P04.30 A SYSTEMATIC REVIEW OF INTERVENTIONS TO REDUCE ILLICIT DRUG USE IN FEMALE DRUG-DEPENDENT STREET SEX WORKERS

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Introduction Sex work and drug use are inextricably linked. For drug dependent street sex workers (SSWs) it is the need to fund drug use that warrants exposure to the risks of selling sex. Despite evidence that SSWs have poor outcomes from drug treatment services, the recent recovery-orientated UK drug strategy did not identify SSWs as a group with complex treatment needs. Synthesis and critical appraisal of existing evidence is needed to guide service changes towards improving drug treatment outcomes for this group.

Methods A systematic review of evidence of effectiveness of interventions to reduce illicit drug use in female SSWs experiencing problematic drug use was undertaken. Following the PRISMA guidelines, a structured search strategy was used. Searches included databases, organisational and government websites to identify published and grey literature, as well as hand-searching reference lists and journals and contacting experts in the field.

Results Six studies, one experimental and five observational, were identified which met review inclusion criteria. Intervention approaches evaluated included substitute prescribing, educational sessions and motivational interviewing. All studies reported a positive intervention effect but the five observational studies were all subject to a relatively high risk of bias. By contrast, the only experimental study, provided little or no evidence of positive effect (odds ratio for reduction of illicit drug in intervention compared to controls 1.17 95% CI 0.84–1.66 at 3 months and 1.14 (95% CI 0.8–1.61) at six months follow-up). All studies described challenges and solutions to study recruitment, retention and follow-up which were influenced by issues affecting SSWs' health and social stability.

Conclusion There is currently no strong evidence for effectiveness of interventions to reduce illicit drug use in drug dependent female SSWs. The development and robust evaluation of effective interventions should be a priority if recovery is to become a realistic goal for this complex group. The first author is funded by an NIHR postdoctoral fellowship. No pharmaceutical grants were received in the development of this study.

P04.31 STUDY AMONG INJECTABLE DRUGS USERS (IDUS)

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Background Afghanistan is a country of low HIV prevalence but high risk factors for a number of reasons:

There is no information on the prevalence rates of HIV amongst general population- there are neither HIV sentinel surveillance sites nor case reporting system. There have also been no general population household studies of Behavioural surveillance in general population.

Methodology Rapid Assessment techniques comprising qualitative methods were used, in the first instance, to elicit salient key themes to inform questionnaire design for the quantitative component of the study. Key information interview were conducted in each five research sites with administrator and services provides who had knowledge of injecting drug use. Secondly, the free list technique was employed with information in all five research area to elicit responses to thematically- focused question on injecting drug use and lifestyle.

Blood sample were drawn from each 250 participants to test HIV, HCV, HBS and Syphilis

Study aims

1. Describe the range of characteristics of IDUs in major cities of Afghanistan.
2. Examine the injecting –related HIV risk behaviours of IDUs.
3. Suggest necessary intervention to prevent HIV transmission among IDUs and their family and sex partners.

Conclusion Study of characteristics and drug user pattern of IDUs conducted through in- depth interview with 250 IDUs in five area: Herat; Kabul; Bamyan; Jalalabad and Mazar-e-Sharif by the criteria of: demographics; ethnicity; place of birth; time spent outside Afghanistan during the past ten years; length of time of return to Afghanistan; education and literacy level; marital status; income; drug availability; drugs use and injection; condom use; sexual history and practices; knowledge and attitudes about HIV; services use and satisfaction.

Disclosure of interest statement I would like to clear that I was the principle investigator of this study, I have approval letter from ministry of Public Health of Afghanistan.

P04.32 MOTIVATIONAL INTERVIEWING FOR PEOPLE WITH CHRONIC VIRAL HEPATITIS AND WHO DRINK ALCOHOL: A RANDOMISED CONTROLLED TRIAL

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Introduction A significant synergy exists between heavy alcohol consumption and hepatitis virus infection (hepatitis B and C), which may suggest a common pathway for hepatocarcinogenesis. Psychological interventions such as motivational interviewing (MI) can generate urgently needed psychological, physiological and lifestyle changes to people who use alcohol. No randomised controlled trials (RCTs) were found investigating effectiveness of MI in patients with chronic viral hepatitis and who drink alcohol.

Methods Using a RCT, patients were randomised into intervention and control groups. The Nurse Practitioner, Hepatology trained in MI provided the intervention. Demographic, clinical and patient-report data using AUDIT-C, Timeline Followback Survey_Alcohol (TLFB_A), World Health Organization Quality of Life _Brief (WHOQOL-Bref) were collected.

Results At 8 weeks, a reduction was found in both groups with 53% of the intervention group reporting a 50% reduction compared to 43% in the control ($x2 = 0.382$, $p = 0.536$). TLFB_A results were also found to significantly reduce over time ($p < 0.001$). Participants reported on average 14.1 (7.7, 25.4; $P < 0.001$) drinks after 8 weeks. The intervention group reported 18.8 (10.9, 32.2) drinks and generally reported a lower mean TLFB_A compared to the control group 32.4 (18.7, 55.7; $p = 0.1.66$). A clear trend emerged with the intervention group showing a much sharper sustained drop in TLFB_A results over time. The results of the AUDIT C were found to reduce over time ($p = 0.001$). Mean AUDIT C results were significantly lower at 8 weeks 5.4 (4.5, 6.3; $p = 0.001$) compared to baseline 6.9 (6.2, 7.6). It was found the intervention group tended to

have a slightly higher reduction of alcohol consumption over time.

Conclusion Motivational Interviewing proved an acceptable intervention for the nurse practitioner and this cohort of patients. A number of implications for practice were identified including improvements to patient clinical assessment practices and the provision of a MI intervention for alcohol reduction.

P05 - Antimicrobial resistance

P05.01 DRUG TARGET TO INHIBITOR (DT2I) APPROACH OF COMBATING INCREASING DRUG RESISTANCE IN *NEISSERIA GONORRHOEAE*

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Introduction *Neisseria gonorrhoeae* is an etiologic agent of one of the most common sexually transmitted disease in humans. The continuous rise of *N. gonorrhoeae* infection worldwide accompanied by rapid emergence of multidrug-resistant and hypervirulent strains has necessitated the search for novel drug targets and their inhibitors. The present study is undertaken to screen inhibitors against the novel drug targets of N. gonorrhoea.

Methods The putative therapeutic targets in *N. gonorrhoeae* were identified by *in silico* approach which encompassed similarity search between pathogen and host, essentiality study using the database of essential genes and metabolic functional association study using Kyoto Encyclopaedia of Genes and Genomes database. Virtual screening of inhibitors against the major candidate therapeutic targets was further carried out using docking analysis. *In vitro* protein inhibitor binding assays are proposed for the best docked compounds.

Results The study identified various promising drug targets which are non-homologous to human proteins, essential for the pathogen and present in important pathogen-specific pathways. The peptidoglycan biosynthesis pathway is the highest donor to the list of candidate target proteins followed by the two component system. Homology model of one of the identified potential targets from both these pathways, namely, glutamate racemase (product of murI gene) from peptidoglycan biosynthesis pathway and NarL protein from two component system, was constructed. Subsequently, by means of virtual screening approach, potential inhibitors from small molecules databases were predicted against both these targets. Identified inhibitors possesed better docking scores and stronger binding affinity with the target molecules compared to known inhibitors and natural substrate of these proteins. These novel compounds may facilitate the development of new drugs to combat increasing drug resistance associated with *N. gonorrhoeae*.

Conclusion Potential inhibitors predicted against *N. gonorrhoeae* in the present study opens new avenues for the treatment option against multidrug resistant strains.

Disclosure of interest statement There is no conflict of interest.

P05.02 *NEISSERIA GONORRHOEAE* STRAIN TYPES AND ANTIBIOTIC SUSCEPTIBILITY

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Background Molecular surveillance of *Neisseria gonorrhoeae* will help in understanding the transmission patterns of the infection and the acquisition/development of antibiotic resistant strains. We aimed to determine the antimicrobial resistance (AMR) and the genotypes of the *N. gonorrhoeae* isolates.

Methods Of a total of 287 *N. gonorrhoeae* isolates the minimal inhibitory concentration (MIC; mg/L) of penicillin, tetracycline, ciprofloxacin, ceftriaxone, azithromycin, spectinomycin and cefixime was determined employing the gold standard agar dilution method. β-lactamase production was detected using nitrocefin solution. The sequence types (STs) of the isolates was obtained using the NG-Multi Antigen Sequence Typing (NG-MAST) method.

Results All isolates were susceptible to ceftriaxone, spectinomycin, and cefixime. Resistance to ciprofloxacin, tetracycline, penicillin, and azithromycin was 50.9%, 46.3%, 26.5%, and 2.4% respectively. A total of 10.8% of the strains produced β-lactamase. Overall 74 STs were determined. Five STs made up for 50.3% of all the isolates: ST2992 (19.8%); ST1407 (9.7%); ST2400 (7.6%); ST387 (7.3%); ST2212(5.9%). ST387 was isolated in heterosexuals only and ST2400 and ST2992 in mainly men having sex with men. All ST387 were susceptible to all tested antibiotics with 95.2% of the strains having a MIC of 0.001 mg/L for ceftriaxone. All ST2992 were susceptible to ciprofloxacin and all ST1407, ST2212, and ST2400 were resistant. The median MICs for ceftriaxone were 0.03 μg/ml for ST1407, ST2212, and ST2400 and 0.008 μg/ml for ST2292. None of the five STs showed β-lactamase activity.

Conclusions Associations were found between antibiotic susceptibility and sequence type. The most important finding is the absolute susceptibility to the tested antibiotics of ST387, which was identified in heterosexuals only. Our preliminary results are very promising. However, more research is needed to further optimise the NG-MAST method for its use in predicting AMR and in molecular surveillance. Ultimately the method should be applicable directly on biological specimens.

Disclosure of interest Nothing to declare.

P05.03 PERFORMANCE OF TWO ENZYME AND ONE STRIP IMMUNE ASSAY FOR THE DETECTION OF IGM ANTI-*TREPONEMA PALLIDUM* ANTIBODIES

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Background The detection of anti-*Treponema pallidum* (Tp) IgM may be useful in the diagnosis of very early syphilis, re-infection and in the assessment of the newborn. We aimed to evaluate two enzyme and one strip immune assay for the detection of anti-Tp IgM in blood specimens.