

# The Influence of Reasons to Choose Different Applications on Chances of Getting Sleeping Partners Among Men Who Have Sex with Men (MSM) Online App Users, Bangkok, Thailand

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**Abstract— Objectives:** To explore the reasons that motivate MSM choosing the application and possibility of finding sex partners among MSM online app users and compared between two groups of participants regarding to HIV-status. **Methodology:** A cross-sectional study was conducted among MSM aged 15 and older who live in Bangkok, Thailand. The data collection was conducted during Jun-Dec 2018. The target population who are HIV-infected were approached on the day of visiting at the research clinic while the HIV-noninfected were approached from two venues; at the reproductive health clinic and words of mouth. Of those who are not available to do a questionnaire at the clinic but willing to participate into the study, the questionnaires were distributed via email after the verbal consent. A structured questionnaire was test using Cronbach's alpha (0.77). A descriptive analysis and logistic regression were used to analyze the data. **Results:** The total of 201 were recruited into the study, there are 71 people who are HIV-infected, and 130 people are HIV-noninfected. The analysis was included only whom reported using online media as a platform for seeking sex partners which totally accounted for 130 including 57 of infected and 73 of non-infected. The number of HIV-negative participants had reported getting sex partners from using applications higher than HIV-positive participants approximately thirty percent. The reasons either with or without intention to seek for sex partners that convince them to choose different applications, they eventually have possibility to have chance of getting sex partners. (HIV-infected VS. HIV-non infected:  $p$ -value < 0.01\*\* VS.  $p$ -value < 0.01\*\*). **Conclusions:** The results yield from two groups of participants that regarding to any reasons of choosing application they have possibility to find sex partners from online applications. Therefore, preventive strategies should be concern on how to promote HIV prevention from this venue.

**Keywords—** Men Who have Sex with Men (MSM) Online app users, Risky behaviors, Thailand.

## I. INTRODUCTION

It is true that by the end of 2014 the rate of vertical transmission in Thailand had decreased to less than 2%, yet around six thousand people, many of whom are the MSM, continue to discover their infection annually (UNAIDS, 2016a). The HIV prevalence among the MSM in Thailand increased to 8% in 2010 after which it stabilized until 2014 (UNAIDS, 2016b). Again from the UNAIDS shows data

in Thailand in 2017, HIV prevalence among people who inject drugs was 19% with rate of condom use as low as approximately 47.2%. The HIV prevalence among men who have sex with men was at 9.2% with condom use rate of 82% (UNAIDS, 2017). HIV prevalence among men who have sex with men varies across the country depending on where exactly is. In Bangkok, HIV prevalence was 28.6 % in 2014. Of those who are newly infected with the virus, 50% were among men who have sex with men, male sex workers, and transgender people (Avert, 2016). A study in Thailand shows an explosive epidemic of HIV infection in a cohort of men who have sex with men in Thailand. The results illustrated 21.3% (n=372) of HIV prevalence at baseline and after sixty months follow up the cumulative HIV-incidence was 23.9% (n=222) with overall HIV-incidence density was 5.9 per 100 per person-years (Frits van Griensven et. al, 2013).

It is understandable that there are several factors that lead people to get infected with the disease (CDC, 2018). However, one of the leading causes in this era is online social media (Ashlee N. Sawyer, 2017; ChingChe J. Chiu and Sean D. Young, 2015). Online Social Media could be categorized in to General social media application including Facebook (Ahmed W., 2016), Line (Elissa Loi, 2016; Hillel Fuld, 2013), Twitter (Hillel Fuld, 2013), Instagram (Jon Mitchell, 2012) where people can use to communicate in general while social media application are created to be specific purpose as Dating applications for example Grindr (Dating Sites Reviews, 2019), Hornet (Matt Keeley, 2016), Blued (DatingScout, 2019), Jack'd (Jack'D, 2017) etc. People are now living in a modernized world, where the use of online technologies such as social media goes hand in hand with an increase in the degree of sexual risky behaviors among risky populations such as MSM and drug users (Young, Szekeres, & Coates, 2013). Needless to say, these virtual places are increasingly an alternative for face-to-face interaction. The use of online social media among men who have sex with men is now an increasing concern as more and more MSM are utilizing online social media as a platform to engage in risky sexual behaviors.

However, there are still a few studies that conducted to explore more explanation why this group of people are still taking their risk to get contracting from the STDs including HIV. Additionally, to create and propose public health policy in terms of prevention specifically among these key population via using online social media so it is interesting to know and explore more evidence in terms of what motivates them to use online application and engage to make themselves at risk along with exploring what are key features of application that can persuade them and maintain them in their virtual community such this long until they have possibility to meet strangers and become sex partners. Therefore, this study was aimed to explore mainly among MSM who are online users with a primary objective which is what are reasons that they have to choose different application as a platform to seek sex partners and what are the main characteristics of applications that can convince them to choose the particular application. The secondary objective is the rate of getting sex partners from the online venue among two groups of participants regarding to their HIV-status.

## II. METHODS

The study was conducted over six months period between June to December 2018 after an approval of ethical consideration committee under the Faculty of Medicine, Chulalongkorn University (IRB.no.141/61). The participants were recruited from three venues; from the research collaborating center frequented by the HIV-infected participants, from a reproductive health clinic in Bangkok which are the HIV-noninfected participants and the non-infected participants from online venues (Facebook closed groups). Of those who approached physically were asked to participate into the study while those who were willing to participate but not available on that day, the questionnaire was distributed via email with a web-based consent form.

Potential participants were approached and screened for the eligibility. The eligibilities were male who lives in Bangkok, aged 15 and over and had have sex with the same sex. Of those who are aged less than 18 with HIV-infected the guardian consent was also required. Those who do not understand Thai or having severe mental illnesses are excluded.

The semi-structured questionnaire by using face-to-face interview took approximately 15-30 minutes including online dating application use section and risky sexual behaviors in terms of having had sex partners from using online venue in the past one year. Socio-demographic information including age, occupation and types of MSM according to their sexual orientation (Insertive type, Receptive type and versatile). Ahead of responding to the questions, the participants were asked whether in the last one year if they have used online social media in the purpose of seeking sleeping partners or not. Of those who responded “yes”, they carried on the survey while those who responded “no”, they did not carried on further but they were asked to give the reasons why they did not consider using online social media as a choice to seek for sleeping partners then the session was over. Online social media or application use items were included what are the

applications that they have used, the application that was used the most (they were required to rank the most frequent used application), reasons why they chose the number one rank application as a venue to seek for sleeping partners. The questions related to risky sexual behaviors were focusing on have met sleeping partners (yes/no) with the motives they have.

SPSS version 22.0 was applied to analyze the data. Pearson Chi-square testing was used to test the independent variables as define as sociodemographic variables and using social media as platform to seek sex partners comparing among two groups of participants. Logistic regression was used to explore whether various reasons provided from the participants who chose to online different apps have an influence on the possibility of having sex partners among the MSM online app users as well as compared the different outcomes among two groups of participation according to HIV-status.

## III. RESULTS

The total of 201 were recruited into the study, there are 71 people who are HIV-infected, and 130 people are HIV-noninfected. The analysis was included only whom reported using online media as a platform for seeking sex partners which totally accounted for 130 including 57 of infected and 73 of non-infected.

### *Socio-demographic data*

Comparing in the group regarding to use and not use social media, the majority of HIV-infected social media online users are found to be younger than those the majority of infected non-online users which is significant ( $p$ -value  $< 0.05$ ). Comparing to the noninfected group, the *mean age* among HIV-Negative group is 25.6 years old, the youngest age is 18 years old and the oldest one is 50 years old with the *Std. Deviation*  $\pm 6.36$ . The statistic results showed that among the non-infected participants age has no association to them in terms of deciding to use or not use this platform to seek for sex partners. The research findings suggest that among two groups of participants, homosexual (versatile or both) were indicated the most which were approximately 50% of them in each group. The result of statistical testing among the infected participants reveals there is an association of gender and using online social media to seek for sex partners among the infected participants with a  $p$ -value of 0.028 ( $p$ -value  $< 0.05$ ). Eight difference types of occupations including *students, freelancers, self-employed, company employees, civil servant, Business owners, unemployed and others* were also included. Most of the participants who are in HIV-positive group are freelancer (26.8%) while most of the participants who are HIV-negative are student (33.1%).

### *Reasons of choosing different application and possibility of having sex partners from online venue.*

According to participants choosing different application as a platform to seek sleeping partners, what are the reasons that trigger them to choose different application. Comparing the results among two groups of subjects distinguished by HIV-

status, among two groups have different reasons for choosing the application. From the comparison table 1, looking at the HIV-infected participants, nearly 1:4 of them reported peer pressure can influence them to choose any individual application while the HIV-non infected found peer pressure does not influence their decision to choose any application. Interestingly, the main reason for one fourth of HIV-non infected to choose the certain application is easy to download and use of application. There is no significant difference among two groups which the similar proportion of participant reported choosing the application according to two reasons; for recreational purpose and looking for sex (one-nightstand partners). Surprisingly, almost twenty percent of the HIV-non infected respondents reported reason of choosing application regarding to the popularity of its application. Another difference is some of the HIV-non infected participants reported choosing application because the certain application allowing them to have a first time but normal conversation with completely strangers less awkward while another group of participants do not find this reason can affect their decision to choose the application.

Further analysis using logistic regression has done to explore whether different reasons that they have reported can have an influence on having sleeping partners from their online social media use. Considering the significant association, it was found that some reasons of choosing application have an influence on having sleeping partners among HIV-infected participants. There are eight reasons that could have possibility to influence having sleeping partners. Of those who choosing any application according to these reasons; the app is stable (*p-value 0.003*), to satisfy their curiosity (*p-value 0.046*), to seek a companionship (*p-value 0.00*), to find sex or casual sleeping partners (*p-value 0.006*), for recreational purpose (*p-value 0.006*), peer pressures (*p-value 0.018*), the popularity of its application (*p-value 0.00*) and choosing because it requires no ice breaking (*p-value 0.019*). It is apparent from the reported results from the table2 that among HIV-non infected considering reasons of choosing any application as a platform to seek sleeping partners have an influence on probability of having sleeping partners. What is revealing in the table is that of all HIV-non infected online users who reported reasons of choosing application as followings; easy to download and use (*p-value 0.000*), app does not require personal information (*p-value 0.000*), the app is stable (*p-value 0.001*), to satisfy their curiosity (*p-value 0.001*), to seek companionship (*p-value 0.000*), to seek a serious relationship (*p-value 0.001*), to find sleeping partner (*p-value 0.000*), looking for drugs (*p-value 0.001*), use for recreational purpose (*p-value 0.000*), use because of a result of peer influence (*p-value 0.001*), choose the app for its popularity (*p-value 0.000*), choose the app because it requires practically no ice breaking (*p-value 0.001*).

To summarize, among HIV-non infected, among online application users any reasons that they have reported in order to use the application, they have possibility to have sleeping partners from this online platform as high as seventy percent chance. The findings also suggested with whatever reasons that motivate them choosing any application regardless of

HIV-status they absolutely have possibility to get sleeping partners from the online venue. Other suggestions from the results of the study in terms of how online social media use.

#### IV. DISCUSSION

The outcome of having chances of getting sex partners from online venue in this study suggested the similar outcomes as a study in the United States which revealed that the use of online social media apps on handheld devices could increase the chance of obtaining sex partners whose likelihood of carrying at least one sexual transmitted disease apart from HIV was very high. Moreover, the use methamphetamine and frequency of unprotected anal inter-course were also reported in higher levels (Lehmiller & Ioegeger, 2014; Stahlman et al., 2015). The results from this study also yield the similar results to a study conducted in Thailand but in the different period of time by Boonchutima.S(Boonchutima S. and Sriwattana S., 2016) which shows that there is a significant association between the number of physical meet-ups and the number of locations where the application is used( $r=0.415$ ), the amount of time spent on application ( $r=0.368$ ), and information disclosure ( $r=0.361$ ). The predictors of willingness to engage in these risky behaviors are believed to be attitude, injunctive norms, descriptive norms, and previous behaviors. A study conducted by Dawn Beverley Branley and Judith Covey(Branley B.D., 2017) suggests that the exposure to online content that contains risky behavior could increase the possibility of the users engaging in their own risky behavior including drug use, excessive alcohol consumption, and disordered eating when they are off computer or mobile devices, and as far as sex-related risky behavior is concerned, the online exposure to such behavior could place the individual at risk of exchanging sexual content with strangers and even having unprotected sex with them. Interestingly, the aforementioned study seems to correspond with that conducted by Pujazon-zazik, M., & Park, M.J.(Pujazon-zazik, 2010) whose findings reveal that the use of social media has the potential to exert the influence on risky behavior such as unprotected sex and sex with strangers which take place in the real world. Moreover, the use of social media on handheld devices has been reported to be associated with risky sexual behavior. The relationship between social media use and risky behavior has been studied many researchers. Cox, A.D., & Cox, D (Cox, 1998) are among those who came up with an interesting answer to this phenomenon. What they have discovered is that based on social learning theory individuals could internalize behavior through observational learning. In other words, they could imitate what they see. Moreover, if the individuals happen to see how a certain behavior they see is endorsed or reinforced by others, chances are that they will engage in that social behavior.

With regards to reasons for choosing a dating app, the study found that users are more likely to choose the application that offers user-friendly interface, requires no personal information, and runs stable on their mobile devices. However, another for choosing an app also involves the popularity status.

The summary table 1. Socio-demographic data in a comparison between HIV-infected and HIV-noninfected participants

Socio-demographic independent variables	HIV-positive (N=71)			p-value	HIV-negative (N=130)			p-value
	Never used % (n)	Ever used % (n)	Total % (n)		Never used % (n)	Ever used % (n)	Total % (n)	
<b>Age</b>								
Age 15 - 24 years old	0	19.7(14)	19.7(14)		19.2(25)	25.4(33)	44.6(58)	
Age 25 - 34 years old	1.4(1)	32.4(23)	33.8(24)		20.8(27)	25.4(33)	46.2(60)	
Age 35 - 65 years old	18.3(13)	28.2(20)	46.5(33)	<0.001	3.8(5)	5.4(7)	9.2(12)	>0.05,ns
Mean Age ± S.D.	45.79 ± 9.625	32 ± 10.675	34.78 ± 11.78		24.63 ± 6.029	26.27 ± 6.550	25.56 ± 6.38	
<b>Total</b>	19.7(14)	80.3(57)	100(71)		43.8(57)	56.2(73)	100(130)	
<b>Gender</b>								
<b>Homosexual</b>								
Insertive	8.5(6)	8.5(6)	16.9(12)		9.2(12)	8.5(11)	17.7(23)	
Receptive	2.8(2)	22.5(16)	25.4(18)		14.6(19)	23.8(31)	38.5(50)	
Both	8.5(6)	43.7(31)	52.1(37)	<0.05	17.7(23)	23.8(31)	41.5(54)	>0.05,ns
Bisexual	0	5.6(4)	5.6(4)		1.5(2)	0	1.5(2)	
Others(Not identified)	0	0	0		0.8(1)	0	0.8(1)	
<b>Total</b>	19.7(14)	80.3(57)	100(71)		43.8(57)	56.2(73)	100(130)	
<b>Occupation</b>								
Student	0	15.5(11)	15.5(11)		15.4(20)	17.7(23)	33.1(43)	
Freelancer	7(5)	19.7(14)	26.8(19)		3.1(4)	6.2(8)	9.2(12)	
Self-employed	1.4(1)	4.2(3)	5.6(4)		1.5(2)	1.5(2)	3.1(4)	
Company employee	7(5)	15.5(11)	22.5(16)	>0.05,ns	13.1(17)	18.5(24)	31.5(41)	>0.05,ns
Civil servant	1.4(1)	1.4(1)	2.8(2)		5.4(7)	6.2(8)	11.5(15)	
Business owner	2.8(2)	18.3(13)	21.1(15)		3.1(4)	4.6(6)	7.7(10)	
Unemployed	0	5.6(4)	5.6(4)		0.8(1)	1.5(2)	2.3(3)	
Others	0	0	0		1.5(2)	0	1.5(2)	
<b>Total</b>	19.7(14)	80.3(57)	100(71)		43.8(57)	56.2(73)	100(130)	

\*p-value<0.05, statistically significant at  $\alpha = 0.05$ , \*\*p-value <0.01, statistically significant at  $\alpha = 0.01$ , \*\*\* p-value <0.001, statistically significant at  $\alpha = 0.001$

The summary table 2. Reasons and motivations among the HIV-infected participants and HIV-negative participants in a comparison

Reasons for choosing the application	HIV-positive (N=57)			HIV-negative (N=73)		
	n(%)	Standardized Coefficients Beta	p-value	n(%)	Standardized Coefficients Beta	p-value
Use the app as a result of peer pressure	12(21.1)	0.315	< 0.05	1(1.4)	0.170	< 0.001
Use the app for recreational purpose	7(12.3)	0.343	< 0.01	8(11)	0.348	< 0.001
Use the app to seek only one-nightstand sleeping partners	7(12.3)	0.343	< 0.01	11(15.1)	0.456	< 0.001
The user seeks companionship or to kill the time chatting with someone	6(10.5)	0.467	0.001	7(9.6)	0.323	< 0.001
Choose the app for its popularity	4(7)	0.465	0.001	13(17.8)	0.400	< 0.001
The app is easy to download and to use	4(7)	0.116	>0.05,ns	18(24.7)	0.596	< 0.001
The user uses the app to satisfy their curiosity	4(7)	0.232	< 0.05	1(1.4)	0.170	< 0.001
Choose the app because it requires practically no ice-breaking	3(5.3)	0.27	< 0.05	8(11)	0.348	< 0.001
The app does not require disclosure of user's personal information	2(3.5)	0.167	>0.05,ns	2(2.7)	0.240	< 0.001
The app is stable (e.g. run smoothly during active online)	2(3.5)	0.334	< 0.01	1(1.4)	0.170	< 0.001
Use the app to seek a serious relationship	1(1.8)	0.000	>0.05,ns	1(1.4)	0.170	< 0.001
Use the app in search for drugs	0	-	-	1(1.4)	0.170	< 0.001
Others (e.g. to keep watch of their significant other ect.)	5(8.8)	0.103	>0.05,ns	1(1.4)	0.170	< 0.001
<b>Total</b>	(100)(57)			73(100)		

\*p-value<0.05, statistically significant at  $\alpha = 0.05$ , \*\*p-value <0.01, statistically significant at  $\alpha = 0.01$ , \*\*\* p-value <0.001, statistically significant at  $\alpha = 0.001$

As popular app tends to have a larger number of users, and the larger the number of users means a greater chance of finding a match. As it turns out, the application that appears to satisfy all these criteria is Hornet, which perhaps explains the reason why it was the most used dating application by the subjects surveyed. The subjects' primary reason for using general social media applications is their perceived sense of safe community, as they will most of the times be sharing content with people whom they know from their real-life social groups. Users of the general apps are also less likely to take such risk as seeking a one-time sleeping partner but more inclined to search for serious relationship. They also feel that the content generated by users of the general social media platforms are more credible and less malicious than dating sites. Moreover, the study also found that dating applications save the users' time for ice-breaking, and when used in bundle it can increase the chance of finding a match.

V. FURTHER RECOMMENDATIONS

For further recommendations, preventive strategies should be emphasized on the online venue. It is true that nowadays many websites are providing very useful and helpful information related to HIV prevention and treatment. However, to access those websites, those people have awareness to seek for information. On the other hand, the preventive strategies should be recommended to emphasize on providing the helpful information in the right venues such as instead of providing the helpful information on their own websites, providing the channels to reach for the useful information in the risky online platforms especially dating applications where they spend their free time or every times they logging in the app they would be provided helpful information.

REFERENCES

[1] Ahmed W. (2016). What are some unique characteristics makes "Facebook" as Successful Retrieved from <http://www.quora.com/what-are-some-unique-characteristics-makes-Facebook-as-Successful>

[2] Ashlee N. Sawyer, E. R. S. a. E. G. B. (2017). Dating application Use and Sexual Risk Behavior Among Young Adults. *Journal of NSRC*. doi:10.1007/s13178-017-0297-6

[3] Avert. (2016). Men who have sex with men, HIV and AIDS. Retrieved from <https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/men-sex-men>

[4] Boonchutima S. and Sriwattana S. (2016). Gays Dating Applications: Information Disclosure and Sexual Behavior. *Journal of Health Research*, 30(4), 231-239.

[5] Branley B.D., C. J. (2017). Is exposure to online content depicting risky behavior related to viewers' own risky behavior offline? *Computers in Human Behavior*, 75, 283-287.

[6] CDC. (2018, August 31, 2018). HIV risk and Prevention. Retrieved from <https://www.cdc.gov/hiv/risk/index.html>

[7] ChingChe J. Chiu and Sean D. Young. (2015). The relationship between online social network use, sexual risk behaviors, and HIV sero-status among African American and Latino men who have sex with men(MSM). *AIDS Behav*, 19(2), 98-105. doi:10.1007/s10461-014-0986-6.

[8] Cox, A. D., & Cox D.. (1998). Beyond"peer pressure": A theoretical framework for understanding the varieties of social influence in adolescent risk behavior. *Social Marketing Quarterly*, 4(4), 43-47. doi:<http://dx.doi.org/10.1080/15245004.1998.9961017>.

[9] Dating Sites Reviews. (2019). Grindr Information, Statistics, Facts and History. Retrieved from

<https://www.datingsitesreviews.com/staticpages/index.php?page=grindr-statistics-facts-history#ref-ODS-Grindr-2018-6>

[10] DatingScout. (2019). Blued In Review. Retrieved from <https://www.datingscout.com/blued/review>

[11] Elissa Loi. (2016). 15 incredibly useful tips that will change how you use Line. Retrieved from <https://www.stuff.tv/my/features/11-incredibly-useful-tips-will-change-how-you-use-line>

[12] Frits van Griensven et. al. (2013). Evidence of an explosive epidemic of HIV infection in a cohort of men who have sex with men in Thailand. doi:10.1097/QAD.0b013e32835c546e

[13] Hillel Fuld. (2013). 5 Unique Characteristics that make Twitter Stand out. Retrieved from <https://www.top5.com/5-unique-characteristics-that-make-twitter-stand-out/>

[14] Jack'D. (2017). Jack'D Features. Retrieved from <https://jackdapp.com/features/>

[15] Jon Mitchell. (2012, April 18, 2012). What Is the Point of Instagram? Retrieved from [https://readwrite.com/2012/04/18/what\\_is\\_the\\_point\\_of\\_instagram/](https://readwrite.com/2012/04/18/what_is_the_point_of_instagram/)

[16] Lehmilller, J. J., & Ioerger, M. (2014). Social networking smartphone applications and sexual health outcomes among men who have sex with men. *PLoS One*, 9(1), e86603. doi:10.1371/journal.pone.0086603

[17] Matt Keeley. (2016, June 9, 2016). Hornet's Two New Features Make It Unlike Any Other Gay Dating Apps. Retrieved from <https://hornet.com/stories/hornets-two-new-features-make-unlike-gay-dating-app/>

[18] Pujazon-zazik, M., & Park,M.J.. (2010). To Tweet, or not to tweet: Gender differences and potential positive and negative health outcomes of adolescents' social internet use. *American Journal of Men Health*, 4(1), 77-85. doi:<http://dx.doi.org/10.1177/1557988360819>

[19] Stahlman, S., Grosso, A., Ketende, S., Mothopeng, T., Tarubekera, N., Nkonyana, J., . . . Baral, S. (2015). Characteristics of men who have sex with men in southern Africa who seek sex online: a cross-sectional study. *Journal of medical Internet research*, 17(5).

[20] UNAIDS. (2016a). AIDS info,. Retrieved from <http://aidsinfo.unaids.org/>

[21] UNAIDS. (2016b). Fact sheet- /latest statistics on the status of the AIDS epidemic. Retrieved from <http://www.unaids.org/en/resources/fact-sheet>

[22] UNAIDS. (2017). UNAIDS DATA. Retrieved from [http://www.unaids.org/sites/default/files/media\\_asset/20170720\\_Data\\_book\\_2017\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/20170720_Data_book_2017_en.pdf)

[23] Young, S. D., Szekeres, G., & Coates, T. (2013). The relationship between online social networking and sexual risk behaviors among men who have sex with men (MSM). *PLoS One*, 8(5), e62271. doi:10.1371/journal.pone.0062271