Young Adults and HIV Vaccine: Determinants of the Intention of Getting Immunized

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ABSTRACT

The aim of this study was to evaluate the acceptability of a hypothetical HIV vaccine and to identify the psychosocial determinants of the intention of receiving HIV immunization, based upon Ajzen's Theory of Planned Behaviour (TPB). Of the 136 young adults surveyed, 120 (88%) had a moderate to high intention to receive the HIV vaccine. A logistic regression was performed and two psychosocial factors from the TPB were significant predictors of the young adults' intention of getting HIV immunization: their attitude towards getting HIV immunization (OR = 4.80, CI 95% = 2.08;13.05) and the perceived behavioural control of getting HIV immunization (OR = 2.52, CI 95% = 1.17;6.05). These results show that HIV immunization is well accepted by young adults. This finding is particularly relevant because the effectiveness of HIV immunization programs will depend on an individual's acceptance of this vaccine. Also, our results suggest that psychosocial determinants can influence a young adult's decision to receive the HIV vaccine once it becomes available.

ABRÉGÉ

Cette étude avait pour objectifs d'évaluer l'intention de recevoir un éventuel vaccin contre le VIH et d'identifier les déterminants psychosociaux de cette intention selon la théorie du comportement planifié (TCP) d'Ajzen. Parmi les 136 jeunes adultes interrogés, 120 (88 %) avaient une intention forte ou modérée de recevoir un vaccin contre le VIH. La régression logistique effectuée a démontré que deux variables de la TCP prédisaient significativement l'intention : l'attitude envers le fait de recevoir le vaccin (RC = 4,80, IC 95 % = 2,08;13,05) et la perception du contrôle sur le fait de recevoir le vaccin (RC = 2,52, IC 95 % = 1,17;6,05). Cette étude démontre que les jeunes adultes sont favorables à l'immunisation contre le VIH. Ce résultat est particulièrement important puisque l'efficacité des programmes d'immunisation contre le VIH dépendra de l'acceptabilité du vaccin pour les individus. De plus, nos résultats indiquent que les facteurs psychosociaux peuvent influencer l'intention des jeunes adultes de recevoir un éventuel vaccin contre le VIH.

Considerable effort is being made worldwide in the development of an efficient vaccine for HIV. However, it is important to undertake studies on the acceptability of HIV immunization among the population, especially among the segments that are at high risk of infection. Young adults are a group considered to be at high risk for HIV transmission. Although adolescents and young adults do not exhibit the highest rate of HIV infection, much of their behaviour is known to involve risk for contracting HIV.[1] Furthermore, given the relatively long incubation period of the virus before the appearance of the first symptoms of HIV, many infected individuals could have contracted the virus when they were teenagers or young adults.[2] Thus, it appears that this population will be among the first to be targeted by immunization campaigns as soon as an effective vaccine is available. Consequently, understanding the factors that influence the willingness of young adults to be immunized for HIV is particularly relevant since it will address the possible barriers to an effective vaccine for this segment of the population.

Recently, some researches have focussed on young adults' intention of getting immunized for HIV once a vaccine becomes available.[3-5] In general, the results have shown that a significant percentage of young adults was either uncertain about or against receiving HIV immunization. One study revealed that 53% of undergraduate students would accept getting the HIV vaccine;[3] another study among college students showed that only 30 % of the respondents had a high intention of getting HIV vaccination.[5] These studies also identified some factors influencing the decision to receive HIV immunization. Perceived susceptibility to HIV, perceived severity of HIV and perceived benefits of vaccination were related to a strong intention of receiving the vaccine. In addition, the vaccine's characteristics (efficacy, safety) had an influence on its acceptance.[3]

Additional factors could also affect the decision to receive a vaccine for HIV, notably the influence of social norms and the attitudes about vaccination.[5] In a recent study, attitudes about HIV immunization were found to be significant predictors of the intention of accepting HIV immunization.[4] Thus, the present study focussed on the psychosocial factors explaining the intention of getting an HIV vaccine. The Theory of Planned Behaviour (TPB)[6-8] was used to assess the predictors of young adults' intention of accepting the HIV vaccine once it becomes available. This model provides a comprehension of the psychosocial determinants of the intention of performing a given behaviour by exploring the relative importance of attitudes, subjective norms, and perceived behavioural control on the intention.

According to the TPB, the attitude represents the subjective evaluation of the possible benefits and disadvantages related to the performance of a given behaviour. The subjective norm reflects the perceived expectations that specific salient individuals or groups may have regarding the adoption of a given behaviour. Finally, the perceived behavioural control is determined

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TABLE I
Socio-demographic and Sexual Behaviour Variables

Variables	N	%
Gender		
Female	81	59.6
Male	55	40.4
Age (years)		
≤18	34	25.0
19-20	43	31.6
≥21	59	3.4
Sexually Active		
Yes	94	69.1
No	42	30.9
Age at First Intercourse (years)*		
≤16	57	60.6
17-18	21	22.3
≥19	16	17.0
Number of Sexual Partners*		
1	24	25.8
2	22	23.7
≥3	47	50.5
Condom Use*		
≤50% of times	26	28.0
> 50% of times	67	72.0

* Sexually active respondents only: n = 94

by the individual's perception of the presence or absence of requisite resources and opportunities, as well as anticipated obstacles and impediments, in order to perform or not perform a given behaviour.

METHODS

The present research was carried out with the collaboration of college students who were residents in a dormitory adjacent to a college located in the Quebec City metropolitan area. Potential respondents were informed of the purpose of the study and their informed consent was obtained. Young adults who agreed to participate were asked to complete a self-administered questionnaire. A total of 136 completed questionnaires were handed back (97.8% response rate; 81 women and 55 men).

The psychosocial constructs were measured directly by means of two items each, except for the attitude which was assessed by means of six items. Seven-point bipolar scales were used to report answers on each item of each variable. The intention of receiving HIV vaccine once it becomes available was a composite score derived from these two questions: "If a vaccine for HIV became available, I would accept to receive it (likely/unlikely)", and "I evaluate my chances (low/high) of accepting of receiving the HIV vaccine once it becomes available".

TABLE II
Psychosocial Factors Explaining the Intention of Getting HIV Immunization

Predictor Variables	Odds Ratios (OR)	95% Confidence Interval (CI 95%)	p Value*
Attitude	4.80	2.08;13.05	0.001
Perceived Behavioural Control	2.52	1.17;6.05	0.024
Subjective Norm	1.14	0.46;2.81	0.781

Note: The model's capacity to discriminate between high and low intenders (c index) is 0.97.
* p value for Wald's test indicating that the predictor add significantly to the logistic regression model.

Attitude was measured by a semantic differential scale composed of six pairs of bipolar adjectives, each appearing after this sentence: "For me, accepting to get an HIV vaccine once it became available would be…". The bipolar adjectives used were: useful/useless; stressful/relaxing; responsible/irresponsible; safe/risky; sensible/stupid; and comforting/frightening.

Two questions assessed the Subjective Norm: "Most people important to me think it would be correct (agree/disagree) if I accept of getting an HIV vaccine once it became available"; and "Most of my friends would (agree/disagree) if I accepted getting an HIV vaccine once it became available".

Perceived Behavioural Control was measured by the following two questions: "The decision to accept getting an HIV vaccine would be (easy/difficult) to take"; and "There would be many barriers (likely/unlikely) to my decision to accept getting an HIV vaccine once it became available".

Finally, information about socio-demographic characteristics and preventive sexual behaviours was also obtained.

RESULTS

The socio-demographic and behavioural characteristics are presented in Table I. Among the total sample, the mean age was 18.6 years. A majority of the respondents (69%) was sexually active. For this subgroup, the mean age at their first sexual intercourse was 16.1 years. Most of them (51%) had had three different sexual partners or more since their first sexual intercourse. With regard to condom use, 72% of the sexually active respondents indicated that more than half of all sexual intercourses they had had in the past had been protected by a condom.

A contingency analysis using the chi-square statistical method was performed to verify the influence of socio-demographic characteristics and preventive sexual behaviours on the strength of the intention of receiving HIV immunization. There were no significant differences in the distribution of the socio-demographic characteristics and sexual scripts between the respondents with high and those with low intentions.

In general, HIV vaccination was well accepted by the respondents. A majority (88%) of the young adults surveyed had a score higher than 4 on the 7-point scale, which represents a moderate to high intention of accepting HIV immunization. A logistic regression, including the psychosocial constructs from the TPB, was performed to identify the determinants of intention of receiving the HIV vaccine. As shown in Table II, the capacity of the model to discriminate the subjects with a high intention from those with a low intention was 0.97 (c index). Variance inflation factors were lower than 10, showing no collinearity between the independent variables.[9] Two of the three constructs of the TPB were significant predictors of intention: attitudes (OR = 4.80, CI 95% = 2.08;13.05) and perceived behavioural control (OR = 2.52, CI 95% = 1.17;6.05).

DISCUSSION

This exploratory study has highlighted some of the psychosocial factors influencing the intention of young adults to get an eventual HIV vaccine. The results suggest that a large percentage of young adults would accept getting immunization against HIV if a vaccine were available. Acceptance of a hypothetical HIV vaccine was lower in previous studies.[3-5] A possible explanation of this difference could be that with the recent advances in HIV/AIDS

drug therapies, young adults are now more optimistic about the development of an efficient HIV vaccine.

Attitudes and perceived behavioural control were found to be strongly associated with the intention of getting the vaccine. Attitude was, however, the main determinant explaining the intention of accepting an HIV vaccine. This means that evaluative judgement is an important motivator for getting HIV immunization. The perception that getting the vaccine would result in more advantages than disadvantages is thus the main factor in young adults' intention of accepting immunization once a vaccine becomes available. Indeed, if young adults consider getting an HIV vaccine as something safe, responsible, sensible, useful, relaxing and comforting, their intention of getting immunized will be higher.

The second predictor of the intention of accepting HIV immunization was the perceived control upon the behaviour. Perceived Behavioural Control shows how easy or difficult the adoption of the behaviour is likely to be. Therefore, HIV vaccination is more likely to be accepted by young adults if there are few barriers, either real or perceived, to their decision to accept the vaccine. However, further studies are needed in order to investigate in more detail the barriers underlying this theoretical construct.

Third, it is worth noting that in the present study, subjective norm was not found to explain a significant percentage of the variance in the intention of getting an HIV vaccine. This could indicate that, at the present time, the social influence may not be related to HIV vaccine acceptance. Thus, accepting to get HIV immunization is evaluated as a personal decision not influenced by social expectations. It remains to be seen if this will change once an HIV vaccine is found.

Overall, the results suggest that future HIV immunization campaigns aimed at young adults should provide complete and relevant information about efficacy, safety, benefits, and positive consequences of vaccination. This knowledge opens the discussion on the type of psychosocial determinants that could influence immunization behaviour in general. In this regard, the TPB could be used in future studies of immunization acceptance in diseases other than HIV, such as influenza.

Finally, there are some limitations to this study. For instance, the sample was small and limited to a particular group, thus the results cannot be generalized to all young adults. In future studies, it would also be important to evaluate the impact of HIV vaccination on risky sexual behaviour. As many authors[10-14] have stated, it will be important to combine behavioural change with vaccination campaigns in order to prevent negative outcomes. Without carefully planned mass immunization campaigns, an increase in risk behaviour is likely to be associated with the decreased threat of HIV/AIDS resulting from vaccination. This latter aspect will have to be considered in the development of immunization programs.

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