknowledging the increased emphasis on vaccination as a strategy for prevention of many diseases, the issues associated with non-compliant behaviour must be addressed. This study adds to the knowledge related to predictors of non-compliance such as education level,

in that those with post secondary education were more likely to return for the second dose without prompting. The study, although informative, does not address the outcome of this strategy on compliance with the required third vaccination, nor can it possibly begin to give comprehensive consideration to all the issues and strategies associated with human choices related to risk taking and healthcare choices. Given the complexities of behaviour, the direction currently being taken by pharmaceutical manufacturers to increase the efficacy of single dose hepatitis B vaccine will undoubtedly achieve the best results in ensuring effective health protection as a result of immunisation.

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