POLICY BRIEF

Social & Behavioural Research Studies on Tuberculosis and Human Immunodeficiency Virus (HIV)

AN EFFECTIVE ALCOHOL INTERVENTION STRATEGY TO PROMOTE TB TREATMENT ADHERENCE

EXECUTIVE SUMMARY

Diverse factors contribute to the development of TB, alcohol use being one of the key factors. Alcohol dependence has been a major cause of treatment non-adherence in TB care and management. Several studies have also reported a strong association between alcohol use and risk of TB. However, TB clinics in India do not regularly screen patients for AUD (Alcohol Use Disorder) and the information available in patient records is limited to information on whether or not the patient consumes alcohol.

This is the first study in India to examine the feasibility of an alcohol intervention programme among TB patients with AUD. Study findings highlighted the increase in favourable outcomes (i.e., cured/completed treatment) in TB patients who received the intervention. The impact of the intervention was also reflected in better treatment adherence and reductions in alcohol use among the intervention group. This study suggest that alcohol interventions could be effective in ensuring favourable TB treatment outcomes and adherence.

BACKGROUND

It has been long known that several social determinants contribute to the development and progression of TB disease. The association between TB risk and alcohol use has been reported in several studies in India as well as globally. In addition to the role played by alcohol in the onset of TB, there is also strong evidence of the adverse effects of alcohol use disorders (AUDs) on TB treatment outcomes, which includes delays in diagnosis, non-adherence to TB treatment, treatment failure, death and default, as well as higher relapse rates.

This study is based on an earlier study carried out by ICMR-NIRT, which reported an alcohol consumption of 29% among TB patients with 52% having AUD screened with AUDIT (Alcohol Use Disorder Identification Test). The previous study pointed out that treatment outcomes were unsatisfactory (i.e., default, treatment failure and death) among those patients with AUD. The present study investigated the acceptability of and the urgent need for an alcohol intervention programme, and offers suggestions on the type of intervention that could be feasible.

Source: Medical News Today

The positive trends in our intervention out-

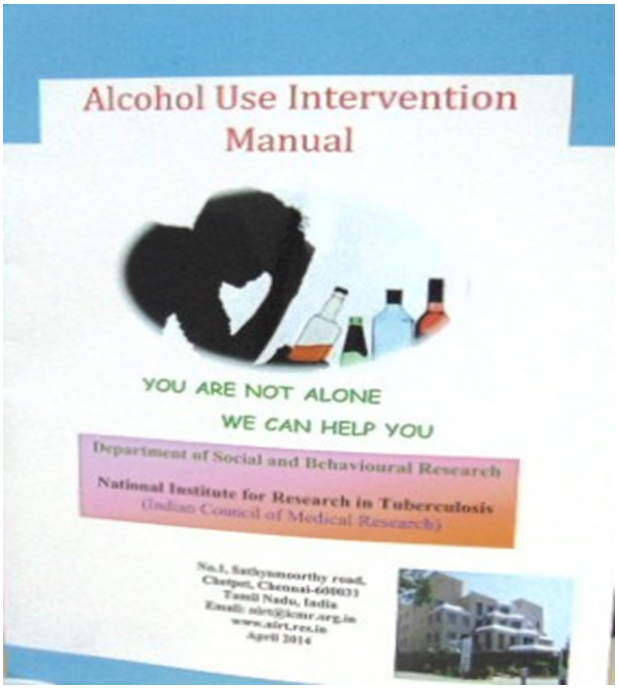
come could be attributed to its design, which was developed using a community participatory approach, where input from TB patients, their families as well as health providers was taken into account for the development and finalisation of the intervention.

An intervention manual was used as a guide for the intervention sessions, which was quite simple for the patients to understand. A descriptive flip-chart was designed for the individual counselling sessions. Furthermore, our interventionists who underwent intensive training with a centre that deals with alcohol dependence before administering counselling sessions. The intervention was carried out among TB patients with AUD at four time points between treatment initiation and treatment completion.

Our study suggested that the use of four individualised counselling sessions was feasible and acceptable. Although group sessions were considered, we found that this was not feasible because TB patients received anti-tuberculosis treatment at different locations and getting them to one place at the same time was a challenge. We therefore strongly advocated individual counselling as a more feasible intervention likely to provide positive results. It is also reassuring to note that the intervention also led to significant reduction in AUDIT scores in the intervention group even at the end of treatment.

AIM OF THE PRESENT POLICY BRIEF

This policy brief extrapolates on a study conducted by the ICMR—National Institute of Research in Tuberculosis to investigate the effectiveness of an alcohol intervention strategy among TB patients with alcohol use disorders.



©NIRT. The structured alcohol intervention manual that was used as a guide for the intervention sessions.

OBJECTIVES OF THE STUDY

To enhance treatment adherence of TB patients with AUDs through intervention strategies and to evaluate the impact of interventions by comparing the treatment adherence in the experimental arm with the control arm.

KEY FINDINGS

- 31% of TB patients were found to have AUDs.
- Proportion of patients with favourable treatment outcomes was higher in the intervention group (p=0.04)
- Overall adherence to anti-TB treatment was significantly higher in the intervention group (P=0.02)
- Default rates and AUDIT scores were significantly lower in the intervention arm.
- Need for counsellors in the TB control programme for implementation of alcohol intervention.

FEEDBACK FROM THE PARTICIPANTS

- *The alcohol intervention was helpful and important.*
- *The individual sessions were helpful….*
  - ⇒ *In abstaining from alcohol while on treatment*
  - ⇒ *Need for drug regularity and problems with irregular treatment*
  - ⇒ *Feel more responsible towards family and self*
- *Family situation got better*
- *Improvement in the economic status*
- *Felt a difference in the general well being when abstained from alcohol use.*

POLICY RECOMMENDATIONS

➔ Screening for alcohol use in TB clinics is an important step in the timely initiation of a structured alcohol intervention programme.

➔ Urgent need for alcohol intervention among TB patients for treatment adherence and favourable treatment outcomes.

➔ Need for qualified and trained counsellors in the TB programme for effective alcohol interventions that is crucial to TB control.

➔ Improve & tailor preventive Rx interventions

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ACKNOWLEDGEMENT

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SELF HELP GROUPS (SHG) - A POWERFUL TASKFORCE IN TUBERCULOSIS CONTROL RESEARCH EVIDENCES

EXECUTIVE SUMMARY

The WHO 'End TB strategy' has highlighted the importance of inter-sectoral collaboration and community mobilization for realizing the goals of zero TB deaths by 2020. To achieve universal access, the unreached vulnerable population under RNTCP need to be involved through community mobilization. Programmatic experiences highlight that participation with local community institutions had resulted in better intervention effects, with increase of case detection rates, treatment success and reduced delay in diagnosis in TB care.

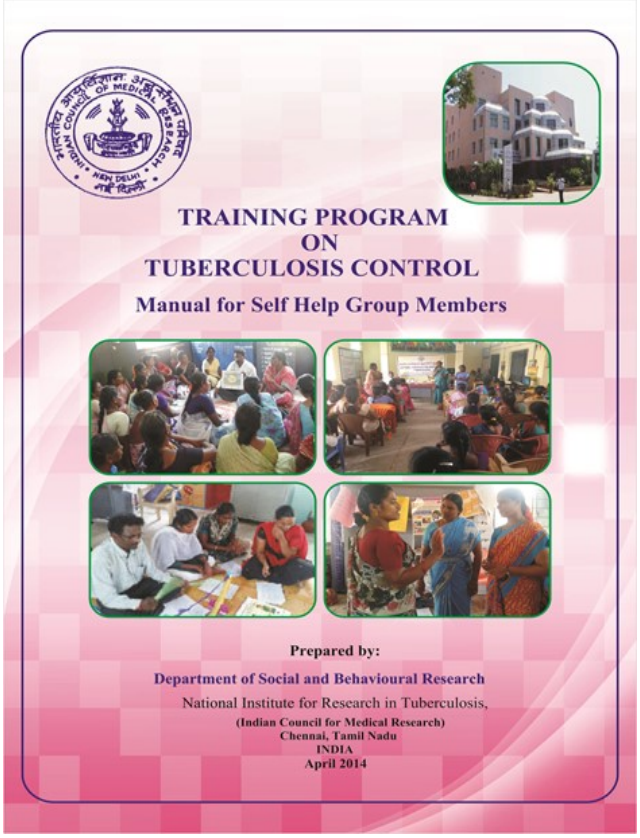
Considering the positive impact of involving community-based organizations in TB control in different settings the present study aimed to explore the potential of Self Help Groups (SHGs) in driving a community TB program in Tiruvallur District of Tamilnadu. The intervention content included short-lecture, musical story telling activity, role play, short film on TB. Study findings reported higher proportion of identification and referral of chest symptomatic in the intervention group when compared to the control. This study highlights the feasibility of involving SHGs through a model TB sensitization program for strengthening TB prevention and control activities.

Discussion with Self Help Group members. Source: NIRT

BACKGROUND

The estimated incidence of TB in India was approximately 28,00,000 accounting for about a quarter of the world's TB cases as per the Global TB report 2017. India has scaled up basic TB services in the public health system, treating more than 19 million TB patients under RNTCP; the rate of TB decline is too slow to meet the 2035 End TB targets. India's national strategy plan for TB emphasizes programme innovations for ensuring universal access to quality TB services and this can be achieved largely through community engagement. Community driven TB sensitization models based on participatory action approach have not yet been prioritized in the TB prevention and control program. As the positive impact of involving communities in TB control activities has been reported in some settings, this study was conducted to explore the effectiveness of involving SHGs in TB control activities.

A total of 1560 participants were recruited to the study (764 in control group and 796 in the intervention group). The intervention groups were exposed to a detailed manualized TB sensitization training. The intervention included an interactive session on basic facts of TB (cause, spread, prevention and cure), a song sequence (*Villu Pattu*) that covered the need for early diagnosis, the investigations, the challenges, the spread of TB and the pledge to eradicate TB and a short film/role play on TB. The SHGs from both groups were handed referral slips for referral of any TB presumptive cases they identified.



The Manual developed by the department for training Self Help Groups in TB control. Source: NIRT

AIM OF THE PRESENT POLICY BRIEF

This policy brief throws light on the study conducted by ICMR-National Institute for Research in Tuberculosis (NIRT) to explore the potential of Self Help Group (SHG) in driving a community TB program in Thiruvallur district, Tamil Nadu, South India.

STUDY OBJECTIVES

- To develop and test a model TB sensitization programme involving SHGs based on participatory action approach.
- To promote TB awareness among SHGs.
- To ascertain the feasibility and acceptability of SHG in the community for identifying and referring chest symptomatic for TB investigations.

GAP ANALYSIS

A community based active case finding survey carried out in Tiruvallur district, Tamil Nadu detected 29% of patients with TB who did not report their illness to any health provider. Further, a study on care seeking behavior of chest symptomatic also found that in rural Tamil Nadu 9% had not sought care due their poverty. These missing cases could be a barrier to the attainment of TB prevention and control. With the focus on increased community awareness and community engagement in TB, reaching the million in need of treatment will be a major step forward in the ultimate goal of eliminating TB.

Community health workers who are Accredited Social Health Activists (ASHAs) in most parts of India are mostly involved in the management of maternal and child health and multiple

diseases ranging from diabetes to mental health to TB. These community health workers have been a cornerstone in scaling up HIV prevention and treatment all over the world. However, the ASHAs have been in many ways overburdened by most of the health programmes and perhaps the time has come to consider others from the community—SHG women being one such group. SHGs have been active in dealing with many social issues related to health at the community level. And they could be a powerful task force in TB control programme. However, there is dearth of information about how they can be involved in TB prevention and control.

At baseline, 84% in the control and 88% in the intervention group reported not being involved in any health related activities and almost all the participants in both arms reported that they had no prior exposure on TB awareness programme. The study first sought to explore the improvement in the level of TB awareness as well as the knowledge, attitude and practice (KAP) in both the intervention and control group. An overall improvement in awareness was seen in both groups at the third and sixth months. However, the percentage of TB awareness change was seen more in the intervention group. Similarly, better attitude and practice towards TB was seen at the 3rd and 6th month in the intervention group.

SHG members performing a role play during one of the intervention sessions. Source: NIRT

ARE SHGS A POWER TASKFORCE IN TB CONTROL – STUDY FINDINGS

- Study findings reported a statistically significant increase in TB awareness and Knowledge, Attitude and Practice (KAP) scores among the SHGs who were exposed to intervention.
- Low scores on TB awareness reduced form 66.4% at baseline to 10.3% at end line ($p<0.001$).
- Significantly higher proportion of SHG members who were exposed to intervention training involved in TB awareness activities as compared to control group (83% Vs 65%; $p<0.001$).
- Higher proportion of SHG members consistently referred chest symptomatic to the government health facilities for TB diagnosis. This resulted in increasing smear positive TB case detection rate in the intervention area.
- Findings point out to the effectiveness of community driven TB sensitization models based on participatory action approach.
- Our findings mainly point to the fact that self-help groups, if sensitised could be a potential powerful force who can be involved in TB control activities—TB advocacy, identification and referral of chest symptomatic, and as community DOTS providers.

POLICY RECOMMENDATIONS

⇒ **Building a systematic collaboration between the health systems and these grass root organizations like SHG's is essential to achieve effective TB control.**

⇒ **SHG's utilized in innovative ways to combine both poverty alleviation and community health interventions into an integrated strategy that leverages existing resources to achieve greater impact and scale.**

⇒ **SHG's can be considered a powerful task force in promoting TB awareness, identification and referral of chest symptomatic and as DOTS providers.**

⇒ **SHGs can be a link between the TB patients and service providers in identifying gaps and making TB care services more patient friendly.**

⇒ **Findings suggest that countries with limited healthcare coverage and shortage of health workers can involve community groups Self Help Groups to improve TB case detection.**

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Urban Registration Gap

A big challenge to TB control

EXECUTIVE SUMMARY

The Revised National Tuberculosis Control Program (RNTCP) faces considerable challenges in retaining TB patients throughout the process of diagnostic workup, linkage to care, and treatment. In the nation's largest cities, more patients are diagnosed with smear-positive TB every year than the number of smear-positive patients who are registered for TB treatment within those cities. This registration gap could be due to pre-treatment loss to follow-up (PTLFU) or could be patients coming from rural areas who temporarily visit cities to access TB diagnostic services, which could be due to poor access to government health facilities in rural areas. The question of where TB patients in cities are coming from also intersects with an interrelated question of where TB patients are being diagnosed in these cities.

In this paper, we analysed the patient address data from 22 DMCs in Chennai to understand where chest symptomatic and newly diagnosed smear-positive TB patients are coming from and evaluated the pattern of where TB patients are being diagnosed in Chennai. Study findings showed that TB case detection in Chennai is centralized, with four high-volume DMCs making most diagnoses. One-sixth of patients are from outside the city, most of whom get evaluated at these high-volume DMCs. This calls for better coordination between high-volume city DMCs and rural TB units where many patients may take TB treatment.

BACKGROUND

India has the world's highest incidence of TB, with 2.8 million cases annually, which accounts for more than a quarter of the global TB burden treated in the Government of RNTCP (Revised National TB programme). India statistics suggest that this poor linkage to care of TB patients is particularly evident in major cities. In most large cities, there are more patients diagnosed with TB every year in comparison with the number of patients who are registered for TB treatment within those cities. This has been referred to as the "urban TB registration gap" (Subbaraman et al., 2017). Bengaluru, Hyderabad and Chennai have the largest registration gaps in the country, with approximately half of all diagnosed TB patients registered for treatment within these cities. Understanding of this gap may throw light on the large number of "missing" urban TB patients.

©NIRT Patients waiting at RNTCP OP Vellore Government Hospital

AIM OF THE PRESENT POLICY BRIEF

This policy brief will inform about the TB registration gap in Chennai city and the reasons for this gap.

STUDY OBJECTIVES

- To evaluate the pattern of where TB patients are being diagnosed in Chennai city.
- To understand where chest symptomatic and newly diagnosed smear positive TB patients are coming from.
- To understand the relative importance of tertiary, secondary and primary health centres for detecting TB patients.

GAP ANALYSIS: THE URBAN TB REGISTRATION GAP IN CHENNAI

With a population of 8.7 million, Chennai is India's fourth most populous city with a general TB prevalence of about 349 per 100,000 people. To deal with this issue, there are government designated microscopy centers (DMCs) offering diagnostic and treatment facilities.

It was found that 22 (of the 54) high volume DMCs diagnosed 90% of smear-positive TB patients, with the maximum number of patients from 4 major centres (Chennai General Hospital, Government Stanley Hospital, the Institute of Thoracic Medicine, and Government Thiruvatteeswarar Hospital of Thoracic Medicine). Despite various efforts, it was observed that, in 2014, there was still a 49% gap between the official number of TB patients diagnosed and the official number registered in TB treatment within the government TB program.

© Oxfam International / An overcrowded hospital where patients wait to get registered

To understand this urban gap in Chennai, the study collected data from the 22 high volume DMCs in Chennai in 2015. The results showed that 15.9% chest symptomatic and 17.2% diagnosed smear-positive patients had an address outside of Chennai. At the city's four high patient volume DMCs, 20% of smear-positive patients lived out-of-city. At one of these high-volume DMCs, 52.5% smear-positive patients lived out-of-city. Overall, one-sixth of patients are from outside the city, most of whom get evaluated at these high-volume DMCs.

[1] Persons with symptoms of a productive cough for 3 weeks or more, with or without chest pain, fever and loss of weight during the 3 months prior to the visit.
[2] As per the WHO, smear positive TB case is based on the presence of at least one Acid Fast Bacilli (AFB+) in at least one sputum sample in countries with a well-functioning external quality assurance system.

URBAN REGISTRATION GAP AND PRE TREATMENT LOSS TO FOLLOW UP (PTLFU)

While this Urban Registration Gap is worrisome, study findings also point to pre-treatment loss to follow-up (PTLFU), which is an outcome of mobility of patients from outside Chennai despite decentralization of TB care. The study reported an overall PTLFU rate of 22% in Chennai. Of all PTLFU patients, 72.4% were lost to follow-up and 28% died before starting treatment or before RNTCP registration.

Of all patients evaluated for TB, 34% were untraceable because their addresses and phone numbers were illegible or missing. This has very important implications for TB control in the country, as these patients are not only at high risk for death but they may also transmit TB to others. All these findings point out to the need for better coordination of the referral process between high-volume city DMCs and rural DOT centres

STUDY KEY FINDINGS

- ➔ Out of 54 DMCs in Chennai, 90% of smear-positive TB patients were diagnosed at 22 DMCs.
- ➔ Out of these 54 DMCs, four high-volume DMCs in tertiary hospitals evaluated 40% of the total chest symptomatic and diagnosed 57% of total smear-positive patients.
- ➔ At the 22 DMCs, 16% chest symptomatic and 17% diagnosed smear-positive patients had an address outside of Chennai (May 2015).
- ➔ At one of these high-volume DMCs, 53% smear-positive patients lived out-of-city.
- ➔ 34% of the patients evaluated for TB are untraceable due to poor documentation and follow-up of addresses and phone numbers.
- ➔ The overall pre-treatment loss to follow up rate is 22%. Of all PTLFU patients, 72% were lost to follow-up and 28% died before starting treatment or before RNTCP registration.

POLICY RECOMMENDATIONS

Urban TB registration gap is a serious problem which affects the quality of TB care in India. It has been established that movement of patients from rural/ semi-urban areas and towns into the city for diagnosis and treatment purposes, which results in high PTLFU rates in the city.

Evidence from the studies point to the following recommendations:

- ➔ The findings of this study reflects on the need to improve patient contact information which includes verified contact address and phone numbers recorded at the time of sputum evaluation, proactive patient tracking by a healthcare worker team dedicated to patient retention, and rigorous implementation of a “registration at diagnosis” policy. This may help to reduce PTLFU and improve linkage to care.
- ➔ It is also necessary to strengthen the referral process and networking strategies among the health care providers. This will ensure coordination amongst the centers in Chennai and the rural TB Units where the patients are likely to

take treatment.

- ➔ The RNTCP should ensure strong coordination between high-volume DMCs in Chennai and the rural TB Units where these patients are likely to take treatment.
- ➔ The RNTCP should strengthen the high volume DMCs and take into consideration the case detection in each area while establishing DMCs. Some hotspots may require more DMCs as compared to those with a low prevalence of TB and therefore a lower case detection. The RNTCP before establishing DMCs should also take into account the performance and the case volume of each DMC.
- ➔ Health system strengthening along with proper coordination and patient friendly referral system is key to prevent PTFLU.

FURTHER READING

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USING M-HEALTH TECHNOLOGY TO REDUCE HIV TRANSMISSION RISK AMONG MALE SEX WORKERS

EXECUTIVE SUMMARY

Men who have Sex with Men (MSM) population, in particular Male Sex Workers (MSW) in India face severe social and economic marginalization, and engage in risky sexual behaviour. Despite the risky sexual behaviours HIV/ STI prevalence among MSW, there is a large gap in HIV prevention efforts designed for this population. While HIV prevention programs exist in India, they are generally limited to condom distribution and educational outreach among MSM population. Most of the interventions are not contextually tailored to meet the specific needs of each sub-population.

This study aimed to develop and test a culturally relevant, HIV risk reduction intervention using mobile phone technology for MSW in Chennai, India. This intervention was developed to be responsive to the changing profile of sex work in India, capitalizing on the widespread use of mobile phones by sex workers. An open pilot assessed the feasibility and acceptability of the intervention among MSWs. Retention for session attendance and assessment follow-up was 100 %. There was a high level of acceptability for the format, structure, and content. These data show initial promise, feasibility, and acceptability of the intervention.

Source: Peter Caton for India HIV/AIDS Alliance

BACKGROUND

While India has seen a decline in AIDS related death, the HIV epidemic in India is mainly driven by sex workers, MSM, people who inject drugs and transgender people. With an estimated HIV prevalence of 4.3%, which is 16 times higher than that of the country's general population (0.26% vs. 4.3%), respectively, Indian MSM are disproportionately affected by HIV (National AIDS Control Organisation (NACO), 2017; Thomas et al., 2011).

A large but hidden population of MSM engage in transactional sex, i.e., MSM in exchange for money, gifts, or favours (male sex workers; issues around stigma further marginalises them, reduces their access to HIV treatment and prevention services and increases HIV transmission and acquisition risks (Mimiaga et al., 2017).

With a tele-density of 92.92% and advances in mobile-phone technology, the organization and conditions of sex work has changed extensively ("Highlights of Telecom Subscription Data," 2017). Hence, India is a prime setting to benefit tremendously from the scale-up of mHealth interventions (Swendeman, 2013). Due to the complexities and challenges in organising traditional in-person interventions such as transportation costs, scheduling difficulties and lack of anonymity, using mobile phones for HIV prevention may prove effective for general prevention efforts, particularly for Indian MSW.

OBJECTIVE OF THE PRESENT POLICY BRIEF

This policy brief will extrapolate on a study conducted by the ICMR-National Institute for Research in Tuberculosis (Chennai, India) and The Fenway institute (Boston, USA) to develop and test HIV risk reduction intervention using mobile phone technology for MSW in Chennai, India.

STUDY OBJECTIVES

⇒ To develop and test a culturally relevant, theory-based HIV risk reduction intervention using mobile phone technology for MSW.

⇒ To assess feasibility, acceptability and effectiveness of reducing sexual risk-condom-less anal sex (CAS) acts among MSW.

GAP ANALYSIS

While national prevalence estimates of MSW are poorly characterized, available research suggests that they have an elevated burden of HIV and STI. The acquisition of HIV/STI in Indian MSW is linked with multiple sexual risk behaviours, including large numbers of concurrent sex partners and inconsistent condom use with both paying and non-paying sex partners. This high levels of sexual risk behaviours and HIV/STI prevalence among MSW in India indicate that there is a gap in HIV prevention designed specifically for this population.

There is a high degree of heterogeneity among Indian MSW in terms of socio-demographic characteristics. In Chennai, the majority are in their twenties and thirties are unmarried, and have less than a secondary school education. While sex work may not necessarily be their primary source of income, most MSW are motivated to sell sex out of economic need—linked to either underemployment or low wages.

MSW in India face multilevel and complex risk factors for HIV including social stigma, discrimination and criminalization—by defying norms of both sexual behaviour and employment. This stigma, discrimination and potential for criminalization further marginalize Indian MSW, and, as a result, reduce their access to HIV treatment and prevention services and increase HIV transmission and acquisition risks. The high levels of sexual risk behaviours and HIV/STI prevalence among MSW in India indicate that there is a gap in HIV prevention designed specifically for this population. Specific interventions for Indian MSW are lacking and is much needed.

Engagement in sex work for an average of 9 years was reported by the study participants (n=40). In terms of sexual identity, kothis (80%) and double-deckers (18%) comprised the majority of the sample. The number of participants with a negative HIV sero-status was 82.5%; the remaining 17.5% were of unknown sero-status because they refused voluntary HIV rapid testing and counselling services. The need for intervention content that went beyond basic HIV psychoeducation was suggested by the participants. They emphasized the importance of addressing psychological distress, alcohol-related risk, and sexual communication skills; however, concerns on confidentiality and privacy were raised by the participants cation skills.

INTEGRATING MOBILE-PHONE TECHNOLOGY IN HIV-PREVENTION INTERVENTION

Through the study, HIV counselling and testing was provided along with two in-person and four mobile phone sessions by a trained counsellor. All sessions were conducted one-on-one. Participants received up to one text message/voice mail daily in the first month of the intervention and two messages in a week through twelfth week. The messages were sent as reminders, encouragement and motivations to stay safe. The content of the messages was decided by the MSM which was in a language comfortable to them. These included messages to improve self esteem and self acceptance and sexual risk reduction messages.

During the sessions, themes including how to use condoms and lubricants, problems with condoms, alternative sexual activities and sexual limits were discussed. Additionally, the participants practiced how to negotiate condom use with their clients, and discussed the concept of ‘‘triggers’’ of CAS (environment/setting where sex work is done, type of clients, alcohol use, depressed mood, sex work stigma, and self-esteem) and strategies for managing these triggers.

The main strength of this intervention program is by using a community based approach where the MSW themselves were an integral part of developing the intervention curriculum.

Examples of mobile phone messages sent during the intervention period:

Remember to use chocolates. (Word for condoms as used by the MSW in Chennai)
Stick with it!
Remember people care about you.
You matter.
Believe in yourself and your power to stay safe!
You deserve to be healthy, you deserve to be happy.
You are worth it!

Sex work related measures:

- ➔ Sex work being the only source of income
- ➔ Offered more money NOT to use condom
- ➔ Money and pleasure were the most common reason for starting sex work
- ➔ Experiences of violence during sex work included verbal, physical, forced not to use condom, forced anal sex and forced drinking
- ➔ Sex with most recent client….
  - Receptive anal sex
  - Unknown HIV status of the client
  - Non-usage of condom

Economic motivation for substance use

Given the increased financial earning for anal receptive sex compared to oral or manual sex, male sex workers are reportedly more inclined to engage in sex while using alcohol, despite existing reservations.

Source: Shutterstock/ © Syda Productions

KEY FINDINGS

- ➔ MSWs widely use mobile phones to access clients as well as day to day communication.
- ➔ Community based approach with culturally-tailored, integrated in-person and mobile phone delivered counselling intervention can therefore effectively reach this population
- ➔ Intervention included mobile phone delivered sexual risk reduction counselling with a combination of daily, personalized text or voice messages .
- ➔ 96% of the study population have been able to access this mobile phone health intervention.
- ➔ Findings showed a 97% reduction in the reported number of risky sexual behaviour acts with male clients and a 95% reduction in the reported number of risky sexual behaviour acts with male non-paying partners among the intervention group.
- ➔ High level of retention for the in-person and mobile-phone sessions were observed.
- ➔ Larger proportion of participants in the intervention group reported improvement in sexual communication (25% vs 8%) and being able to negotiate condom use with their clients (94% vs 75%).
- ➔ Findings point to the feasibility and acceptability of a technology-based, mobile-phone-delivered HIV-prevention intervention for MSW
- ➔ Needs initial efficacy testing in a fully powered efficacy trial for reducing sexual risk for HIV.

POLICY IMPLICATIONS AND RECOMMENDATIONS

The increasing levels of risky sexual behaviour among the MSM community indicates that there is a large gap in HIV prevention interventions for this population. Given the vulnerable and hidden nature of MSW in India, it is important to use innovative and culturally-tailored methods to deal with risky sexual behaviour and HIV prevention.

Evidence from the studies point to the following recommendations:

- ➔ With the growing usage of mobile phones and smart-phones in India, interventions should be scaled up for HIV prevention to include usage of mobile phone technology.
- ➔ Integrating mobile phone technology in HIV prevention interventions for Indian MSW mitigate some of the challenges associated with face-to face approaches, such as implementation, lack of anonymity, and time consumption.
- ➔ As findings point to a high level of retention for the in-person and mobile-phone sessions, sending tailored messages at previously identified periods of elevated risk such as weekend evenings may prove effective in helping MSW avoid risk triggers.
- ➔ Community based approach with tailor made interventions and counselling packages suitable to each target group will reduce risky sexual behavior and thereby risk of HIV .

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