A Cross-Sectional Survey to Assess the Relation Between Disclosure of Same-Sex Behavior, Depression and Risky Sexual Behavior among Men who have Sex with Men (MSM) in Chennai, Tamil Nadu, India

Master of Public Health Integrating Experience Project

Professional Publication Framework

By

Andrea Kurunathan MD, MPH (c)

Advising Team:

Brett M. Burnham, EdD, MA, MS, MAT, MPH

Varduhi Petrosyan, MS, PhD

Turpanjian School of Public Health

American University of Armenia

Yerevan, Armenia, 2019

TABLE OF CONTENTS

GLOSSARY

Kothi: A homosexual bottom or receptive male, often with effeminate characteristics

Panthi: A penetrative and masculine male partner always on top, often bisexual

Double decker: A homosexual male who participates in both receptive and penetrative anal sex

LIST OF ABBEVATION

AIDS	Acquire Immunodeficiency Syndrome
BDI	Beck's Depression Inventory
CBO	Community based organization
HIV	Human Immunodeficiency Virus
INR	The Indian Rupee
MSM	Men who have sex with men
MSW	Male sex workers
SI	Suicidal ideation
STI	Sexually Transmitted Infection
SSBQ	Safe Sex Behavior Questionnaire
UAI	Unprotected anal intercourse
UNAIDS	United Nations Programme on HIV/AIDS

Acknowledgments

ABSTRACT

Introduction: It is estimated that there are some 2.5 million MSM in India. Various studies conducted in India serve as evidence that MSM are prone to high rates of depression compared to the general adult male population. This can be attributed to the fact that homosexuality was illegal in India until September 2018, and as a result, MSM in India have lived in secrecy due to the fear of rejection by their family members, friends, and society. Moreover, MSM also lack knowledge about practicing safe sex and often participate in unprotected anal intercourse (UAI) with multiple partners, consequentially infection with human immunodeficiency virus (HIV) and other sexually transmitted infections (STI) may result. Due to the fear of being disowned by their family members, MSM often choose, or are forced to enter into heterosexual marriages, which may serve as a bridge population that spreads HIV to their wives. As a result, the psychological health of the MSM population is affected, and evidence shows that there is an association between risky sexual behavior and depression amongst this vulnerable population.

Objective: Firstly, to investigate if there was an association between disclosing one's sexual orientation to different people (family, friends, wife, coworkers, community) and depression score, after adjusting for the confounders. Secondly, to see if there was an association between participation in risky sexual behaviors and one's depression score, after adjusting for confounders.

Methods: A cross-sectional survey was conducted in Chennai, India amongst 155 beneficiaries of an MSM community based organization (CBO) organization called "Sahodaran" in January, 2019. The participants of this study were conveniently sampled, and an interviewer-administered survey was adopted.

Validated instruments, including the Beck's Depression Inventory-II (BDI-II) and Safe Sex Behavior Questionnaire (SSBQ), were used. To analyze the results of this study, descriptive statistics, Fisher's Exact Test, univariate and multivariate linear regression were conducted.

Results: In the overall sample of 155, MSM were very open about their sexual orientation to their friends (n = 99, 63.8%), followed by current workplace coworkers (n = 59, 38.0%) and siblings (n = 47, 30.3%). Most of the study participants were not open to their father (n = 80, 51.6%), or their neighbors (n = 73, 47.1%). After adjusting for confounders, this study revealed that those who were somewhat open to their father had a higher depression score than those who were not open to their father (p-value = 0.03, β = 5.93, CI: 0.567, 11.3); those who were very open to their siblings had less depression compared to those who were not open to their siblings (p-value = 0.025, β = -0.198, CI: -4.769, -0.612); those MSM whose disclosure to current workplace was not applicable had a lower depression score in comparison to those MSM who were not open to their workplace (p-value = 0.002, β = -12.729, CI: -20.757, -4.701). This study also found that there was a negative association between depression score and safe sex behavior score (p-value = 0.000, β = -0.311, CI: -0.453, -0.168) suggesting that depression was associated with unsafe sexual behavior.

Conclusion: The findings of this study are consistent with existing literature, suggesting that MSM are vulnerable to depression, and as a maladaptive coping mechanism they practice UAI with multiple partners. Multifaceted interventions are of paramount importance that would educate MSM about the appropriate time to disclose their sexual orientation to others, address depression, educate about sexual practices to promote safe sex behavior, and destigmatize same-sex relations.

1. INTRODUCTION

Ancient temple carvings, which are famous in India, serve as evidence that there were men who had sex with men (MSM) thousands of years ago.[1] In 2012, the Indian government estimated the gay population to be 2.5 million or approximately 0.5% of the total Indian population.[2] In India, the word gay is perceived as a foreign term.[5] The constructs and terminologies used in the western world to describe male-male sexual subcultures cannot be used in South Asia.[4] According to a study conducted in India, there are other local terms used to describe MSM's sexual orientation as opposed to thinking of themselves as "gay".[5] The MSM's in India classify themselves as either a Kothi, a Panthi, or a Double Decker. Same-sex behavior and relationships often tend to be fluid in India, and the sexual identities do not always come under distinct categories like heterosexual, homosexual or bisexual like in the Western cultures.[5] Hence, it is important to distinguish that one's sexual roles are separate from their gender expression, identity, and primary orientation.[5] Due to the fear of being rejected or not being accepted in the society, many MSM in India remain in the closet and less frequently disclose their sexual orientation to their significant others.[6] The reason for this primarily dates back to the 1860s, when the law, commonly referred to as the "Section 377", was introduced in India. Under this law, a homosexual would be imprisoned for up to 10 years if he practiced "carnal" intercourse, which was considered to be against nature.[7]

However, after failing multiple times to decriminalize homosexuality in India, the supreme court had finally overturned the section 377 in September 2018.[8]

The information attained from various studies have shown that MSM are subjected to a variety of health disparities that could lead to elevated rates of depression, substance use, and suicide,

which all significantly correlate with an increased risk of acquiring Human Immunodeficiency Virus (HIV).[3] According to Stahlman, Grosso and Ketende (2015)[9], there is evidence suggesting that, in comparison to the general adult male population, MSM are subjected to higher rates of depression and other psychosocial problems, MSM often experience poverty, lack of adequate housing, instability in the family, and inequitable health care, which could lead to an increased risk of HIV and Acquire Immunodeficiency Syndrome (AIDS) among this population.[10]

1.1 SITUATION IN INDIA

According to Section 377 of the Indian Penal Code, homosexuality was interdicted in India, which paved the way for discrimination in the society.[7] Given that the shift to decriminalize homosexuality in India has occurred very recently, there is a dearth of evidence regarding whether or not this policy shift has had any positive impact on reducing stigma and homophobia in the country. Given more time, this law will serve as a necessary element for changing the stigma that prevails in society. However, a few community members in India said that this change had led them to be well equipped to battle the micro-aggressions that they face every day.[47]

According to previous qualitative and quantitative studies among MSM, they face many deleterious life experiences from the very beginning of their childhood.[12] They are imperiled to childhood sexual abuse, harassment by policemen, neighbors, and violence by gang members.[13] Due to the conservative society in Chennai, India, MSM are rarely accepted by the community, nor are they accepted by their own families.

Therefore, MSM residing in India have poor psychosocial health due to stigma, and as a maladaptive coping mechanism to deal with their depressed state of mind, they often practice

unprotected anal sexual intercourse with multiple partners, which is a key risk behavior associated with HIV acquisition among MSM.[14] As a result of the above-mentioned perils that they endure, MSM in India are subjected to psychological distress, depression, anxiety, suicidal ideation, substance use, negative attitudes towards healthcare providers, lower testing rates and poor treatment adherence to HIV care.[13,15] Moreover, The Joint United Nations Program on HIV/AIDS (UNAIDS) has identified the MSM population in India to be a high-risk group for HIV transmission and acquisition, as nearly 4.3% of MSM in India live with HIV.[30] This represents a vast health disparity as MSM are 12 times more affected by HIV than their straight male counterparts in India.[16]

1.2 DEPRESSION AMONG MSM

There are many people belonging to different communities across the world who face depression, which is a significant contributor to the global burden of various diseases.[17] According to the World Health Organization's prediction, by 2030 depression will be the leading cause of burden disease.[51] Sexual stigma, due to social censure allied to same-sex sexual behavior, is considered as one of the significant risk factors for depression among MSM.[18] The primary factor impairing the mental health of MSM are the adverse childhood experiences they face in being exploited for sexual favors; moreover, because they present a marginalized same gender loving sexual orientation and perhaps identity, they are subject to persistent ridicule and dehumanization.[12] A study conducted in 2016 among 363 Indian MSM reported that 11% of them experienced depression, and many of the depressed MSM had suicidal thoughts.[12]

3

Moreover, a 2018 study conducted in India among 277 MSM respondents found that 58% of these participants were going through depression.[6] To support the claim that suicidal ideation (SI) was higher among the MSM population, a study by Luo, Feng, Fu H, Yang, found that the pooled lifetime prevalence for SI was 35%,[20] and in the general population it ranged between 10%-14%.[48] A groundbreaking study amongst MSM participants in Kenya elucidated the association between depression and participating in unprotected, group or transactional intercourse.[21] The study also found that nondisclosure of HIV status may result in risky sexual behavior. Additional evidence-based literature that has shown that situational characteristics which include being in a non-committed relationship, a history of childhood sexual harassment, negative state of mood, substance use, alcohol dependency, and low self-esteem lead to unsafe sexual practices among MSM.[19]

A 2008 review of the literature by Corboz and colleagues connotes that the age of MSM is linked with their depression status, and that young MSM are prone to have more depression than their older counterparts.[38] This is because the young MSM are burdened with secrecy or the coming-out process to their families, and they face the fear of potentially loosing emotional and monetary support from them.[6] Previous studies serve as evidence that MSM belonging to different sexual categories have a difference in their depression score.[12] Kothi's who are grave victims of discrimination, sexual harassment and non-acceptance by families due to their noticeable femininity were twice as likely to be depressed than Panthis.[12]

1.3 DISCLOSURE OF SEXUAL ORIENTATION

Disclosure is synonymous with "coming out" or a process of recognition of the sexual identity, orientation and sharing this information with others.[22] One of the constant challenges faced by a MSM is the conflict of either choosing to disclose one's sexual orientation to significant others

and face grave consequence such as stress and discrimination as opposed to concealing it and living a "double life".[6] However, both these choices are fraught with risks. Moreover, some studies suggest that the effects of social discernment faced by MSM could be buffered if MSM disclose their sexual orientation to parents.[23] It is vital to disclose one's sexual orientation to opposite gender sexual partners, which aids in practicing safer sex; thus, reducing HIV transmission.[24] Most importantly health care providers should be informed about their patient's sexual behaviors. It is important to be truthful to healthcare providers so that they offer optimal care, which includes promoting HIV-testing. Otherwise, health care providers might overlook the risk of acquiring HIV or other Sexually Transmitted Infections (STI) and other specific health care needs.[25] A study conducted in India by Tomori, McFall, and Srikrishnan (2016), conclude that MSM who disclosed their same-sex orientation to a non-family member was less depressed compared to those MSM who disclosed to a family member, and in particularly to their spouse.[12] However, the same study shows that those who did not disclose their MSM status were less depressed than those who disclosed. Likewise, a study conducted in South Korea concludes that coming out leads to depression among MSM and involuntarily coming out had an increased risk of depression. [26]

1.4 RISKY SEXUAL PRACTICES AMONG MSM

1.4.1 Determinants of risky sex

"Serial monogamy" is common among MSM, where steady relationships for a relatively short period with one partner is followed by other relationships.[41] To maintain intimacy and to avoid mistrust with the partner MSM indulge in condom less sex which is a key risk factor for developing HIV transmission and other STI's.[42] Also, having sex with a multiple numbers of casual partners is considered a risk factor for HIV transmission.[34] It is evident from studies that

MSM take recreational drugs (crystal methamphetamine, ecstasy, cocaine, ketamine) either before or during sex, which are strongly correlated with sexual risk such as unprotected anal intercourse (UAI) with casual partners with an unknown HIV serostatus.[43] Another sub-population of MSM are the male sex workers (MSW) who are at an increased risk of acquiring HIV and STI compared to the wider MSM population.[44] Additionally; economic concern seems to play a vital role as an increased monetary incentive are offered to an MSW to partake in risky sexual activities. A study in Chennai among MSW found that more than half of the participants were unaware of the HIV serostatus of their clients and nearly 86% did not use a condom with their recent client chiefly due to the lack of condom negotiating power.[44]

1.4.2 Depression leading to risky sexual practices

A study conducted amongst black MSM in Massachusetts, United States of America (USA), found that participants who engaged in UAI were 10 times more depressed than those who did not engage in UAI.[40] MSM who are depressed are more likely to partake in various types of substance use, which could lead them to participate in risky sex.[39] There are well-documented associations between depression that MSM face (as a result of their marginalization) and their participation in risky sexual behaviors that can result in increased susceptibility to acquiring HIV or STI.[11]

1.5 RATIONALE OF THE STUDY

MSM in Chennai are a highly obscure and a stigmatized population. Furthermore, this population faces many challenges including homophobia, victimization, stigma, and discrimination.[15] There are many MSM living in Chennai who fear disclosure on their sexual identity and orientation due to low self-acceptance and also because they fear being rejected by

society. A pilot study that was conducted in 2016 found more than 50% of the MSM population in Chennai to be prone to depression.[27] Whereas, the prevalence of depression among the general population is 15%.[51] As a result, their psychosocial health status is at stake. Moreover, MSM in India have demonstrated that they lack knowledge about, and are ambivalent towards practicing in safe and protected sex.[28] Within the context of Indian culture, one of the major reasons as to why an MSM would not disclose his orientation to his family is due to the burden of satisfying the prevailing cultural norms, and the fear of being disowned by the family.[13] Therefore, MSM often settle for heterosexual marriages that are expected societally. The wives of those MSM are often unaware of their husbands' concealed extra marital sexual practices with other men.[29] Therefore, MSM are at high risk for acquiring HIV infection, transmitting HIV to their male sexual partners, and, they may also serve as a bridge population and spread the virus to their wives. Since only a few Indian studies have assessed the relation between disclosure and depression,[6] this study will be the first to be conducted in Chennai, Tamil Nadu to explore if disclosing MSM status to different people negatively or positively associates with their depression status. Likewise, this study will assess the relationship between depression and risky sexual behavior among MSM.

With the help of this study analysis, future programs can be implemented to help an MSM disclose at the right time to the right people aiming to improve his psychosocial health. Intervention programs to combat depression can be conducted in the future as improving one's mental health would lead to an improvement in his physical health.

The research questions for the proposed study are:

Is disclosing one's sexual orientation to different people (family, friends or wife) associated with the depression score, after adjusting for other factors related to depression?

Is there an association between participation in risky sexual behaviors and one's depression score, after adjusting for other factors?

2. METHODS

2.1 STUDY DESIGN

A cross-sectional survey was conducted in Chennai, Tamil Nadu. The interviews were conducted at a community-based organization (CBO) called "Sahodaran." This CBO provides support to exclusively gay men living in Chennai and strives to empower the minority community making them reach their full potential by providing community help, outreach and activism.[31]

2.2 STUDY POPULATION

The target population for this study were MSM who live in Chennai.

The inclusion criteria comprised:

- Self-identified MSM aged 18 and above.[32]
- The ability to communicate in the native language called Tamil as the questionnaire was interviewer-administered in this language.

The exclusion criteria included:

- MSM who were not sexually active in the last six months and would not be able to answer the Safe-Sex Behavior Questionnaire (SSBQ).

2.3 SAMPLE SIZE CALCULATION

Taking into account the sample size calculation using the comparison of two means (disclosure of same-sex orientation vs. non-disclosure), the required sample size was calculated as follows:

n = Sample Size

$Z_{\alpha/2}$ is the percentile of the standard normal distribution and equal to 1.96 for the alpha of

0.05(two-sided test)

Z_b is the percentile of the standard normal distribution and equal to 0.84 for the power of 80%

σ = Standard deviation of (BDI-II) Beck's Depression Inventory-II score equals 10.6 (According

to a study by Houston et al.,)[14]

D = Minimally clinical important difference for BDI-II equals 5. [49]

$$n = \frac{(Z_{\alpha/2} + Z_{\beta})^2 * 2 * \sigma^2}{D^2}$$

$n = (1.96+0.84)^2 *2 * (10.6)^2 / (5)^2$

   $= 71$

$n = 2 * n = 141$

While adjusting for a non-response rate of 10%,[33] from a similar study conducted we get the

final sample size to be 155.

2.4 SAMPLING STRATEGY

With the help of outreach workers at the CBO, the recipients of Sahodaran were invited to

participate in the study through a convenience sampling. All the interviewer-administered

interviews took place inside the Sahodaran building. This method ensured safety for the

participants and most importantly was a comfortable and safe environment to answer sensitive

questions.

2.5 VARIABLES AND MEASURES

The dependent variable for the primary research question was the depression score. Whereas, the main factor of interest that could lead to the outcome (dependent variable) was disclosure of same-sex orientation to different people (independent variable). For the secondary research question, the dependent variable was the risky sexual behavior, and the independent variable of interest was the depression score. Age, MSM subpopulation identity (kothi/panthi/double decker), marital status, religion, socio-economic status, educational status, income, coming-out status, illicit drug use, number of sex partners in the last six months and transactional sex and alcohol use (Audit-c instrument)[60] were identified as intervening variables for this study (see Appendix 1).

2.6 STUDY INSTRUMENTS

To measure the primary outcome variable for this study, the BDI-II which is a validated scale consisting of 21 items was used (Appendix 2).[14, 36] The answer options included a 4-point scale which ranged from 0 indicating absence of symptoms to 3 with the presence of an extreme form of each symptom. The score for this instrument ranged from 0-63. This scale included domains such as agitation, difficulty in concentrating, worthlessness, loss of energy, changes in appetite, suicidal thoughts and loss of interest in sex.[37]

The secondary outcome variable "risky sexual behavior," was assessed using a validated scale called the "Safe Sex Behavior Questionnaire"(SSBQ);[45] three items were dropped from the original SSBQ scale as suggested by the author, the remaining 24 items had a 4-point Likert scale, and the score ranged from 24-96. This scale measured sexual risk-taking behaviors and covered questions regarding condom use, use of skills to negotiate safe sex behavior, avoidance of bodily fluids, and avoidance of risky behaviors.[50]

The demographics section was developed from a study conducted among MSM in Chennai, and it included questions on age, education, employment status, MSM sub-population identity, socio-economic status, marital status, relationship status, religion and caste.[4]

To explore participant's degree of openness about sharing their sexual orientation to others, this study utilized a disclosure questionnaire developed by Schope (2002) regarding gay men's degree of disclosure about their sexual orientation to various groups of people like family, friends, workplace colleagues, or neighbors.[35]Instead of parents, two separate options such as "mother" and "father" were included, and for those married MSM we added an option "spouse". Initially, it consisted of a three-point scale with options "not open," "somewhat open," or "very open" but another option "not applicable" was added. To assess the status of coming out, a question was taken from another study to identify if an MSM has disclosed his same-sex orientation voluntarily or involuntarily or is yet to disclose.[26] All of these questions were translated into Tamil by a translator and then back-translated and compared with the original instrument. Pre-testing of the questionnaire was performed among seven outreach volunteers of Sahodaran who fulfilled the eligibility criteria. As a result of pretesting minor grammatical edits were made, and finally, the questionnaire was deemed to be well developed and culturally and linguistically appropriate by those who provided feedback.

2.7 DATA COLLECTION

Data collection took place in January 2019. The student investigator recruited six interviewers based on their experience and capabilities in handling sensitive subjects. They underwent intensive training before starting the data collection. Separate rooms were allocated for each participant and interviewer. The participation was voluntary and anonymous, and each

participant was asked for his consent before administering the questionnaire. The mean duration of the interviews was approximately 45 minutes.

2.8 DATA ANALYSIS

The software used for this study was SPSS 21. Exploratory data analysis (EDA) was used to check for missing values and errors. Descriptive statistics was used to obtain the mean, median, mode, standard deviation, for the participants' characteristics, their level of disclosure to various people, BDI-II scores and SSBQ scores by the characteristics of the respondents. Descriptive statistics was also done to obtain SSBQ scores for the different categories of depression. Reliability analysis (Cronbach's alpha) was adopted to check the internal consistency for the BDI-II and SSBQ instruments. Fisher's exact test was performed to test for confounders for the association between disclosure to various people and covariates as these variables were categorical. For testing the association between both depression and sexual behavior with the covariates, univariate linear regression was performed. Finally, multiple linear regression was done to check for the association between the main dependent and independent variables while adjusting for confounders.

The null hypothesis tested for the primary research question was: There was no relation between disclosure of same-sex behavior to family and depression score of a MSM.

The null hypothesis tested for the secondary research question was: There was no relation between depression score and risky sexual behavior of a MSM.

2.9 ETHICAL CONSIDERATION

American University of Armenia (AUA) institutional review board (IRB) provided ethical clearance. Verbal consent was obtained from every participant (see Appendix 3). To protect the

anonymity of the participants, no identifiable information was collected. Each participant received a monetary incentive of Indian Rupees 200 ($3) as reimbursement for transport and a meal. Only the student investigator had access to the data once the data collection was completed.

3. RESULTS

3.1 DESCRIPTIVE STATISTICS

Overall, for this study 157 MSM were approached and 155 participants completed the survey resulting in 98.7% response rate. The interview with two participants was terminated due to inappropriate behavior with the interviewers. These participants did not vary by their age and educational characteristics. Table 1 presents the socio-demographic characteristics of the 155 participants. The mean age was 32.3 years; minimum was 18 and the maximum was 62 years of age. One-third (37%) of the participants had completed only higher secondary education and the majority (77%) were employed. The monthly income of the majority (77%) was in the range 5,000-20,000 INR (73-291 USD). Almost 74% of the participants belonged to the Hindu religion, and over 51% of the respondents had reported their caste as other backward who are the underprivileged. Over 61% of the MSM identified themselves as Kothi (bottom). More than one-third (39%) of the MSM reported being in a relationship with more than one partner currently. The majority (70%) of the MSM participants claimed that they came out voluntarily and the mean age of coming out was 25 years. In regards to their marital status majority (81%) of them were single, while 15% were married. Moreover, the median number of sex partners one had within the last six months was 25. More than half (64%) of the respondents were involved in transactional sex.

Regarding openness of a MSM about his sexual orientation to various people about 28% of the respondents were very open about their sexual behavior to their mother and 17% to their father, 5% to their wives, 30% to their siblings, 64% to their friends, 37% to peers at school, 38% to colleagues at current workplace, 32% to previous work place colleagues, and 30% to their neighbors (see Table 2).

3.2 DEPRESSION SCORE BY RESPONDENTS CHARACTERISTICS

The Cronbach's alpha for BDI-II was 0.92. The highest depression score (M = 24.30, SD= 4.10) was reported from the participants with no education, and the lowest depression score (M = 15.75, SD= 10.01) was reported from those with graduate/post-graduate degrees (see Table 3). Furthermore, employed individuals had the lowest depression score (M = 18.10, SD= 10.94) while students had the highest depression score (M = 26.09, SD = 7.94). The participants belonging to the highest income category (INR 30,000 and above) had a higher depression score (M = 25.60, SD= 7.08) than others. MSM whose marital status was separated had the highest depression score (M =29.93, SD=24.22) while MSM who were in a relationship with more than one partner reported the lowest depression score (M =14.83, SD=10.64). Hindus had a higher depression score (M =20.23, SD=10.53) than participants belonging to other religions. Individuals belonging to the scheduled caste had a higher depression score (M = 23.69, SD=8.12) than other castes. MSM whose sexual identity was double-decker (Versatile) had the highest depression score (M = 20.0, SD=10.8) than other sexual identities. Individuals who came out voluntarily had the lowest depression score (M =17.47, SD=11.49) in comparison to those who involuntarily came out and those who had not come out yet. Individuals who were involved in transactional sex had a higher depression (M =19.9, SD=11.10) when compared with others who did not engage in transactional sex. Furthermore, individuals who had no alcohol in the past

year had the lowest depression score ($M = 17.82$, $SD=10.68$) compared to the individuals who frequently drank alcohol. Individuals who used illicit drugs many times a month in the past year reported having a higher depression score.

3.3 SSBQ SCORES BY RESPONDENTS CHARACTERISTICS

In regards to safe sex behavior questionnaire, the Cronbach's alpha was 0.68. Higher scores indicate safer sex in comparison to lower scores which indicate low indulgence in safe sex. Participants with a graduate/post graduate degree had a higher SSBQ score ($M = 68.17$, $SD= 13.56$) than others having different educational backgrounds (see Table 3). The employed individuals had the highest mean SSBQ score of 68.17 ($SD= 13.56$), and students had the lowest mean SSBQ score of 57.00 ($SD= 6.22$). Individuals with the highest income of INR 30,000 and above had the lowest mean SSBQ score of 56.75 ($SD=6.75$). Participants who were separated from their spouse had the highest mean SSBQ score of 65.25 ($SD= 7.80$). Those who were in a relationship with more than one partner had the highest mean SSBQ score of 65.95 ($SD=10.74$). Hindu participants had the lowest mean SSBQ score of 62.58 ($SD= 9.51$) compared to other religions. The scheduled caste respondents had the lowest mean SSBQ score of 60.51 ($SD=6.94$). Individuals who sexually identified them as Double-decker (Versatile) had the lowest mean SSBQ score of 60.70 ($SD= 10.73$) compared to Kothi and Panthi. Individuals who came out involuntarily by others had the lowest mean SSBQ score of 58 ($SD= 9.31$) compared to those who voluntarily came out. Individuals who were involved in transactional sex had the lowest mean SSBQ score of 62.71($SD=9.66$) compared to those who did not engage in transactional sex. Participants who never used an illicit drug in the past year had the highest mean SSBQ score of 63.49 ($SD=10.15$). Moreover, those who never had a drink containing alcohol in the past year also reported having the highest mean SSBQ score of 63.99 ($SD=10.15$)

3.4 Unadjusted Linear Regression: Depression Score and Disclosure to Various People

For the first research question, the reference group was "not open" to their mothers, fathers, siblings, friends, peers at school, colleagues at current work places, colleagues at previous workplaces and neighbors. Table 4 presents information about the unadjusted linear regression for BDI-II score and disclosure to each of these groups. This analysis reveals no association between disclosure to mother, spouse, peers at school, colleagues at previous workplace and neighbors with depression. Rather, those who were **somewhat open to their father** had a higher depression score than those who were not open to their father (p-value = 0.03, β=5.934, CI: 0.567, 11.3).

In regards to siblings, those who were **very open to their siblings** had a lower depression score compared to those who were not open to their siblings (p-value = 0.001, β = -6.907, CI: -10.941, - 2.873). Similarly, for those MSM who reported that disclosure of their sexual orientation to **colleagues at the current workplace was not applicable**, lower depression scores were observed in comparison to those who were not open about their sexual orientation at their current workplace (p-value = 0.008, β = -10.4, CI: -18.073, - 2.727). Lastly, MSM who were reported being **very open to their friends** (p-value = 0.004, β = -7.942, CI: -13.287, -2.598) regarding their sexual orientation were significantly less depressed than those who reported being not open about their orientation with their friends.

3.5 Unadjusted Linear Regression: Safe Sex Behavior and Depression Score

For the second research question, an association between SSBQ score and BDI-II score was found. Without adjusting for the confounders, a unit increase in depression score was associated

with a 0.311-unit decrease in the mean safe sex behavior score (see Table 5) among the study

participants (p-value = 0.000, β = -0.444 and CI: -0.521, -0.267).

3.6 Testing for confounding

Table 6 shows the univariate analysis for the association between depression score and

covariates. In univariate comparisons, employment status was associated with depression, and

students were more depressed than those who were employed (β = 7.993, p = 0.029). Marital

status was also associated with depression, whereby separated/widowed/divorced MSM were

more depressed than single MSM (β = 11.080, p = 0.049). One's relationship status was

associated with depression, those who were in a relationship with more than one partner were

less depressed than those who were not in a relationship (β = -6.887, p < 0.001).

 Religion was associated with depression, those who were Christians (β = -5.354, p = 0.030) and

those belonging to other religion (β = -10.429, p = 0.038) were less depressed than Hindus.

Caste was also significantly associated with depression. Likewise, coming out status was

associated with depression, those who involuntarily came out by others tend to have more

depression than those who came out voluntarily (β = 5.729, p = 0.018). Finally, alcohol use was

positively associated with depression score (β = 0.695, p = 0.042).

Table 7 provides the Fisher's Exact Test to find the association between disclosure of significant

groups and the covariates. Sexual preference (p <0.001) and transactional sex (p = 0.001) were

associated with disclosure to father. Relationship status (p = 0.016), coming out status (p =

0.027), sexual preference (p <0.001), and transactional sex (p = 0.003) were associated with

disclosure to siblings. Employment status (p = 0.003), marital status (p = 0.019), relationship

status (p = 0.023), coming out status (p = 0.019), and sexual orientation (p = 0.001) were

associated with disclosure to one's colleagues at their current workplace. Only sexual preference (p = 0.004) was associated with disclosure to friends.

Therefore, for the first research question, there were no confounders for the association between depression and disclosure to father. Relationship status and coming out status confounded the association between depression and disclosure to siblings. Likewise, the confounders for depression and disclosure to colleagues at the current workplace were employment status, relationship status and coming out status. Marital status and relationship status confounded the association between depression and disclosure to friends. Only these variables in the present study that were found to be statistically significantly associates with both the dependent and independent study variables were deemed to be confounders, and were included in the multivariable regression.

The covariates which were statistically associated with SSBQ score are listed in Table 8. The present study reveals that one's employment status is associated with SSBQ score. Furthermore, students had a significantly lower SSBQ score compared to employed MSM (β = -6.975, p = 0.031). Likewise, monthly income was associated with SSBQ scores, those MSM who earned between 10,000-20,000 Indian Rupees (INR) had significantly lower SSBQ scores compared to those MSM who earned 5000-1000 INR (β = -4.081, p = 0.022); also those MSM who had no monthly income had lower SSBQ scores compared to the reference group (β = -7.392, p = 0.010). Relationship status was another covariate, which was significantly associated with SSBQ score; those MSM who had more than one partner had a significantly higher SSBQ score compared to those MSM who were not in a relationship (β = 4.833, p = 0.003). Caste was also associated with safe sex behavior score, those MSM who come from a scheduled tribe had significantly higher SSBQ score than those MSM who belonged to other backward castes (β =

6.071, p = 0.038). Similarly, those who did not know their caste had a higher SSBQ score compared to reference group (β = 12.432, p <0.001). Sexual preference was also associated with one's SSBQ score, being that those MSM who identify as double-deckers had a significantly lower SSBQ score in comparison to kothis (β = -3.736, p = 0.030). Finally, coming out status was associated with SSBQ scores, as those who were involuntarily outed by others had a significantly lower SSBQ score compared to those who came out voluntarily (β = -6.615, p = 0.002).

However, being a student, being in a relationship with more than one partner, belonging to none of the listed castes and coming out involuntarily were the variables which confounded the relationship between SSBQ score and BDI-II score.

3.7 Adjusted Linear Regression: Association between Depression Score and Disclosure

The adjusted linear regression models for the association between disclosure to siblings, colleagues at one's current workplace and friends are presented in Table 9, Table 10, and Table 11, respectively. After adjusting for confounders, there remained an association between BDI-II score and disclosure of one's sexual orientation to siblings; those who were very open to their siblings had a significantly lower depression score in comparison to those who were not open to their siblings (p-value = 0.025, β = -0.198). One's relationship status remained statistically significantly associated with depression score, as those who had more than one partner had a significantly lower depression scores than those who were not in a relationship (p-value = 0.002, β = -0.249). One's coming out status also remained significantly associated with depression scores; those who were outed involuntarily by others experience significantly higher depression than those who voluntarily came out (p-value = 0.028, β = 0.172).

Similarly, a negative association between depression and disclosure to colleagues at the current workplace was found after adjusting for the confounders. Those MSM who reported that disclosure to colleagues at their current workplace was not applicable had a significantly lower depression score in comparison to those MSM who did not disclose their sexual orientation to colleagues at their workplace (p-value = 0.002, β = -0.269). The association between employment status and depression score remained statistically significant; students had significantly higher depression scores than those MSM who were employed (p-value = 0.021, β = 0.210). Finally, the association between one's relationship status and their depression score remained significant; those MSM who had more than one partner had significantly lower depression scores than those MSM who had no partner (p-value = 0.001, β = -0.255).

In the unadjusted linear regression model, those who reported being very open to their friends was statistically significantly associated with lower depression scores; However, this association was not found to be significant in the adjusted regression analysis.

3.8 Adjusted Linear Regression: Association between Safe Sex Behavior Score and Depression Score

For the second research question, confounders are adjusted for in a multivariable linear regression model (Table 12). After adjusting for confounders, a one-unit increase in depression score was associated with a 0.31-unit decrease in the mean SSBQ score amongst the study participants (p-value = 0.000, β = -0.311). Caste remained statistically significantly associated with SSBQ score; those who reported that they did not know their caste had a significantly higher SSBQ score in comparison to those who belonged to backward caste (β = 8.722, p = 0.007). Finally, coming out status was statistically significantly associated with SSBQ score;

those who were involuntarily outed had a significantly lower SSBQ score in comparison to those who had voluntarily came out (β = -4.180, p = 0.047).

4. DISCUSSION

4.1 Main Findings

This study, which was conducted among MSM in Chennai, India, aimed to explore possible associations between disclosure of MSM orientation and depression, likewise depression and risky sexual behavior.

The results of this study serve as evidence that depression was present amongst the majority of the participants, as roughly 47% of the MSM reported moderate depression. The mean BDI-II score from the present study was 19, indicating mild depression, as opposed to similar studies conducted among MSM, that showed minimal depression with mean BDI-II scores of 11[14], and 9.5.[60] The mean SSBQ score for participants in the present study is 63.0, while a similar study conducted amongst Hispanic MSM reported an average SSBQ score of 79.6 indicating that participants from the present study practice riskier sexual behaviors than those from comparable research studies.[59] This study also found that young MSM were subjected to more depression and this finding was consistent with many studies carried out worldwide among MSM .[6,38,52] Married MSM in this study were more depressed than those who were single, which is a consistent finding as reported in another similar study conducted in India.[12] Furthermore, married MSM were significantly more likely to practice unsafe sex in comparison to single MSM, which is a finding supported by other studies carried out amongst MSM in India and China.[29,52] A comparable study that was conducted throughout India among MSM reported that kothis were twice as depressed as panthis. However, this study, on the contrary, found that kothis and

panthies were equally depressed, and double-deckers were more depressed than the other groups, with a BDI-II score that was 0.93 units higher than the others.[12] In terms of religion, the participants in the present study were mostly from the Hindu religion (74.2%), which is comparable to other studies carried out in India. [6] This could be due to the reflection of religious taboos and constraints of expression of sexual behavior by other religions.[6] Inconsistent with the findings of other similar research[54,55], this study revealed that there is a positive association between one's income and depression, by which the more income one reported, the more depressed he was.

Roughly 87.1% of the participants from this study reported to have had already come out to others, of which 16.8% had an involuntarily coming out status. This number is higher compared to another study which was conducted in South Korea where only 20.9% of the MSM had come out.[26] However, the findings are consistent with the fact that most of the MSM come out voluntarily and depression is more prone to those who involuntarily come out by others.[26] According to another study[12] conducted in India, transactional sex is significantly associated with depression; However, the findings from this study do not conclude that transactional sex is associated with depression.[12] In regards to disclosure of one's sexual orientation to various groups of people, this study reveals that MSM were very open about their sexual orientation to their friends in comparison to other family members, which is congruent with the findings from other similar studies.[35,58] Another similar finding was with the level of disclosure to mother and siblings which was found to be equivalent and that to father was slightly less.[58] In comparison to a similar study[58], this study reveals that participants had relatively higher levels of openness about sexual orientation to their current colleagues in the workplace.

The primary aim of this study was to explore whether there is an association between the disclosure of one's MSM status to various categories of people and their depression scores. A study conducted in India reported that MSM who had disclosed his identity to a family member had higher depression score in comparison to those undisclosed MSM. However, this study found that disclosure to one's mother, father, and siblings reduced their depression score as opposed to those who were undisclosed.[12] Yet, only disclosure to one's father and siblings among the category family members was statistically significantly associated with depression. Moreover, this study found that disclosing one's sexual orientation to his wife led to an increase in his depression score, which is a similar conclusion reached by previous Indian studies. [12] However, this finding is not statistically significantly associated with depression.

The secondary aim of this study was to explore whether there is an association between participating in risky sexual behaviors and depression. This research did find a statistically significant association between practicing risky sexual behaviors amongst MSM and depression, which is a universal finding across previous studies.[50, 56, 57] Alcohol and illicit drug use were identified as confounders for the relationship between risky sexual behavior and depression in a study conducted in the United Kingdom. [56] However, this study did not identify these variables as confounders. Other confounders such as being a student, relationship status, caste, and coming out status were identified in this study. Since there are only a handful of studies which explored this relationship among MSM, there remains a dearth of evidence for comparison among these confounders.

4.2 Limitations

Only the recipients of Sahodaran in a defined locale within the city of Chennai, India, were conveniently sampled leading to generalizability as a threat to external validity. Social-

desirability bias was considered as a threat to this study as the questionnaire was interviewer-administered. Recall bias can be seen as a potential threat in this study, since MSM might not have accurately remembered specific information such as the number of sexual partners that they had intercourse with, within the past six months. Confining to the cross-sectional nature of this study, temporal ambiguity can be seen as a potential limitation as the direction of causality is improbable.

4.3 Strengths

To the best of the knowledge of the research team that conducted this study, this is the first investigation of its kind in India to explore the association between depression and disclosure of one's sexual orientation to different groups of people, including family, friends, and those in society. Since the association between risky sexual behaviors and depression are underexplored in Tamil Nadu, this study has important findings that can be incorporated for future intervention programs that would aim to combat depression, to promote safer sexual practices, and reduce stigma associated with same sex relations. Therefore, the originality of this research serves as a major strength of this study. Another strength was a broad inclusion criterion which garnered a diverse range of participants. Lastly, both the primary and secondary research questions in this study relied on validated instruments (BDI-II and SSBQ, respectively) to capture data regarding the dependent variables in this investigation.

4.4 Recommendations

Based on the results of this study, the following recommendations are provided to improve the lives of MSM residing in Tamil Nadu, India:

- Intervention programs should aim to prevent and treat depression

- MSM education programs should focus on disclosing one's sexual orientation to his family at the right time

- HIV/STI awareness programs should be designed to have a long term impact on the MSM community, and should help focus on clearing misconceptions regarding sexual behavior

- Awareness programs should be targeted for the parents and family members of MSM, which would make them understand that their acceptance could lead to improvement of their son's physical and mental health and wellbeing

- Stigma reduction should be incorporated into all MSM health programs.

4.5 Conclusion

This study found that depression is common amongst MSM in Chennai, irrespective of one's educational background, employment status, marital status, and income. Likewise, this study found that disclosure to some family members, particularly to one's siblings and friends, can have a protective impact on their mental health status. Moreover, this study elucidates a positive association between risky sexual practices and depression, which is a consistent finding from other similar local and international research studies. To conclude, the results obtained through this study reveal that disclosure of one's sexual orientation to some family members and friends can improve his mental health.

References

1. Chakrapani V, Newman PA, Shunmugam M, Mcluckie A, Melwin F. Chakrapani et al. Kothi identified MSM in India structural violence against kothi-identified men who have sex with men in Chennai, India: A qualitative investigation. Vol 19.; 2007. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.498.450&rep=rep1&type=pdf. Accessed December 4, 2018.

2. Govt. submits data on gay population - The Hindu. https://www.thehindu.com/news/national/govt-submits-data-on-gay-population/article2991667.ece. Accessed December 4, 2018.

3. Christopher G, Harris CM, Ferrer B, et al. *Tfaf board of directors, President of the Board, TFAH Vice President for Policy and Senior Advisor WK Kellogg Foundation Chief Strategy Officer WK Kellogg Foundation President Alliance for a Healthier Minnesota Report Authors*. https://www.tfah.org/wp-content/uploads/archive/assets/files/TFAH-2014-MSM-Report-final.pdf. Accessed December 4, 2018.

4. Mimiaga MJ, Thomas B, Mayer KH, et al. Alcohol use and HIV sexual risk among MSM in Chennai, India. *Int J STD AIDS*. 2011;22(3):121-125. doi:10.1258/ijsa.2009.009059.

5. Patel V V, Mayer KH, Makadon HJ. Men who have sex with men in India: a diverse population in need of medical attention. *Indian J Med Res*. 2012;136(4):563-570. http://www.ncbi.nlm.nih.gov/pubmed/23168696. Accessed August 16, 2018.

6. Soohinda, Jaggi PS, Sampath H, Dutta S. Depression and its correlates in men who have sex with men (MSM) in India. *Indian J Soc Psychiatry*. 2018;34(3):239. doi:10.4103/IJSP.IJSP_6_18.

7.Haldar P, Kant S. Reading Down of Section 377 of Indian Penal code is a Welcome Move for HIV Prevention and Control Among Men Having Sex with Men in India. *Indian J Community Med*. 2011;36(1):57-58. doi:10.4103/0970-0218.80796.

8.Section 377: A timeline of India's battle for gay rights — Quartz India. https://qz.com/india/1379620/section-377-a-timeline-of-indias-battle-for-gay-rights/. Accessed October 29, 2018.

9. Stahlman S, Grosso A, Ketende S, et al. Depression and Social Stigma Among MSM in Lesotho: Implications for HIV and Sexually Transmitted Infection Prevention. *AIDS Behav*. 2015;19(8):1460-1469. doi:10.1007/s10461-015-1094-y.

10. Jie W, Ciyong L, Xueqing D, Hui W, Lingyao H. A Syndemic of Psychosocial Problems Places the MSM (Men Who Have Sex with Men) Population at Greater Risk of HIV Infection. 2012; doi:10.1371/journal.pone.0032312.

11. Prevalance of depression and associated risk factors among HIV- negative men who have sex with men. https://legacy-etd.library.emory.edu/view/record/pid/emory:cdd7d. Accessed August 16, 2018

12. Tomori C, McFall AM, Srikrishnan AK, et al. Diverse Rates of Depression Among Men Who Have Sex with Men (MSM) Across India: Insights from a Multi-site Mixed Method Study. *AIDS Behav*. 2016;20(2):304-316. doi:10.1007/s10461-015-1201-0.

13. Mimiaga MJ, Thomas B, Mayer KH, et al. A randomized clinical efficacy trial of a psychosocial intervention to strengthen self-acceptance and reduce HIV risk for MSM in India: study protocol. *BMC Public Health*. 2018;18(1):890. doi:10.1186/s12889-018-5838-2.

14.Houston E, Sandfort T, Dolezal C, Carballo-Diéguez A. Depressive symptoms among MSM who engage in bareback sex: does mood matter? *AIDS Behav*. 2012;16(8):2209-2215. doi:10.1007/s10461-012-0156-

15. Thomas B, Mimiaga MJ, Mayer KH, et al. HIV prevention interventions in Chennai, India: are men who have sex with men being reached? *AIDS Patient Care STDS*. 2009;23(11):981-986. doi:10.1089/apc.2009.0092.

16. India. *Technical Report India HIV Estimates 2012*.; 2012. http://files.unaids.org/en/media/unaids/contentassets/documents/data-and-analysis/tools/spectrum/India2012report.pdf. Accessed October 30, 2018.

17. *Depression: A Global Crisis*. https://www.who.int/mental_health/management/depression/wfmh_paper_depression_wmhd_2012.pdf. Accessed December 5, 2018.

18. Schneeberger AR, Dietl MF, Muenzenmaier KH, Huber CG, Lang UE. Stressful childhood experiences and health outcomes in sexual minority populations: a systematic review. *Soc Psychiatry Psychiatr Epidemiol*. 2014;49(9):1427-1445. doi:10.1007/s00127-014-0854-8.

19. Nelson KM, Simoni JM, Pearson CR, Walters KL. "I've had unsafe sex so many times why bother being safe now?': the role of cognitions in sexual risk among American Indian/Alaska Native men who have sex with men. *Ann Behav Med*. 2011;42(3):370-380. doi:10.1007/s12160-011-9302-0.

20.Luo Z, Feng T, Fu H, Yang T. Lifetime prevalence of suicidal ideation among men who have sex with men: a meta-analysis.*BMC Psychiatry*. 2017;17(1):406. doi:10.1186/s12888-017-1575-9.

21. Secor AM, Wahome E, Micheni M, et al. Depression, substance abuse and stigma among men who have sex with men in coastal Kenya. *AIDS*. 2015;29 Suppl 3(0 3)S251-9. doi:10.1097/QAD.0000000000000846.

22. Rosario M, Schrimshaw EW, Hunter J. Disclosure of sexual orientation and subsequent substance use and abuse among lesbian, gay, and bisexual youths: critical role of disclosure reactions. *Psychol Addict Behav*. 2009;23(1):175-184. doi:10.1037/a0014284.

23. Mitrani VB, De Santis JP, McCabe BE, Deleon DA, Gattamorta KA, Leblanc NM. The Impact of Parental Reaction to Sexual Orientation on Depressive Symptoms and Sexual Risk Behavior Among Hispanic Men Who Have Sex with Men. *Arch Psychiatr Nurs*. 2017;31(4):352-358. doi:10.1016/j.apnu.2017.04.004.

24. Henry E, Awondo P, Fugon L, Yomb Y, Spire B. Coming Out of the Nkuta: Disclosure of Sexual Orientation Associated with Reduced Risk Behavior Among MSM in Cameroon. *Arch Sex Behav*. 2012;41(3):525-527. doi:10.1007/s10508-012-9916-8.

25. Qiao S, Zhou G, Li X. Disclosure of Same-Sex Behaviors to Health-care Providers and Uptake of HIV Testing for Men Who Have Sex With Men: A Systematic Review. *Am J Mens Health*. 2018;12(5):1197-1214. doi:10.1177/1557988318784149.

26. Cho B, Sohn A. *How Do Sexual Identity, and Coming Out Affect Stress, Depression, and Suicidal Ideation and Attempts Among Men Who Have Sex With Men in South Korea?* Vol 7. Korea Centers for Disease Control and Prevention; 2016. doi:10.1016/j.phrp.2016.09.001.

27. 50% MSM prone to depression: Study | Chennai News - Times of India. https://timesofindia.indiatimes.com/city/chennai/50-MSM-prone-to-depression-Study/articleshow/12540238.cms. Accessed August 18, 2018.

28. Ramachandran R, Viswanath S, Elangovan P, Saravanan N. A study on male homosexual behavior. *Indian J Sex Transm Dis AIDS*. 2015;36(2):154-157. doi:10.4103/0253-7184.167153.

29. Solomon SS, Mehta SH, Latimore A, Srikrishnan AK, Celentano DD. The impact of HIV and high-risk behaviours on the wives of married men who have sex with men and injection drug users: implications for HIV prevention. *J Int AIDS Soc*. 2010;13(Suppl 2):S7. doi:10.1186/1758-2652-13-S2-S7.

30. India | UNAIDS. http://www.unaids.org/en/regionscountries/countries/india. Accessed August 18, 2018.

31. Weblet Importer. http://www.sahodaran.org/. Accessed August 18, 2018.

32. Prabhakar SK, Saggurti P. Factors Associated with Mental Depression among Men Who Have Sex with Men in Southern India. *Health (Irvine Calif)*. 2012;7:1114-1123. doi:10.4236/health.2015.79127.

33. Deuba K, Ekström AM, Shrestha R, Ionita G, Bhatta L, Karki DK. Psychosocial Health Problems Associated with Increased HIV Risk Behavior among Men Who Have Sex with Men in Nepal: A Cross-Sectional Survey. Graham SM, ed. *PLoS One*. 2013;8(3):e58099. doi:10.1371/journal.pone.0058099.

34. Rosenberg ES, Sullivan PS, DiNenno EA, Salazar LF, Sanchez TH. Number of casual male sexual partners and associated factors among men who have sex with men: Results from the National HIV Behavioral Surveillance system. *BMC Public Health*. 2011;11(1):189. doi:10.1186/1471-2458-11-189.

35. Robert D. Schope PhD (2002) The Decision to Tell, Journal of Gay & Lesbian

Social Services, 14:1, 1-22, DOI: 10.1300/J041v14n01_01

36. Mausbach BT, Semple SJ, Strathdee SA, Zians J, Patterson TL. Efficacy of a behavioral intervention for increasing safer sex behaviors in HIV-positive MSM methamphetamine users: results from the EDGE study. *Drug Alcohol Depend*. 2007;87(2-3):249-257. doi:10.1016/j.drugalcdep.2006.08.026.

37. Steer RA, Ball R, Ranieri WF, Beck AT. *Dimensions of the Beck Depression Inventory-II in Clinically Depressed Outpatients*. Vol 55.; 1999. https://pdfs.semanticscholar.org/a599/4d70e078651d41deac9ab876e6d0632cadf7.pdf. Accessed December 6, 2018.

38. Corboz J, Dowsett G, Mitchell A, Couch M, Agius P, Pitts M. *Feeling Queer and Blue A Review of the Literature on Depression and Related Issues among Gay, Lesbian, Bisexual and Other Homosexually Active People Executive Summary*.; 2008. www.beyondblue.org.au. Accessed December 12, 2018.

39. Klein H. Depression and HIV Risk Taking among Men Who Have Sex with Other Men (MSM) and Who Use the Internet to Find Partners for Unprotected Sex. *J Gay Lesbian Ment Health*. 2014;18(2):164-189. doi:10.1080/19359705.2013.834858.

40. Reisner SL, Mimiaga MJ, Skeer M, et al. Clinically Significant Depressive Symptoms as a Risk Factor for HIV Infection Among Black MSM in Massachusetts. *AIDS Behav*. 2009;13(4):798. doi:10.1007/S10461-009-9571-9.

41. Gondim RC, Kerr LRFS, Werneck GL, Macena RHM, Pontes MK, Kendall C. Risky sexual practices among men who have sex with men in Northeast Brazil: results from four sequential surveys. *Cad Saude Publica*. 2009;25(6):1390-1398. doi:10.1590/S0102-311X2009000600021.

42. Starks TJ, Payton G, Golub SA, Weinberger CL, Parsons JT. Contextualizing condom use: intimacy interference, stigma, and unprotected sex. *J Health Psychol*. 2014;19(6):711-720. doi:10.1177/1359105313478643.

43. Ruf M, Lovitt C, Imrie J. Recreational drug use and sexual risk practice among men who have sex with men in the United Kingdom. *Sex Transm Infect*. 2006;82(2):95-97. doi:10.1136/sti.2005.018317.

44. Biello KB, Thomas BE, Johnson BE, et al. Transactional sex and the challenges to safer sexual behaviors: a study among male sex workers in Chennai, India. *AIDS Care*. 2017;29(2):231-238. doi:10.1080/09540121.2016.1204421.

45. Mirzaei M, Ahmadi K, Saadat S-H, Ramezani MA. Instruments of high risk sexual behavior assessment: A systematic review. *Mater Sociomed*. 2016;28(1):46-50. doi:10.5455/msm.2016.28.46-50.

46. Hope EL. *Relationship among Self-Esteem, Romantic Attachment, Gender, and Safe Sex Behaviors in Emerging Adults Recommended Citation*.; 2012. http://digscholarship.unco.edu/dissertations. Accessed December 20, 2018.

47. Life after Section 377 - Livemint. https://www.livemint.com/Leisure/o5TVfO7DY1vrs75aY94BTP/Life-after-Section-377.html. Accessed December 15, 2018.

48. Lee J-I, Lee M-B, Liao S-C, et al. Prevalence of Suicidal Ideation and Associated Risk Factors in the General Population. *J Formos Med Assoc*. 2010;109(2):138-147. doi:10.1016/S0929-6646(10)60034-4.

49. Mancini GBJ. Minimum clinically important differences identified for commonly used depression rating scales. *J Clin Epidemiol*. 2013;66:805-807. doi:10.1016/j.jclinepi.2013.02.001.

50. Joseph P. De Santis, ARNP A, et al. The Relationship of Depressive Symptoms, Self-Esteem, and Sexual Behaviors in a Predominantly Hispanic Sample of Men Who Have Sex With Men. 2008. doi:10.1177/1557988307312883.

51. Poongothai S, Pradeepa R, Ganesan A, Mohan V. Prevalence of depression in a large urban South Indian population--the Chennai Urban Rural Epidemiology Study (CURES-70). *PLoS One*. 2009;4(9):e7185. doi:10.1371/journal.pone.0007

52. Batchelder AW, Safren S, Mitchell AD, Ivardic I, O'Cleirigh C. Mental health in 2020 for men who have sex with men in the United States. *Sex Health*. 2017;14(1):59-71. doi:10.1071/SH16083.

53. Wang Q-Q, Chen X-S, Yin Y-P, et al. HIV prevalence, incidence and risk behaviours among men who have sex with men in Yangzhou and Guangzhou, China: a cohort study. *J Int AIDS Soc*. 2014;17(1):18849. doi:10.7448/IAS.17.1.18849.

54. Pakula B, Marshall BDL, Shoveller JA, et al. Gradients in Depressive Symptoms by Socioeconomic Position Among Men Who Have Sex With Men in the EXPLORE Study. *J Homosex*. 2016;63(8):1146-1160. doi:10.1080/00918369.2016.1150056.

55. Graham LF, Aronson RE, Nichols T, Stephens CF, Rhodes SD. Factors Influencing Depression and Anxiety among Black Sexual Minority Men. *Depress Res Treat*. 2011;2011:587984. doi:10.1155/2011/587984.

56. Miltz AR, Rodger AJ, Sewell J, et al. Clinically significant depressive symptoms and sexual behaviour among men who have sex with men. *BJPsych open*. 2017;3(3):127-137. doi:10.1192/bjpo.bp.116.003574.

57. Liu J, Yi Z, Zhao Y, Qu B, Zhu Y. The psychological health and associated factors of men who have sex with men in China: A cross-sectional survey. Puebla I, ed. *PLoS One*. 2018;13(5):e0197481. doi:10.1371/journal.pone.0197481.

58. Soohinda, Geeta & Sampath, Harshavardhan & S Jaggi, Prabhleen. (2018). Self-reported sexual orientation, relationships pattern, social connectedness, disclosure, and self-esteem in Indian men who use onlinegay dating website.

59. De Santis J. How Do the Sexual Behaviors of Foreign-Born Hispanic Men Who Have Sex With Men Differ by Relationship Status? *South Am J Men's Heal*. 6(1):6-17. doi:10.1177/1557988311403299.

60. Utility C, Properties P. AUDIT-C Questionnaire. 2003;163(April).

TABLES

Table 1. Socio-demographic characteristics of the respondents

Variable (n = 155)	*n*	%	Mean(SD)
Age, years			32.3(9.2)
Educational Qualifications			
Primary education (1-5 years)	3	1.9	
Middle-school education (6-8 years)	21	13.5	
Secondary education (9-10 years)	41	26.5	
Higher secondary education (11-12 years)	25	16.1	
Undergraduate	57	36.8	
Graduate/Post graduate	6	3.9	
No education	2	1.3	
Employment status			
Student	10	6.5	
Employed	120	77.4	
Unemployed	17	11.0	
Retired	3	5.1	
Monthly income			
Below 5,000 (Rupees)	9	5.8	
5000 – 10000 (Rupees)	65	41.9	
10000 – 20000 (Rupees)	55	35.5	
2000 – 30000 (Rupees)	8	5.2	
30,000 and above	4	2.6	
Not applicable	14	9.0	
Marital status			
Single	126	81.3	
Married	23	14.8	
Separated	6	3.9	
Relationship status			
No relationship	62	40.0	
1 partner	32	20.6	
< 1 partner	61	39.4	
Religion of the participant			
Hindu	115	74.2	
Christian	24	15.5	
Muslim	11	7.1	
Other	5	3.2	
Caste of the participant			
Scheduled caste	35	22.6	
Scheduled tribe	12	7.7	
Other Backward	79	51.0	
None of them	20	12.9	

Don't know	9	5.8
Sexual identity		
Kothi	94	60.6
Panthi	11	7.1
Double-decker (versatile)	50	32.3
Coming out status		
I came out voluntarily (coming out)	109	70.3
I came out involuntarily by others (outing)	26	16.8
Not yet but thinking about it	9	5.8
Not yet and do not think about it	11	7.1
Age of coming out		25(23)
No. of sex partners		66(123)
Transactional Sex		
Yes	99	63.9
no	56	36.1
Illicit drug use in the past year		
Never	137	88.4
Once a month or less	13	8.4
2-3 times a month	4	2.6
Once a day or more	1	0.6
Alcohol use in the past year		
Never	79	51.0
Monthly or less	44	28.4
2-4 times a month	13	8.4
2-3 times a week	10	6.5
4-5 times a week	5	3.2
6 or more times a week	4	2.6
Number of drinks per day in the past year		
0 drinks	79	51.0
1-2 drinks	45	29.0
3-4 drinks	18	11.6
5-6 drinks	9	5.8
7-9 drinks	3	1.9
10 or more drinks	1	0.6
Frequency of having six or more drinks on one occasion in the past year?		
Never	87	56.1
Less than monthly	39	25.2
Monthly	13	8.4
Weekly	13	8.4
Daily or Almost daily	3	1.9

Table 2. MSM level of disclosure to various people

Categories	n	%
Mother		
Not open	68	43.9
Somewhat open	36	23.2
Very open	43	27.7
Not Applicable	8	5.2
Father		
Not open	80	51.6
Somewhat open	20	12.9
Very open	27	17.4
Not Applicable	28	18.1
Spouse		
Not open	20	12.9
Somewhat open	2	1.3
Very open	8	5.2
Not Applicable	125	80.6
Siblings		
Not open	67	43.2
Somewhat open	28	18.1
Very open	47	30.3
Not Applicable	13	8.4
Friends		
Not open	19	12.3
Somewhat open	36	23.2
Very open	99	63.9
Not Applicable	1	0.6
School		
Not open	58	37.4
Somewhat open	36	23.2
Very open	57	36.8
Not Applicable	4	2.6
Current workplace		
Not open	65	41.9
Somewhat open	22	14.2
Very open	59	38.1
Not Applicable	9	5.8
Previous workplace		
Not open	63	40.6
Somewhat open	29	18.7
Very open	50	32.3
Not Applicable	13	8.4
Neighborhood		
Not open	73	47.1
Somewhat open	30	19.4
Very open	46	29.7
Not Applicable	6	3.9

Table 3. Depression and SSBQ scores by characteristics of the respondents

Characteristics	Mean (BDI-II)	SD	Mean (SSBQ)	SD
Educational Qualifications				
Primary education (1-5 years)	24.2	13.1	54.3	17.2
Middle-school education (6-8 years)	17.7	8.1	62.6	9.9
Secondary education (9-10 years)	21.4	13.0	61.1	8.8
Higher secondary education (11-12 years)	15.9	8.6	65.0	7.8
Undergraduate	18.9	11.5	63.9	10.3
Graduate/Post graduate	15.7	10.0	68.1	13.5
Not applicable	24.3	4.1	55.0	2.8
Employment status				
Student	26.0	7.9	57.0	6.2
Employed	18.1	10.9	63.9	9.6
Unemployed	19.4	12.8	61.6	12.5
Retired	18.8	13.9	58.0	12.1
Monthly income				
Below 5,000 (Rupees)	21.4	10.8	59.5	13.8
5000 - 10000 (Rupees)	17.2	12.5	65.9	9.8
10000 - 20000 (Rupees)	1.1	9.7	61.8	8.9
20000 - 30000 (Rupees)	20.1	8.9	62.5	7.1
30,000 and above	25.6	7.0	56.7	6.7
Not applicable	22.2	10.8	58.5	9.5
Marital status				
Single	18.8	10.7	63.4	10.1
Married	19.1	8.9	61.5	7.9
Separated/divorced/widowed	21.3	23.1	60.1	9.9
Relationship status				
No relationship	22.1	9.6	60.7	7.6
In a relationship with one partner	20.8	12.3	62.0	10.7
In a relationship with more than one partner	14.8	10.6	65.9	10.7
Religion of the participant				
Hindu	20.2	10.5	62.5	9.5
Christian	14.8	10.5	64.3	11.6
Muslim	19.3	15.4	64.4	8.5
Other	9.8	9.3	64.6	12.4
Caste of the participant				
Scheduled caste	23.6	8.1	60.5	6.9
Scheduled tribe	15.7	13.8	68.0	6.4
Other Backward	17.6	9.9	62.0	10.0
None of them	23.1	14.3	63.4	12.2
Don't know	7.5	7.7	74.4	6.0

Sexual identity				
Kothi	18.6	11.2	64.4	9.5
Panthi	18.1	12.0	61.9	5.9
Double-decker (Versatile)	20.0	10.8	60.7	10.7
Coming out status				
I came out voluntarily	17.4	11.4	64.6	9.8
I came out involuntarily by others	23.1	8.3	58.0	9.3
Not yet but thinking about it	23.6	9.4	62.0	8.4
Not yet and do not think about it	20.4	11.4	60.3	8.3
Transactional Sex				
Yes	19.9	11.1	62.7	9.6
No	17.2	10.9	63.6	10.1
Illicit drug in the past year? (Like cocaine, marijuana, heroin)				
Never	18.1	11.3	63.4	10.1
Once a month or less	25.3	6.4	59.7	5.6
2-3 times a month	25.5	5.1	61.5	8.1
How often did you have a drink containing alcohol in the past year?				
Never	17.8	10.6	63.9	10.9
Monthly or less	19.4	11.1	62.4	7.8
2-4 times a month	17.9	10.8	61.3	9.2
2-3 times a week	23.5	15.8	62.7	7.6
4-5 times a week	25.4	4.5	60.0	6.4
6 or more times a week	22.2	11.5	61.2	18.4
How many drinks did you have on a typical day when you were drinking in the past year?				
0 drinks	18.0	10.9	63.9	10.9
1-2 drinks	18.7	10.8	63.1	8.0
3-4 drinks	21.2	12.8	61.3	7.5
5-6 drinks	20.8	10.6	59.3	12.5
7-9 drinks	27.9	10.9	60.0	10.5
How often did you have 6 or more drinks on one occasion in the past year?				
Never	18.2	10.7	63.9	10.6
Less than monthly	18.2	11.0	62.4	8.3
Monthly	20.6	9.7	62.6	6.9
Weekly	23.6	14.1	61.0	8.9
Daily or Almost daily	24.5	12.9	56.3	19.1

Note. Depression score of BDI-II range from 0-63. Higher the score, higher the depression. SSBQ scores range from 24-96. Higher the score, higher the sexual safety.

Table 4. Unadjusted linear regression: Depression score and disclosure to various people

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to father			
Very open	-3.923	0.107	(-8.700, 0.855)
Not applicable	0.991	0.678	(-3.722, 5.704)
Somewhat open	5.934	**0.030**	(0.567, 11.300)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to siblings			
Very open	**-6.907**	**0.001**	**(-10.941, -2.873)**
Not applicable	1.747	0.592	(-4.678, 8.173)
Somewhat open	-1.884	0.446	(-6.615, 2.927)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to current workplace			
Very open	-2.873	0.145	(-6.753, 1.006)
Not applicable	-10.400	**0.008**	(-18.073, -2.727)
Somewhat open	-2.893	0.285	(-8.214, 2.429)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to friends			
Very open	-7.942	**0.004**	(-13.287, -2.598)
Somewhat open	-5.993	0.052	(-13.287, -2.598)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to mother			
Very open	-3.423	**0.113**	(-7.661, 0.814)
Not applicable	-0.689	**0.869**	(-8.810, 7.448)
Somewhat open	2.289	0.315	(-2.194, 6.771)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to spouse			
Very open	0.225	**0.961**	(-8.954, 9.404)
Not applicable	-3.778	**-0.160**	(-9.062, 1.506)
Somewhat open	-2.875	-0.728	(-19.147, 13.397)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to school			
Very open	-1.295	**0.534**	(-5.402, 2.811)
Not applicable	0.468	**0.935**	(-10.914, 11.850)
Somewhat open	1.765	0.456	(-2.906, 6.437)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to previous work place			
Very open	-1.695	**0.434**	(-5.857, 2.467)
Not applicable	-4.735	**0.164**	(-11.428, 1.959)
Somewhat open	-2.034	0.416	(-6.965, 2.897)
Not open (ref)			

Variables	Regression coefficient	p-value	95% Confidence interval
Disclosure to Neighborhood			
Very open	1.501	0.471	(-2.601, 5.603)
Not applicable	-6.994	0.137	(-16.248, 2.260)
Somewhat open	3.103	0.197	(-1.623, 7.828)
Not open (ref)			

Table 5. Unadjusted linear regression: Association between safe sex behavior score and depression score

Variable	Regression coefficient	p-value	95% Confidence interval
Depression score	-0.44	<0.001	(-.521,-.267)

Table 6. Simple Linear Regression: Association between depression score and covariates

Variables	β	(95%CI)	P- value
Age	-0.078	(-0.271 , 0.113)	0.421
Education			
Primary education	8.287	(-5.124, 21.697)	0.224
Middle school	1.744	(-4.753, 8.241)	0.597
Secondary education	5.422	(-.147, 10.992)	0.056
Undergraduate	2.973	(-2.292, 8.238)	0.266
Postgraduate	-0.230	(-10.208, 9.748)	0.964
No education	8.320	(-7.809, 24.449)	0.310
Higher education		1 (ref)	
Employment			
Student	**7.993**	(.835, 15.150)	**0.029**
Unemployed	1.373	(-4.263, 7.009)	0.631
Retired	0.736	(-11.976, 13.448)	0.909
Employed		1 (ref)	
Monthly Income			
Below 5000 INR	4.217	(-3.588, 12.021)	0.287
Between 10000-20000 INR	1.888	(-2.132, 5.908)	0.355
Between 20000-30000 INR	2.903	(-5.319, 11.124)	0.486
Above 3,0000 INR	8.328	(-2.976, 19.632)	0.148
No income	4.992	(-1.473, 11.457)	0.129
5,000 – 10,000 INR		1 (ref)	
Marital status			
Married	0.225	(-4.683, 5.134)	0.928
Separated	**11.080**	(0.057, 22.044)	**0.049**
Single		1 (ref)	
Relationship status			
One partner	0.448	(-4.305, 5.200)	0.853
More than one partner	**-6.887**	(-10.345, -3.429)	**0.000**
No relationship		1 (ref)	

Religion			
Christian	**-5.354**	(-10.188, -.519)	**0.030**
Muslim	-0.856	(-7.655, 5.943)	0.804
Other Religion	**-10.429**	(-20.270, -.587)	**0.038**
Hindu		1 (ref)	
Caste			
Scheduled caste	**6.001**	(1.815, 10.206)	**0.005**
Scheduled tribe	-1.925	(-8.327, 4.477)	0.553
None of them	**5.426**	(0.254, 10.599)	**0.040**
Don't know	**-10.150**	(-17.420, -2.881)	**0.007**
Other Backward		1 (ref)	
Coming out status			
I came out involuntarily by others	**5.721**	(1.010, 10.433)	**0.018**
Not yet but thinking about it	6.222	(-1.265, 13.709)	0.103
Not yet and do not think about it	3.024	(-3.805, 9.853)	0.383
I came out voluntarily		1 (ref)	
Sexual Preference			
Panthi	-0.488	(-7.506, 6.531)	0.891
Double decker	1.365	(-2.490, 5.220)	0.485
Kothi		1 (ref)	
Coming out age	-0.027	(-.266, 0.211)	0.821
Alcohol use (Audit-c)	**0.695**	(0.027, 1.363)	**0.042**
Transactional sex			
No	-2.736	(-6.387, 0.916)	0.141
Yes		1 (ref)	
Number of sexual partners	0.002	(-0.012,0.016)	0.790

Table 7. Fisher's exact test: Testing for confounding for the association between disclosure of significant groups and covariates

Variables	Father	Siblings	Current workplace	friends
	P-value	**P-value**	**P-value**	**P-value**
Education	0.827	0.184	0.994	0.786
Employment	0.081	0.092	**0.003**	0.609
Monthly Income	0.314	0.530	0.099	0.651
Marital status	0.444	0.565	**0.019**	0.073
Relationship status	0.720	**0.016**	**0.023**	0.054
Religion	0.405	0.776	0.421	0.521
Caste	0.223	0.055	0.331	0.642
Coming out status	0.065	**0.027**	**0.019**	0.178
Sexual preference	**0.000**	**0.000**	**0.001**	**0.004**
Transactional sex	**0.001**	**0.003**	0.084	0.081

Table 8. Simple Linear Regression: Testing for confounding (Association between risky sexual behavior and covariates)

Factor	β	(95% CI)	P-value
Age	-0.022	(-0.192 , 0.148)	0.797
Education			
Primary education	-10.667	(-22.439, 1.106)	0.075
Middle school	-2.381	(-8.084, 3.322)	0.411
Secondary education	-3.902	(-8.792, 0.987)	0.117
Undergraduate	-1.035	(-5.657, 3.587)	0.659
Postgraduate	3.167	(-5.593, 11.926)	0.476
No education	-10.000	(-24.159, 4.159)	0.165
Higher education		1 (ref)	
Employment			
Student	-6.975	(-13.321, -.629)	0.031
Unemployed	-2.238	(-7.325, 2.669)	0.359
Retired	-5.975	(-17.245, 5.295)	0.297
Employed		1 (ref)	
Monthly Income			
Below 5000 INR	-6.398	(-13.140, 0.343)	0.063
Between 10000-20000 INR	-4.081	(-7.554, -.608)	0.022
Between 20000-30000 INR	-3.454	(-10.556, 3.648)	0.338
Above 3,0000 INR	-9.204	(-18.969, 0.561)	0.065
No income	-7.392	(-12.968, -1.797)	0.010
5,000 – 10,000 INR		1 (ref)	
Marital status			
Married	-1.947	(-6.344 ,2.451)	0.383
Separated	1.782	(-8.068, 11.632)	0.721
Single		1(ref)	
Relationship status			
1 partner	-2.030	(-6.311, 2.251)	0.350
> 1 partner	4.833	(1.718, 7.948)	0.003
No relationship		1(ref)	
Religion			
Christian	1.751	(-2.637, 6.139)	0.432
Muslim	1.872	(-4.299, 8.043)	0.550
Other Religion	2.017	(-6.915, 10.950)	0.656
Hindu		1(ref)	

Caste			
Scheduled caste	-1.498	(-5.248, 2.251)	0.431
Scheduled tribe	6.071	(0.349, 11.792)	0.038
None of them	1.437	(-3.185, 6.060)	0.540
Don't know	12.432	(5.935, 18.928)	0.000
Other Backward		1(ref)	
Coming out status			
Involuntarily	-6.615	(-10.747, -2.482)	0.002
Not yet, but thinking	-2.615	(-9.182, 3.952)	0.433
Not yet, not thinking	-4.251	(-10.241, 1.739)	0.163
Voluntarily (ref)		1(ref)	
Sexual Preference			
Panthi	-2.527	(-8.659, 3.604)	0.417
Double decker	-3.736	(-7.104, -0.368)	0.030
Kothi		1(ref)	
Coming out age	-0.075	(-0.286, 0.137)	0.486
Alcoholism (Audit-c)	-0.466	(-1.062, 0.129)	0.124
Transactional sex			
No for transactional sex	0.954	(-2.301, 4.209)	0.564
Yes		1(ref)	
Number of sexual partners	0.002	(-0.011,0.014)	0.779

Table 9. Adjusted linear regression: Association between depression score and disclosure to siblings

Variables	β	p-value	95% CI
Disclosure to siblings			
Very open	**-4.769**	**0.025**	**(-8.926, -0.612)**
Not applicable	4.078	0.210	(-2.317, 10.473)
Somewhat open	-0.125	0.958	(-4.836, 4.585)
Not open (ref)			
Relationship Status			
1 partner	0.674	0.781	(-4.099, 5.446)
> 1 partner	**-5.647**	**0.002**	**(-9.156, -2.138)**
No relationship (ref)			
Coming out status			
Involuntarily	**5.103**	**0.028**	**(0.556, 9.650)**
Not yet, but thinking	4.269	0.245	(-2.958, 11.496)
Not yet, not thinking	0.055	0.987	(-6.712, 6.821)
Voluntarily (ref)			

Table 10. Adjusted linear regression: Association between depression score and disclosure to current workplace

Variables	β	p-value	95% CI
Disclosure to current workplace			
Very open	-0.882	.660	(-4.835, 3.072)
Not applicable	**-12.729**	**0.002**	**(-20.757,-4.701)**
Somewhat open	-3.045	0.255	(-8.306, 2.217)
Not open (ref)			
Employment status			
Student	**9.461**	**0.021**	**(1.443, 17.478)**
Unemployed	2.094	0.458	(-3.473, 7.662)
Retired	3.654	0.558	(-8.658, 15.967)
Employed (ref)			
Relationship status			
1 partner	2.021	0.405	(-2.764, 6.805)
> 1 partner	**-5.766**	**0.001**	**(-9.250, -2.283)**
No relation (ref)			
Coming out status			
Involuntarily	2.690	0.289	(-2.301, 7.681)
Not yet, but thinking	3.708	0.324	(-3.693, 11.108)
Not yet, not thinking	0.247	0.945	(-6.848, 7.341)
Voluntarily (ref)			

Table 11. Adjusted linear regression: Association between depression and disclosure to friends

Variables	β	p-value	95% CI
Disclosure to friends			
Very open	-4.624	0.087	(-9.925, 0.676)
Somewhat open	-2.050	0.500	(-8.036, 3.936)
Not open (ref)			
Current marital status			
Married	-15.060	0.149	(-35.583, 5.463)
Separated/Widowed/Divorced	**-23.260**	**0.027**	**(-43.783, -2.737)**
Single(ref)			
Current relationship status			
1 partner	-0.335	0.888	(-5.025, 4.354)
> 1 partner	**-6.837**	**0.000**	**(-10.284, -3.390)**
No relation (ref)			

Table 12. Adjusted linear regression: Association between sexual behavior and depression

Variables	β	p-value	95%CI
Depression score	-0.311	**0.000**	(-0.453, -0.168)
Occupation			
Student	-0.531	0.868	(-6.828, 5.765)
Unemployed	-0.767	0.738	(-5.297, 3.764)
Retired	-0.121	0.098	(-18.807, 1.617)
Employed (ref)			
Relationship status			
1 partner	-1.426	0.485	(-5.447, 2.596)
> 1 partner	1.358	0.382	(-1.703, 4.419)
No relationship (ref)			
Caste			
Scheduled caste	0.017	0.829	(-3.207, 3.994)
Scheduled tribe	0.115	0.124	(-1.180, 9.644)
None of them	0.117	0.141	(-1.150, 7.988)
Don't know	**8.722**	**0.007**	**(2.428, 15.015)**
Other backward caste (ref)			
Coming out status			
Involuntarily by others	**-4.180**	**0.047**	**(-8.313, -0.047)**
Not yet but thinking	0.410	0.893	(-5.620, 6.440)
Not yet and not thinking	-2.951	0.325	(-8.852, 2.951)
Voluntarily (ref)			

Appendices:

Appendix. 1 List of variables

Variable	Type	Measure	Source
Primary dependent: Depression	Continuous	Depression score (0-63) Beck's depression Inventory II	Self-administered Questionnaire
Secondary dependent: Risky sexual behavior	Continuous	SSBQ score (24-96)	Self-administered Questionnaire
Primary Independent Variable: Disclosure to different people	Categorical	"The decision to tell"	Self-administered Questionnaire
Intervening Variables:			Self- administered Questionnaire
Monthly Income	Ordinal		
Educational Qualification	Ordinal		
Employment status	Nominal		
MSM subpopulation identity	Nominal		
Relationship status	Nominal		
Marital status	Nominal		

Religion	Nominal		
Caste	Nominal		
Coming-out status	Nominal		
Illicit drug use	Nominal		
Age	Continuous	Years	
Coming-out age	Continuous	Years	
Number of sexual partners in the last 6 months	Continuous		
Transactional sex	Nominal		

Appendix 2: English Questionnaire

SURVEY TO ASSESS MENTAL HEALTH AND SEXUAL BEHAVIOUR AMONG MEN WHO HAVE SEX WITH MEN

Date of interview (DD/MM/YY) ____/____/____

Start Time (hh/mm) ____/____

A. DEMOGRAPHIC DATA

Instructions to the interviewer: Please read each and every question carefully to the

participant and only one option can be selected for each and every question listed below.

1. How old are you?	_____ years
2. What is the highest educational qualification that you have?	☐ 1. Primary education (1-5 years) ☐ 2. Middle-school education (6-8 years) ☐ 3. Secondary education (9-10 years) ☐ 4. Higher secondary education (11-12 years) ☐ 5. Undergraduate ☐ 6. Graduate/Post graduate

3. Currently, what is your employment status?	☐ 1. Student ☐ 2. Employed ☐ 3. Unemployed ☐ 4. Retired ☐ 5. Others_____
4. What is your monthly income?	☐ 1. Below ₹ 5,000 (₹ =Rupees) ☐ 2. ₹ 5,000 - ₹ 10,000 ☐ 3. ₹ 10,000 - ₹ 20,000 ☐ 4. ₹ 20,000 - ₹ 30,000 ☐ 5. ₹ 30,000 and above ☐ 6. Not applicable
5. What is your current marital status?	☐ 1. Single ☐ 2. Married ☐ 3. Separated ☐ 4. Divorced ☐ 5. Widowed ☐ 6. Other (specify): _____

6. What is your current relationship status?	☐ 1. No relationship ☐ 2. In a relationship with one partner ☐ 3. In a relationship with more than one partner

7. What religion do you follow?	☐ 1. Hindu ☐ 2. Christian ☐ 3. Muslim ☐ 4. Other (specify): _____
8. What caste do you belong to?	☐ 1. Scheduled caste ☐ 2. Scheduled tribe ☐ 3. Other Backward ☐ 4. None of them ☐ 5. Don't know
9. What is your sexual identity?	☐ 1. Kothi ☐ 2. Panthi ☐ 3. Double-decker (Versatile) ☐ 4. Don't know ☐ 5. Other (specify)_____

10. What is your status of coming out to others? (*If you select answer options 3 or 4, then kindly skip question 11 and go to the question 12.*)	☐ 1. I came out voluntarily (coming out) ☐ 2. I came out involuntarily by others (outing) ☐ 3. Not yet but thinking about it ☐ 4. Not yet and do not think about it
11. How old were you when you first came out?	**_____ years**

B. DISCLOSURE

12. MSM level of disclosure among different groups of people

Instructions: The participants should pick ONLY ONE answer option for all these items. If any of these items does not apply to the participant, then pick the option "Not applicable".

	Not open 0	Somewhat open 1	Very open 2	Not Applicable 88
a. Mother				
b. Father				
c. Spouse				
d. Siblings				
e. Friends				

f. Peer in school				
g. Colleagues in the current workplace				
h. Colleagues in the previous workplace				
i. People in the neighborhood				

C. Beck's Depression Inventory-II

Instructions: *This questionnaire consists of 21 groups of statements. Read the question and the*

options to the participant and he can choose "ONLY ONE" statement in each group that

best describes the way he has been feeling during the past two weeks, including

today.

13. Sadness	☐ 0. I do not feel sad.
	☐ 1. I feel sad much of the time.
	☐ 2. I am sad all the time.
	☐ 3. I am so sad or unhappy that I can't stand it.

14. Pessimism	☐ 0. I am not discouraged about my future. ☐ 1. I feel more discouraged about my future than I used to. ☐ 2. I do not expect things to work out for me. ☐ 3. I feel my future is hopeless and will only get worse.
15. Past Failure	☐ 0. I do not feel like a failure. ☐ 1. I have failed more than I should have. ☐ 2. As I look back, I see a lot of failures. ☐ 3. I feel I am a total failure as a person.
16. Loss of Pleasure	☐ 0. I get as much pleasure as I ever did from the things I enjoy. ☐ 1. I don't enjoy things as much as I used to. ☐ 2. I get very little pleasure from the things I used to enjoy. ☐ 3. I can't get any pleasure from the things I used to enjoy.
17. Guilty Feelings	☐ 0. I don't feel particularly guilty. ☐ 1. I feel guilty over many things I have done or should have done. ☐ 2. I feel quite guilty most of the time. ☐ 3. I feel guilty all of the time.
18. Punishment Feelings	☐ 0. I don't feel I am being punished. ☐ 1. I feel I may be punished. ☐ 2. I expect to be punished. ☐ 3. I feel I am being punished.

19. Self-Dislike	☐ 0. I feel the same about myself as ever.
	☐ 1. I have lost confidence in myself.
	☐ 2. I am disappointed in myself.
	☐ 3. I dislike myself.
20. Self-Criticalness	☐ 0. I don't criticize or blame myself more than usual.
	☐ 1. I am more critical of myself than I used to be.
	☐ 2. I criticize myself for all of my faults.
	☐ 3. I blame myself for everything bad that happens.
21. Suicidal Thoughts or Wishes	☐ 0. I don't have any thoughts of killing myself.
	☐ 1. I have thoughts of killing myself, but I would not carry them out.
	☐ 2. I would like to kill myself.
	☐ 3. I would kill myself if I had the chance.
22. Crying	☐ 0. I don't cry any more than I used to.
	☐ 1. I cry more than I used to.
	☐ 2. I cry over every little thing.
	☐ 3. I feel like crying, but I can't.

23. Agitation	☐ 0. I am no more restless or wound up than usual.
	☐ 1. I feel more restless or wound up than usual.
	☐ 2. I am so restless or agitated, it's hard to stay still.
	☐ 3. I am so restless or agitated that I have to keep moving or doing something.
24. Loss of Interest	☐ 0. I have not lost interest in other people or activities.
	☐ 1. I am less interested in other people or things than before.
	☐ 2. I have lost most of my interest in other people or things.
	☐ 3. It's hard to get interested in anything.
25. Indecisiveness	☐ 0. I make decisions about as well as ever.
	☐ 1. I find it more difficult to make decisions than usual.
	☐ 2. I have much greater difficulty in making decisions than I used to.
	☐ 3. I have trouble making any decisions.
26. Worthlessness	☐ 0. I do not feel I am worthless.
	☐ 1. I don't consider myself as worthwhile and useful as I used to.
	☐ 2. I feel more worthless as compared to others.
	☐ 3. I feel utterly worthless.

27. Loss of Energy	☐ 0. I have as much energy as ever. ☐ 1. I have less energy than I used to have. ☐ 2. I don't have enough energy to do very much. ☐ 3. I don't have enough energy to do anything.
28. Changes in Sleeping Pattern	☐ 0. I have not experienced any change in my sleeping. ☐ 1a. I sleep somewhat more than usual. ☐ 1b. I sleep somewhat less than usual. ☐ 2a. I sleep a lot more than usual. ☐ 2b. I sleep a lot less than usual. ☐ 3a. I sleep most of the day. ☐ 3b. I wake up 1-2 hours early and can't get back to sleep.
29. Irritability	☐ 0. I am not more irritable than usual. ☐ 1. I am more irritable than usual. ☐ 2. I am much more irritable than usual. ☐ 3. I am irritable all the time.
30. Changes in Appetite	☐ 0. I have not experienced any change in my appetite. ☐ 1a. My appetite is somewhat less than usual. ☐ 1b. My appetite is somewhat greater than usual. ☐ 2a. My appetite is much less than before. ☐ 2b. My appetite is much greater than usual.

	☐ 3a. I have no appetite at all.
	☐ 3b. I crave food all the time.
31. Concentration Difficulty	☐ 0. I can concentrate as well as ever.
	☐ 1. I can't concentrate as well as usual.
	☐ 2. It's hard to keep my mind on anything for very long.
	☐ 3. I find I can't concentrate on anything.
32. Tiredness or Fatigue	☐ 0. I am no more tired or fatigued than usual.
	☐ 1. I get more tired or fatigued more easily than usual.
	☐ 2. I am too tired or fatigued to do a lot of the things I used to do.
	☐ 3. I am too tired or fatigued to do most of the things I used to do.
33.Loss of Interest in Sex	☐ 0. I have not noticed any recent change in my interest in sex.
	☐ 1. I am less interested in sex than I used to be.
	☐ 2. I am much less interested in sex now.
	☐ 3. I have lost interest in sex completely.

D. Sexual Behavior

Instructions for the SSBQ: *Below is a list of sexual practices (Questions 34-57). Please read each statement carefully and let the participant answer ONLY ONE option for all these questions listed below.*

1 = Never　　　　**2= Sometimes**　　　　**3 = Most of the Time**　　　　**4=Always**

		Never	Sometimes	Most of the Time	Always
34.	I insist on condom use when I have sexual intercourse.	☐ 1	☐ 2	☐ 3	☐ 4
35.	I use cocaine or other drugs prior to or during sexual intercourse.	☐ 1	☐ 2	☐ 3	☐ 4
36.	I stop foreplay long enough to put on a condom (or for my partner to put on a condom).	☐ 1	☐ 2	☐ 3	☐ 4
37.	I ask potential sexual partners about their sexual histories.	☐ 1	☐ 2	☐ 3	☐ 4
38.	I avoid direct contact with my sexual partner's semen or vaginal secretions.	☐ 1	☐ 2	☐ 3	☐ 4

39.	I ask my potential sexual partners about a history of bisexual/homosexual practices.	☐ 1	☐ 2	☐ 3	☐ 4
40.	I engage in sexual intercourse on a first date.	☐ 1	☐ 2	☐ 3	☐ 4
41.	I abstain from sexual intercourse when I do not know my partner's sexual history.	☐ 1	☐ 2	☐ 3	☐ 4
42.	I avoid sexual intercourse when I have sores or irritation in my genital area.	☐ 1	☐ 2	☐ 3	☐ 4
43.	If I know an encounter may lead to sexual intercourse, I carry a condom with me.	☐ 1	☐ 2	☐ 3	☐ 4
44.	I insist on examining my sexual partner for sores, cuts, or abrasions in the genital area.	☐ 1	☐ 2	☐ 3	☐ 4
45.	If I disagree with information that my partner presents on safer sex practices, I state my point of view.	☐ 1	☐ 2	☐ 3	☐ 4
46.	I engage in oral sex without using protective barriers such as a condom or rubber dam.	☐ 1	☐ 2	☐ 3	☐ 4
47.	If swept away in the passion of the moment, I have sexual intercourse without using a condom.	☐ 1	☐ 2	☐ 3	☐ 4
48.	I engage in anal intercourse.	☐ 1	☐ 2	☐ 3	☐ 4

49.	I ask my potential sexual partners about a history of IV drug use.	☐ 1	☐ 2	☐ 3	☐ 4
50.	If I know an encounter may lead to sexual intercourse, I have a mental plan to practice safer sex.	☐ 1	☐ 2	☐ 3	☐ 4
51.	If my partner insists on sexual intercourse without a condom, I refuse to have sexual intercourse.	☐ 1	☐ 2	☐ 3	☐ 4
52.	I avoid direct contact with my sexual partner's blood.	☐ 1	☐ 2	☐ 3	☐ 4
53.	It is difficult for me to discuss sexual issues with my sexual partners.	☐ 1	☐ 2	☐ 3	☐ 4
54.	I initiate the topic of safer sex with my potential sexual partner.	☐ 1	☐ 2	☐ 3	☐ 4
55.	I have sexual intercourse with someone who I know is a bisexual or gay person.	☐ 1	☐ 2	☐ 3	☐ 4
56.	I engage in anal intercourse without using a condom.	☐ 1	☐ 2	☐ 3	☐ 4
57.	1 drink alcoholic beverages prior to or during sexual intercourse.	☐ 1	☐ 2	☐ 3	☐ 4

58. How often did you have a drink containing alcohol in the past year? Consider a "drink" to be a can or bottle of beer, a glass of wine, one cocktail, or a shot of hard liquor (like scotch, gin, or vodka) (*If you select answer option 0, then kindly skip question 59 and 60 and go to question 61.*)	☐ 0. Never ☐ 1. Monthly or less ☐ 2. 2-4 times a month ☐ 3. 2-3 times a week ☐ 4. 4-5 times a week ☐ 5. 6 or more times a week
59. How many drinks did you have on a typical day when you were drinking in the past year?	☐ 0. 0 drinks ☐ 1. 1-2 drinks ☐ 2. 3-4 drinks ☐ 3. 5-6 drinks ☐ 4. 7-9 drinks ☐ 5. 10 or more drinks
60. How often did you have 6 or more drinks on one occasion in the past year?	☐ 0. Never ☐ 1. Less than monthly ☐ 2. Monthly ☐ 3. Weekly ☐ 4. Daily or almost daily

61. How often did you use an illicit drug in the past year? **(Like cocaine, marijuana, heroin)**	☐ 0. Never ☐ 1. Once a month or less ☐ 2. 2-3 times a month ☐ 3. Once a week ☐ 4. 2-6 times a week ☐ 5. Once a day or more
62. How many sex partners did you have in the past 6 months?	☐ Indicate a number _____ ☐ 99. Refuse to answer
63. Have you ever accepted money, a gift or some other form of compensation as payment for sexual relations?	☐ 1. Yes ☐ 2. No ☐ 99. Refuse to answer

Interview end time: _____/_____ (hours/minutes)

PARTICIPATION ID:

மன ஆரோக்கியம் மற்றும் பாலியல் செயல் ஆகியவற்றை அணுகுவதற்கான ஆய்வு

நேர்காணலின் தேதி (**DD / MM / YY**) ___ / ___ / ___
தொடக்க நேரம் (**hh / mm**) ___ / ___

பொது வழிமுறைகள்:

கீழே கொடுக்கப்பட்ட அனைத்து கேள்விகளையும் பதில்களையும் கவனமாக படிக்கவும். சிறந்த உங்கள் பதிலை பிரதிபலிக்கும் விருப்பத்தை தேர்வு செய்யவும் (√) விருப்பம் எண்ணுக்கு அடுத்த பெட்டி. "பிற" விருப்பத்தை நீங்கள் தேர்ந்தெடுத்தால், உங்கள் பதிலை எழுதுவதற்கு சில கேள்விகளுக்கு அடுத்ததாக வெற்று கோடுகள் உள்ளன. ஒவ்வொரு பிரிவின் ஆரம்பத்திலும் வழிமுறைகள் வழங்கப்படுகின்றன. இந்த அறிவுறுத்தல்கள் எந்தவொரு கஷ்டமும் இன்றி கேள்விகளை முடிக்க உதவும். தயவுசெய்து, ஒவ்வொருவருக்கும் பதில் சொல்ல நேரம் எடுத்துக்கொள்ளுங்கள். எல்லா கேள்விகளுக்கும் பதில் சொல்ல மறக்காதீர்கள்.

அட்டவணையில் பதில்களை எப்படி சரிபார்க்க வேண்டும் என்பதை பின்வரும் எடுத்துக்காட்டில் காட்டுகிறது:

		அடுபோதும் இல்லை	சில நேரங்களில்	பெரும்பாலான நேரம்	எப்போதும்
Q.X	நான் சலிப்படையும்போது, திரைப்படம் பார்க்க முனைகிறது.	☐ 1	☑ 2	☐ 3	☐ 4
Q.Y	நான் சமைக்க நேரம் இல்லை என்ற போது நான் வெளியே சாப்பிடுவேன்	☐ 1	☐ 2	☐ 3	☑ 4

A. விளக்கப்படங்கள் தகவல்கள்

<u>வழிமுறைகள்:</u> இந்த பிரிவில் ஒரே ஒரு விருப்பத்தைத் தேர்ந்தெடுக்கவும்.

1. உங்கள் வயது என்ன?	---------- ஆண்டுகள்
2. உங்களின் அதிக பட்ச கல்வித் தகுதி என்ன?	☐ 1. துவக்கப் பள்ளி (1-5 ஆண்டுகள்) ☐ 2. நடுநிலைப் பள்ளி (6-8 ஆண்டுகள்) ☐ 3. உயர்நிலைக் கல்வி (9-10 ஆண்டுகள்) ☐ 4. மேல்நிலைக் கல்வி (11-12 ஆண்டுகள்) ☐ 5. இளங்கலை பட்டதாரி ☐ 6. முதுகலை பட்டதாரி
3. தற்போது, உங்களின் பணியின் நிலை என்ன?	☐ 1. மாணவர் ☐ 2. ஊழியர் ☐ 3. வேலையில்லாதவர் ☐ 4. ஓய்வு பெற்றவர் ☐ 5. மற்றவை _____
4. உங்களது மாத வருமானம் எவ்வளவு? (ரூபாயில்)	☐ 1. ரூ. 5,000 க்கும் குறைவு ☐ 2. ரூ 5,000 - ரூ 10,000 ☐ 3. ரூ 10,000 - ரூ 20,000 ☐ 4. ரூ 20,000 - ரூ 30,000 ☐ 5. ரூ 30,000 க்கும் மேல்
5. உங்களது உறவின் தற்போதைய நிலை என்ன?	☐ 1. திருமணமாகாதவர் ☐ 2. திருமணமானவர் ☐ 3. பிரிந்து வாழ்பவர் ☐ 4. விவாகரத்து பெற்றவர் ☐ 5. மனைவியை இழந்தவர் ☐ 6. மற்றவை (குறிப்பிடவும்) _____
6. உங்களது உறவின் தற்போதைய நிலை என்ன?	☐ 1. உறவு இல்லை ☐ 2. ஒருவரோடு உறவு ☐ 3. ஒன்றுக்கு மேலானவரோடு உறவு

7. நீங்கள் எந்த மதத்தைப் பின்பற்றுகிறீர்கள்?	☐ 1. இந்து ☐ 2. கிறிஸ்தவம் ☐ 3. இஸ்லாம் ☐ 4. மற்றவை: _____

8. நீங்கள் எந்த சமுதாயத்தை சார்ந்தவர்?	☐ 1. பட்டியலினத்தவர் ☐ 2. மலைவாழ் மக்கள்/பழங்குடியினர் ☐ 3. பிற பிற்படுத்தப்பட்டோர் ☐ 4. அவர்களில் யாரும் இல்லை ☐ 5. தெரியாது
9. உங்களது பாலின அடையாளம் என்ன ?	☐ 1. கோத்தி ☐ 2. பந்தி ☐ 3 டபுள் டெக்கர் (☐ 4. தெரியாது ☐ 5. மற்றவை: _____
10. நீங்கள் மற்றவர்களுக்கு உங்களை **பற்றி வெளிப்படுத்தும் நிலை என்ன?** *(கேள்வி 10 க்கு 3 அல்லது 4 தேர்ந்தெடுத்தால், தயவுசெய்து கேள்வி 11 ஐ தவிர்க்கவும், கேள்வி 12 க்கு செல்லுங்கள்)*	☐ 1. ஆம், நானாகவே அதை வெளிப்படுத்தினேன் ☐ 2. ஆம், என் விருப்பமின்றி, அடுத்தவரால் (தள்ளப்பட்டு). ☐ 3. இன்னும் இல்லை, அதைப்பற்றி யோசித்துக்கொண்டிருக்கிறேன். ☐ 4. இன்னும் இல்லை, அதைப்பற்றி யோசிக்கவில்லை.
11. நீங்கள் முதன்முதலில் உங்களை பற்றி வெளிப்படுத்தியபோது நீங்கள் எவ்வளவு வயதானவராக இருந்தீர்கள்?	____ ஆண்டுகள்

B. வெளிப்படுத்தல் மற்றும் ஒளிவு மறைவற்ற தன்மை

12. ஆண்விழைஆண் பல்வேறு மக்கள் குழுக்கள் படி வெளிப்படுத்தல் அளவு

வழிமுறைகள்: கீழே கொடுக்கப்பட்டுள்ள அமைப்புகளுக்கு உங்கள் பாலியல் நோக்குநிலை பற்றி நீங்கள் எவ்வாறு வெளிப்படுத்திருகிறீர்கள் என்பதைக் குறிப்பிடவும். இந்த எல்லாவற்றிற்கும் "ஒரே ஒரு" விருப்பத்தை எடுக்க முயற்சிக்கவும். இந்த உருப்படிகளில் ஏதேனும் உங்களுக்கு பொருந்தாது என்றால் "பொருந்தாது" என்ற விருப்பத்தைத் தேர்ந்தெடுக்கவும்.

	வெளிப்படுத்த வில்லை (0)	ஓரளவு திறந்த நிலை (1)	மிகவும் திறந்த நிலை (2)	பொருந்தாது (88)
1. தாய்				
2. தந்தை				
3. மனைவி				
4. உடன்பிறப்புகள்				
5. நண்பர்கள்				

6. பள்ளி நண்பர்கள்				
7. *தற்போதைய பணியிட நண்பர்கள்*				
8. முந்தைய பணியிட நண்பர்கள்				
9. சுற்றத்தார்				

C. பெக் இன் மன அழுத்த பட்டியல் II

வழிமுறைகள்: இந்த வினாப்பட்டியல், 21 தொகுப்பு கூற்றுகள் கொண்டது. ஒவ்வொரு தொகுப்பிலும் சொல்லியிருப்பதை தயவுசெய்து, கவனமாய் படிக்கவும். அதன் பின்னர், ஒவ்வொரு தொகுப்பிலும், கடந்த இரு வாரங்களாக (இன்றும் சேர்த்து) நீங்கள் எவ்வாறு உணர்கிறீர்கள் என்பதை மிகச் சிறப்பாகக் கூறும் ஒரு '*கூற்றை*' தேர்வு செய்யவும். நீங்கள் தேர்வு செய்த கூற்றின் எண்ணை, வட்டமிட்டுக் காட்டவும். ஒருவேளை. ஒரு தொகுப்பில் பல கூற்றுகள் உங்களுக்குத் பொருந்துவதாகத் தோன்றினால், அந்தத் தொகுப்பில் உள்ள மிகப் பெரிய எண்ணை, வட்டமிட்டுக் காட்டவும்.

13. சோகம்	□ 0. நான் சோகமாய் இல்லை □ 1. நான் பெரும்பாலான நேரம் சோகமாய் உள்ளேன் □ 2. நான் எப்போதும் சோகமாய் உள்ளேன் □ 3. நான், தாங்கிக்கொள்ள முடியாத அளவுக்கு சோகமாய் மகிழ்ச்சியின்றி இருக்கிறேன்

14. அவநம்பிக்கை	□ 0. என், எனக்கு எதிர்காலத்தைப்பற்றி நம்பிக்கைக்குறைவு இல்லை □ 1. என் எதிர்காலம் பற்றி, எனக்கு மிகுந்த நம்பிக்கைக்குறைவு உள்ளது □ 2. எனக்கு நல்லது நடக்கும் என்று நான் எதிர்பார்க்கவில்லை □ 3. என் எதிர்காலம் மிக மோசமாய் இருக்கும் என்றும், இன்னும் மோசமாய் போகும் என நினைக்கிறேன்.
15. கடந்த கால தோல்விகள்	□ 0. நான் தோற்று விட்டதாக நினைக்கவில்லை. □ 1. நான் நினைத்ததற்கு மேலாக தோற்றுவிட்டேன். □ 2. நான் திரும்பிப் பார்க்கையில் இன்னும் தோல்விகள் வரும் என நினைக்கிறேன். □ 3. ஒரு மனிதனாக நான் முழுமையாக தோல்வியடைந்ததாகவே கருதுகிறேன்

16. மகிழ்ச்சி இழப்பு	□ 0. நான் இதுவரை செய்ததில் மகிழ்ச்சி கண்டது போல் இப்போதும் காண்கிறேன். □ 1. நான் இதுவரை கண்ட மகிழ்ச்சி போல் இப்போது இல்லை. □ 2. நான் இதுவரை செய்ததில் கிடைத்த மகிழ்ச்சி போல் இப்போதெல்லாம் முந்தைய விட குறைவாக கிடைகிறது. □ 3. நான் இதுவரை செய்தவற்றில் மகிழ்ந்ததுபோல், இப்போது என்னால் மகிழ்ச்சி பெற முடியவில்லை.
17. குற்ற உணர்வுகள்	□ 0. குறிப்பாக குற்ற உணர்வு எதுவும் எனக்கு இல்லை. □ 1. நான் செய்த காரியங்களில் அநேகத்தில், அல்லது செய்திருக்கவேண்டியதில், எனக்கு குற்ற உணர்வு இருக்கிறது. □ 2. நான் பெரும்பாலான நேரம், குற்ற உணர்வில் உள்ளேன். □ 3. நான் எல்லா நேரத்திலும் குற்ற உணர்வுகளுடன் வாழ்கிறேன்.
18. தண்டனை உணர்வுகள்	□ 0. நான் தண்டிக்கப்படுவதாக நினைக்கவில்லை. □ 1. நான் தண்டிக்கப்படலாம் என நினைக்கிறேன். □ 2. நான் தண்டிக்கப்படுவேன் என்று எதிர்பார்க்கிறேன். □ 3. நான் தண்டிக்கப்படுவதாக நினைக்கிறேன்.

19. சுய வெறுப்பு	☐ 0. நான் எப்போதும் என்னைப் போலவே உணர்கிறேன். ☐ 1. நான் என் மீது நம்பிக்கையை இழந்துவிட்டேன். ☐ 2. என்னுடைய நிலைமை எனக்கு ஏமாற்றம் தருகிறது. ☐ 3. நான் என்னை வெறுக்கிறேன்.
20. சுய விமர்சனம்	☐ 0. நான் என்னை குறை காண்பதோ, அல்லது குறை சொல்வதோ இல்லை. ☐ 1. நான் என்னைப்பற்றி, முன்பை விட அதிகமாக குறை காண்கிறேன். ☐ 2. எனது எல்லா தவறுகளுக்கும், என்னை நான் குறை கூறுகிறேன். ☐ 3. எனக்கு நிகழ்கிற கெட்டவைகளுக்கும், என்னையே குறை கூறிக்கொள்கிறேன்.
21. தற்கொலை பற்றிய எண்ணம் அல்லது விருப்பம்	☐ 0. தற்கொலை செய்துகொள்ளும் எண்ணம் எனக்கு இல்லை. ☐ 1. தற்கொலை செய்துகொள்ள வேண்டும் என்ற எண்ணம் இருக்கிறது, ஆனால், நான் அப்படி செய்யமாட்டேன். ☐ 2. நான் தற்கொலை செய்து கொள்ள விரும்புகிறேன். ☐ 3. வாய்ப்பு கிடைத்தால் நான் தற்கொலை செய்துகொள்வேன்.
22. அழுதல்	☐ 0. நான் முன்பு அழுதது போல், மேலும் அழ மாட்டேன். ☐ 1. நான் இதுவரை அழுததை விட, அதிகமாக அழுகிறேன். ☐ 2. நான் ஒவ்வொரு சிறு விஷயத்துக்கும் அழுகிறேன். ☐ 3. நான் அழவேண்டும் என நினைக்கிறேன்,ஆனால், அழுவதில்லை.
23. கிளர்ச்சி	☐ 0. நான் முன்பு போல் அமைதியற்றோ அல்லது அதிர்ச்சி அடைந்தோ இல்லை. ☐ 1. நான் முன்பை விட மிக அமைதியற்றும் அதிச்சியடைந்தும் உள்ளேன். ☐ 2. நான் மிக அமைதியற்றும் அதிர்ச்சியும் அடைந்துள்ளேன் அமைதியாயிருப்பது மிக்க கடினமாயிருக்கிறது. ☐ 3. நான் மிகவும் அமைதியற்றும் போராட்ட உணர்வோடும் இருக்கிறேன்; அதற்காக நான் எங்காவது போய்க்கொண்டு டோ அல்லது, ஏதாவது செய்துகொண்டே இருக்க வேண்டும்.

24. ஆர்வக் குறைவு	□ 0. எனக்கு மற்றவர் மீதும் அவர்களின் செய்கையின் மீதும் ஆர்வக்குறைவு இல்லை □ 1. எனக்கு முன்பை விட மற்றவர் மீதும் ஏதாவது செய்யவேண்டும் என்பதிலும், ஆர்வம் குறைவாக உள்ளது □ 2. அடுத்தவர் மீதும் ஏதாவது செய்யவேண்டும் என்பதிலும், பெருவாரியான ஆர்வத்தையும் நான் இழந்துவிட்டேன். □ 3. எதிலும் ஆர்வம் கொள்வதென்பது மிகவும் கஷ்டமாக உள்ளது.
25. தீர்மானம் செய்ய முடியாமை	□ 0. நான், முன்பைப் போலவே தீர்மானங்கள் செய்கிறேன். □ 1. நான், சாதாரணமாக, தீர்மானங்கள் செய்வதை விட இப்போது அதிகக் கடினமாய் இருக்கிறது. □ 2. நான், முன்பெல்லாம் தீர்மானம் செய்வதை விட, இப்போது மிக அதிகக் கடினமாய் இருக்கிறது. □ 3. எந்த முடிவும் எடுப்பதில் எனக்கு சிரமம் இருக்கிறது.
26. மதிப்பற்றநிலை.	□ 0. நான் மதிப்பற்றவன் என்று நினைக்கவில்லை. □ 1. நான் முன்பு இருந்தது போல் மதிப்பும் பயனும் உள்ளவனாக இல்லை என நினைக்கிறேன். □ 2. மற்றவர்களோடு ஒப்பிடும்போது நான் மதிப்பற்றவன் என்று நினைக்கிறேன். □ 3. நான் முற்றிலும் மதிப்பற்றவன் என நினைக்கிறேன்.
27. உற்சாகயின்மை	□ 0. நான் முன்பு போலவே உற்சாகயின்மையுடன் இருக்கிறேன். □ 1. நான் முன்பிருந்ததைவிட, குறைந்த உற்சாகயின்மையுடன் இருக்கிறேன். □ 2. அதிகமாக செய்வதற்கு எனக்கு, போதுமான உற்சாகயின்மை இல்லை. □ 3. எதையும் செய்வதற்கு எனக்கு, போதுமான உற்சாகயின்மை இல்லை.

28. தூங்கும் நிலையில் மாற்றம்	☐ 0. எனது தூங்கும் முறையில் எந்த மாற்றமும் நான் உணரவில்லை. ☐ 1 a. நான் வழக்கத்தை விட சற்று அதிகம் தூங்குகிறேன். ☐ 1 b. நான் வழக்கத்தை விட சற்று குறைவாகத் தூங்குகிறேன். ☐ 2 a. நான் வழக்கத்தை விட மிக அதிகம் தூங்குகிறேன். ☐ 2 b. நான் வழக்கத்தை விட மிகக் குறைவாகத் தூங்குகிறேன். ☐ 3 a. நான் ஒரு நாளில் பெரும்பாலான நேரம் தூங்குகிறேன். ☐ 3 b. நான் 1 அல்லது 2 மணி முன்னதாக எழுந்தாள், மறுபடியும் தூங்க முடிவதில்லை.
29. எரிச்சல் நிலைமை	☐ 0. நான் வழக்கத்தை விட அதிகம் எரிச்சல் அடைவதில்லை. ☐ 1. நான் வழக்கத்தை விட அதிகம் எரிச்சல் அடைகிறேன். ☐ 2. நான் வழக்கத்தைவிட மிக அதிகம் எரிச்சல் அடைகிறேன் ☐ 3. நான் எப்போதும் எரிச்சல் அடைகிறேன்.
30. பசி ஆர்வத்தில் மாற்றங்கள்	☐ 0. எனது பசி நிலையில் எந்த மாற்றத்தையும் நான் உணரவில்லை. ☐ 1 a. எனது பசி நிலை முன்பை விட சற்று குறைவாக உள்ளது. ☐ 1 b. எனது பசி நிலை முன்பை விட சற்று அதிகமாக உள்ளது. ☐ 2 a. எனது பசி நிலை முன்பை விட மிகக் குறைவாக உள்ளது. ☐ 2 b. எனது பசி நிலை முன்பை விட மிக அதிகமாக உள்ளது. ☐ 3 a. எனக்கு பசி என்பது இல்லவே இல்லை ☐ 3 b. நான் எல்லா நேரத்திலும் உணவு சாப்பிடுகிறேன் .

31. கவனம் செலுத்துவதில் சிரமம்	☐ 0. நான் முன்பு போல நன்கு கவனம் செலுத்த முடிகிறது. ☐ 1. நான் சாதாரணமாகவே கவனம் செலுத்த முடியாது. ☐ 2. எனக்கு ஒரு காரியத்தின் மேல், நீண்ட நேரம் கவனம் செலுத்துவது கடினமாய் இருக்கிறது. ☐ 3. என்னால் எதன் மீதும் கவனம் செலுத்த முடிவதில்லை என்று உணர்கிறேன்.
32. சோர்வடைவு அல்லது களைப்படைதல்	☐ 0. நான் வழக்கத்தை விட அதிகமாக சோர்வோ அல்லது களைப்போ அடைவதில்லை. ☐ 1. நான் வழக்கத்தை விட மிக எளிதில் அதிகமாக சோர்வு அல்லது களைப்பு அடைகிறேன். ☐ 2. நான் வழக்கமாக செய்து வந்த அநேக செயல்களையும் செய்திட, அதிக சோர்வு அல்லது களைப்பு அடைகிறேன். ☐ 3. நான் வழக்கமாக செய்து வந்த பெரும்பாலான செயல்களை செய்திட, அதிக சோர்வு அல்லது களைப்பு அடைகிறேன்.
33. பாலுறவில் ஆர்வக் குறைவு	☐ 0. பாலுறவில் எனக்கு ஆர்வக் குறைவு இருப்பதாக, சமீபத்தில் நான் காணவில்லை. ☐ 1. எனக்கு முன்பை விட, இப்போது பாலுறவில் குறைந்த ஆர்வம் இருக்கிறது. ☐ 2. எனக்கு முன்பை விட, இப்போது பாலுறவில் மிகக் குறைந்த ஆர்வம் இருக்கிறது. ☐ 3. பாலுறவில் ஆர்வத்தை நான் முற்றிலுமாக இழந்துவிட்டேன்.

D. பாதுகாப்பான பாலுறவு நடத்தை.

குறிப்பு:பாலியல் நடைமுறைகளின் பட்டியல் கீழே உள்ளது. ஒவ்வொரு அறிக்கையையும் படித்து உங்கள் பழக்கங்களைக் குறிப்பிடுவதன் மூலம் பதிலளிக்கவும். இந்த பெட்டிகளில் ஒன்றைத் தேர்ந்தெடுப்பதன் மூலம் கீழே பட்டியலிடப்பட்டுள்ள இந்த எல்லா கேள்விகளுக்கும் **ஒரே ஒரு விருப்பத்தைத் தேர்ந்தெடுக்கவும்.**

1 = ஒருபோதும் இல்லை   2 = சில சமயம்   3 = பெரும்பாலும்   4=எப்போதும்

34.	பாலுறவு கொள்ளும்போது, ஆணுறை பயன்படுத்த நான் வலியுறுத்துவேன்.	□ 1	□ 2	□ 3	□ 4
35.	பாலுறவுக்கு முன்பாக, அல்லது உறவின் போது, நான் கோகோயின் அல்லது மற்ற போதை பொருள் பயோகிக்கிறேன்.	□ 1	□ 2	□ 3	□ 4
36.	நான் (அல்லது எனது பாலுறவு கூட்டாளி) ஆணுறையைப் போட்டுக்கொள்ள, பாலுணர்வை தூண்டும் செயலை தக்க நேரத்தில் நிறுத்திவிடுவேன்	□ 1	□ 2	□ 3	□ 4

37.	எனது பாலுறவு நண்பர்களிடம் அவர்களது பாலுறவு கதையைக் கேட்பேன்.	☐ 1	☐ 2	☐ 3	☐ 4
38.	எனது பாலுறவு கூட்டாளியின் விந்து அல்லது மற்ற கசியும் திரவத்துடன் நேரடி தொடர்பை தவிர்த்திடுவேன்.	☐ 1	☐ 2	☐ 3	☐ 4
39.	எனது பாலுறவு நண்பர்களிடம் ஈரினச் சேர்க்கை, ஓரினச்சேர்க்கை முறைகள் பற்றிய கதையைக் கேட்பேன்.	☐ 1	☐ 2	☐ 3	☐ 4
40.	முதல் சந்திப்பிலேயே நான் பாலுறவில் ஈடுபடுவேன்	☐ 1	☐ 2	☐ 3	☐ 4

41.	என் கூட்டாளியின் கடந்தகால பாலுறவு பற்றி தெரியாத பட்சத்தில், பாலுறவு கொள்வதை தவிர்த்திடுவேன்.	☐ 1	☐ 2	☐ 3	☐ 4
42.	எனது, ஆணுறுப்பில், சிறு புண்களோ அல்லது எரிச்சலோ இருந்தால், பாலுறவு கொள்வதை தவிர்ப்பேன்.	☐ 1	☐ 2	☐ 3	☐ 4
43.	எங்கள் சந்திப்பு பாலுறவில் முடியும் என்று எனக்குத் தெரிந்தால், ஆணுறையை என்னுடன் எடுத்துச் செல்வேன்.	☐ 1	☐ 2	☐ 3	☐ 4

44.	என் பாலுறவு நண்பனின் ஆண் குறி அருகே, புண்ணோ, காயமோ, அல்லது சிராய்ப்போ இருக்கிறதா என்று பார்க்க வேண்டும் என்று நான் வலியுறுத்துவேன்.	☐ 1	☐ 2	☐ 3	☐ 4
45.	பாதுகாப்பான பாலுறவு பற்றி எனது கூட்டாளி தரும் தகவலில் எனக்கு உடன்பாடு இல்லையென்றால், நான், எனது கருத்தைச் சொல்வேன்.	☐ 1	☐ 2	☐ 3	☐ 4
46.	ஆணுறை அல்லது ரப்பர் அணை போன்ற பாதுகாப்பான தடுப்புகள் பயன்படுத்தாமல், நான், வாய்வழி பாலுறவு கொள்வேன்.	☐ 1	☐ 2	☐ 3	☐ 4

47.	சந்திப்பின் போது மிகவும் உணர்ச்சிவசப்பட்டு விட்டால், ஆணுறை இல்லாமலேயே நான் பாலுறவு கொள்வேன்.	☐ 1	☐ 2	☐ 3	☐ 4

48.	நான், ஆசன வாய்/ குத வழி பாலுறவு கொள்கிறேன்.	☐ 1	☐ 2	☐ 3	☐ 4
49.	எனது பாலுறவு கூட்டாளிகளிடம் இரத்த நால வழி போதை மருந்துகள் எடுத்துக்கொள்ளும் கதை கேட்பேன்.	☐ 1	☐ 2	☐ 3	☐ 4
50.	சந்திப்பின் போது பாலுறவு ஏற்படும் என்று தெரிந்தால், பாதுகாப்பான பாலுறவு கொள்ள வேண்டும் என்று மனதிலே திட்டமிடுவேன்.	☐ 1	☐ 2	☐ 3	☐ 4

| 51. | என் கூட்டாளி ஆணுறை இல்லாமல் பாலுறவு கொள்ள வேண்டும் என்று நிர்பந்தித்தால், பாலுறவு கொள்வதற்கு நான் மறுத்திடுவேன். | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 |

52.	எனது பாலுறவு கூட்டாளியின் இரத்தத்தோடு நேரடி தொடர்பு கொள்வதைத் தவிர்ப்பேன்.	□ 1	□ 2	□ 3	□ 4
53.	எனது பாலுறவு கூட்டாளியுடன் பாலுறவு தொடர்பான விஷயங்களை பேசுவது எனக்கு சிரமம்.	□ 1	□ 2	□ 3	□ 4
54.	எனது பாலுறவு கூட்டாளியுடன் பாதுகாப்பான பாலுறவு பற்றிய பேச்சை, நான்தான் ஆரம்பிப்பேன்.	□ 1	□ 2	□ 3	□ 4
55.	ஒருவர் ஈரினச் சேர்க்கை அல்லது ஓரினச் சேர்க்கை உள்ளவர் என்று தெரிந்தால், நான் அவருடன் பாலுறவு கொள்வேன்.	□ 1	□ 2	□ 3	□ 4

56.	நான் ஆணுறை ஏதுமின்றி ஆசனவாய் வழி பாலுறவில் ஈடுபடுகிறேன்.	☐ 1	☐ 2	☐ 3	☐ 4
57	பாலுறவு கொள்வதற்கு முன்போ அல்லது உறவு கொள்ளும்போதோ, நான், மதுபானம் அருந்துவேன்.	☐ 1	☐ 2	☐ 3	☐ 4

58. கடந்த ஆண்டு மதுபானம் அடங்கிய மதுவை நீங்கள் எப்படி அடிக்கடி எடுத்தீர்கள்? ஒரு பாத்திரமாகவோ, ஒரு குவளையில் மது, ஒரு காக்டெய்ல் அல்லது மதுபானம் (ஸ்கோட்ச், ஜின் அல்லது ஓட்கா போன்றவை)	☐ 0. இல்லை ☐ 1. மாதாந்திர அல்லது குறைவாக ☐ 2. மாதத்தில் 2-4 முறை ☐ 3. ஒரு வாரத்தில் 2-3 முறை ☐ 4. ஒரு வாரத்தில் 4-5 முறை ☐ 5. ஒரு வாரத்தில் 6 அல்லது அதற்கு மேற்பட்ட முறை
59. நீங்கள் கடந்த ஆண்டு ஒரு வழக்கமான நாளில் எத்தனை மதுபானங்கள் எடுத்துக்கொள்கிறீர்கள்?	☐ 0. 0 பானங்கள் ☐ 1. 1-2 பானங்கள் ☐ 2. 3-4 பானங்கள் ☐ 3. 5-6 பானங்கள் ☐ 4. 7-9 பானங்கள் ☐ 5. 10 அல்லது அதற்கு மேற்பட்ட பானங்கள்

60. கடந்த வருடத்தில் 6 அல்லது அதற்கு மேற்பட்ட மதுபானங்களை எத்தனை முறை எடுத்துக்கொண்டீர்கள்?	☐ 0. எப்போதும் இல்லை ☐ 1. 1 மாதத்திற்கும் குறைவாக ☐ 2. மாதாந்திர ☐ 3. வாராந்திர ☐ 4. தினசரி அல்லது கிட்டத்தட்ட தினசரி
61. கடந்த ஆண்டு சட்டவிரோத மருந்துகளை எவ்வளவு முறை (கால இடைவெளி) பயன்படுத்தினீர்கள்? **(கோகோயின், மரிஜுவானா, ஹெராயின்)?**	☐ 0. எப்போதும் இல்லை ☐ 1. மாதத்திற்கு ஒரு முறை அல்லது அதற்கு குறைவாக ☐ 2. ஒரு மாதத்தில் 2-3 முறை ☐ 3. வாரம் ஒரு முறை ☐ 4. ஒரு வாரத்தில் 2-6 முறை ☐ 5. ஒரு நாள் அல்லது அதற்கு மேல்
62. கடந்த ஆறு மாத காலத்தில் எத்தனை பாலியல் தோழர்களோடு உறவு இருந்தது?	☐ 1. ஒரு எண் ____ ஐக் குறிக்கவும் ☐ 99. பதில் மறுக்கிறேன்
63. பாலியல் உறவுகளுக்கு பணம், பரிசு அல்லது பிற பொருட்கள் ஆகியவற்றை எப்போதாவது நீங்கள் ஏற்கிறீர்களா?	☐ 1. ஆம் ☐ 2. இல்லை ☐ 99. தெரிவிக்க மறுக்கிறேன்

நேர்காணல் முடிவு நேரம்: ____ / ____ (மணி / நிமிடங்கள்)
தங்கள் பங்கேற்புக்கு நன்றி.

பங்கேற்பாளர் அடையாள எண்:

Appendix 3: VERBAL CONSENT FORM

American University of Armenia

Institutional Review Board #1

Title of Research Project: "A cross-sectional study to assess disclosure of same-sex behavior, depression and sexual practices among MSM in Chennai, India."

Explanation of the research project

I am _____

The Turpanjian School of Public Health (SPH) at the American University of Armenia, in close collaboration with the community-based organization "SAHODARAN" conducts a research study amongst men who have sex with men (MSM) residing in Chennai in order to assess disclosure of same-sex behavior, depression and sexual practices. For this research, we are going to survey 155 MSM participants who volunteer to take part in this study. Since you self-identify as a man who has sex with other men, I kindly invite you to participate in the survey. If you are willing to be a part of this research, then please fill the questionnaire which will take approximately 15 minutes. Your participation is appreciated and remember it is completely voluntary. Each of your honest responses will add value to this study and can be incorporated for making further recommendations to support the health of MSM. The questionnaire needs to be filled out only once. The questionnaire includes questions regarding your disclosure status, depression status, sexual behavior, and demographics.

Voluntariness: Dear participant, please remember that your participation in this study is entirely voluntary.

If you do not wish to participate in the study or want to skip any questions that may make you feel uncomfortable, or if you wish to withdraw from the study at any point, you may do so. If you decide not to participate in the survey, there will not be any negative consequences and your decision will not affect your future enrollment in this organization or all the benefits they entitled to have from SAHODARAN.

Risk/Discomfort: Your participation in this study will not pose a significant threat to you in any way. However, emotional discomfort may arise through answering questions about your depression status, coming-out and sexual behavior.

Benefits: A monetary incentive of Indian Rupees 200, and a chocolate treat will be given at the completion of the questionnaire to each participant. Kindly accept it as a token of gratitude for your valuable time and effort. With the help of your responses, future interventions may be implemented to help your community members to have a better life.

Confidentiality: The information obtained from you will not provide cues to identify you in any way. Please remember we want to protect your identity and therefore we do not want you to provide details including your name, address, phone number or any other identifying information. To protect your anonymity, kindly use the envelope given to you and insert your forms upon the completion of the questionnaire and seal the envelope. Later, place your envelope in the box kept outside the room. Only the research team will have access to the information which cannot be connected to your identity and will be kept in highly secure conditions. As much as we require your answers, we need your trust as well.

The filled questionnaire will be transported by the research team and will be kept locked. Data entry will be done in a password protected computer. All the questionnaires will be completely anonymous and no one can connect the data with any of the participants.

Whom to contact: If you develop any questions regarding the study at any point in time do not hesitate to contact the principal investigator for this study Dr. Brett Burnham (brett.burnham@aua.am; +12023001775) at the American University of Armenia or supervisor for this study K.Selvarani Dharmalingam (+919176991190; selvaranibose@gmail.com). Moreover, if you feel you were not treated fairly or was offended during your participation; you may feel free to contact Varduhi Hayrumyan (email: vhayrumyan@aua.am; +374060612617), AUA Institutional Review Board (IRB) Human Protections Administrator or contact

<u>**வாய்மொழி ஒப்புதல் படிவம் :**</u>

**ஆர்மேனியாவின் அமெரிக்கப் பல்கலைக் கழகம்
நிறுவன சீராய்வு வாரியம் #1**

ஆராய்ச்சித் திட்டத்தின் தலைப்பு: இந்தியாவின் சென்னை நகரத்தில் ஒரினச்சேர்க்கை ஆண்களிடம் அவர்களது பாலுறவு முறைகளை வெளிப்படுத்துதல், மனஅழுத்தம் மற்றும் அவர்களது பாலுறவு முறைகள் பற்றி அறியும் ஒரு குறுக்கு வெட்டு ஆய்வு

ஆராய்ச்சித் திட்டத்தின் விளக்கம்

நான் _____
_ ஆர்மீனியாவின் அமெரிக்க பல்கலைக்கழகத்தின் டர்பன்ஜியன் பள்ளி பொது சுகாதார (SPH), சமூக அடிப்படையிலான அமைப்பு "சகோதரன்" உடன் நெருக்கமாக ஒத்துழைப்புடன் ஒரு ஆய்வு நடத்துகிறது. இந்த ஆராய்ச்சி கட்டுரையின் ஒரு பகுதியாக, இந்தியாவின் சென்னை நகரத்தில் ஒரினச்சேர்க்கை ஆண்களிடம் அவர்களது பாலுறவு முறைகளை வெளிப்படுத்துதல், மனஅழுத்தம் மற்றும் அவர்களது பாலுறவு முறைகள் பற்றி அறியும் ஒரு குறுக்கு வெட்டு ஆய்வை மேற்கொள்கிறேன். இந்த ஆய்வுக்காக, ஒரினச்சேர்க்கை உடலுறவு (MSM) கொள்ளும் 155 ஆடவரை, அவர்களது, முழு சம்மதத்துடன், நேர்காணல் செய்ய உள்ளேன். இந்த ஆய்வுக்குத் தகுதியானவர் என்னும் முறைக்கு நீங்கள் உட்படுவதால், இந்த ஆய்வில் கலந்துகொள்ளுமாறு உங்களை அன்புடன் அழைக்கிறேன். இந்த ஆய்வின் ஒரு பகுதியாக நீங்கள் இருக்க சம்மதித்தால், கொடுக்கப்படும் கேள்வித்தாளை தயவுசெய்து பூர்த்தி செய்து தரவும். அதற்கு, சுமார் 15 நிமிடங்களே தேவைப்படும். நீங்கள் இந்த ஆய்வில் கலந்துகொண்டால், நான், அதை வெகுவாகப் பாராட்டுவேன். இது, உங்களின் சுய விருப்பத்தோடுதான், என்பதை நினைவில் கொள்ளுங்கள். நீங்கள் நேர்மையாக அளிக்கும் ஒவ்வொரு பதிலும், எனது ஆய்வுக்கு, பெரும் மதிப்பைக் கூட்டும். மேலும், இது தொடர்பான, மருத்துவ பரிந்துரையில் அது சேர்க்கப்படும். இந்த கேள்வித்தாளை, ஒரே ஒரு முறை பூர்த்தி செய்தால் போதும். உங்கள், வெளிப்படுத்தல் நிலை, மன அழுத்த மதிப்பெண், மற்றும் விளக்கப்படங்கள் போன்ற அம்சங்கள் கேள்வித்தாளில், இடம் பெறுகின்றன.

தன் விருப்பார்வம்: இந்த ஆய்வில் பங்கு பெரும் அன்பானவரே, இந்த ஆய்வில், நீங்கள், உங்களின் சுய விருப்பத்தோடுதான் பங்கு பெறுகிறீர்கள், என்பதை நினைவில் கொள்ளுங்கள். இந்த ஆய்வில் பங்கு பெற உங்களுக்கு விருப்பம் இல்லையென்றாலோ, அல்லது, எந்த கேள்விக்காவது பதில் அளிக்க விருப்பமில்லாவிட்டாலோ, அல்லது அது உங்களை, சங்கடப்படுத்தும் என்று நினைத்தாலோ, அல்லது, இந்த ஆய்விலிருந்து எப்போது வேண்டுமானாலும்

விலகிக்கொள்ள விரும்பினாலோ, நீங்கள் அவ்வாறு உங்கள் விருப்பப்படியே செய்து கொள்ளலாம். நீங்கள் அப்படி விரும்பியபடி செய்வதால், இந்த ஆய்வகம், அது எந்த விதத்திலும் எதிர்மறையான விளைவை ஏற்படுத்தாது என்பதையும் தெரிவிக்கிறோம்.

உங்கள் முடிவு இந்த நிறுவனத்தில் உங்கள் வருங்கால சேர்க்கை அல்லது சஹோதரனிலிருந்து இருந்து பெறும் அனைத்து நன்மைகளையும் பாதிக்காது.

ஆபத்து/ தர்மசங்கடம்: இந்த ஆய்வில் நீங்கள் கலந்து கொள்வதால், உங்களுக்கு எந்தவித குறிப்பிட்ட அச்சுறுத்தலும் இருக்காது.எனினும், கேள்விகளுக்கு வெளிப்படையாக விடை அளிக்கும்போது, உங்களின் மன அழுத்த நிலை, அல்லது வெளிப்படையாக விடை அளிக்கும்போது ஏற்படும் மனம் சார்ந்த, ஓர் அசௌகரியம் ஏற்படலாம். கேள்விகளுக்கு விடை அளிக்கும்போது உங்களுக்கு ஏற்படக்கூடும் இது போன்ற தர்மசங்கடங்கள், மிகக் குறைவாகவே இருக்கும் விதத்தில், இக்கேள்விகளை உருவாக்கியுள்ளோம்.

நன்மைகள்: இந்த கேள்வித்தாளை பூர்த்தி செய்த பின், இதில் பங்கு பெறும் ஒவ்வொருவருக்கும், ஒரு சிறிய ஊக்கத்தொகை ரூபாய்200 மற்றும் சாக்லேட் வழங்கப்படவுள்ளது. அதை, தயவுசெய்து, இந்த ஆய்வுக்காக உங்கள் பொன்னான நேரத்தை ஒதுக்கியதற்காக, உங்களுக்கு எங்கள் நன்றியின் ஒரு சிறு அடையாளமாக ஏற்றுக்கொள்ளுங்கள். உங்களின் பதில்களின் அடிப்படையில், உங்கள் சமுதாயத்தைச் சேர்ந்தோர் எதிர்காலத்தில் இன்னும் நன்றாக வாழ்வதற்கான செயல்பாடுகளுக்கு உதவியாய் இருக்கும்.

இரகசியத்தன்மை: உங்களிடமிருந்து பெறப்பட்ட தகவல்கள் உங்களை எந்த வகையிலும் அடையாளம் காணுவதற்கான குறிப்புகளை வழங்காது. உங்கள் அடையாளத்தை நாங்கள் பாதுகாக்க விரும்புவதை நினைவில் வைத்துக் கொள்ளுங்கள், எனவே உங்கள் பெயர், முகவரி, தொலைபேசி எண் அல்லது வேறு அடையாளம் காணும் விவரங்கள் உட்பட விவரங்களை வழங்க நாங்கள் விரும்பவில்லை. உங்கள் அநாமதேயத்தை பாதுகாக்க, தயவுசெய்து உங்களிடம் கொடுக்கப்பட்ட உறைவைப் பயன்படுத்தவும், உங்கள் படிவங்களை பூர்த்தி செய்யுமாறு கேட்டுக்கொள்ளவும். பின்னர், அறைக்கு வெளியில் உள்ள பெட்டியில் உங்கள் உறைப்பை வைக்கவும். ஆராய்ச்சி குழு மட்டுமே உங்கள் அடையாளத்துடன் இணைக்கப்பட முடியாத தகவலை அணுகும் மற்றும் மிகவும் பாதுகாப்பான நிலையில் வைக்கப்படும். உங்களுடைய பதில்களைப் பொறுத்தவரை, எங்களுக்கும் உங்கள் நம்பிக்கையும் தேவை.பூர்த்தி செய்யப்பட்ட கேள்விகளை ஆராய்ச்சி குழுவால் கொண்டு செல்லப்பட்டு, பூட்டப்பட்டு வைக்கப்படும். கடவுச்சொல் பாதுகாக்கப்பட்ட கணினியில் தரவு உள்ளீடு செய்யப்படும். அனைத்து கேள்விகளும் முற்றிலும் அநாமதேயமாக இருக்கும், மேலும் பங்கேற்பாளர்களுடனான தரவை யாரும் இணைக்க முடியாது

தொடர்புக்கான நபர்: எந்த நேரத்திலும் ஏதேனும் கேள்விகளை நீங்கள் உருவாக்கியிருந்தால், இந்த ஆய்வின் முக்கிய ஆராய்ச்சியாளர் டாக்டர் பிரட் பர்ன்ஹாம் (brett.burnham@aua.am ; +12023001775) ஆர்மீனியாவின் அமெரிக்க பல்கலைக்கழகம். இல்லையெனில் இந்த ஆய்வுக்கு மேற்பார்வையாளரை தொடர்பு கொள்ள தயங்க வேண்டாம் K.Selvarani Dharmalingam (+919176991190; selvaranibose@gmail.com). இந்த ஆய்வில் நீங்கள் பங்கு பெறும்போது, நீங்கள் சரியாக நடத்தப்படவில்லையென்றோ அல்லது நீங்கள் புண்படுத்தப்பட்டீர்கள் என்று

உணரும்போது, தயவுசெய்து, நீங்கள் Varduhi Hayrumyan தொடர்பு கொள்ளலாம் (மின்னஞ்சல்: vhayrumyan@aua.am ; +374060612617), AUA மனிதவள மேம்பாட்டு நிர்வாகி (IRB) மனித ஆய்வு நிர்வாகி.

நன்றி!!!