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MEDICATION-ASSISTED TREATMENT PROGRAM AS MEANS OF SOCIAL PREVENTION OF HIV IN PEOPLE WHO INJECT DRUGS IN UKRAINE

Currently, the prevalence of HIV in people who inject drugs in Ukraine is over 22 %. Medication-assisted treatment (MAT) is an effective evidence-based means of HIV prevention in people who inject drugs (PWID). The objective of this article was to present the overview of medication-assisted program in Ukraine. Descriptive statistics were used to summarize the open-access official data as well as the results of most recent studies in the field of research to analyze and describe the current state of MAT program for PWID. Presented results summarize demographic, clinical data and access to psycho-social support of PWID on MAT in Ukraine as well as present effective approaches for program scale up for prevention of HIV transmission in people who inject drugs in Ukraine.

Keywords: buprenorphine, harm reduction, HIV, medication-assisted treatment, methadone, opioids, people who inject drugs, social prevention, Ukraine.

Introduction. Ukraine has one of the worst HIV epidemics in Europe (Vasylyeva et al., 2019). Until 2012 the key driver of HIV transmission was injecting drug use (Dumchev et al., 2020). Even though since 2012 the main route of HIV transmission changed to heterosexual, it is still associated with injective drug use (Dumchev et al., 2018).

Since the collapse of Soviet Union in early 1990s Ukraine has become a significant conduit for opioids trafficking from Asia to Europe, later domestically grown poppies have become a source for home-made opiates (called 'shirka'). Currently, World Health Organization (WHO) estimates about 350,000 people who inject drugs (PWID) countrywide (UNAIDS, 2018) with about 75,0 % of those injecting opiates (MoH, 2019). The data from the most recent integrated bio-behavioral surveillance showed that the prevalence of HIV in PWID in 2017 was over 22,0 % (Sazonova et al., 2020).

Medication-assisted treatment (MAT) is the most effective evidence-based intervention to prevent HIV transmission in PWID, namely opioids (Wolfe et al., 2010). Multiple studies conducted worldwide have demonstrated that high volume MAT programs decrease the incidence rates of HIV infection in resource limited settings such as Ukraine (Bruce, 2010) as well as reduce the HIV-related risk behaviors among PWID (Gowing et al., 2006).

MAT has been available in Ukraine since 2004 starting from pilot buprenorphine programs in 2 regions expanding to countrywide coverage with both buprenorphine and methadone in 2007 (Bruce et al., 2007). As of January 2021, there are 15,097 PWID receiving MAT at 246 sites countrywide (MoH, 2021). Current coverage of estimated number of PWID with MAT program in Ukraine constitutes 5,4 %. Since 2017 the program is fully funded by the Government of Ukraine however patients have an option to pay for OAT medicine by themselves (MoH, 2018).

Current Ukrainian legislation allows several forms of MAT receipt: (a) daily on-site dosing delivery ; (b) 3-, 7- or 10-day take-home supply from an OAT site; (c) by doctor's prescription at a pharmacy; and (d) home-based treatment – when terminal MAT patients get their MAT medicine delivered to their house by either a family member or medical/social worker (MoH, 2012). Such 'take-home' model (hereinafter – take-homes) allows a patient to take up to 10 days-worth of MAT doses for later, independent, at-home self-administration, and is considered to be a privilege, as the patient must initially qualify for by having been in the program for at least 3 months.

The objective of this paper was to analyze and present current situation regarding MAT as means of social prevention of HIV transmission in PWID in Ukraine.

For this paper, the author used official statistics from the Public Health Center of the Ministry of Health of Ukraine and data from the national registry of all MAT patients ($n = 15,097$) managed by the Alliance for Public Health of Ukraine since 2013. The analyses were made using S.A.S. statistical software (Cary, North Carolina, USA). Descriptive statistics using means for continuous variables and frequencies for categorical variables were utilized for the analyses and presentation of the results.

The overview of MAT program in Ukraine. Table 1 presents demographic, behavioral and clinical characteristics of all MAT patients in Ukraine as of January, 2021 ($n = 15,097$). The majority of participants are male (83,9 %), mean age is 35,3 (s.d. 7,43, range: 18–61), mean length of injection before initiation of MAT is 17,4 years (s.d. 6,43, range: 2–53), mean time in the MAT program is 4,7 years (s.d. 2,12, range: 0,5–13). Most of MAT patients (87,8 %) have methadone as their substitution therapy drug with mean MAT dosing of 88,3 mg for methadone and 9,7 mg for buprenorphine – 43,6 % of MAT patients receive low MAT drug dosing (methadone < 80 mg and buprenorphine < 10 mg); 16,6 % receive high MAT drug dosing (methadone > 120 mg and buprenorphine > 14 mg) and only 39,9 % of MAT patients are on optimal MAT dosing (methadone 80–120 mg and buprenorphine 10–14 mg). Most of participants (80,8 %) receive some sort of take-home medication and do not have to come to the MAT site every day. 57,8 % of MAT patients have access to psychosocial support services at their MAT site – either support of a social worker, psychological counseling or case management services. Over one third of MAT patients in Ukraine live with HIV (36,6 %). All of HIV-positive MAT patients are aware of their HIV status, 94,5 % receive antiretroviral therapy (ART) for their HIV and in 61,0 % of MAT patients on ART viral suppression is achieved. Mean time on ART is 8.7 years (s.d. 4.19, range: 1–23).

Fig. 1 presents the dynamics of MAT patients intake from 2016 through January 2021 (MoH, 2021). The graph demonstrates that in the course of 5 years the country managed to scale up the number of MAT patients by almost 50,0 % and retain over 86 % of patients on treatment for at least 6 months (Fig. 2).

The country not only continues to enroll and retain patients in the MAT program but also following the changes in legislation regulating provision of MAT managed to transfer over 79,0 % of MAT patients to some sort of take-homes (compared to 0,0% in early 2016). The dynamics of transfer to take-homes is presented in Fig. 3.

Table 1

Demographic, drug treatment, and HIV treatment characteristics among medication-assisted treatment (MAT) patients in Ukraine (n = 15,097), January 2021

Characteristics	MAT patients (n =1 5,097)	
Mean value (standard deviation, range)		
Age at the time of data collection (years)	35,29 (7,43, 18–61)	
Length of injection before MAT initiation (years)	17,41 (6,43, 2–53)	
Duration on MAT (years)	4,68 (2,12, 0,5–13)	
MAT drug dosing (mg)		
<i>Methadone</i>	88,31 (24,08, 5–275)	
<i>Buprenorphine</i>	9,67 (3,08, 2–28)	
Duration on ART (years)	8,71 (4,19, 1–23)	
Percentage (n, %)		
Gender		
<i>Male</i>	12671	83,93
<i>Female</i>	2426	16,07
MAT drug		
<i>Buprenorphine</i>	1838	12,17
<i>Methadone</i>	13259	87,83
MAT drug dosing (mg)*		
<i>Low</i>	6582	43,59
<i>Optimal</i>	6009	39,82
<i>High</i>	2506	16,59
Form of MAT receipt		
<i>Daily at MAT site</i>	2898	19,19
<i>Take-home dosing</i>	9538	63,18
<i>By prescription at pharmacy</i>	522	3,46
<i>At home (hospice care)</i>	2139	14,17
Availability of psycho-social support at MAT site		
<i>Yes</i>	8728	57,81
<i>No</i>	6369	42,19
HIV-positive status		
<i>Yes</i>	5530	36,63
<i>No</i>	9567	63,37
Percentage (n, %) among HIV-positive patients	(n = 5530)	
Know HIV status		
<i>Yes</i>	5530	100,00
<i>No</i>	0	0
Prescribed ART		
<i>Yes</i>	5227	94,52
<i>No</i>	303	5,48
Virally suppressed**		
<i>Yes</i>	3190	61,03
<i>No</i>	2037	38,97

*Low: methadone < 80 mg; buprenorphine < 10 mg. Optimal: Methadone 80–120 mg; Buprenorphine 10–14 mg. High: Methadone > 120 mg; Buprenorphine > 14 mg. **<100 copies

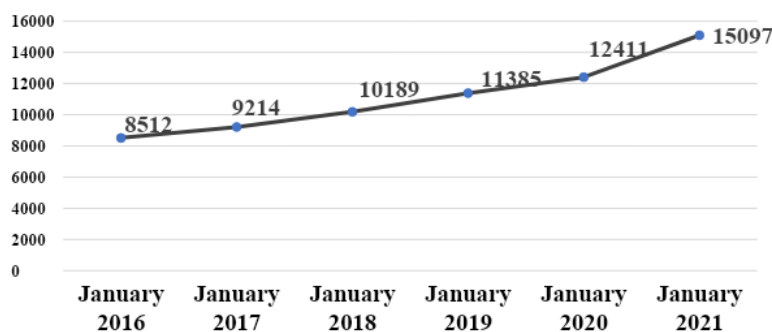


Fig. 1. Number of MAT Patients in 2016–2020

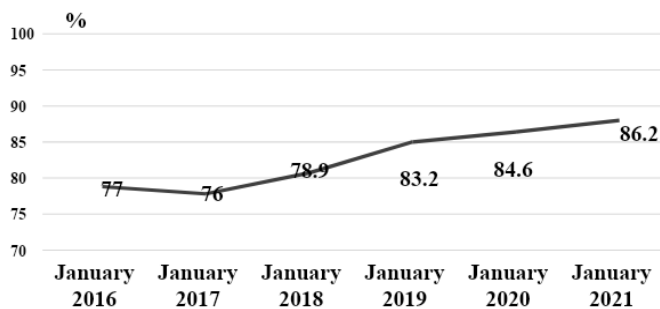


Fig. 2. Retention in MAT Program

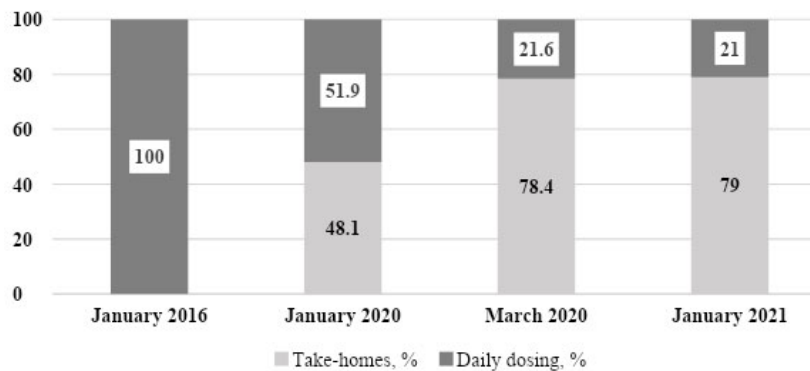


Fig. 3. Intake of patients to take-home from of MAT receipt by years

Discussion. Current coverage of the estimated number of PWID with MAT program in Ukraine is 5,4 % compared to at least 20% recommended by WHO for the effective HIV prevention among PWID (WHO, 2014).

Barriers to MAT scale up in the country exist at both structural and individual levels, including less-than optimal drug supply chain management, ideological resistance to MAT from policy makers and clinicians, punitive drug laws, as well as optimization of drug dosing (LaMonaca et al., 2019). Individually, qualitative analysis of focus groups among PWID have singled out autonomy – the desire for greater control over their treatment – as both a persistent preference and a motivator during MAT initiation (Muthulingam et al., 2019). Recent modeling studies support MAT expansion, with some showing that expansion of MAT in Ukraine from current levels to 20,0 % has the potential to save up to 23,062 lives lost to HIV over the next 10 years (Tan et al., 2020). MAT expansion would not only aid in the improvement of quality of living of PWID in the country but would additionally prevent 56,0 % of new HIV infections over that same period (Degenhardt et al., 2019; Tan et al., 2020). Additionally, a cost effectiveness analysis in 3 different Ukrainian cities (Kyiv, L'viv, and Mykolaiv) demonstrated that MAT is cost effective over a 10-year horizon, but also warned that even achieving the most ambitious of expansion goals would fall short of international MAT coverage standards (Morozova et al., 2020).

The country was able to effectively adjust to the new circumstances caused by the COVID-19 pandemic (Meteliuk et al., 2021) managing to move 100,0 % of patients to take-homes in some regions (Ternopil'ska and Kyiv'ska oblasts) and retain over 86% of patients for at least 6 months in the MAT program.

All these lessons learnt from the past are contributing to the effective scale up of the MAT program in Ukraine. Further research directions are – but not limited to – (a) more in-depth analyses of the characteristics of cohorts of MAT patients who drop out of the program; (b) examining social workers' who provide psycho-social support to MAT patients attitudes regarding MAT to identify potential barriers to recruitment of new patients; (c) detailed analyses of the role of psycho-social support in retention of patients in MAT program.

Conclusions. The results of our study demonstrate that the majority of MAT patients in Ukraine are mostly male and have methadone as their MAT drug and almost 60,0 % have access to psycho-social services. Over one third of them live with HIV, all of whom are aware of their HIV status and over 90,0 % receive ART compared to 52,0 % in PWID not on MAT. The Ministry of Health of Ukraine has set a very ambitious goal for MAT scale up – by the end of 2021 the country is expected to have 20,596 patients on MAT which will constitute 74,0 % of the estimated number of PWID (PHC, 2020) which will move the country closer to the WHO target of 20 % coverage with the MAT program to prevent

the HIV transmission among the PWID. This paper summarizes current situation with MAT in Ukraine as well as presents possible approaches to the effective MAT scale up.

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ОГЛЯД ПРОГРАМИ ЗАМІСНОЇ ПІДТРИМУВАЛЬНОЇ ТЕРАПІЇ ЯК ЗАСІБ СОЦІАЛЬНОЇ ПРОФІЛАКТИКИ ВІЛ ДЛЯ ЛЮДЕЙ, ЯКІ ВЖИВАЮТЬ ІН'ЄКЦІЙНІ НАРКОТИКИ В УКРАЇНІ

Згідно з річним звітом UNAIDS, у 2018 р. в усьому світі у людей, які вживають ін'єкційні наркотики (ЛВІН), було у 28 разів менше шансів жити з ВІЛ, ніж у населення загалом. Розпад Радянського Союзу спричинив сплеск вживання опіоїдів у 90-х рр. минулого століття в межах колишніх республік, і нині Україна переживає одну з найважчих епідемій ВІЛ у Східній Європі. За останніми даними Національної служби здоров'я України, у 2019 р. кількість офіційно зареєстрованих ЛВІН в Україні становила близько 40 тис. Утім, за підрахунками Всесвітньої організації охорони здоров'я (ВООЗ), у 2019 р. в Україні було понад 346 тис. ЛВІН, що становить 0,8 % від дорослого населення України. Останнє національне інтегроване біологічне поведінкове опитування серед ключових груп населення, проведене у 2018 р., зафіксувало поширеність ВІЛ серед ЛВІН до 22,0 %, що становить понад 60 % від усіх випадків ВІЛ у країні.

Станом на січень 2021 р. у країні офіційно зареєстровано 136 965 осіб, які живуть з ВІЛ. Попри те, що вживання ін'єкційних наркотиків є одним із ключових чинників передачі ВІЛ, за даними Центру громадського здоров'я МОЗ України, наразі в Україні лікування ВІЛ отримують лише 8424 ВІЛ-позитивні ЛВІН, що становить 2,4 % від передбачуваної кількості ЛВІН, які потребують ВІЛ-лікування.

Замісна підтримувальна терапія (ЗПТ), яка є ефективним, базованим на доказах втручанням для профілактики ВІЛ серед ЛВІН, агоністами опіоїдів була запроваджена в Україні у 2004 р. Наразі ЗПТ доступна в усіх областях України: станом на 01.01.2021 р. ЗПТ отримують 15097 пацієнтів, які лікуються у 246 медичних закладах, що становить 5,4 % від оцінної кількості ЛВІН у країні порівняно із 20 %, рекомендованими ВООЗ для ефективної профілактики ВІЛ серед ЛВІН.

Отже, мета статті – огляд стану програми ЗПТ в Україні з використанням офіційної статистики та результатів останніх досліджень, а також узагальнення ефективних бар'єрів та підходів до розширення програми ЗПТ для профілактики передачі ВІЛ серед людей, які вживають наркотики ін'єкційним шляхом.

Ключові слова: бупренорфін, ВІЛ, зменшення шкоди, медикаментозна підтримувальна терапія, метадон, опіоїди, люди, які вживають ін'єкційні наркотики, соціальна профілактика, Україна.

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ОБЗОР ПРОГРАММЫ ЗАМЕСТИТЕЛЬНОЙ ПОДДЕРЖИВАЮЩЕЙ ТЕРАПИИ КАК СПОСОБ СОЦИАЛЬНОЙ ПРОФИЛАКТИКИ ВИЧ ДЛЯ ЛЮДЕЙ, УПОТРЕБЛЯЮЩИХ ИНЪЕКЦИОННЫЕ НАРКОТИКИ В УКРАИНЕ

В настоящее время в Украине распространенность ВИЧ среди потребителей инъекционных наркотиков превышает 22 %. Медикаментозная поддерживающая терапия является эффективным средством профилактики ВИЧ у людей, употребляющих инъекционные наркотики (ЛУИН). В исследовании была использована описательная статистика для анализа открытых официальных данных, а также результаты последних изысканий по данной теме в целях описания программы медикаментозной поддерживающей терапии для ЛУИН в Украине. Предложенные результаты обобщают социально-демографические, клинические данные и данные относительно уровня доступа к услугам психосоциального сопровождения людей, употребляющих инъекционные наркотики, которые получают медикаментозную поддерживающую терапию. Описаны эффективные подходы к расширению программы для профилактики ВИЧ.

Ключевые слова: бупренорфин, ВИЧ, уменьшение вреда, медикаментозная поддерживающая терапия, метадон, опиоиды, потребители инъекционных наркотиков, социальная профилактика, Украина.