Explaining the intention to use HIV Pre-Exposure Prophylaxis among HIV-negative Men who have Sex with Men in Switzerland: Testing an extended explanatory model drawing on the Unified Theory of Acceptance and Use of Technology (UTAUT)

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BACKGROUND AND PURPOSE

- Men who have sex with men (MSM) continue to be disproportionately affected by HIV/AIDS. In Switzerland, almost half of the HIV infections yearly diagnosed are in MSM [1].
- Although HIV Pre-Exposure Prophylaxis (PrEP) has not been approved in Switzerland, there is a discussion about its potential and adequacy as an additional prevention option especially for MSM.
- In the USA, where PrEP was approved in 2012, there is evidence that MSM are not keen to use it [2, 3, 4].
- Against this background, it is important to learn more about factors influencing the acceptability of PrEP. For an in-depth understanding comprehensive explanatory models will be essential.

The aim of this study was to explain the intention to use PrEP among MSM living in Switzerland by developing and testing a model based on the Unified Theory of Acceptance and Use of Technology (UTAUT) [5].

THEORETICAL FRAMEWORK

- The UTAUT considers performance expectancy, effort expectancy, social influence, and age as predictors of the intention to use a specific technology.
- Our extended and specified model additionally considered
  - HIV-protection related aspects: attitudes towards condoms, experiences in condom use, sexual risk behavior in the last 6 months, having been treated for a sexually transmitted infection in the last 6 months, [7, 8] and
  - resources (level of formal education, somatic culture, income) [9, 10].

METHODS

- The study design was cross-sectional. In 2015, we collected data using an anonymous self-administered standardized questionnaire, either online or paper-and-pencil.
- We gathered a convenience sample. Participants were addressed by flyers, advertisements in gay magazines, social media, specific dating web pages, and gay health clinics.
- We analyzed the data using descriptive and bivariate statistics. The model was tested by means of structural equation modeling using the generalized least square estimates method [11].

Figure 1: Theoretical model based on the UTAUT
RESULTS I

The sample included 556 HIV-negative MSM living in Switzerland.

Table 1: Sample description (n=556)

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual orientation (n=555)</td>
<td>gay</td>
<td>489</td>
</tr>
<tr>
<td></td>
<td>bisexual</td>
<td>62</td>
</tr>
<tr>
<td>Relationship status (n=556, multiple answers possible)</td>
<td>single</td>
<td>243</td>
</tr>
<tr>
<td></td>
<td>stable relationship with a man</td>
<td>283</td>
</tr>
<tr>
<td></td>
<td>stable relationship with a woman</td>
<td>32</td>
</tr>
<tr>
<td>Educational level (n=555)</td>
<td>non-tertiary education</td>
<td>309</td>
</tr>
<tr>
<td></td>
<td>tertiary education</td>
<td>246</td>
</tr>
<tr>
<td>Previous knowledge about PrEP (n=556)</td>
<td>yes</td>
<td>405</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>151</td>
</tr>
<tr>
<td>Sex with casual partners in the past 6 months (n=556)</td>
<td>yes</td>
<td>464</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>92</td>
</tr>
<tr>
<td>STI diagnosis/treatment in the past 6 months (n=556)</td>
<td>yes</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>465</td>
</tr>
</tbody>
</table>

RESULTS II

- The mean age of the respondents was 41 years (SD=11.9). Almost half (44%) of the participants held a university degree. The median annual income was between CHF 91’001 and CHF 104’000.
- About 84% have had sex with a casual partner during the past 6 month. Fifty-three percent have always used a condom when having sex with these casual partners.
- The intention to use PrEP was moderate (M=3.7, SD=2.1). Thirty-nine percent of the participants would likely use PrEP if available. Fifty-one percent of the participants were unlikely to use PrEP in the future and only ten percent were still undecided about using PrEP.
- Analysis showed that the intention was predicted by performance expectancy (β=0.24, p<.000), effort expectancy (β=–0.18, p<.000), social influence (β=0.30, p<.000), concerns (β=–0.19, p<.000), as well as attitudes towards condoms (β=–0.08, p<.018), negative experiences in condom use (β=0.08, p<.030), and age (β=–0.08 p<.015).
- The PrEP-related predictors proved to be determined by HIV-protection related aspects (sexual risk behavior, attitudes towards condoms, negative experiences with condom use, STI diagnosis/treatment, PrEP-related stigma), age, income, and education. Somatic culture determined the expected effort, negative experiences with condom use, and PrEP-related stigma. (CMIN/df=1.03; AGFI=0.968; SRMR=0.0269; adj.R²=0.51).

(See the visualization of the findings in figure 1, next page)
RESULTS III

The model proved to have a good fit and strong explanatory power.

The findings suggest that the intention to use PrEP is not only determined by anticipations related to PrEP (as expected performance, efforts or concerns) and social influence. It also seems to be determined by HIV-protection related attitudes and behavioral patterns drawing from biographical experiences and therefore, in place before PrEP came into the participants’ view. Further — mediated — predictors are personal, cultural and economic resources.

From a HIV prevention perspective, the findings demonstrate the importance of acknowledging and considering the complexities around the decision making of these MSM.

Limitations:

The data are self-reported which may entail a bias regarding the reported levels of sexual risk behavior and condom use.

The study is based on a convenience sample of MSM and the findings can only be generalized with considerable caution.

The study surveyed a hypothetical question, since PrEP has yet not been approved in Switzerland.

Outlook:

For health promotion and prevention it will be critical to make PrEP available for MSM with high level of risk for HIV infection.

However, it will also be key to abstain from campaigning for PrEP on a large scale as this could delegitimize condom use in the MSM community. So, raising the awareness of PrEP might go along with a communication supporting MSM who continue to opt for condom use and holding up the legitimacy of this prevention option.

In this context, further research will also be needed to understand how MSM negotiate safety when PrEP users encounter condom users.
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REFERENCES


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