Příloha č. 1 Study I.

NÁZEV ČLÁNKU ČJ/SJ:

Výskyt ADHD u osob závislých na ilegálních návykových látkách léčených v terapeutických komunitách v České republice – pilotní studie

NÁZEV ČLÁNKU AJ:

ADHD in Drug Addicts Undergoing Treatment in Czech Therapeutic Communities – a pilot study

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ÚDAJE O FINANČNÍ PODPOŘE PRÁCE:

Projekt GAČR č. 14-07822S

Program institucionální podpory vědy PRVOUK č. P26/LF1/4.

STRUKTUROVANÝ SOUHRN ČJ:

Cíl: Uvedená studie se zabývá výskytem ADHD (Attention deficit hyperactivity disporder) u osob závislých na ilegálních návykových látkách léčených v terapeutických komunitách v České republice. Jejím cílem bylo zjistit, zda se v terapeutických komunitách vyskytují klienti s diagnózou ADHD v dětství, současnosti anebo v dětství i v současnosti/dospělost a popsat rozdíly mezi definovanými skupinami. **Materiál a metoda:** Výzkumný soubor tvořili klienti residenční léčby šesti participujících terapeutických komunit pro uživatele ilegálních návykových látek. Analyzováno bylo celkem 76 klientů ve věku 15 až 45 let (27 žen, 49 mužů). V rámci výzkumného plánu kvaziexperimentální studie byl realizován dvoustupňový výběr v kombinaci záměrného výběru přes instituce s totálním výběrem. Výskyt ADHD byl zjišťován přes klíčové pracovníky terapeutických komunit. Pro zjištění potencionální diagnózy ADHD bylo využito vytvořeného klinického inventáře. Výskyt ADHD v dětství mapoval Anamnestický list vytvořený pro účel výzkumu dle škály WURS - 61. Symptomatologii ADHD v dospělosti mapoval Sebehodnotící dotazník vytvořený dle škály ASRS v1.1. Data byla analyzována na základě vyhodnocení klinických inventářů a fixní patologické průřezové hodnoty pro ADHD v kombinaci s deskriptivním přístupem a dílčích postupů analýzy kvalitativních dat. **Výsledky:** Byla zjištěna vysoká míra prevalence

potencionální diagnózy ADHD u uživatelů návykových látek. Z celkového počtu 76 vykazovalo symptomatologii ADHD 43 klientů (56,6 %). Kritéria pro ADHD v dětství naplňovalo 21 klientů, pro ADHD v dospělosti 6 a pro ADHD v dětství i v současnosti 21 klientů. V rámci sledování charakteristik skupiny s ADHD byly zjištěny výrazné problémy vzhledem k anamnestickému sledování a hodnocení současných problémů. **Závěr:** Uvedená zjištění potvrzují vysoký výskyt ADHD u osob užívajících návykové látky, vliv neuropsychické poruchy na vulnerabilitu jedince a bio-psycho-sociální oblast.

Klíčová slova: ADHD – diagnostika – prevalence - terapeutická komunita - uživatelé ilegálních návykových látek

ABSTRACT:

Aim: the present study deals with ADHD (attention deficit hyperactivity disorder) in people dependent on illegal substances who undergo treatment in therapeutic communities in the Czech Republic. Its aim was to ascertain whether clients with childhood ADHD and/or current (adult) ADHD can be found in therapeutic communities and to describe the differences between the groups. **Material and methods:** the study sample comprised clients in residential treatment provided by six participating therapeutic communities for illicit drug users. A total of 76 clients aged 15-45 (27 women and 49 men) were analysed. A quasi-experimental research design, employing a two-step sampling procedure combining purposive selection via institutions with total sampling, was used. The presence of ADHD was identified by key workers in the therapeutic communities. A potential ADHD diagnosis was established using a clinical inventory developed for this purpose. The occurrence of ADHD in childhood was looked for using a history sheet developed for the study according to WURS – 61. ADHD symptoms in adulthood were surveyed using a self-report questionnaire designed according to ASRS v1.1. The data were analysed on the basis of the evaluation of clinical inventories and a fixed cross-sectional pathology score for ADHD in combination with a descriptive approach and the individual procedures making up the qualitative data analysis. **Results:** a high prevalence rate of potential ADHD diagnoses in substance users was found. 43 out of the total of 76 clients (56.6%) showed ADHD symptoms. The criteria for ADHD in childhood were met by 21 clients, for ADHD in adulthood by 6, and for ADHD in childhood and at the present by 21 clients. The characteristics of the ADHD group revealed significant issues in terms of mental health history and current problems. **Conclusion:** the findings confirm the high rate of ADHD in substance users and the effects of neuropsychological disorders on individual vulnerability and the bio-psycho-social domain.

Key words: ADHD – diagnostics – prevalence – therapeutic community – illicit drug users

ÚVOD

Dle zahraničních studií z oblasti duální diagnostiky u uživatelů návykových látek je zřejmý vysoký podíl psychiatrické komorbidity a to v rozsahu 30 – 60 % (Kalina, 2006; EMCDDA, 2004; NIDA, 2010; Kalina & Vácha, 2013). ADHD se vyskytuje u 9 – 45 % uživatelů návykových látek (Wilens, 2004), některé studie uvádějí výskyt nad 50 %[6] (Horner & Scheibe, 1997). Sledovaná komorbidita je dle studie ELSPAC (European Longitudinal Study of Parenthood and Childhood) závažná z hlediska vlivu na zvýšenou vulnerabiltu jedinců s neurologickým poškozením ve vztahu k užívání návykových látek (Foltová, 2010). V případě ADHD jsou popisovány problémy v psychické, sociální a školní oblasti, daleko častější výskyt rizikového chování a antisociálních aktivit v porovnání s kontrolní skupinou. Uvedená neuropsychická porucha představuje vysoké riziko vytvoření zranitelné osobnosti s predispozicí k užívání návykových látek a to na základě neuropsychického opoždění a zvýšené četnosti zátěžových situací, které ovlivňují vulnerabilitu jedince (Malá, 2006).

Duální diagnózy u uživatelů návykových látek jsou spíše pravidlem, než výjimkou. Spektrum komorbidních poruch je široké a zahrnuje různé nosografické skupiny a poruchy v odlišných intenzitách. Společným jmenovatelem přidružených problémů k abúzu jsou komplikace, které daná osoba zažívá v životě a jež ovlivňují její životní spokojenost a životní dovednosti. Osoby užívající návykové látky v léčbě přinášejí na základě výskytu komorbidity problémy do oblasti efektivity léčby, možnosti profitu z programu a zvyšují nároky na odborný personál (Kalina, 2006); standardně nastavený léčebný program je vzhledem k deficitům daných jedinců nadprahový a neindividualizovaný. Nutnost správné diagnostiky přidružené komorbidity je zásadní (Kalina, 2008a, Miovská, Miovský & Kalina, 2008) - špatná diferenciální diagnostika vede k chybnému nastavení léčebného plánu a ovlivňuje motivaci klienta i výsledek léčebného kontinua v negativním směru. V případě ADHD u uživatelů drog se objevují další významné problémy – uvedený souběh diagnóz je často propojován s dalším komorbidním zatížením. U ADHD jsou dle Barkleyho (2006) často v souběhu závažné problémy –vyskytují se depresivní, úzkostné, bipolární poruchy; tikové poruchy, poruchy chování, poruchy učení a školních dovedností aj. Kooij et al. (2010) a Nazar et al.(2008) uvádějí podíl psychiatrické komorbidity u ADHD v rozmezí až 60 – 70 %. Na problematiku silné diagnostické stigmatizace navazuje riziko chybného diagnostikování ADHD v dospělosti. Zdroje uvádějí přetrvávání ADHD z dětství do dospělosti (věk uživatelů v léčbě) v rozsahu 30 – 50 % (Paclt 2007b, Drtílková 2007, Malá 2000). Zrádnost diagnostiky odráží proměna symptomatologie poruchy. Problém transformace psychopatologie do méně nápadnějších symptomů (porucha pozornosti a impulzivita při ústupu primárního symptomu – hyperaktivity) znamená často chybnou diagnostiku, či přehlídnutí symptomů. V časných stádiích abstinence je diagnostikování zároveň komplikováno neurologickým poškozením v důsledku abúzu.

U klientů terapeutických komunit je nutné zohlednit specifika, která přináší samotná diagnostika neuropsychické poruchy a zároveň specifika předpokladu úspěšné léčby. Podíl klientů s duálními diagnózami je v terapeutických komunitách vysoký a vyznačuje se obecně vyššími komplikacemi ve zvládání a absolvování léčebného

programu. Existuje tedy předpoklad vlivu uvedené duální diagnostiky na zvládání běžně nastaveného léčebného programu a problém diagnostiky ADHD u klientů vstupujících do léčby v terapeutické komunitě.

Prevalence ADHD u klientů léčených v terapeutických komunitách

Prezentovaná kvaziexperimentální studie se v pilotní fázi zabývala výskytem ADHD u osob léčených ze syndromu závislosti v terapeutických komunitách pro uživatele ilegálních návykových látek. Byla zjišťována prevalence ADHD podle vytvořených klinických inventářů pro účely výzkumu na základě zahraničně standardizovaných škál. Výzkumné pole v České republice absentuje vzhledem k dané problematice informacemi a diagnostickými nástroji standardizovanými na českou populaci; tedy i na populaci uživatelů návykových látek. Použité klinické inventáře vycházely z diagnostických kritérií pro ADHD dle DSM-IV a mapovaly výskyt symptomatologie poruchy v dětství i v dospělosti. Diagnostické položky byly doplněny o základní sociodemografické a anamnestické údaje ke sledování charakteristik vzorku.

CÍLE STUDIE

Cílem výzkumu bylo zjistit, zda se v terapeutických komunitách vyskytují klienti s diagnózou ADHD (dětství, dospělost, dětství i dospělost), dále souvislosti mezi uvedenou poruchou a jejím vlivem na osobnost jedince užívajícího návykové látky. Byl zjišťován výskyt klientů s diagnózou ADHD mezi léčenými uživateli v terapeutických komunitách. Zjištění a následné posouzení vycházelo ze specifických sebeposuzovacích dotazníků pro klienty. Výsledné hodnoty z hlediska diagnózy ADHD byly následně porovnávány s normou, kterou představovali klienti bez diagnózy ADHD. Byly zjišťovány rozdíly v kognitivních, behaviorálních a sociálních aspektech osobnosti a rozdíly v průběhu léčby z hlediska adaptibility a schopnosti úspěšného absolvování programu. Výzkumný problém značil nutnost: a) definovat specifické nástroje pro diagnostiku ADHD u klientů léčených v terapeutických komunitách, konkrétně dotazníky na projevy ADHD v dětství a v dospělosti b) zjistit souvislosti mezi projevy ADHD v dětství a v dospělosti a zjistit do jakých oblastí života a osobnosti léčených uživatelů zasahují a jak se projevují.

Výzkumné otázky vycházely z cílů studie; bylo zjišťováno, zda se: 1) V terapeutické komunitě vyskytují klienti s diagnózou ADHD v dětství, v současnosti anebo v dětství i v současnosti? 2) a zda a jaké existují odlišnosti či podobnosti mezi skupinou klientů s diagnostikovaným ADHD pouze v dětství, skupinou diagnostikovanou v dětství i v dospělosti a diagnostikovaným ADHD pouze v dospělosti?

Vzhledem ke stanovenému výzkumnému problému ad b) a ke stanovené výzkumné otázce č. 2 je nutné sdělit proběhlou analýzu dat vzhledem k charakteristikám výzkumného souboru - uvedená problematika není předmětem deskripce předkládaného článku z důvodu rozsahu interpretovaných zjištění.

METODA

Popis souboru

Výzkumný soubor tvořili klienti residenční léčby v terapeutických komunitách, které se specializují na léčbu poruch spojených s užíváním návykových látek. Výzkumný soubor byl složen ze dvou základních skupin – ze skupiny s ADHD (zastoupenou třemi podskupinami) a ze skupiny bez diagnostikovaného ADHD (srovnávací skupina). Celkem soubor tvořilo 76 klientů, věkové rozmezí 15-45 let, abstinující v chráněném prostředí minimálně 2 měsíce, s indikací k rezidenční léčbě. Výzkumný vzorek byl rozdělen do skupin na základě vyhodnocení sebeposuzovacích screeningových nástrojů a škál pro záchyt ADHD.

Výběrový soubor byl sestaven prostřednictvím dvoustupňové procedury kombinující metodu záměrného (účelového) výběru výzkumného souboru; konkrétně záměrného účelového výběru přes instituce (v tomto případě TK) a metody totálního výběru. První část procedury byla realizována e-mailovým a telefonickým kontaktem s klíčovými pracovníky ve vybraných 6 certifikovaných terapeutických komunitách (z celkového počtu 12, tj. 50% ze všech možných), kteří uskutečňovali sběr dat. V jednom případě byl kontakt s terapeutickou komunitou osobní a sběr zajišťoval výzkumník po dohodě s vedením komunity. Záměrný výběr výzkumného souboru (první stupeň) byl následně kombinován s metodou totálního výběru (druhý stupeň) výzkumného souboru z důvodu nutnosti komplexního vyhodnocení celého výzkumného souboru a zmapování výzkumného prostředí (tj. do výzkumu bylo zařazeno 100% všech léčených klientů v 6 vybraných TK, kteří dali souhlas s účastí na studii). Výběrový vzorek byl následně rozdělen do dvou základních skupin na základě vyhodnocení screeningových nástrojů pro záchyt ADHD (Atention Deficit HyperactivityDisorder). I. skupinu tvořili jedinci s diagnózou ADHD. Tato skupina byla dále členěna na tři podskupiny a) podskupina s diagnózou ADHD pouze v dětství, b) skupina s diagnózou ADHD v současnosti a za c) skupina bez diagnózy ADHD. II. skupinu tvořili jedinci bez zjištěného ADHD. Z důvodu zjištění prevalence ADHD a rizika nízké saturace dat byla metoda totálního výběru zcela opodstatněná. Přehled charakteristik výzkumného vzorku a základních sociodemografických údajů uvádí tabulka č. 1 a tabulka č. 2.

Rozdělení vycházelo z vyhodnocení použitých klinických inventářů. Pro účely diagnostikování poruchy byly vytvořeny dva screeningové sebeposuzovací dotazníky určené pro klienty, které vycházely z dosud platných a používaných nástrojů v klinické a výzkumné oblasti. Jednalo se o anamnestický dotazník vytvořený podle škály WURS (Wender Utah Rating Scale), doplněný o položky k detekci anamnesticky relevantních informací. Tento dotazník sledoval projevy ADHD v dětství a odvíjel se od retrospektivního sebeposouzení respondentů. Druhým nástrojem byl sebeposuzovací dotazník, vytvořený podle škály ASRS v-1.1 (AdultSelf-Report Scale), který sledoval symptomy ADHD v dospělosti. Respondenti hodnotili svůj současný stav po minimálně dvou měsících abstinence.

Popis použitých metod

Data byla získána za vyžití sebehodnotící testové baterie pro klienty, která byla složená s Anamnestického listu (AL) a Sebehodnotícího dotazníku (SD). Anamnestický list k diagnostice projevů ADHD v dětství (WURS – 61/ WURS -25) byl vytvořen podle škály WURS – 61 (Wender Utah Rating Scale), vyhodnocení vycházelo ze škály WURS - 25. Kromě WURS – 61 se nejen pro výzkumnou činnost v zahraničí používá zkrácená verze; WURS o 25-ti položkách (WURS – 25). WURS- 25 (v zahraničí validní, reliabilní) vychází z původního 61 položkového dotazníku, tyto položky popsal Ward, Wender&Reimherr [17] (1993), jako nejsilněji konzistentní k ADHD. Autor také popisuje vysokou spolehlivost tohoto nástroje při použití u dospělých. Wenderova škála představuje nástroj ke strukturovanému vyšetření dospělých. Pomocí uvedeného nástroje je respondent retrospektivně dotazován na vyhodnocení dětství. Uvedený nástroj je používán ke zjištění symptomatologie ADHD v dětství na celém světě, má dobrou vnitřní konzistenci i test – retest reliabilitu[17,] (Ward, Wender&Reimherr, 1993). V České republice nebyla provedena validizace ani standardizace. Tabulka č. 3 uvádí oblasti hodnocení dle WURS - 25.

Sebehodnotící dotazník (SD) vycházel z ASRS – v 1.1(Adult Self-Report Scale), který slouží k zjišťování symptomatologie ADHD v dospělosti. Škála obsahuje celkem 18 položek, jež korespondují s kritérii DSM-IV pro ADHD. Prvních šest položek je nejvíce prediktivní z hlediska příznaků ADHD. Adult ADHD Self-Report Scale (ASRS- v 1.1) byla vyvinuta WHO (World Health Organization) ve spojení s týmem psychiatrů, odborníků ADHD a výzkumných pracovníků a použita v mnoha studiích (např. Hines, King a Curry, 2012).

Metody zpracování a analýzy dat:

Získaná data byla fixována v textové podobě dokumentů vytvořených pro výzkumnou činnost; následně byla transkribována do elektronické textové podoby. Terapeutické komunity a respondenti byli kódování kombinací abecedních a číselných kódů. Doslovná transkripce byla provedena u škálových odpovědí, v případě otevřených otázek byly odpovědi při transkripci redukovány na jádrová sdělení. Systematické i nesystematické vlivy výzkumníka byly minimalizovány pomocí vnějšího auditu. Systematizace pokračovala technikou barvení textu k rozlišení hodnocených položek jednotlivých dotazníků relevantních k zjištění symptomatologie ADHD. K systematizaci dat pro kvalitativní analýzu textových částí dotazníku byla použita technika kódování dat podle výzkumných otázek a oblastí.

Ke zjištění výskytu klientů s ADHD bylo využito vyhodnocení škál na základě dostupných a relevantních odborných zdrojů. V případě AL, který vycházel ze škály WURS – 61 byla použita průřezová hodnota (patologická orientační ve smyslu ADHD) 46 a vyšší při vyhodnocení 25. položek (dle WURS – 25)**.** Tato hodnota byla použita v několika zahraničních studiích, je uváděna v manuálu WURS – 25 a odkazují na ni mnohé odborné zdroje (Ward, Wender&Reimherr, 1993; McCann, Scheele, Ward& Roy – Byrne, 2000; Matsumoto et. al., 2005). SD, který vycházel ze škály ASRS- v 1.1 a zjišťoval projevy ADHD v dospělosti byl vyhodnocen podle manuálu ASRS v 1.1,

kterou uvádí Kessler et. al. (2005). Jako suspektní byli označeni klienti, kteří nedosáhli ve vyznačených polích části A potřebných hodnot (vynechané položky), ale jejichž hodnoty byly ve screeningovém dotazníku vysoké a v části B dosahovali stejných či vyšších hodnot než diagnostikovaní ADHD.

VÝSLEDKY

Výskyt klientů s potencionální diagnózou ADHD v terapeutických komunitách: Na základě vyhodnocení škálových položek, byli klienti rozděleni do dvou základních skupin (I. klienti s diagnózou ADHD, II. klienti bez diagnózy ADHD); následně byla I. skupinu rozdělena na 3 subskupiny. Celkový počet respondentů byl 76 z celkem 6 terapeutických komunit v České republice. Z uvedeného počtu nebyla k potencionální diagnóze ADHD splněna kritéria u 33 z nich, což odpovídá 43,4 % klientů. Z uvedeného počtu II. základní skupiny lze, jako suspektní označit celkem 2 klienty vzhledem k AL (ADHD dětství). Suspektní klienti z II. skupiny dosahovali vysokých skórů v anamnestickém listu (WURS 25), přičemž výsledný součet 25- ti škálového dotazníku zůstával pod průřezovou hodnotou 46 bodů. Důvodem označení „suspektní klient“ bylo kromě vysoké výsledné hodnoty i vyšší množství nevyplněných otázek, které mohly výslednou hodnotu značně ovlivnit. Přehled II. základní skupiny a výsledných skórů v anamnestickém listu (dle WURS) a sebehodnotícím dotazníku (dle ASRS v 1.1) uvádí tabulka č. 4.

Celkový počet klientů s potencionální diagnózou ADHD, kteří tvořili I. základní skupinu byl 43. Z celkového počtu respondentů se jednalo o 56,6 % klientů z uvedeného výzkumného souboru. Podle výše popsaných kritérií byla základní skupina rozdělena na tři podskupiny. Podskupinu pouze s diagnózou ADHD v dětství tvořilo 16 klientů; podskupinu s diagnózou pouze v dospělosti tvořilo 6 klientů a podskupinu s diagnózou v dětství i v dospělosti 21 klientů. U I. skupiny s ADHD (podskupina ADHD pouze v dětství) se jako suspektní z hlediska ADHD i v současnosti jeví 7 klientů (vysoké výsledné skóre, absence pouze jediné položky ke splnění kritérií pro ADHD v současnosti). U podskupiny ADHD pouze v dospělosti (suspekce na ADHD i v dětství) byla za suspektního klienta označena jedna osoba (4 nevyplněné položky u WURS 25, skóre 44). Při hodnocení výsledků z AL (podle WURS 25), bylo při průřezovém skóre 46 a výše detekováno 37 klientů. U uvedeného dotazníku se v daleko vyšší míře vyskytoval problém vynechání a nevyplnění položek (WURS 61) než v případě sebehodnotícího dotazníku (ASRS v 1.1). Celkové skóre v AL (WURS 61) bylo v porovnání se skupinou bez ADHD vysoké. Přehled výsledků vyhodnocení AL uvádí tabulka č. 5.

Klienti s potencionální diagnózou ADHD v dětství se ve velké míře překrývali s diagnózou ADHD v dospělém věku. Pozitivní diagnóza ADHD v dětství dle AL korelovala s diagnózou ADHD i v současnosti/dospělost u 21 klientů. 16 klientů, kteří dosahovali skóre 46 a vyššího nenaplnili kritéria ke stanovení potencionální diagnózy ADHD v dospělosti. U těchto respondentů byly pozorovány v SD (ASRS v 1.1 – část B) daleko vyšší a častější doprovodné symptomy zkoumané diagnózy.

Při vyhodnocení výsledků ze sebehodnotícího dotazníku (SD) podle ASRS v 1.1 bylo na základě šesti bodového screeningového dotazníku identifikováno 27 klientů. V části A klienti vykazovali závažnější symptomatologii než II. základní skupina bez ADHD; uvedené symptomy v části A popisovali s vysokou frekvencí výskytu. V části B byly doprovodné symptomy zaznamenány s vyšší frekvencí výskytu a tedy i s vyšším skóre než u většiny klientů II. základní skupiny (vyjma suspektních). Ačkoliv původní dotazník ASRS v 1.1 nevyužívá žádné celkové skóre 18- ti položkového dotazníku, tabulka č. 6 uvádí přehled výsledků vyhodnocení SD a i celkové hodnoty použitého nástroje u klientů s diagnózou ADHD v dospělosti. Tabulka s výslednými skóry je ve smyslu ADHD orientační, při interpretaci výsledků a stanovení potencionální diagnózy není výsledné skóre směrodatné. Komplexní přehled složení výzkumného souboru a výsledků diagnostického rozboru uvádí tabulka č. 7.

DISKUSE

ADHD a vliv poruchy na osobnost jedince z hlediska predispozice k užívání návykových látek a vysokému výskytu komplikací při fungování v běžném životě byl prokázán v mnoha klinických ilustracích, zahraničních studiích i v metaanalýze van Oortmerssena et. al. (2011). ADHD v kontextu zkoumaného tématu je v České republice první sondou do popisované oblasti. Z tohoto důvodu nejsou dostupné informace o zastoupení klientů s ADHD mezi uživateli návykových látek. Výzkumný projekt uvedené studie byl především mapující a explorativní (předvýzkumné šetření v dané oblasti).

V uvedené studii byly použity, jak české tak převážně zahraniční odborné zdroje – manuály k diagnostice ADHD, aktuální výzkumy v oblasti ADHD, vědecké články a studie, které využívali stejné nástroje k záchytu poruchy. Problémem byla komplexní absence informací k vyhodnocování použitých škál v České republice, které uvádí Paclt[23] et. al. (2007) ve své knize (WURS). Z tohoto důvodu bylo v případě škály WURS použito zahraničních zdrojů a výzkumných článků, dtto i u Adult Self-Report Scale (ASRS – v 1.1).

Na základě vyhodnocení škál ze sebehodnotících nástrojů pro klienty bylo zjištěno, že se a) v terapeutických komunitách vyskytují klienti s potencionální diagnózou ADHD ve vysokém počtu (z celého souboru jde o necelých 57% respondentů). Celkem se jednalo o 43 klientů s ADHD, které zastupovaly podkategorie ADHD v dětství (16 klientů), ADHD v současnosti (6 klientů) a ADHD v dětství i v současnosti/dospělost (21 klientů). Uvedená skupina zcela splňovala stanovená kritéria v použitých klinických nástrojích nutná k stanovení potencionální diagnózy. Výsledná zjištění některé studie potvrzují a jiné vyvracejí - neliší se od studií, které uvádějí výskyt ADHD u 50% a více uživatelů návykových látek (více Horner&Scheibe, 1997). Schubiner et. al. (2000) uvádí ve své studii prevalenci ADHD 28 % u mužů a 19% u žen, celkově splňovalo kritéria pro diagnózu ADHD 39% participantů. Jiná studie uvádí výskyt ADHD u problémových uživatelů či závislých na alkoholu, ilegálních drogách v rozmezí 9% - 45% (Wilens, 2004). Zjištěný počet osob v uvedené studii ukazuje na potencionální klienty s diagnózou ADHD; výše uvedená studie

(Schubiner et. al, 2000) z 39% participantů, kteří splňovali kritéria stanovila diagnózu u necelé poloviny z nich. Použité škály představují dle jejich autorů mnohostranné diagnostické nástroje, které jsou schopné zachytit i jiné psychické poruchy. Tím mohl být ovlivněn celkový výsledek ADHD pozitivních. K zamyšlení je použití škál u klientů terapeutických komunit po dvou měsících abstinence; z hlediska škály WURS (sebehodnocení dětství) se uvedená doba abstinence jeví dostačující, ale vzhledem ke škále ASRS v- 1.1 jako nedostatečná (rezidua po užívání metamfetaminu). V manuálu ke škále ASRS v- 1.1 se v doporučení uvádí sebeposouzení zpětně v rozsahu šesti měsíců. Vzhledem ke krátkému pobytu v léčbě a předchozímu užívání návykové látky (minimum klientů v komunitě s předchozím absolvováním krátkodobé či střednědobé léčby) je zkreslení ve výsledném skóre možné. V případě použití uvedené škály lze doporučit její aplikaci po delší než dvou měsíční době abstinence. U škály ASRS v- 1.1 byli identifikováni tři klienti ve věku 15 – 18 let, u dvou z nich byla na základě škály stanovena potencionální diagnóza ADHD v současnosti/dospělost. Vzhledem k věku respondentů je užití termínu současnost nezavádějící (lépe aplikovatelné na celý soubor klientů s ADHD v dospělosti/současnost). Uvedené poznatky o ADHD u klientů v terapeutických komunitách v České republice přinášejí první zjištění o možné (predikční) prevalenci. Zajímavé zjištění je, že se v České republice klienti s potencionální diagnózou mezi léčenými uživateli vyskytují (dle výše uvedených zjištění) ve vysokém počtu, který přesahuje počet klientů bez diagnózy ADHD.

Limity uvedené studie vzhledem k povaze předvýzkumného šetření představoval problém při exploraci nezkoumaného jevu v konkrétních podmínkách terapeutických komunit. Za omezením stojí volba nástrojů k diagnostice, které bylo nutné z hlediska povahy výzkumného problému aplikovat na konkrétní případy a zjistit jejich schopnost zachycení problematiky. Významným omezením je použití výzkumných nástrojů vzhledem k včasné fázi léčby.

ZÁVĚR

Vyhodnocení škálových položek v AL (WURS – 61, WURS -25) a SD (ASRS – v 1.1) umožnilo rozdělení výzkumného souboru na I. základní skupinu s ADHD a II. základní skupinu bez ADHD. Na základě výsledků škál bylo možné rozdělit I. základní skupinu s ADHD na tři podskupiny: a) podskupinu s diagnózou ADHD v dětství, b) podskupinu s diagnózou ADHD pouze v dospělosti/současnost a c) podskupinu s diagnózou ADHD v dětství i v současnosti. Bylo zjištěno, že se v terapeutické komunitě vyskytují klienti s diagnózou ADHD; počet klientů naplňujících stanovená kritéria pro ADHD převyšoval počet klientů bez ADHD. Z celkového počtu 76- ti respondentů bylo identifikováno 43 osob se symptomatologií ADHD. Podskupinu ADHD pouze v dětství tvořilo 16 osob; podskupinu ADHD pouze v současnosti 6 osob a podskupinu ADHD v dětství i současnosti 21 osob. U kontrolní skupiny byli za suspektní označeni x klienti z počtu 33 osob. Uvedené závěry nekonstatují, že 43 osob, které naplňovalo kritéria pro diagnózu ADHD jsou z hlediska klinické diagnózy skutečně pozitivní. Poukazují však na možný vysoký počet klientů v terapeutických komunitách jejichž symptomatologie může značit „komplikovanější“ predikčně negativní průběh z hlediska absolvování léčebného programu.

Hlavním úsilím předkládané výzkumné činnosti bylo zjištěnými závěry rozšířit poznatky o problematice ADHD v kontextu adiktologické klientely, aplikovat a zjistit účinnost klinických nástrojů, přinést vhled do uvedené výzkumné oblasti a podnítit další výzkumné i klinické činnosti v oblasti sledované problematiky. Uvedené zjištění klientů s potencionální diagnózou ADHD stojí za další výzkumné kroky.

Tabulka č. 1 Základní charakteristika výběrového souboru

	TK_1	TK_2	TK_3	TK_4	TK_5	TK_6	celkem
Počet klientů	**5**	**11**	**20**	**15**	**13**	**12**	**76**
- **Muži**	5	8	13	9	9	5	**49**
- **Ženy**	0	3	7	6	4	7	**27**
Věkové rozložení	19 - 31	19 - 33	16 – 39	27 - 45	21 – 35	15 - 41	**15 - 45**
Věkový průměr	24,4	26,9	24,0	32,0	27,3	23,3	**26,3**
Počet klientů -drop out	0	1	2	3	4	6	**16**
- **z toho s ADHD**	0	1	2	3	2	4	**12**
% klientů s ADHD (počet)	60 % (n=3)	63, 6 % (n=7)	50 % (n=10)	66,6 % (n=10)	46,2 % (n=6)	58,3 % (n=7)	**56,6 % (n=43)**

Tabulka č. 2 Výběrový soubor–základnísociodemografické údaje

Sociodemografické údaje		Muži	Ženy
Počet klientů celkem		**49**	**27**
Průměrný věk		**27,4**	**27,7**
Stav	Svobodný/á	46	27
	ženatý/rozvedený	3	0
Zaměstnání	Nezaměstnaný/evidence ÚP	33	15
	PP/nemocenská/rodičovská	16	12
Vzdělání dokončené/ nedokončené	ZŠ	24	12
	SOU	12/9	7/3
	SŠ	13/12	10/10
	VŠ,VOŠ	0	0/5
Legální zaměstnání	Ano/ne	43/6	22/4
	Průměrný počet měsíců	46,6	43,4
Evidence na ÚP (zkušenost)	Ano	44/5	21/5
	Průměrný počet měsíců	28,2	15,1
Bydlení	Doma – rodina	17	16
	Ubytovna, toxi byty	13	9
	Ulice, squat (NB)	12	1
	PL, VTOS, DÚ	7	0

Tabulka č. 3 WURS-25 hodnocené symptomy

1. Problémy se soustředěním, snadná rozptýlitelnost.	**14.** Pocity hněvu.
2. Úzkostlivost, starostlivost.	**15.** Bezmyšlenkovité jednání, impulzivnost.
3. Nervozita, neklid.	**16.** Tendence k nezralosti.
4. Nepozornost a zasněnost.	**17.** Pocity viny, lítostivost.
5. Hněvivost, popudlivost – nízký bod varu.	**18.** Ztráta kontroly nad sebou.
6. Povaha výbušná a vzteklá.	**19.** Tendence chovat se nebo být iracionální.
7. Potíže s tím u něčeho zůstat, s vytrvalostí, nezdar s dokončením započatých věcí.	**20.** Neoblíbenost v kolektivu dětí, problém udržet si přátele, neúspěch u jiných dětí.
8. Tvrdohlavost, silná svéhlavost.	**21.** Potíže vidět věci z pohledu druhých.
9. Mrzutost, smutek, deprese a nešťastnost.	**22.** Potíže s autoritami, se školou, s návštěvami institucí.
10. Problém poslouchat rodiče, rebelující.	**23.** Celkově špatný žák, pomalý/ čtenář.
11. Nízké mínění o sobě.	**24.** Potíže s matematikou nebo s čísly.
12. Dráždivost.	**25.** Beze snahy realizovat se.
13. Výkyvy nálad nahoru a dolů.	

Tabulka č. 4 Přehled výsledků II. základní skupiny (bez ADHD) dle AL a SD

	Muži	**Ženy**	**Celkem**
Počet klientů AL	21	12	33
Skóre AL (WURS -25), rozptyl hodnot	8 – 45	16 – 45	8 – 45
Skóre AL celkové (WURS 61)	27 – 103	43 – 92	27 – 103
Suspektní klienti ADHD dětství/počet	2	0	2
- skóre AL (WURS 25) rozptyl hodnot	44 – 90	-	44 – 90
- počet nevyplněných položek – průměr na 1 suspektního klienta	1	-	1
Počet klientů SD	21	12	33
Skóre SD (ASRS 6 položek), rozptyl hodnot/průměr	5 – 12 8,8	6 – 13 9,8	5 – 13 9,2
Skóre SD celkem (ASRS v 1.1), rozptyl hodnot/průměr	17 – 40 26,2	20 – 47 30,	17 – 47 27,6
Suspektní klienti ADHD dospělost/počet (nevyplněná pole)	0	0	0

Tabulka č. 5 Přehled výsledků AL u I. základní skupiny (podskupina ADHD dětství)

	Muži	Ženy	Celkem
I. základní skupina s ADHD/ počet	28	15	43
- z toho ADHD v dětství /počet	24	13	37
Skóre AL (WURS 25) rozptyl	46 – 92	47 – 96	46 – 96
Skóre AL (WURS 25) průměr	60,04	62,33	60,81
Počet - suspektní klienti k ADHD v dětství	1	0	1
Skóre AL (WURS 61) rozptyl	94 – 195	96 – 156	94 – 195
Skóre AL (WURS 61) průměr	117,87	116,92	117,55

Tabulka č. 6 Přehled výsledků SD u I. základní skupiny (podskupina ADHD současnost)

	Muži	Ženy	Celkem
I. základní skupina s ADHD/ počet	28	15	43
- z toho ADHD v současnosti/dospělost	16	11	27
Skóre SD (ASRS 6 položek screening) rozptyl	11 – 20	12 – 18	11 – 20
Skóre SD (ASRS 6 položek screening) průměrná hodnota	15,06	15,	15,04
Skóre SD (ASRS v 1.1; 18 položek) rozptyl hodnot	31 – 60	28 – 56	28 – 60
Skóre SD (ASRS v 1.1.; 18 položek) průměr	42,4	41,5	42,04
Počet - suspektní klienti vzhledem k diagnóze ADHD v dospělosti	5	2	7

Tabulka č. 7 Přehled diagnostického zhodnocení výzkumného souboru

	I. základní skupina s ADHD			II. základní skupina bez ADHD
Podskupina	**ADHD pouze v dětství**	**ADHD pouze v současnosti**	**ADHD v dětství i současnosti**	
Muži	12	4	12	21
Ženy	4*	2	9	12
Celkem	16*	6	21	33
Celkem základní skupina	**43**			**33**

* žena ADHD hodnocena pouze na základě AL (WURS - 61/ WURS – 25)

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Příloha č. 2 Study II.

2014 / 14 / 3

ORIGINAL ARTICLE

The Effects of ADHD on the Process and Outcome of Drug Treatment in Therapeutic Communities in the Czech Republic – a pilot study

Vliv ADHD na proces a výstupy léčby u klientů terapeutických komunit pro drogově závislé v České republice – pilotní studie

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Citation: Kalina, K., Rubášová, E., Miovský, M., Čablová, L., Šťastná, L. (2014). The Effects of ADHD on the Process and Outcome of Drug Treatment in Therapeutic Communities in the Czech Republic – a pilot study [Vliv ADHD na proces a výstupy léčby u klientů terapeutických komunit pro drogově závislé v České republice – pilotní studie]. *Adiktologie, 14*(3), 00-00.

BACKGROUND: Dual diagnoses in substance users pose complications for the treatment process and the effectiveness of the entire treatment continuum. Building on the diagnostic part of the study, which found a potential ADHD diagnosis in 56.6% of the clients of six therapeutic communities for drug addicts in the Czech Republic, our pilot study sought to explore this problem in clients with ADHD undergoing drug treatment in these facilities. AIM: The aim of the work was to find whether clients with ADHD are more likely to experience problems with treatment compliance than non-ADHD clients. SAMPLE: The study sample consisted of 76 clients of six therapeutic communities in the Czech Republic, aged 15-45. The sample was divided into two main groups – with ADHD and without ADHD. METHODS: A Therapist Questionnaire developed according to the CTQ was used to collect data about complica-

VÝCHODISKA: Duální diagnózy u uživatelů návykových látek představují komplikace z hlediska průběhu léčby a efektivity celého léčebného kontinua. V pilotní studii jsme usilovali zmapovat tento problém u klientů s ADHD léčených v terapeutických komunitách pro drogově závislé na základě diagnostické části studie, která shledala potenciální diagnózu ADHD u 56,6 % klientů z šesti terapeutických omunit v České republice. CÍLE: Cílem práce bylo zjistit, zda jsou klienti s ADHD asociováni s většími problémy ve schopnostech úspěšného absolvování léčebného režimu v porovnání s klienty bez diagnózy ADHD. SOUBOR: Výzkumný soubor tvořilo 76 klientů z šesti terapeutických komunit v ČR ve věku 15–45 let. Soubor byl rozdělen na dvě základní skupiny – skupinu s ADHD a bez ADHD. METODY: Pro získání údajů o komplikacích byl použit Dotazník pro terapeuty vytvořený dle škály CTQ. Analýza dat

Submitted: 2 / JUNE / 2013 **Accepted:** 3 / NOVEMBER / 2014

Grant support: The authors of this paper would like to acknowledge the support received from Project ESF CZ.2.17/3.1.00/36064 OPPA (Innovation of the doctoral study programme in addictology at the General University Hospital in Prague and at the First Faculty of Medicine of Charles University in Prague to include modern biomedical perspectives), Czech Science Foundation project GACR No. 14-07822S, and the Charles University Research Institutional Support Programme No. PRVOUK-PO3/LF1/9.

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tions. The data analysis was conducted using qualitative methods, combining a descriptive approach and individual data analysis procedures. RESULTS: Clients with a potential ADHD diagnosis were found to show a high rate of complications as regards the beginning of treatment and its course and early termination. In comparison to the control group, the ADHD clients were more likely to display problems in the behavioural, cognitive, social, and executive domains. CONCLUSIONS: The pilot study suggests that ADHD in clients of residential treatment correlates with a higher rate of treatment compliance complications and increases the risk of the early termination of treatment. While they need to be elaborated on by further thorough research, these findings imply that it is necessary to examine options for appropriate interventions to improve the treatment process and outcomes in this group of dual-diagnosis clients.

KEY WORDS: DUAL DIAGNOSES – ADHD – DRUG DEPENDENCE TREATMENT – THERAPEUTIC COMMUNITY – TREATMENT COMPLICATIONS

byla provedena kvalitativními metodami při kombinaci deskriptivního přístupu a dílčích postupů analýzy dat. VÝSLEDKY: U klientů s potencionální diagnózou ADHD byl zjištěn vysoký výskyt komplikací vzhledem k začátku, průběhu a předčasného ukončení léčby. Klienti s ADHD vykazovali ve vyšší míře problémy v behaviorální, kognitivní, sociální a exekutivní oblasti v porovnání s kontrolní skupinou. ZÁVĚRY: Zjištění pilotní studie, že výskyt ADHD u klientů rezidenční léčby koreluje s vyšší mírou komplikací v léčebném režimu a zvyšuje riziko předčasného ukončení léčby, je podnětem pro další intenzivní výzkum, ale zároveň již implikuje potřebu zkoumat možnosti adekvátních opatření, která by u této skupiny duálních klientů zlepšila průběh a výstupy léčby.

KLÍČOVÁ SLOVA: DUÁLNÍ DIAGNÓZY – ADHD – LÉČBA DROGOVÝCH ZÁVISLOSTÍ – TERAPEUTICKÁ KOMUNITA – KOMPLIKACE V LÉČBĚ

1 INTRODUCTION

Dual diagnoses, or psychiatric comorbidities, are very common among substance users. Various reviews report their occurrence as ranging from 30 to 80% (EMCDDA, 2004, 2006, 2007; Buckley, 2007, NIDA 2010, Kalina and Vácha, 2013). An additional concurrent mental disorder may have a negative impact on the effectiveness of treatment interventions and the client's capability to profit from treatment. Miovská, Miovský, and Kalina (2008) argue that when misdiagnosed, psychopathological complications of addictive disorders may result in the improper configuration of the treatment plan, with adverse consequences for the client (e.g. loss of motivation). According to Kalina and Vácha (2013), psychiatric comorbidities may prevent clients from complying with the treatment plan (programme), reduce clients' abilities to profit from treatment, place an extra burden on the professional staff, complicate clients' efforts to stay drug-free in daily situations, and increase the risk of relapse or the early termination of treatment.

Justifiably, the range of dual diagnoses encompasses ADHD (attention deficit hyperactivity disorder). A serious neuropsychological condition that affects the personality in cognitive, behavioural, and executive terms, ADHD is also

1 ÚVOD

Duální diagnózy či psychiatrické komorbidity se u uživatelů návykových látek vyskytují velmi často. Různé přehledové studie uvádějí četnost výskytu v rozmezí 30–80 % (EMCDDA, 2004, 2006, 2007; Buckley, 2007, NIDA 2010, Kalina a Vácha, 2013). Vliv přidružené další poruchy duševního zdraví má vliv na efektivitu léčebných intervencí a schopnost klienta z léčby profitovat. Miovská, Miovský a Kalina (2008) uvádějí, že diagnostické zanedbání psychopatologických komplikací závislostní poruchy může vést k neadekvátnímu nastavení léčebného plánu s negativním důsledkem pro klienta (poškození, ztráta motivace). Jak uvádějí Kalina a Vácha (2013), vede psychiatrická komorbidita k problémům se zapojením se do léčebného plánu (programu), snižuje možnost profitu z léčby, zvyšuje nároky na odborný personál, komplikuje životní situaci klienta při abstinování a zvyšuje riziko relapsu či předčasného ukončení léčby.

Do okruhu duálních diagnóz se oprávněně zahrnuje i ADHD (attention deficit hyperactivity disorder). ADHD představuje závažnou neuropsychickou problematiku, která ovlivňuje osobnost v kognitivních, behaviorálních a exekutivních aspektech a pojí se s další psychiatrickou komor-

associated with other psychiatric comorbidities in 60–70% of cases (Nazar et al., 2008; Kooij et al., 2010; van Emmerik-van Oortmerssen et al., 2014). Malá (2006) reports that ADHD poses a great risk of the development of a vulnerable personality predisposed to substance use. The persistence of ADHD symptoms into adulthood is also an issue: according to Drtílková (2007), ADHD is present in 30-50% of adults who experienced the disorder in childhood. ADHD-specific psychopathologies may be transformed into less pronounced symptoms (attention deficit and impulsivity with the remission of the primary symptom – hyperactivity), which often leads to the symptoms being misdiagnosed and overlooked. Major signs of adult ADHD include emotional immaturity, emotional lability, impulsiveness, and being caught up in the moment (Paclt, 2007).

The rate of ADHD among substance users and addicts ranges from 9% to 50% or more, depending on the study (Horner & Scheibe, 1997; Schubiner et al.; 2000, Wilens, 2004; Miovský, Čablová, & Kalina, 2013; van Emmerik-van Oortmerssen et al., 2014). Similarly to other psychiatric comorbidities, ADHD poses major complications for addiction treatment. ADHD patients may show impaired cognitive functions, different behavioural performance, and generally deteriorated adaptation mechanisms and social skills (Miovský, Čablová, & Kalina, 2013). Patients' abilities to adapt to the given treatment modality and gain a reasonable benefit from it may be dramatically affected and impaired. These limitations are often observed in therapeutic community-type facilities where specific ADHD symptoms become exposed in concrete social situations and interaction (in relation to the staff, house rules, or other patients). As a result, clients with ADHD may show more frustration and anger and engage more often in interpersonal conflicts and delinquency (Gudjonsson et al., 2012). Accordingly, these patients may be prone to the early termination of treatment (drop-out) and a higher number of unsuccessful treatment episodes.

Until recently no evidence about ADHD among the drug-using population in the Czech Republic was available. As part of a pilot study conducted in 2013, drug users undergoing treatment in therapeutic communities were asked to complete self-report questionnaires with the objective of screening for their childhood (WURS – Ward et al., 1993, Paclt et al., 2007) and adulthood (AASRS – Kessler et al., 2005, Paclt et al., 2007, Hines et al., 2012) ADHD symptoms. Out of the total of 76 respondents recruited from six participating therapeutic communities in the Czech Republic, 43 (56%) met the diagnostic criteria for childhood or adult (current) ADHD. For details of this diagnostic part of the research see Rubášová (2014).

The characteristics of ADHD clients in treatment and specific complications attributable to the concurrent comorbidity were also looked for as part of the research pro-

biditou v rozmezí až 60–70 % (Nazar et al., 2008; Kooij et al., 2010; Emmerik-van Oortmerssen et al., 2014). Malá (2006) uvádí, že ADHD představuje vysoké riziko vytvoření zranitelné osobnosti s predispozicí k užívání návykových látek. Významné je i přetrvávání symptomů ADHD do dospělého věku: jak uvádí Drtílková (2007), ADHD je přítomno u 30–50 % dospělých, kteří měli poruchu v dětství. Objevuje se problém transformace psychopatologie do méně nápadnějších symptomů (porucha pozornosti a impulzivita při ústupu primárního symptomu – hyperaktivity), která často vede k chybné diagnostice či k přehlédnutí symptomů. Projevy ADHD v dospělosti zahrnují zejména emoční nezralost, emoční labilitu, impulzivitu a zkratkovité chování (Paclt, 2007).

Výskyt ADHD u uživatelů návykových látek a závislých se pohybuje podle různých studií v rozmezí 9–50 % a více (Horner & Scheibe, 1997; Schubiner et. al.; 2000, Wilens, 2004; Miovský, Čablová & Kalina, 2013; van Emmerik-van Oortmerssen et al., 2014). Podobně jako jiné psychiatrické komorbidity přináší ADHD také zásadní komplikace pro léčbu závislostí. U pacientů s ADHD mohou být narušené kognitivní funkce, vyskytovat se odlišné behaviorální projevy, obecně snížené adaptační mechanismy a sociální dovednosti (Miovský, Čablová & Kalina, 2013). Mohou být zásadním způsobem ovlivněny a narušeny schopnosti daného pacienta adekvátně se adaptovat na danou léčebnou modalitu a přiměřeně z ní profitovat. Více jsou tyto limity pozorovány v zařízeních typu terapeutické komunity, kde se specifické symptomy ADHD obnažují v konkrétních sociálních situacích a interakcích (ve vztahu k personálu, k systému pravidel či k ostatním pacientům). U klientů s ADHD se tak může objevovat vyšší výskyt frustrace, agresivity a interpersonálních konfliktů či delikvence (Gudjonsson et al., 2012). Díky tomu se u daných pacientů může mnohem častěji objevovat předčasné vypadnutí z programu (drop-out) a vyšší počet neúspěšných léčeb.

V České republice poznatky o výskytu ADHD v populaci uživatelů drog dosud chyběly. V roce 2013 jsme provedli pilotní studii se zaměřením na diagnostiku ADHD u uživatelů drog léčených v terapeutických komunitách s použitím sebehodnotících dotazníků na symptomatiku ADHD v dětství (WURS – Ward et al., 1993, Paclt et al., 2007) a v dospělosti (AASRS – Kessler et al., 2005, Paclt et al., 2007, Hines et al., 2012). Z šesti participujících terapeutických komunit v České republice byla z celkového počtu 76 respondentů naplněna kritéria ke stanovení diagnózy ADHD v dětství či dospělosti (současnost) u 43 klientů (56%). Podrobnosti o této diagnostické části výzkumu viz Rubášová (2014).

Součástí výzkumu bylo rovněž sledování charakteristik klientely s ADHD v léčbě a detekce specifických komplikací v důsledku přidružené komorbidity. Zde jsme se zaměřili na to, zda se u klientů-nositelů příznaků ADHD (dětství nebo současnost, dětství i současnost) v porovnání s ostatní-

Table 1 / Tabulka 1
General characteristics of the sample
Základní charakteristika výběrového souboru

	TC_1	TC_2	TC_3	TC_4	TC_5	TC_6	Total
Number of clients	**5**	**11**	**20**	**15**	**13**	**12**	**76**
– men	5	8	13	9	9	5	**49**
– women	0	3	7	6	4	7	**27**
Age range	19–31	19–33	16–39	27–45	21–35	15–41	**15–45**
Age average	24.4	26.9	24.0	32.0	27.3	23.3	**26.3**
Number of drop-outs	0	1	2	3	4	6	**16**
– of which ADHD	0	1	2	3	2	4	**12**
% clients with ADHD (number)	60% (n=3)	63. 6 % (n=7)	50% (n=10)	66.6% (n=10)	46.2% (n=6)	58.3% (n=7)	**56.6% (n=43)**

Table 2 / Tabulka 2
Sample – general sociodemographic data
Výběrový soubor – základní sociodemografické údaje

Sociodemographic data		Men	Women
Total number of clients		49	**27**
Average age		27.4	**27.7**
Marital status	Single	46	27
	Married/divorced	3	0
Occupation	Unemployed/registered with Labour Office	33	15
	employment contract/sick leave/parental leave	16	12
Education completed/ incomplete	basic/elementary	24	12
	vocational training	12/9	7/3
	secondary school	13/12	10/10
	university/college, upper vocational school	0	0/5
Legal employment	Yes/No	43/6	22/4
	Average number of months	46.6	43.4
Registered with Labour Office (experience)	Yes	44/5	21/5
	Average number of months	28.2	15.1
Housing	At home – family	17	16
	Hostel, "drug flats"	13	9
	On the street, squat	12	1
	Psychiatric hospital, prison, detention	7	0

ject. The purpose was to establish whether clients with the ADHD symptoms (as children or currently, as both children and adults) show more and/or different treatment complications in comparison to other (non-ADHD) clients. This part of the pilot research is the subject of the present article.

mi klienty (bez diagnózy ADHD) vyskytuje více komplikací, případně jiné komplikace v léčbě. O této části pilotního výzkumu referujeme v článku.

Table 3 / Tabulka 3
Sample distribution according to the groups defined
Přehled rozložení výzkumného souboru dle definovaných skupin

	Group I – with ADHD			Group II – without ADHD
Subgroup	**Childhood ADHD only**	**Current ADHD only**	**Both childhood and current ADHD**	
Men	12	4	12	21
Women	4*	2	9	12
Total	16*	6	21	33
Main group total	**43**			**33**

* ADHD women assessed on the basis of retrospective rating (WURS - 61/ WURS – 25)
** žena ADHD hodnocena pouze na základě AL (WURS – 61/ WURS – 25)*

● 2 STUDY DESCRIPTION

● 2 / 1 Aim

The aim was to identify any relationship between ADHD and complications relating to the treatment provided in therapeutic communities, specifically, whether there is a relationship between ADHD in clients and major problems with their successful completion of treatment programme and regimen, in comparison with clients showing no ADHD symptoms. The following research questions were formulated: (a) Do clients with the ADHD diagnosis (childhood or present, childhood and present) show a higher rate of treatment complications in comparison to the control group (without ADHD)? If so, what are they and how are they manifested? (b) What are the effects of ADHD on the initiation and course of treatment in a therapeutic community in comparison to the control group (non-ADHD clients)? The definitions of the "ADHD clients" and "non-ADHD clients" groups were based on the diagnostic component of the research, i.e. the processing and multivariate evaluation of client self-report questionnaires.

● 2 / 2 Sample

The study sample consisted of clients of six therapeutic communities in the Czech Republic. In total there were 76 clients aged 15 to 45 who had abstained in a sheltered environment for a minimum of eight weeks. The general characteristics of the sample are summarised in Table 1. The study sample was divided into two main groups. Group I comprised clients with a potential ADHD diagnosis (represented by three subgroups: (a) childhood ADHD only, (b) current ADHD only, and (c) both childhood and adult ADHD). Group II consisted of clients who were not diagnosed with ADHD (the reference/control group). The general sociodemographic data is summarised in Table 2. The distribution of the study sample according to the groups as defined above is outlined in Table 3. The probands were selected using a non-probabilistic sampling method. Purpos-

● 2 POPIS STUDIE

● 2 / 1 Cíle

Cílem bylo zjistit případný vztah mezi ADHD a komplikacemi v průběhu léčby v terapeutických komunitách – konkrétně, zda jsou klienti s ADHD asociováni s většími problémy ve schopnostech úspěšného absolvování léčebného programu a režimu ve srovnání s klienty bez příznaků ADHD. Položili jsme si následující výzkumné otázky: (a) Vyskytují se u klientů s diagnózou ADHD (dětství/současnost, dětství i současnost) ve vyšší míře komplikace v léčbě v porovnání s kontrolní skupinou (bez ADHD)? Pokud ano, jaké a jak se projevují? (b) Jaký je vliv ADHD na zahájení a průběh léčby v terapeutické komunitě v porovnání s kontrolní skupinou (klienti bez ADHD)? Při definování skupin „klienti s ADHD" a „klienti bez ADHD" jsme se opírali o diagnostickou část výzkumu, tj. o zpracování a vícerozměrné vyhodnocení sebehodnoticích dotazníků pro klienty.

● 2 / 2 Soubor

Výzkumný soubor tvořili klienti šesti terapeutických komunit v České republice. Celkem se jednalo o 76 klientů ve věku 15 až 45 let, kteří abstinovali v chráněném prostředí minimálně 8 týdnů. Základní charakteristiku výběrového souboru uvádí *tabulka 1.* Výzkumný soubor byl rozdělen na dvě základní skupiny. I. základní skupinu představovali klienti s potencionální diagnózou ADHD (zastoupenou třemi podskupinami – (a) podskupina s diagnózou ADHD pouze v dětství, (b) skupina s diagnózou ADHD pouze v současnosti, (c) skupina s diagnózou ADHD v dětství i v současnosti). II. základní skupinu tvořili klienti bez diagnostikovaného ADHD (srovnávací/kontrolní skupina). Základní sociodemografické údaje uvádí *tabulka 2*, přehled rozložení výzkumného souboru dle definovaných skupin uvádí *tabulka 3*. Výběr probandů byl proveden pomocí nepravděpodobnostní metody výběru. Byla využita metoda záměrného účelového výběru přes instituce, která byla kombinována s metodou totálního výběru výzkumného souboru. Hlavním kritériem pro

ive selection through the institutions combined with the total sampling technique was used to compile the study sample. The key criterion for the inclusion of the clients of the therapeutic communities in the study sample was a minimum of two months' abstinence from their drugs of abuse and their written consent to their participation in the study (informed consent).

2 / 3 Methods

Data Collection Methods

The data was collected by key workers in the participating therapeutic communities from May to October 2013. In addition to the above-mentioned client self-report questionnaires (WURS and AASRS), the test battery included a CTQ-inspired Therapist Questionnaire designed to collect data about treatment complications. The assessment was made by a key worker or another team member familiar with the course of treatment of the clients under study. The results (evaluation) of the ADHD self-report diagnostic questionnaires were not known to the therapists when they completed the therapist questionnaires. The clients in all the participating therapeutic communities were assigned codes which were subsequently used in the processing and comparison of their data.

Therapist Questionnaire

The questionnaire was developed according to the CTQ (Conners Teacher Questionnaire), as described by Ptáček (2007). As a validated measure, the CTQ is often used to assess for ADHD. Containing 39 items divided into three sections pertaining to classroom behaviour, participation in group activities, and attitudes to authority, the test is designed to look for conduct disorders, inattention, tension and anxiety, and hyperactivity (Drtílková et al., 2007). Our Therapist Questionnaire adhered to the original structure, items, and scaling of the CTQ. The only adjustments involved the replacement of some school-specific expressions with words that are more appropriate to the therapeutic community setting (e.g. classroom, class, classmates, teacher/community, group, programme, client, and therapist). Respecting the original format, the questionnaire was divided into three domains: the therapists rated the clients in terms of their behaviour in the community, participation in communal activities, and attitudes to authority. The questionnaire was extended to include another 24 items enquiring about treatment regimen-related problems: the therapists rated the clients in terms of their adherence to the treatment regimen and observing its rules. Each item was scored from zero to three. The therapists were to choose from the "not at all", "just a little", "pretty much", and "very much" responses. A total of 63 items were rated. For the purposes of the study, the therapist inventory was extended

zařazení klientů terapeutických komunit do výzkumného souboru byla abstinence od zneužívané návykové látky po dobu minimálně dvou měsíců a písemný souhlas s účastí ve výzkumu (informovaný souhlas).

2 / 3 Metody

Metody získání dat

Sběr dat probíhal prostřednictvím klíčových pracovníků participujících terapeutických komunit v období květen–říjen 2013. Součástí testové baterie byl vedle výše uvedených sebehodnoticích dotazníků pro klienty (WURS a AASRS) rovněž Dotazník pro terapeuty modifikovaný podle dotazníku CTQ, který mapoval oblast komplikací v léčbě. Posouzení prováděl garant či jiný člen týmu obeznámený s průběhem léčby daného klienta. Výstupy (vyhodnocení) sebehodnoticích dotazníků k diagnostice ADHD nebyly terapeutům v době vyplňování Dotazníku pro terapeuty známy. Všem klientům byl na úrovni jednotlivé participující terapeutické komunity přidělený kód, takže zpracování a porovnávání probíhalo pouze podle přiřazených kódů.

Dotazník pro terapeuty

Dotazník byl vytvořen podle škály CTQ (Conners Teacher Questionnaire), kterou popisuje Ptáček (2007). CTQ se jako validizovaná škála používá často pro diagnostiku ADHD. Obsahuje 39 položek a je rozdělen na posouzení chování ve třídě, účasti na činnostech skupiny a postoje k autoritě a zjišťuje poruchy chování, nepozornost, tenzi, anxietu a hyperaktivitu (Drtílková et al., 2007). Námi použitý Dotazník pro terapeuty zachoval původní členění CTQ, položky i škálové hodnocení. Provedli jsme pouze v některých položkách nahrazení výrazů ze školního prostředí výrazy adekvátními pro prostředí terapeutické komunity (např. např. třída, školní kolektiv, vyučování, žák, učitel/komunita, skupina, komunitní kolektiv, program, klient, terapeut). Dotazník byl standardně dělen na tři oblasti, terapeuti hodnotili klienty z hlediska chování v rámci komunity, podílení se na činnostech společenství a postoji k autoritě. Navíc byl dotazník rozšířen o 24 položek ke zjištění problémů ve vztahu k léčebnému režimu – terapeuti hodnotili klienty z hlediska dodržování pravidel a komplikací v léčebném režimu. Bodové hodnocení každé položky bylo od nuly do tří, terapeuti měli za úkol volit odpověď vůbec, trochu, značně, velmi značně. Celkový počet škálovaných položek byl 63. Pro účely studie byl terapeutický inventář dále doplněn o dodatečné údaje, které mapovaly změny v léčbě, farmakoterapii, psychiatrickou péči, drop-out a komplikace v léčbě. Hodnocené faktory dle CTQ představovaval I. faktor poruchy chování, II. faktor nezúčastněnosti a pasivity, III. faktor napětí a úzkosti a IV. faktor hyperaktivity.

to collect additional information concerning any changes in treatment, pharmacotherapy, psychiatric care, drop-out, and treatment complications. The CTQ-derived factors to be assessed were Conduct Disorder (Factor I), Inattentive-Passive (Factor II), Tension-Anxiety (Factor III), and Hyperactivity (Factor IV).

Qualitative Data Analysis Methods

The data was analysed using a combination of a descriptive approach with individual procedures engaged in qualitative data analysis (including the pattern identification method, the contrast-and-comparison method, and cluster analysis). The use of description was combined with other analytical methods to prevent any risk of the interpretation of the data being compromised. Description was preceded by the sorting and classification of data using the partial procedures of qualitative data analysis (Miovský, 2006).

Cluster analysis was used to analyse the clinical inventories collected from the therapeutic staff. The identifiable category was "treatment process, clients' complications and behavioural manifestations during treatment in a therapeutic community". Initially, all the answers pertaining to the treatment process and the complications and characteristics of clients in therapeutic communities were selected for the above-mentioned category. The statements provided by the respondents were used to create primary categories for the main groups by means of a text colouring method. These categories included subcategories specifying different topics. The cluster analysis was then combined with the contrast-and-comparison method, which was used to distinguish between the client categories that had been identified and simplify the process of description when comparing the groups.

● 3 RESULTS

● 3 / 1 Treatment complications in ADHD clients and non-ADHD clients

Two main categories were identified on the basis of the qualitative analysis of the areas under scrutiny: I. Treatment complications and II. Clients' behavioural manifestations in treatment. The subcategories identified for the main category I included: (a) acceptance of the treatment programme, (b) behaviour towards the community members, (c) participation in communal activities, (d) attitude towards authority, (e) position within the group, (f) compliance with the rules/treatment complications, (g) the way of leaving the therapeutic community, (h) complications in comparison to other clients, and (i) major treatment complications. Category II, Clients' behavioural manifestations in treatment, incorporated the following subcategories: (j): behaviour in general, behaviour within interpersonal relationships in the community, activity in the community, re-

Metody analýzy kvalitativních dat

K analýze byla využita kombinace deskriptivního přístupu a dílčích postupů analýzy kvalitativních dat (metoda zachycení vzorců, metoda kontrastů a srovnávání, clusterová analýza). Použití deskripce bylo kombinováno s dalšími analytickými metodami z důvodu rizika ochuzení interpretace dat. Deskripci předcházelo utřídění a klasifikace dat pomocí dílčích postupů analýzy kvalitativních dat (Miovský, 2006).

Clusterová analýza byla použita k analyzování klinického inventáře od terapeutických pracovníků. Identifikovatelnou kategorií byl „proces léčby, komplikace a behaviorální projevy klientů v léčbě v terapeutické komunitě". V prvním kroku byly do výše uvedené kategorie vybírány veškeré odpovědi, které souvisely s procesem léčby, komplikacemi a charakteristikou klientů v terapeutické komunitě. Ze získaných výroků byly za pomocí techniky barvení textu u základních skupin vytvářeny primární kategorie, které zahrnovaly subkategorie specifikující odlišná témata. Clusterová analýza byla následně kombinována s metodou kontrastů a srovnávání, která sloužila k odlišení identifikovaných kategorií klientů a zjednodušení procesu deskripce při vzájemném srovnání skupin.

● 3 VÝSLEDKY

● 3 / 1 Výskyt komplikací v léčbě u klientů s ADHD a klientů bez ADHD

Na základě kvalitativní analýzy sledovaných oblastí byly identifikovány dvě hlavní kategorie – I. komplikace v léčbě a II. behaviorální projevy klientů v léčbě. V I. hlavní kategorii byly identifikovány podkategorie (a) akceptování léčebného programu, (b) chování v rámci komunitního kolektivu, (c) podílení se na činnostech komunitního společenství, (d) postoj k autoritě, (e) pozice ve skupině, (f) dodržování pravidel/komplikace v léčbě, (g) způsob odchodu z terapeutické komunity, (h) komplikace ve srovnání s jinými klienty, (i) zásadní komplikace v léčbě. Do II. kategorie behaviorálních projevů klientů v léčbě byly zahrnuty podkategorie (j): chování celkové, v rámci mezilidských vztahů v komunitě, aktivita v komunitě, respektování autorit, pozice v rámci komunitního kolektivu a dodržování pravidel. Přehled komplikací u ADHD klientů a kontrolní skupiny uvádí *tabulka 4*.

I. kategorie komplikací v léčbě

a/ V subkategorii akceptování léčebného programu byly u klientů s diagnostikovaným ADHD identifikovány závažné komplikace. Tito klienti vykazovali velmi nízké hodnocení ve zlepšení během léčby, zároveň bylo přítomno vysoké množství faktorů komplikujících léčbu posuzovaných terapeuty jako negativní s progresivní tendencí. Kontrolní skupina bez ADHD zde dosahovala signifikantně méně komplikací a získávala častěji dobré hodnocení v oblasti zlepšení

Table 4 / Tabulka 4
Treatment complications according to the categories under analysis
Komplikace v léčbě dle analyzovaných kategorií

Domain under analysis	Group I – ADHD	Group II – non-ADHD
1. Treatment complications:	**Description of the key areas identified**	
a) acceptance of treatment programme	Major deterioration in terms of aggression – inadequate responses and overacting, difficulty observing rules and order, unwillingness to help others, deterioration of relationships with therapeutic team members, manipulation, difficulty coping with bursts of anger and emotions, low self-management and poor self-discipline bordering on laziness, difficulty in concentrating during group sessions, avoiding solutions and responsibility, and failure to respect rules. Manipulative behaviour, emotional lability, moodiness, negative experiencing, and self-pity.	Problems with openness and communication, realistic perspective, adherence to rules, self-interest, and cooperation
b) behaviour towards the community members	Problems concerning interpersonal relationships with other clients (three quarters of the sample), irritability, dissatisfaction with other clients. Inclination to seeking solitude, reclusiveness, difficulty being accepted by others and engaging in the open sharing of experience and feelings at group sessions.	More complications in terms of restlessness and concentration, disturbing others and interrupting other people speaking, difficulty taking in verbally communicated messages.
c) participation in communal activities	Problems in terms of detachment from others, disrespect for collective work, isolation and reclusiveness after the formal group activities have finished	Low rate of relevant complications according to the therapists.
d) attitude towards authority	Problems with journaling and fulfilling personal tasks. Similar complications to the control group, but with low frequency and minor severity of the phenomenon under consideration.	Major problems in terms of placing extraordinary demands on therapists' attention while showing submissive behaviour towards them; defiance towards negative feedback, manipulation of therapists, and disregard for recommendations.
e) position within the group	Minor complications with popularity within the group, becoming actively involved, and accepting the role of an underdog. A large number of clients showing difficulty establishing interpersonal relationships and assuming the position of an "individual player".	The same, even with respect to the distribution of complications (one quarter of the sample associated with the underdog role, three quarters with interpersonal complications).
f) compliance with the rules/treatment complications	Significantly different complications in relation to physical activities (awkwardness, avoiding sports activities, frequent injuries, excessive absorption in games and loss of self-control); three quarters of the sample experiencing problems with self-respect, transitions between treatment phases, and in terms of worse family relationships.	Major complications in terms of the rate of clients experiencing difficulty remembering the programme structure, adhering to the timetable, and expressing themselves in front of the group.
g) way of leaving the therapeutic community	Disciplinary reasons (repeated violations of basic rules, breach of cardinal rules) and the voluntary termination of treatment within one month of entry to treatment predominated. Nine early drop-outs altogether.	Mostly disciplinary reasons. A total of four drop-outs.
h) complications in comparison to other clients	14 clients in psychiatric care, 11 clients medicated for depressive, anxious, and aggressive symptoms. One tenth of the clients had problematic relationships with their families (reciprocally reinforced). Major problems in terms of anger and impulse control, medication had to be re-administered because of the deterioration of psychological conditions, tendencies to drop out and failure to manage those tendencies, deterioration of relationships with the therapeutic team members, difficulty concentrating.	Nine clients in psychiatric care/six clients medicated for depressive symptoms. Other complications at a minimum level.
i) major treatment complications	Difficulty dealing with community life, preference for individual solutions over group ones, thoughts escaping outside the community situation and low interest in working on one's own progress. Frequent occurrence of dual diagnosis (such as eating disorders, obsessive-compulsive disorder, and depression), strong personality impairments, psychological instability, mood swings, manipulative behaviour, emotional inhibition, verbalised aggression and control problems, tendency to focus on performance and the best result.	Recurrent problem of setting, clarifying, and breaking boundaries, psychological complications (hallucinations, psychiatric diagnosis) and disrespect for oneself and other members. As in Group I, ambivalent motivation, low self-esteem and self-acceptance, disrespect for other members.
2. Behavioural manifestations in treatment	**Description of the key areas identified**	
j) behaviour in general, behaviour within interpersonal relationships in the community, activity in the community, respect for authority, position among the community members, and compliance with the rules.	One third of the sample assessed negatively with respect to the areas under scrutiny, a higher rate of the most negative ratings (much worse). Negative ratings in the domains of participation in communal activities, attitude towards authority, and compliance with the rules predominated among clients (one third) from Group I (with ADHD).	One tenth of the sample assessed negatively, with a "just a little worse" rating predominating. A small number of clients with deteriorated behaviour. Significant improvement of behaviour in comparison to the pre-treatment levels as assessed by the therapists.

spect for authority, position among the community members, and compliance with the rules. A summary of the complications recorded in ADHD clients vs. the control group is provided in Table 4.

I. Treatment Complications Category

a/ Severe complications were identified in clients diagnosed with ADHD in relation to the "acceptance of the treatment programme" subcategory. These clients showed very low ratings with respect to their improvement during treatment. There were also a large number of treatment -complicating factors assessed by the therapists as negative with progressive tendencies. The members of the non-ADHD control group recorded significantly fewer complications in this domain and were more likely to receive positive ratings as regards improvement during the treatment process. While the ADHD clients recorded practically no improvements in terms of aggression, impulsivity, manipulation, emotional lability, moodiness, and self-control, the control group members showed major improvements in their abilities to control impulses, respecting and accepting the programme, openness, working on their own progress, and interpersonal relationships.

b/ The ratings of the "behaviour towards the community members" subcategory indicated no major complications for either of the groups. Qualitative analysis revealed some differences in the relevant complications between the ADHD and non-ADHD clients, with the former showing higher levels of such complications (three quarters of the sample). In comparison to the problems experienced by the control group, the complications identified in the ADHD clients need to be perceived as rather serious in terms of their social functioning within the community.

c/ As for the "participation in communal activities" subcategory, complications predominated in Group I; half of the sample showed very high rates of the complications under scrutiny. Nevertheless, both groups received positive ratings with regard to their active involvement in communal activities.

d/ A higher frequency of complications in the "attitude towards authority" subcategory was observed in the control group. It contained a large number of clients who received the same negative ratings for their attitudes towards authority. Partial problems with the completion of tasks were recorded in Group I. The members of the control group received much better ratings for their adherence to the treatment plan.

e/ Both the main groups, I and II, recorded considerable congruence in the assessment of the relevant domains for the frequency and severity of complicating factors with respect to the "position within the group" subcategory. The comparison of the groups suggested no major differences in the interpretation of the rated items.

během terapeutického procesu. U klientů s ADHD se prakticky nevyskytovalo zlepšení v oblasti agresivity, impulzivity, manipulace, emoční lability, náladovosti a sebeovládání, zatímco kontrolní skupina vykazovala výrazné zlepšení ve schopnosti kontrolovat impulzy, v respektu a akceptaci programu, otevřenosti, práce na sobě a interpersonálních vztazích.

b/ V podkategorii chování v rámci komunitního kolektivu převládalo u obou skupin méně závažné hodnocení z hlediska komplikací. Při kvalitativním rozboru byly popisované komplikace pro klienty s ADHD a bez ADHD odlišné a ve vyšší míře se vyskytovaly u klientů s ADHD (tři čtvrtiny souboru). Identifikované komplikace u klientů s ADHD lze vnímat vzhledem k fungování v rámci kolektivu jako dosti zásadní v porovnání s problémy u kontrolní skupiny.

c/ V podkategorii podílení se na činnostech komunitního společenství převládaly komplikace u I. základní skupiny; u poloviny souboru byla četnost výskytu sledovaných komplikací velmi častá. Pozitivní hodnocení však získaly obě skupiny v aktivním zapojování se do aktivit komunity.

d/ V podkategorii postoj k autoritě byly pozorovány častější komplikace u kontrolní skupiny, jež dosahovala shodně velkého počtu klientů, kteří byli hodnoceni negativně vzhledem k autoritám. U I. základní skupiny byly zaznamenány dílčí problémy související s plněním úkolů. Pozitivní hodnocení vzhledem k plnění terapeutického plánu bylo výrazně lepší u kontrolní skupiny.

e/ V podkategorii pozice ve skupině byla u I. i II. základní skupiny vzhledem k hodnoceným oblastem značná shoda co do četnosti a závažnosti komplikujících faktorů. Srovnání skupin neznačilo žádné významné rozdíly při interpretaci hodnocených položek.

f/ V podkategorii dodržování pravidel a komplikace v léčbě se uvedené skupiny shodovaly v nízké závažnosti komplikací v oblasti otevření se před kolektivem, respektování názoru ostatních a vyslechnutí, přijetí zodpovědnosti, udržování pořádku, zvládání úkolů v jednotlivých fázích léčby, akceptování zvyklostí komunity, oblast akceptování terapie a devalvace některé z činností komunity. Zároveň u klientů s ADHD byly identifikovány významné oblasti negativního hodnocení vzhledem ke komplikacím v léčbě, které se u kontrolní skupiny téměř nevyskytovaly.

g/ V podkategorii způsob odchodu z terapeutické komunity byly zjištěny četnější problémy ve vztahu s udržením v léčbě a dokončení léčebného programu u I. základní skupiny s ADHD. U klientů s ADHD se vyskytovalo předčasné ukončení léčby častěji než u kontrolní skupiny. Po uzávěrce dotazníkového šetření nepokračovalo 12 klientů této skupiny v léčbě. Z nich 3 klienti odešli tzv. řízeným odchodem před plánovaným termínem konce léčby (což nelze považovat za neúspěšnou léčbu, protože jde o přechod do následné péče). Z léčby svévolně odešlo nebo bylo vyloučeno pro porušování pravidel 9 klientů, z nich 3 lze označit za časné vypadnutí

f/ In the "compliance with the rules/treatment complications" subcategory, the groups were consistent in showing low levels of severity of complications in the domains of self-exposure to other community members, respect for other people' opinions and listening, responsibility, keeping things tidy and in order, fulfilling tasks at different stages of the treatment, accepting community routines, accepting therapy, and devaluing certain community activities. On the other hand, significant areas of negative rating in terms of treatment complications were found in the ADHD clients, while these were almost non-existent among the control group.

g/ In the "way of leaving the therapeutic community" subcategory, a higher rate of problems in relation to persisting with treatment and the completion of the treatment programme was found in Group I, with ADHD. The attrition rate was higher among the ADHD clients than among the control group. Twelve clients from the former group did not continue their treatment after the questionnaire survey had been completed. Out of those, three left on the basis of "controlled discharge" prior to the treatment completion date as planned (which can hardly be considered a failure of treatment, as it involves a referral to aftercare). Nine clients left treatment of their own will or were expelled for breaches of the rules. Three of those may be referred to as early drop-outs – terminating treatment at its initial stage). The highest rate of treatment retention-related problems was recorded in the "both childhood and adult ADHD" subgroup. In the control (non-ADHD group) only four clients terminated treatment early for disciplinary reasons (one of them after a month in treatment).

h/ The ADHD group, Group I, was rated as more complicated than the non-ADHD control group with respect to the "complications in comparison to other clients" subcategory. The rating indicated that complications are more prevalent in comparison to other clients or that the client makes the treatment more complicated than other clients do. The subcategory looked into the domains of psychiatric care, psychopharmaceutical therapy during treatment in the community, family relationships, and any primary family-related complications and serious negative developments.

i/ In both the main groups, major complications occurred at a similar rate (a rating of 0 for no complications to 3 for maximum complications); ratings of 2 and 3 were predominant. The analysis found congruence in complications pertaining to the domains of poor functioning within the group in terms of the negation of feedback, reclusiveness and rejection of criticism, and separation from the primary family. While in the ADHD clients major complications were more associated with psychopathological features, in the control group they were attributed to the maintaining of boundaries to a greater degree.

(early drop out – ukončení v prvním období léčby). Nejčetnější výskyt problémů souvisejících s udržením v léčebném programu vykazovala podskupina ADHD v dětství i současnosti. V kontrolní skupině (bez ADHD) jen 4 klienti předčasně ukončili léčbu z disciplinárních důvodů (jeden z nich po měsíci léčby).

h/ V podkategorii komplikace ve srovnání s jinými klienty byla I. základní skupina s ADHD hodnocena jako komplikovanější vzhledem ke kontrolní skupině bez ADHD. Hodnocení znamenalo, že komplikace je mnohem častější než u ostatních klientů, anebo že klient komplikuje léčbu více než ostatní klienti. Podkategorie mapovala oblast psychiatrické péče, medikaci psychofarmaky během léčby v komunitě, oblast rodinných vztahů a komplikací ve vztahu k primární rodině a závažné negativní změny.

i/ Zásadní komplikace se objevovaly u obou základních skupin s obdobnou frekvencí (hodnocení 0 bez komplikací – 3 maximum), výlučně převládalo hodnocení 2 a 3. Analýza přinesla zjištění shody komplikací v oblasti špatného fungování ve skupině z hlediska negace zpětné vazby, uzavřenosti a odmítání kritiky a v oblasti separace od primární rodiny. U klientů s ADHD zásadní komplikace souvisely spíše s psychopatologickými rysy, u kontrolní skupiny s udržováním hranic.

II. kategorie behaviorálních projevů

Kategorie behaviorálních projevů a její hodnocení vycházelo z bodové škály „změny v chování od počátku léčby". Byla sledována podkategorie (j) chování celkové, chování v rámci komunitního kolektivu a pozice ve skupině, podílení se na činnostech komunity, postoj k autoritě a dodržování pravidel. Skupina s ADHD byla celkově hodnocena v oblasti chování jako mnohem horší; vykazovala více klientů s negativním hodnocením ve sledovaných oblastech. V kontrolní skupině byla v případě negativního hodnocení úroveň závažnosti komplikací mírnější. Zároveň obě skupiny vykazovaly zlepšení v rámci sledovaných oblastí od začátku léčby; podíl klientů s pozitivně hodnocenou změnou byl vzhledem k zastoupení skupin vyrovnaný.

II. Behavioural Manifestations Category

The 'behavioural manifestations' category and its rating was based on the "Changes in Behaviour since the Beginning of Treatment" scale. The (j) "behaviour in general, behaviour within interpersonal relationships in the community, activity in the community, respect for authority, position among the community members, and compliance with the rules" category was looked into. In general, the behaviour of the ADHD group was rated as being much worse; there were more clients who received negative ratings in the domains under study. In the event of negative ratings, the severity of the complications in the control group was lower. Both groups showed improvements in the domains under scrutiny since the beginning of treatment; the rates of clients receiving positive change ratings reached the same levels in relation to group representation.

● 3 / 2 ADHD-relevant complications according to the final CTQ score and the factors under scrutiny

In its original form, the CTQ is also used as a tool to diagnose ADHD. This procedure was also applied as part of our study. The standard procedure reported by Paclt et al. (2007) was used to evaluate the modified version of the CTQ. Four basic factors were identified: (I) Conduct Disorders (containing 13 items to be rated), (II) Inattentive-Passive (6 items), (III) Tension-Anxiety (6 items), and (IV) Hyperactivity (6 items). The sum total of CTQ items is 31, with each item being scored with 0-3 points. Paclt et al. (2007) suggest that factors I and IV may be aggregated and evaluated as a single factor in assessing for an ADHD diagnosis. In our study, the clients' final scores were compared separately for each factor, based on the aggregate score for I (Conduct Disorders) and IV (Hyperactivity) and the total score from all the factors. The evaluation results are summarised in Table 5.

According to Paclt et al. (2007), the score indicating a potential ADHD diagnosis on the CTQ scale is 20 (with a deviation of +/- 5 points), arrived at by aggregating the points scored for factors I and IV (Conduct Disorders and Hyperactivity). Adding up factors I and IV for the main groups and subgroups, it was found that the highest average scores were reached by clients affiliated with the non-ADHD group, Group II. In terms of points scored, ADHD-relevant complications as per the CTQ scale showed a higher rate in the control group. As for Factor II (Inattentive-Passive) and Factor III (Tension-Anxiety), too, the clients in Group II (non-ADHD) recorded the highest average scores. However, the "both childhood and current ADHD" subgroup scored higher on factors I, II, and III in comparison to the non-ADHD group.

● 3 / 2 Komplikace relevantní pro ADHD podle výsledného skóre CTQ a sledovaných faktorů

CTQ v původní podobě se rovněž používá jako diagnostický nástroj ke stanovení ADHD. V rámci naší studie jsme dodatečně aplikovali i tento postup. Při vyhodnocení modifikované verze CTQ bylo využito standardního postupu, který uvádí Paclt et. al. (2007), kdy byly identifikovány čtyři základní faktory – I. poruchy chování (obsahující 13 hodnocených položek), II. nezúčastněnost a pasivita (6 položek), III. napětí a úzkost (6 položek) a IV. hyperaktivita (6 položek). Součet hodnocených položek z celé škály CTQ činí 31, přičemž hodnocení jedné položky znamená bodový rozptyl 0–3. Podle Paclta et. al. (2007) se faktory I a IV mohou sčítat a vyhodnocovat jako jediný faktor ke stanovení diagnózy ADHD. V naší studii byli klienti srovnáváni dle výsledných hodnot odděleně pro každý z faktorů, na základě součtu faktoru I (poruchy chování) a IV (hyperaktivita) a celkového skóre ze všech faktorů. Přehled výsledků vyhodnocení uvádí *tabulka 5*.

Skóre pro určení potencionální diagnózy ADHD na základě škály CTQ dle Paclta et. al., (2007) činí 20 bodů s odchylkou plus/mínus pět bodů na základě součtu faktorů I a IV (poruchy chování a hyperaktivita). Při součtu faktorů I a IV u základních skupin a podskupin bylo zjištěno, že průměrné nejvyšší hodnoty dosahují klienti II. základní skupiny bez ADHD. Zjištěné komplikace relevantní pro ADHD dle škály CTQ byly v případě bodového hodnocení vyšší u kontrolní skupiny. Rovněž u faktoru II (nezúčastně-

Table 5 / Tabulka 5

Final CTQ scores by factors under analysis (average scores)

Výsledné hodnoty CTQ dle analyzovaných faktorů (průměrná hodnota)

Factors under evaluation	Average scores by CTQ factors		
	Group I (ADHD)	- subgroup with the highest average score	Group II (non-ADHD)
I. Conduct Disorders	10.9	11.9/ADHD ch+c*	12.0
II. Inattentive-Passive	4.98	6.2/ADHD ch+c	5.5
III. Tension-Anxiety	4.5	5.5/ADHD ch+c	5.0
IV. Hyperactivity	4.2	4.8/ADHD ch**	5.6
Factors I + IV (sum total)	14.9	16.3/ADHD ch+c	17.6
Sum total of Factors I -IV	24.6	27.7/ADHD ch+c	28.1

*ADHD ch+c (ADHD both in childhood and currently), **ADHD ch (childhood ADHD only)

**ADHD d+s (ADHD v dětství i současnosti), **ADHD d (ADHD pouze v dětství)*

4 DISCUSSION

Given the evidence of a relatively high rate of potential ADHD clients (56.6%) in therapeutic communities for drug addicts, the present study examined the effect of ADHD on the course of treatment and complications that may arise. In the Czech context, it is the first research project to probe into this issue. Nevertheless, our conclusions generally confirm the findings of the foreign studies cited in Section 1 (cf., for example, a meta-analysis by van Emmerik-van Oortmerssen et al. (2012). It was shown that ADHD affects the personality of an individual in terms of their predisposition to substance use and experiencing numerous problems in their daily functioning. This may be reflected in residential treatment provided by therapeutic communities which are designed as a model of everyday life (see Kalina, 2008).

The above part of the study was designed to: (a) assess the ADHD clients for any treatment complications, (b) look for the effects of ADHD on the treatment process in therapeutic communities, and, additionally, (c) assess whether the measure used (modified CTQ) was suitable for diagnosing ADHD in the clients of therapeutic communities.

a/ The occurrence of complications was examined on the basis of the therapists' rating of the ADHD clients and non-ADHD clients in treatment. It was found that complications were experienced in both study groups. The complications showed greater severity in Group I, with ADHD. This group showed complications of higher severity in the domains of acceptance of the treatment programme (major deterioration was described by the therapists in a quarter of the ADHD clients), behaviour towards the community members ("major" complications of a different nature), participation in communal activities, attitude towards authority and the fulfilment of tasks (particularly with respect to journaling and the completion of personal tasks), treatment programme-related complications (considerable problems with physical exercise, awkwardness, and avoidance), the way of leaving the residential treatment (a quarter of the ADHD clients terminated the treatment early, mostly for disciplinary reasons), and complications in comparison to others (almost half of them received positive ratings in this respect). Psychiatric care and psychopharmacological medication during treatment (with no direct link to the ADHD symptoms, which implies the presence of additional psychopathological complications), problematic relationships with the primary family, treatment complications identified by the therapists as critical, and the negative rating of behavioural responses to treatment in comparison with the control group) were found to be frequent complications in Group I.

When the therapist questionnaires (modified CTQs) were being processed, a great number of blank questions/answers were encountered. Not all the questionnaires could thus be considered. When compared to the clients who were asked to complete the WURS and ASRS self-report

nost a pasivita a faktoru III (napětí a úzkost) dosahovali klienti II. základní skupiny bez ADHD nejvyšších průměrných hodnot. Podskupina s ADHD v dětství i současnosti však u faktorů I, II a III skórovala výše než skupina bez ADHD.

4 DISKUSE

Uvedená studie se na základě zjištění poměrně vysokého výskytu klientů s potencionální diagnózou ADHD (56,6 %) v terapeutických komunitách pro drogově závislé zabývala vlivem ADHD na průběh léčby a výskyt komplikací. V kontextu zkoumaného tématu je v České republice první sondou do této oblasti. Naše závěry však v zásadě odpovídají výstupům zahraničních studií, citovaných v oddílu 1, např. metaanalýze van Emmerik-van Oortmerssen et al. (2012), totiž že ADHD má vliv na osobnost jedince z hlediska predispozice k užívání návykových látek a vysokého výskytu problémů při fungování v běžném životě; což lze vztáhnout i na rezidenční léčbu v terapeutických komunitách, které jsou postaveny jako model běžného života (viz Kalina, 2008).

Výzkumný plán uvedené části studie zahrnoval (a) výskyt komplikací u ADHD klientů v léčbě, (b) zjištění dopadu ADHD na průběh léčby v komunitě, (c) dodatečně též posouzení vhodnosti použitého nástroje (modifikace CTQ) k diagnostice ADHD u klientů terapeutických komunit.

a/ Zkoumání výskytu komplikací na základě hodnocení terapeutů v léčbě u klientů s ADHD a klientů bez ADHD přineslo zjištění, že komplikace se vyskytují u obou sledovaných skupin. Z hlediska závažnosti převažovaly komplikace u I. skupiny s ADHD. Tato skupina vykazovala závažnější komplikace v oblasti akceptace léčebného programu (výrazné zhoršení popsali terapeuti u čtvrtiny klientů s ADHD), v chování v rámci komunitního kolektivu (obsahově odlišné „výrazné" komplikace), v podílení se na činnostech terapeutické komunity, v postoji k autoritám a plnění úkolů (zejména práce s deníkem a plnění osobních úkolů), v oblasti komplikací terapeutického programu (značný problém ve fyzických aktivitách, neobratnost, vyhýbání se), dále ve způsobu ukončení rezidenční léčby (u čtvrtiny klientů s ADHD byl zaznamenán předčasný odchod, většinou z disciplinárních důvodů) a konečně v hodnocení komplikovanosti vzhledem k ostatním (necelá polovina hodnocena pozitivně). Zjištěnou a četnou komplikací u I. skupiny byla psychiatrická péče a medikace psychofarmaky během léčby (bez přímé souvislosti s ADHD příznaky, což implikuje přítomnost dalších psychopatologických komplikací), problémový vztah s primární rodinou, komplikace v léčbě označované terapeuty jako zásadní a negativní hodnocení behaviorálních projevů v léčbě ve srovnání s kontrolní skupinou.

Při zpracování Dotazníků pro terapeuty (modifikace CTQ) jsme se setkali s vysokým počtem vynechaných otázek/odpovědí, takže všechny dotazníky nebylo možné vyhodnotit. V porovnání s klienty, kteří vyplňovali sebeposu-

questionnaires, the therapists turned out to be less diligent. Some therapist questionnaires were also found not to correlate in terms of the verbal and point evaluations of the clients in the groups under study. While the ADHD group received negative verbal evaluations, it achieved better results than the non-ADHD one after the rating of scale items and the aggregate scores had been taken into account. This finding may be attributed to the fact that the rate of ADHD symptoms in adulthood is often masked and thus difficult to identify and that both groups show largely similar behavioural and cognitive signs.

b/ The investigation of the effects of ADHD on the process and outcome of treatment in a therapeutic community showed that the disorder under study has an impact on both the beginning and the further course of treatment. Problems in ADHD clients, including significant personal issues, psychological manifestations, family issues, and poor functioning within the regimen and rules applied in the therapeutic community, were recorded throughout treatment. The problems that were identified at the onset of treatment recurred in its later stages; psychological problems (manifested as aggression, impulsivity, self-pity, negative experiencing, depressive tendencies, emotional lability, mood swings, etc.) tended to intensify. In behavioural terms, the ADHD clients were more likely to be rated negatively for their behaviour during treatment (deteriorated very much – behaviour in general, behaviour towards the community members, attitude towards authorities, etc.). Positive ratings were very low (improved just a little). Domains with no changes implied predominantly negative evaluations for the clients with ADHD, given the changes in the acceptance of the treatment programme and individual characteristics. In terms of the successful completion of treatment and persistence with the programme, the ADHD clients recorded the largest number of early terminations. Fluctuating motivation and abandoning complex objectives and tasks quickly was a recurrent pattern. In the research question under consideration, the complications identified in the previous research question played a role of major influence.

The identified categories of clients' problems and characteristics that interfered with the treatment regimen were similar in both groups, i.e. in qualitative terms, the ADHD clients did not show problems different from those recorded in the non-ADHD clients. According to the therapists, however, the ADHD clients showed more psychological and individual manifestations in treatment, which had a bearing on the domain of acceptance of the treatment programme and functioning within it. A number of clients were described as problematic in their adaptation to the programme; there were recurrent problems with their understanding of the structure of the regimen and its rules, coping with it, and with insufficient independence (a need for more intensive care and guidance). It was also found

zovací dotazníky WURS a ASRS, se terapeuti ukázali jako méně pečliví. Objevilo se rovněž, že Dotazníky pro terapeuty nekorelovaly ve slovním a bodovém hodnocení klientů sledovaných skupin. Ačkoliv byla skupina s ADHD hodnocena negativně ve slovním hodnocení, vycházela v bodovém hodnocení škálových položek a v součtu hodnot lépe než skupina bez ADHD. Zjištění lze přičíst zastřené míře výskytu symptomů ADHD v dospělém věku a problematice rozpoznání uvedené poruchy a zároveň vysoké srovnatelnosti behaviorálních i kognitivních projevů obou skupin.

b/ Zjišťování vlivu ADHD na průběh a výsledek léčby v terapeutické komunitě ukázalo, že uvedená porucha ovlivňuje začátek i průběh léčby. U ADHD klientů byly zjištěny problémy při zahájení i v průběhu léčby: výrazná individuální problematika, psychické projevy, rodinná problematika a fungování v rámci režimu a pravidel v terapeutické komunitě. Problémy, které byly identifikovány v začátku, se opakovaly i v průběhu léčby – psychické problémy často s intenzivnějšími projevy (agrese, impulzivita, sebelítost, negativní prožívání, depresivní ladění, emoční labilita, výkyvy nálad). V behaviorální rovině se u klientů s ADHD vyskytovalo v průběhu léčby více negativních hodnocení (zhoršení velmi – chování celkové, v rámci komunitního kolektivu, postoj k autoritám…), pozitivní hodnocení (mírné zlepšení) bylo velmi nízké. Oblast bez zjištěných změn znamenala pro klienty s ADHD převážně hodnocení negativní vzhledem ke změnám v akceptaci léčebného programu a individuálních charakteristikách. ADHD klienti z hlediska úspěšného dokončení léčby a setrvání v programu vykazovali nejvíce předčasných odchodů. Opakujícím se vzorcem bylo kolísání motivace a rychlé opouštění složitějších cílů a úkolů. U uvedené výzkumné otázky se do popředí vlivu dostávaly komplikace identifikované v předchozí výzkumné otázce.

Identifikované kategorie problémů a charakteristik klientů zasahujících do léčebného režimu byly u obou skupin podobné, tj. klienti s ADHD nevykazovali kvalitativně jiný typ problémů než klienti bez ADHD. Dle hodnocení terapeutů však klienti s ADHD přinášeli do léčby více psychických a individuálních projevů, které zasahovaly do oblasti akceptace léčebného programu a fungování v něm. Nemalá část klientů byla popisována jako problematická ve vztahu k adaptaci na program – vyskytl se opakovaný problém s porozuměním struktuře a pravidlům, orientaci v režimu a nízké samostatnosti (potřeba vyšší péče a doprovázení). Zároveň bylo zjištěno, že uvedení klienti dosahují v průběhu léčby velmi dobrých výsledků v pracovní terapii, jsou oceňováni za snahu (i přes výskyt opakovaných chyb, či porušení pravidel).

c/ Dotazník pro terapeuty (modifikovaná škála CTQ) se ukázal jako značně citlivý vůči komplikacím v léčbě u všech klientů a ve všech sledovaných oblastech. Klienti bez ADHD však ve škálových položkách CTQ dosahovali v prů-

that during treatment these clients achieved very good results in work therapy and were praised for their effort (despite their repeated mistakes and violations of the rules).

c) The Therapist Questionnaire (a modified CTQ measure) proved to be very sensitive to treatment complications in all the clients and all the domains under study. It should be noted, however, that on average the non-ADHD clients recorded higher scores and more severe treatment complications than the ADHD clients for the CTQ scale items, with the exception of the "ADHD in both childhood and adulthood" subgroup, where the average scores reached their highest levels. The CTQ factors were evaluated for diagnostic purposes. The pathological reference level for ADHD was met by 19 clients from the control group and by 20 clients with ADHD (i.e. not even half of the 43 clients in whom an ADHD diagnosis was suggested by the results of the self-report questionnaires). In other words, the CTQ measure identified the pathological reference level for ADHD in a different set of clients than the self-report questionnaires.

This contradiction needs to be explored further. The authors of this article find that the self-report questionnaires have greater validity. Their conclusion is based on the fact that while the CTQ scale was originally developed for teachers to assess students (i.e. to screen for childhood ADHD), its pathological reference level may not be fully relevant to the target group under study, given the adult ADHD diagnosis-related issues and the fact that the symptoms are often masked. Whether the therapists had enough time to observe the clients and assess them on the ADHD rating scale and, last but not least, whether they did so with due diligence, should also be taken into account. No less than one third of the therapist questionnaires were excluded from evaluation for being incomplete. Even the questionnaires that were included in the evaluation showed that verbal assessment was given greater attention than scaling. The therapists were not given any instructions, given the pilot nature of the research study.

Our preliminary conclusion is that in view of the above findings the CTQ may be considered a suitable measure for providing data additional to that generated by self-report questionnaires, but is not sufficient for diagnosing adult ADHD in the clients under consideration. However, the therapist questionnaire and the modified CTQ measure provide sensitive resources for identifying any complications and monitoring the treatment process in individual clients.

The assessment of adult ADHD in clients with addictive disorders is an issue in itself, as its symptoms may be concealed for scores of reasons. While the disorder is known to persist from childhood into adulthood among 40 to 50% of individuals, its impulsivity and hyperactivity elements go into remission and only poorly manifested attention disor-

měru vyšších hodnot a závažnějších problémů v léčbě než klienti s ADHD, s výjimkou podskupiny s ADHD v dětství i dospělosti, kde průměrné hodnoty byly nejvyšší. Při vyhodnocení faktorů škály CTQ a stanovení potencionální diagnózy splňovalo patologickou referenční hodnotu pro ADHD 19 klientů kontrolní skupiny a 20 klientů s ADHD (tj. pouze necelá polovina ze 43 klientů, u nichž na diagnózu ADHD poukázaly výstupy ze sebehodnoticích dotazníků). Jinak řečeno, škála CTQ nalezla patologickou referenční hodnotu pro ADHD u jiné množiny klientů než sebehodnoticí dotazníky.

O tomto rozporu je třeba diskutovat. Důvody, proč se autoři článku přiklánějí k vyšší validitě sebehodnoticích dotazníků se opírají zejména o skutečnost, že škála CTQ byla původně určená pro učitele k posouzení žáků (tj. k diagnostice ADHD v dětství), avšak vzhledem k problematice diagnostiky ADHD v dospělém věku a zastřenosti symptomů nemusí být její patologická referenční hodnota zcela směrodatná pro cílovou skupinu našeho výzkumu. Je nutné rovněž vzít v úvahu, zda terapeuti měli dostatečně dlouhou dobu potřebnou k pozorování klientů, a tedy k následnému posouzení dle bodovací stupnice pro ADHD, a neposlední řadě, zda se tomu věnovali s dostatečnou pozorností. Celá 1/3 dotazníků pro terapeuty byla z hodnocení vyřazena pro neúplnost a i v části dotazníků, které jsme do hodnocení zařadili, vykazovala větší pozornost při slovním hodnocení než při škálování. Instruktáž terapeutů vzhledem k pilotnímu charakteru výzkumné studie nebyla prováděna.

Naším pracovním závěrem je, že škálu CTQ lze považovat vzhledem k uvedeným zjištěním za nástroj vhodný k doplnění údajů informací k sebeposuzovacím dotazníkům, ale její užití pro diagnostiku ADHD v dospělosti je pro danou klientelu nedostačující. Dotazník pro terapeuty a přetvořená škála CTQ jsou však citlivým nástrojem k zjištění výskytu komplikací a průběhu léčby u jednotlivých klientů.

Diagnostika ADHD v dospělosti u klientely se závislostními poruchami je sama o sobě tématem k diskusi, protože příznaky mohou být z různých důvodů zastřené. Porucha z dětství do dospělosti sice přetrvává u 40 až 50 % osob, dochází však k ústupu impulzivity a hyperaktivity při přetrvávání nevýrazných poruch pozornosti (Paclt, 2007). Především se však u ADHD v dospělosti často vyskytují další psychiatrické komorbidity, v podstatě shodné s těmi, které doprovázejí také závislostní poruchy: zejména jde o depresivní a úzkostné poruchy, poruchy příjmu potravy a poruchy osobnosti (viz např. Jeřábek, 2008; Oortmerssen et al., 2012; Kalina a Vácha, 2013). Tyto poruchy mohou zastírat původní ADHD symptomatologii a vést ke zkreslení stanovené diagnózy. Rovněž jsme v naší studii identifikovali klienty s touto další psychopatologií, a to více ve skupině klientů s ADHD než v kontrolní skupině. Kromě toho mohou některé nespecifické symptomy, imponující jako ADHD,

ders linger on (Paclt, 2007). It needs to be underlined, however, that adult ADHD is often associated with other psychiatric comorbidities, such as depressive and anxiety disorders, eating disorders, and personality disorders, which are basically identical to those that occur in parallel to addictive disorders (see, for example, Jeřábek, 2008; Oortmerssen et al., 2012; Kalina and Vácha, 2013). Such disorders may mask the original ADHD symptoms and result in the condition being misdiagnosed. In our study, too, we identified clients with this additional psychopathology; there were more of them among the ADHD client group than in the control group. Moreover, some non-specific symptoms which manifest themselves as ADHD may ensue from the addictive disorder (especially in those dependent on methamphetamine), and eight weeks of abstinence before the administration of the questionnaire may not be enough for them to be distinguished. Therefore, it cannot be clearly stated whether the treatment complications that were identified can be attributed to the signs of ADHD or combined comorbidity.

The findings of the pilot study on ADHD in clients of therapeutic communities in the Czech Republic provide the first evidence of possible predictor prevalence and its potential implications. A benefit may be seen in that the potential rate of clients with this diagnosis among users in treatment is high in the Czech Republic and the effect of the disorder on the functioning of the individual in a treatment programme is significant in terms of the characteristics under consideration. The "childhood-ADHD-only" subgroup was found to show treatment complications that were identical to those recorded in other ADHD subcategories and greater than in the control group. The largest number of complications was found in clients with ADHD in both childhood and adulthood, where the high rate of problems and great severity of symptoms were also confirmed by the scales used. As for the complications that were recorded, the results showed that the ADHD clients experienced problems in coping with the treatment programme and indicated a number of great difficulties among this client group. These findings make it possible to assess these clients' specific needs that pertain to their individual abilities, psychological complications, and problems encountered in coping with certain components of the treatment programme. Early diagnosis and reflection of these clients' needs may dramatically reduce the number of early drop-outs, improve clients' engagement with the programme, and increase the benefit they gain from treatment interventions. The confirmation of an elevated rate of complications among clients with dual diagnoses may also be found useful (van Emmerik-van Oortmerssen et al., 2014). An important outcome of the present study is the evaluation of the modified CTQ for its effectiveness in screening for ADHD. It was concluded that under the given

vyplývat ze samotné závislostní poruchy (zejména u závislých na metamfetaminu) a 8 týdnů abstinence před aplikací dotazníků nemusí postačovat k jejich odstínění. Nelze tudíž tvrdit s jistotou, zda zjištěné komplikace v léčbě lze přičíst na vrub projevům ADHD nebo kombinované komorbiditě.

Uvedené poznatky z pilotní studie o ADHD u klientů v terapeutických komunitách v České republice přinášejí první zjištění o možné predikční prevalenci a jejích případných důsledcích. Přínosem může být, že se v České republice klienti s potencionální diagnózou mezi léčenými uživateli vyskytují ve vysokém počtu a vliv uvedené poruchy na fungování jedince v léčebném programu je vzhledem ke sledovaným charakteristikám významný. Při sledování podskupiny s diagnózou ADHD pouze v dětství byly zjištěny komplikace v léčbě shodné s ostatními podkategoriemi ADHD a vyšší než v případě kontrolní skupiny. Nejvíce komplikací vykazují klienti s ADHD v dětství i v dospělosti, kde i podle použitých škál je četnost výskytu problémů a závažnost symptomatologie vysoká. Výsledky z hlediska komplikací přinášejí informace o problémech klientů s ADHD ve zvládání léčebného programu a ukazují na závažné problémy uvedené skupiny. Vzhledem k těmto zjištěním je možné posoudit specifické potřeby uvedené klientely, které zasahují do oblasti individuálních schopností, psychických komplikací a problémů při zvládání některých částí léčebného programu. Včasná diagnostika a reflexe potřeb této klientely může výrazně snížit počet předčasných ukončení léčby, zvýšit zapojení klientů do programu a jejich benefit z léčebných intervencí. Za přínosné lze považovat i potvrzení zvýšeného výskytu komplikací u klientů s duálními diagnózami (van Emmerik-van Oortmerssen et al. (2014). Důležitým výsledkem uváděné studie je zhodnocení modifikovaného CTQ a zjištění efektivnosti vzhledem k záchytu ADHD: zde jsme dospěli k závěru, že uvedený nástroj v daných podmínkách sice neidentifikuje přesně klienty s pravděpodobnou diagnózou ADHD, lze jej ale doporučit k mapování komplikací v léčbě.

Limity našeho výzkumu jsou dány povahou pilotní studie a explorací dosud nezkoumaného jevu v konkrétních podmínkách terapeutických komunit. Jejich klienti jistě nejsou typickým vzorkem subpopulace problémových uživatelů a závislých; obecně se uvádí, že klientela terapeutických komunit je z mnoha hledisek značně komplikovaná (viz Kalina, 2008, kapitola 19) a je možné diskutovat určitou preselekci danou nejen ADHD symptomatologií, ale i dalšími psychopatologickými komorbiditami a jejich interpersonálním a sociálním dopadem. Tím by bylo možné rovněž vysvětlit značný rozdíl mezi 56 % klienty ADHD+ zjištěnými v naší studii a údajem poslední práce van Emmerik-van Oortmerssen et al. (2014), která uvádí 13,9 ADHD+ klientů v rozsáhlém vzorku bez zřetele na typ léčby. Z hlediska diagnostiky může být problémem i skutečnost, že diagnostické nástroje pro ADHD nejsou standardi-

conditions the measure is not accurate in identifying clients with a possible ADHD diagnosis, but it can be recommended as a tool for mapping treatment complications.

The limitations of our research ensue from it being conceived as a pilot study and exploring a phenomenon which has not been investigated specifically in the conditions of therapeutic communities. Indeed, their clients do not constitute a representative segment of the subpopulation of problem users and addicts. Clients of therapeutic communities are generally reported as being complicated in a number of aspects (see Kalina, 2008, Chapter 19): a certain pre-selection ensuing not only from ADHD symptoms, but also other psychopathological comorbidities and their interpersonal and social implications, may be brought up in this respect. This might also explain the dramatic difference between the 56% of ADHD+ clients identified in our study and the recent findings of van Emmerik-van Oortmerssen et al. (2014), who found 13.9% of ADHD+ clients in a large sample, irrespective of the treatment type. In terms of assessment, the fact that ADHD diagnostic tools are not standardised for substance-using clients may also be a problem (see Matthys et al., 2014).

Another limitation lies in the choice of the assessment instrument used by the therapists, which was adapted to address the nature of the research problem and applied to specific cases in order to test its ADHD screening capacities. When treatment complications were being looked for, the effects of ADHD could not be fully distinguished from the potential influence of other concurrent psychiatric complications. The relatively short data collection time period may also be considered a limitation, as it may have affected the therapists' abilities to assess the clients' condition correctly. The role of the human factor in the completion of the questionnaires must also be taken into account. As previously stated, the number of items that were left blank by the clients when completing the self-report questionnaires was significantly smaller in comparison to the therapist questionnaires. Although all the collaborating communities agreed to participate in the study, the number of staff members who completed the Therapist Questionnaire in its entirety was rather low. Thus, another limitation of the study can be seen in the therapists' being insufficiently motivated to participate in the research and their low awareness of the issue, which, as the study has shown, deserves attention.

5 CONCLUSIONS

In the diagnostic part of our pilot study, we first evaluated the self-report clinical inventories designed to identify ADHD (developed on the basis of WURS and AASRS) and divided the study sample into Group I, with ADHD, and (Control) Group II, without ADHD (the area of research and the relevant information are not the subject of this article). The ADHD group (I) included three subgroups: (a) with

zovány na klientelu uživatelů návykových látek (viz Matthys et al., 2014).

Jedno z dalších omezení představuje volba nástroje pro terapeuty, který byl upraven z hlediska povahy výzkumného problému a aplikován na konkrétní případy pro zjištění schopnosti zachycení ADHD. Při sledování komplikací v léčbě se nepodařilo zcela očistit vliv ADHD od možného vlivu dalších přidružených psychiatrických komplikací. Za omezení lze považovat i poměrně krátkou dobu realizace sběru dat, která mohla ovlivnit schopnost terapeutů posoudit stav klientů. Není možné rovněž opomenout lidský faktor při vyplňování dotazníků. Jak jsme uvedli výše, klienti při vyplňování sebehodnoticích dotazníků dosahovali signifikantně vyššího počtu vyplněných položek v porovnání s terapeutickými pracovníky. Ačkoliv souhlas s participací na výzkumu byl udělen všemi spolupracujícími komunitami, byl počet pracovníků, kteří vyplnili celý Dotazník pro terapeuty, dosti nízký. Limit studie lze tudíž spatřovat i v nedostatečné motivaci terapeutů k účasti ve výzkumu a v nízké informovanosti o dané problematice, která dle výsledků studie není zanedbatelná.

5 ZÁVĚRY

V diagnostické části naší pilotní studii jsme nejprve provedli vyhodnocení sebehodnoticích klinických inventářů pro diagnostiku ADHD (vytvořeno dle WURS a AASRS) a rozdělili výzkumný soubor na I. základní skupinu s ADHD a II. základní (kontrolní) skupinu bez ADHD (uvedená oblast výzkumu a relevantní informace nejsou součástí článku). I. základní skupina s ADHD zahrnovala tři podskupiny: (a) podskupinu s diagnózou ADHD v dětství, (b) podskupinu s diagnózou ADHD pouze v dospělosti, tj. v současnosti, (c) podskupinu s diagnózou ADHD v dětství i v současnosti. Na základě tohoto rozdělení skupin jsme pak porovnávali výstupy dotazníku pro terapeuty (úprava CTQ).

1/ Bylo zjištěno, že u klientů s diagnózou se vyskytují závažnější komplikace v léčbě než u kontrolní skupiny. U klientů s ADHD se vyskytovaly při analýze slovních odpovědí a škálových položek od terapeutů závažnější komplikace v oblasti akceptace léčebného programu, v chování v rámci komunitního kolektivu, v podílení se na činnostech terapeutické komunity, včetně v oblasti plnění úkolů, v oblasti komplikací terapeutického programu a problému ve fyzických aktivitách, ve způsobu odchodu z rezidenční léčby a v hodnocení komplikovanosti vzhledem k ostatním klientům.

2/ Bylo zjištěno, že ADHD u klientů v léčbě v terapeutických komunitách ovlivňuje začátek i průběh léčby. U klientů s ADHD se vyskytují komplikace, které propojují individuální rovinu, psychickou problematiku a schopnost fungování v rámci pravidel a řádu. Klienti s ADHD byli hodnoceni vzhledem ke kontrolní skupině negativněji, během léčby docházelo k minimálním žá-

a childhood ADHD diagnosis, (b) with an adult (current) ADHD diagnosis only, and (c) with both childhood and current ADHD. The results obtained from the therapist questionnaires (adapted from the CTQ) were then compared against this division.

1/ It was found that the clients with an ADHD diagnosis display more severe treatment complications than the control group. The analysis of the therapists' verbal responses and rating of scale items revealed that the ADHD clients showed more severe complications in terms of their acceptance of the treatment programme, behaviour towards the community members, participation in communal activities, including the fulfilment of tasks, complications with respect to the therapeutic programme and physical exercise, their way of leaving the residential treatment, and complications in relation to other clients.

2/ It was found that ADHD affects both the beginning and the further course of treatment in clients of therapeutic communities. The ADHD clients show complications that are projected across the individual level, psychological issues, and functioning within a certain order and rules. In comparison with the control group, the ADHD clients received more negative ratings: only a few desirable changes from their condition at the beginning of the treatment were achieved and there were also numerous clients who were rated as having recorded deterioration or significant deterioration against their baseline condition. The clients' behavioural and psychological manifestations had a bearing not only on the individual level (markedly low self-esteem in the majority of the sample), but also on their ability to engage with the treatment programme and benefit from it.

3/ It was found that the CTQ (Conners Teacher Questionnaire) as adapted for the study – the Therapist Questionnaire – is effective in identifying treatment complications. However, the CTQ scaling cannot be considered a reliable measure for diagnosing ADHD in the clients under consideration. The evaluation of the CTQ scale in the Therapist Questionnaire identified a set of potential ADHD clients which was different from that identified by the self-report questionnaires, which we found more authoritative for the reasons specified in Section 4. The adapted CTQ may be recommended as a relatively sensitive tool to look for treatment complications rather than the only measure to identify ADHD.

The findings of our study do not necessarily imply that clients with ADHD are the only ones to pose "complications" in treatment and predict treatment failures. Equally, it would be improper to claim that treatment complications in ADHD clients are due to ADHD only rather than to the complex interaction of the psychiatric comorbidities that are commonly associated with both ADHD and addiction. The main objective of our work was to expand the knowl-

doucím změnám od zahájení léčby; objevila se i velká část klientů s hodnocením zhoršení či výrazného zhoršení od počátku léčby. Behaviorální a psychické projevy klientů zasahovaly nejen do individuální oblasti (výrazně nízké sebehodnocení u většiny souboru), ale i do schopnosti zapojení se do léčebného programu a profitování z něj.

3/ Bylo zjištěno, že použitá úprava CTQ (Conners Teacher Questionnaire) – Dotazník pro terapeuty – dobře zachycuje komplikace v léčbě, škálování dle CTQ však nelze považovat za spolehlivý nástroj pro určení diagnózy ADHD u dané klientely. Vyhodnocení škály CTQ v Dotazníku pro terapeuty identifikovalo jako potenciální nositele diagnózy ADHD jinou množinu klientů než sebehodnoticí dotazníky, které z důvodů uvedených v oddílu 4 pokládáme za více směrodatné. Úpravu CTQ můžeme doporučit jako poměrně citlivý nástroj pro průzkum komplikací v léčbě, nikoliv však jako jediný instrument k záchytu ADHD.

Závěry naší pilotní studie nelze vyložit tak, že pouze klienti s ADHD jsou v léčbě „komplikovaní" a predikční pro neúspěšné absolvování léčebného programu. Stejně tak nelze tvrdit, že komplikace v léčbě u klientů s ADHD jsou zapříčiněny výlučně ADHD a nikoliv komplexem psychiatrických komorbidit, které jsou u ADHD i u závislostí časté. Hlavním záměrem naší práce bylo rozšířit poznatky o problematice ADHD v kontextu adiktologické klientely, aplikovat a zjistit účinnost klinických nástrojů, přinést vhled do uvedené výzkumné oblasti a podnítit další výzkumné i klinické činnosti v oblasti sledované problematiky. Za důležité pokládáme zejména vzdělávání pracovníků terapeutických komunit v problematice ADHD, praktická doporučení k diagnostikování ADHD během základního psychiatrického vyšetření při vstupu do terapeutické komunity a prohloubení integrované léčby duálních diagnóz ve smyslu více specifického zaměření na kognitivní, behaviorální, sociální a adaptační problémy klientů s diagnózou ADHD.

Role autorů: *Kamil Kalina spolupracoval na designu a provedení studie a zpracoval finální verzi článku. Eva Rubášová vytvořila design studie, organizovala sběr dat, vyhodnotila dotazníky a zpracovala pracovní verzi článku. Michal Miovský spolupracoval na designu a podobně jako Lenka Čablová a Lenka Šťastná se podílel na finální verzi článku. Všichni autoři přispěli ke vzniku článku a schválili konečnou podobu rukopisu.*

Konflikt zájmů: *Autoři si nejsou vědomi žádného konfliktu zájmů.*

edge about the ADHD-related issues in the context of addiction clients, apply and test the efficiency of clinical instruments, provide insights into the research area under consideration, and encourage further research and clinical efforts in this sphere. Finally, we believe that it is important to provide the staff of therapeutic communities with training in ADHD-related issues and guidelines for ADHD screening during the basic psychiatric assessment upon admission to a therapeutic community and improve the integrated treatment of dual diagnoses in terms of focusing more specifically on the ADHD clients' cognitive, behavioural, social, and adaptation needs.

The role of the authors: *Kamil Kalina participated in the design and implementation of the study and drafted the final version of the article. Eva Rubášová designed the study, organised the data collection process, evaluated the questionnaires, and drafted the working version of the article. Michal Miovský participated in designing the study and, like Lenka Čablová and Lenka Šťastná, was involved in the drafting of the final version of the article. All the authors contributed to the article and approved the final version of the manuscript.*

Declaration of interest: *The authors are not aware of any conflict of interest.*

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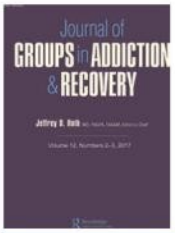
Příloha č. 3 Study III.



Journal of Groups in Addiction & Recovery

ISSN: 1556-035X (Print) 1556-0368 (Online) Journal homepage: http://www.tandfonline.com/loi/wgar20

Gender Differences in the Prevalence of ADHD Among Clients of Therapeutic Communities for Drug Addicts in the Czech Republic: Secondary Analysis of the Pilot Study

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To cite this article: Kamil Kalina, Eva Rubášová, Lenka Čablová, Lenka Šťastná & Michal Miovský (2017) Gender Differences in the Prevalence of ADHD Among Clients of Therapeutic Communities for Drug Addicts in the Czech Republic: Secondary Analysis of the Pilot Study, Journal of Groups in Addiction & Recovery, 12:2-3, 135-157, DOI: 10.1080/1556035X.2016.1272072

To link to this article: https://doi.org/10.1080/1556035X.2016.1272072

Published online: 23 Jun 2017.

JOURNAL OF GROUPS IN ADDICTION & RECOVERY
2017, VOL. 12, NOS. 2-3, 135–157
http://dx.doi.org/10.1080/1556035X.2016.1272072

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Gender Differences in the Prevalence of ADHD Among Clients of Therapeutic Communities for Drug Addicts in the Czech Republic: Secondary Analysis of the Pilot Study

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ABSTRACT

The aim of this study was to identify gender differences between a group with and without attention deficit hyperactivity disorder (ADHD) in the sample of 76 clients of therapeutic communities. The battery of tests contained three questionnaires based on ADHD Self-Report Scale (ASRS), Wender Utah Rating Scale (WURS), and Conners Teacher Questionnaire. Data were analyzed by combining a descriptive approach and sectional processes of qualitative data analysis. Women with ADHD exhibit more complications in the WURS–25 scale and (together with the women without ADHD) in ASRS. Gender differencies in ADHD-related complication in treatment were expressed on a qualitative level; severe complications occurred mainly in the men in both groups.

KEYWORDS

ADHD; gender issues; therapeutic community; treatment complications; treatment of drug addictions

The article draws on the previously published results of a pilot study which studied the prevalence of the clinical symptomatology of hyperactive disorder with attention disorder (ADHD; dg. F90.0 according to the International Statistical Classification of Diseases and Related Health Problems (ISC) 10 and ADHD according to *DSM IV* [American Psychiatric Association, 1994]) and its influence on the course, results, and complications of the treatment of 76 clients in six Czech therapeutic communities (TCs; Kalina, Rubášová, Miovský, Čablová, & Šťastná, 2014; Rubášová, Kalina, Miovský, Čablová, & Šťastná, 2015).

Women and men use the same substances, but they use them differently. Epidemiological studies show that men often use substances slightly above twice as much as women and it is nearly twice as likely for addiction to occur; the exception is the usage of psychotropic addictive drugs (mainly benzodiazepines), where there is a majority of women (Compton, Thomas, Stinson, & Grant, 2007; Cotto et al., 2010; Mravčík et al., 2015). Many studies point out that the 2:1 ratio does not correspond to the 3:1 ratio between clients in treatment (United Nations Office on Drugs and Crime [UNODC], 2013; Vobořil, 2003). In the Czech Republic,

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according to Mravčík et al. (2015), approximately one third of applicants for treatment, as well as in the population of users, are women. Generally, a higher rate of social stigmatization is admitted to be applied to a female who has abused substances and there is significant impact on the interpersonal, social, and work spheres than for men (Fattore, Melis, Fadda, & Fratta, 2014; Preslová, 2015). Sociologists have called this "double deviation:" Beside abuse, there is also a failure in terms of the specific gender role and expectations. (Ettorre, 1992; Vobořil, 2003).

The so-called telescopic phenomenon is often discovered in women: It takes a shorter period of time from the beginning of usage to the development of addiction in women than in men (Bobzean, DeNobrega, & Perrotti, 2014; Fattore, Altea, & Fratta, 2008, 2014; Gilbertson, Prather, & Nixon, 2008; Kuhn, 2015). Generally, women are more vulnerable to the side effects of substance use and have more psychological and health problems (Erol & Karpyak, 2015) and mental health disorders are more often than men (Fattore et al., 2014; Martens, 2004; UNODC, 2004; Yates & Wilson, 2001; Zhou, Zhao, Zhou, & Li, 2015).

De Leon and Wexler (2009) reported that women enter treatment less often than men, have bigger problems with remaining in treatment, and complete it less frequently. Those women who do complete the treatment often do better than men (Walitzer & Dearing, 2006), whereas other authors state that there is a higher risk of relapse in women (Bottlender & Soyka, 2005; Bobzean et al., 2014; Zhou et al., 2015). There is a consensus that women show higher sensitivity to some triggers of relapse, mainly from the family. It has been confirmed repeatedly that the relevance of inductive and maintenance behavior from the partner is one of the truly typical female problems when it comes to relationships (Kalina, 2008a, 2008b; Fattore et al., 2008; Martens, 2004). It has been stated (Arbiter, 2004; Heller & Pecinovská, 2007; Martens, 2004; UNODC, 2004) that women tend to be introduced to substance use and kept in abuse by their male partners. The differences in vulnerability and relapses can be found on the neurohormonal level and the influence of estrogen on the dopaminergic system is considered significant (Fattore et al., 2014; Bobzean et al., 2014). On the other hand, other studies (e.g., Adamson, Sellman, & Frampton, 2009; Laudet & Stanick, 2010) draw attention to the fact that gender by itself is not a very robust predictor of the outcome of treatment.

On this basis, it is considered important to start implementing "gender-friendly" (gender-responsive) programs that consider the needs of women in all aspects and react to them according to how they are conceived and provided, including the location and the staff and content of the program (Kalina, 2008a, 2008b; Martens, 2004; UNODC, 2004). As for TCs and addiction treatment, they are considered a masculine prototype par excellence. Martens (2004) implied that coeducational TCs for addicts are characterized by a male lifestyle. Women feel like an oppressed minority and receive little respect and little support and also have only a few role models.

The highly pronounced approach to gender differences, if it involves only women, unavoidably leads to the maintenance of female myths and female stigmatization (Arbiter, 2004; Stantzon & Arbiter, 2014). On the evidence of the therapeutic

community curriculum (TCC) (2006), De Leon and Wexler (2009), and others, the basic therapeutic approach, the basic philosophy of recovery, and the aim of a healthy and valuable lifestyle are the same for men and women.

Compared with the gender-specific features of women, the unique characteristics of male clients of TCs are given much less attention. Kooyman (1993), the classic of European TCs, characterized "frozen emotions" and dealing with internal problems in an externally aggressive and competitive form as typical. TCC (2006) described men who have abused substances in TCs as having the following psychological profile: a lack of positive male role models that would prepare them for fatherhood and healthy relationships with men and women; aggression, dominance, rivalry, and other rigid patterns of a "macho" behavioral style.

In search of differences between men and women who abuse substances - is necessary to reflect the peculiarities of symptomatology comorbidities. Regarding ADHD, the identified gender differences among women and girls show a lower level of hyperactivity, impulsivity, aggression and delinquency, and a higher rate of depressive and anxiety symptoms; men with ADHD exhibit a higher degree of aggression and externalizing behaviors, hyperactivity and more frequent incarceration (Gershon & Gershon, 2002; Rucklidge, 2010). Carducci (2009), however, presented a few differences in the behavior of people with ADHD in adulthood. Gender common to ADHD person is a higher incidence of other psychiatric comorbidities and substance abuse (depressive and anxious disorders, eating disorders, and personality disorders; Kalina & Minarik, 2015; Van Emmerik-van Oortmerssen et al., 2014).

The aim of this article was to find out the gender differences between the men and women in the sample. We determined the following research questions: (a) What are the characteristics of clients with and without ADHD from the gender perspective—are there differences or similarities between women and men with and without ADHD? (b) What are the complications of clients with and without ADHD in treatment from the gender perspective? Do any complications occur at higher rates in any gender group? If so, what complications and how do they manifest themselves? (c) What are the effects of ADHD on the initiation and course of treatment in a therapeutic community in comparison with the control group (clients without ADHD) from the perspective of gender differences? We consider it worthwhile to frame the study by a summary of the most important facts about the gender issue in abuse and addiction.

Sample

The sample population was formed of clients of six therapeutic communities in the Czech Republic that specialize in the treatment of addiction disorders, especially the users of illegal psychoactive drugs. Altogether, 76 clients participated, aged 15 to 45 years old; this is, therefore, approximately one-third (34%) of all the clients in TCs for addicts in the Czech Republic (total capacity of 277 beds, 80% used; Mravčík et al., 2015). The sample was selected using a nonprobabilistic selection method with the help of purposive sampling of the research sample selection through

Table 1. Basic characteristics of sample population ($N = 76$; 27 women, 49 men).

Characteristic		I: Group with ADHD ($n = 43$)		II: Group without ADHD ($n = 33$)	
		Women ($n = 15$)	Men ($n = 28$)	Women ($n = 12$)	Men ($n = 21$)
Age range		15–41	16–39	21–34	19–45
Average age		26	27	25.8	28
% of the sample	Women/men	19.7%	36.8%	15.8%	27.6%
	Total	56.6%		43.4%	

Note. ADHD = attention deficit hyperactivity disorder.

institutions. The method, as shown in Miovský (2006), leads to the fact that we can take the advantage of using certain activities of a chosen institution to capture the target group, which is the subject of our concerns. Intentional selection of the research sample was then combined with the method of selecting the total of the research sample. The basic characteristics of the sample population are shown in Table 1.

Proven abstinence in a safe environment for at least 8 weeks (to make the diagnosis of ADHD clear of the possible influence of previously used psychoactive drugs, mainly methamphetamine) and written informed consent agreeing to participation in the research were the main criteria for inclusion in the sample.

The basic ethical norm was the introduction and voluntary signing of the informed consent and personal data protection according to law. Personal data protection was ensured by coding the questionnaires and individuals. A part of ethical standards was the preparation and analysis of potentially risky situations and draft of models their solutions. The pilot study was approved by the ethics committee of the General University Hospital in Prague on October 4, 2013 (ref.number 9/13).

The sample population (Rubášová et al., 2015) was divided into two main groups in the diagnostic phase of the pilot study: the first primary group was formed of clients with a diagnosis of probable ADHD (in childhood or currently or in childhood and currently); the second primary group was formed of clients without a diagnosis of ADHD (control group). There were 43 clients (56.6%) with a probable diagnosis of ADHD. The ratio of women to men in the sample population showed quite clearly in the group with a probable diagnosis of ADHD: 35% of the women (55% of the female total) and 65% of the men (57% of the male total). The basic sociodemographic data presented by the division of the sample population and gender comparison are listed in Table 2.

Methods

Methods for gathering the primary information

The gathering of primary information in the therapeutic communities was done from May to October 2013 by key workers of the individual TC, who were

Table 2. Basic sociodemographic data.

Sociodemographic data		I: Group with ADHD ($n = 49$)		II: Group without ADHD ($n = 27$)	
		Women ($n = 15$)	Men ($n = 28$)	Women ($n = 12$)	Men ($n = 21$)
Average age		26	27	25.8	28
Status	Single	15	27	12	19
	Married, divorced	0	1	0	2
Occupation	Unemployed/recorded by Labor Office (ÚP)	7	18	8	15
	Employed/sick/parental leave	8	10	4	6
Legal occupation (experience)	Yes/no	11/3	23/5	11/1	19/2
	Average number of months	57	68	27	23
Labor office (ÚP) recorded (experience)	Yes	12	25	9	19
	Average number of months	21	28	14	26
Education finished/unfinished	Primary school	8/0	11/0	2/0	12/0
	Vocational school	3/3	8/5	4/1	4/7
	High school	4/6	9/4	6/3	5/5
	University, college	0/1	0/0	0/5	0/0
Housing	At home (family, friends)	6	7	10	10
	Dormitory, user flats, other flats	8	9	1	4
	Street, squat	0	9	1	3
	Psychiatric hospital, jail, institution	1	3	0	4

Note. ADHD = attention deficit hyperactive disorder.

responsible for compliance with the testing rules, application of a battery of tests, and coding the respondents in order to ensure the safety of personal data.

The battery of tests included the following tools:

Anamnestic list for the diagnosis of ADHD signs in childhood

Anamnestic list (AL) was created on the basis of the Wender Utah Rating Scale (WURS) 61/25 scale, which is a structured tool for the examination of adults with ADHD symptoms in childhood and has good internal consistency and even test-retest reliability (Ward, Wender, & Reimherr, 1993). It is used all around the world; however, it has not yet been standardized and validated in the Czech Republic. The Wender scale originally contains 61 items with possible values from not at all or a little bit to a lot (0–4 points). Twenty-five items are usually used from the extensive list of 61 (WURS-25); these are described by Ward et al. (1993) as those most constituent for ADHD. We used the pathological reference values with regard to ADHD based on WURS-25 in the pilot study; at the same time, the whole scale (WURS-61) was used to compare the overall score for gender comparison. AL (WURS - 61) was supplemented by items about basic sociodemographic data for the purposes of our research.

Self-evaluation questionnaire for the diagnosis of ADHD signs in adulthood

Self-evaluation questionnaire (SQ) was created on the basis of the Adult Self Report Scale (ASRS) in 1.1, which is made up of 18 items and is divided into Part A (six items) and Part B (12 items)—the items correspond with the criteria of *DSM-IV* for ADHD. The first six items (Part A) are said to be the most predictive concerning ADHD symptoms. The scale was developed by the World Health Organization in cooperation with psychiatric teams, experts on ADHD, and research workers (Kessler et al., 2005) and was used in many other studies (e.g., Hines, King, & Curry, 2012). The questionnaire was supplemented by questions concerning basic anamnestic information and key addictology data for the purposes of our research.

Questionnaire for therapists used for mapping of behavior and treatment complications

Questionnaire for Therapists (QT) was created on the basis of the Conners Teacher Questionnaire (CTQ), described in the Czech Republic by Ptáček (2007). The CTQ is a validated scale containing 39 items and divided into parts that assess behavior in class, participation in activities and groups, and attitudes toward authority. At the same, the CTQ detects behavioral disorders, inattention, tension, anxiety, and hyperactivity (Drtílková, 2007) on the basis of four factors included in the questionnaire. We made some changes to the formulation of the CTQ for the purposes of our research (the school environment was changed to that of a therapeutic community) and we added additional data, which followed the changes that took place during the treatment, pharmacotherapy, psychiatric care, dropping-out, and complications in treatment. The results of the self-evaluating questionnaire were not known to the therapists, who rated the clients on the basis of their compliance with the rules and complications in the regime, so filling in the QT was not affected by it; the pairing was done by a researcher using inside codes. Therapists evaluated complications in clients at the beginning and during the treatment.

Methods of processing and analysis of qualitative data

The data that had been gathered were recorded in text documents and then transcribed into an electronic version. An anonymous code was created for communities and individual respondents to protect their data and safety. Literal transcription was done only for scale answers appropriate to the research topic (Miovský, 2006) and open answers were reduced to key messages. The systematic and nonsystematic influences of the process of transcription were checked repeatedly by an outside audit. The systematization of the data for the score evaluation of the questionnaires continued in the case of scale items by the technique of text coloring—to distinguish individual groups and the gender distinction of the sample, to distinguish basic diagnostics, and to answer the research questions. The technique of text coloring and the technique of data coding according to the research areas and topics were used for the systematization of the qualitative analysis of the questionnaire's text parts. This technique was used to look for similarities and differences between the defined groups, both from the self-evaluating and therapists' questionnaires.

The analysis of qualitative data from AL, SQ, and QT was performed by a combination of a descriptive approach and sectional processes of qualitative data analysis (method of recording patterns, contrasts and comparisons method, method of clustering). The research used a pragmatic approach; for the analysis, it was used an inductive approach within grounded theory. The research took advantage of the movement within broader analysis procedures (Huberman & Miles, 1998).We used grounded theory when creating categories. Grounded theory is used in the beginning of the examining of the surveyed area (the given phenomenon) and is not a theory in the sense of a quantitative approach (Miovský, 2006). The advantage of grounded theory is the plasticity and the ability to integrate diverse data (Corbin & Strauss, 1990). According to grounded theory principles we worked with procedures of open coding, of axial coding, and of selective coding. Creating categories and subcategories based on the above principles (Strauss & Corbin, 1990).

Analysis of gender differences

To answer Research Question 1—What are the characteristics of clients with and without ADHD from the gender perspective (finding differences and similarities)?—the method of recording patterns or gestalts was used. All repeated answers were primarily chosen on the basis of which main categories were created, and into which the newly identified answers and repeated structures linked to the profile of the group (women/men, ADHD+/ADHD−) were put. The main categories contained subcategories, which conceptualized the information into more synoptic groups. Subsequently, the method of contrast and comparisons was used to differentiate the categories of clients that were identified and to describe their similarities and differences.

To answer Research Question 2—What are the complications of clients with and without ADHD in treatment from the gender perspective?—the method of clustering was used to analyze the clinical inventory of therapeutic workers. The category that was identified was "the process of treatment, complications in a therapeutic community." All answers that were connected with this category were chosen in the first step; the statements that were gathered were allotted by the technique of text coloring to primary categories, which included specific topics (subcategories). The method of clustering was then combined with the method of contrast (Miovský, 2006) to compare gender-specific features. The same approach was used with analytical work for Research Question 3—What are the effects of ADHD on beginning treatment in a therapeutic community in comparison to the control group (clients without ADHD) from the perspective of gender differences?

Results

Characteristics of clients with and without ADHD: Gender perspective

Common repeated categories were identified in the area of anamnestic information—a summary of the main findings are shown in Table 3. Major

Table 3. Characteristics of clients based on anamnestic data from gender perspective.

		I: Group with ADHD		II: Group without ADHD	
Characteristic		Women ($n = 15$)	Men ($n = 28$)	Women ($n = 12$)	Men ($n = 21$)
School issues	Repeating of years	1 woman, repeated once	9 men, repeated two or three times	3 women, repeated once	4 men, repeated once
	Unfinished education	10 women, mainly high school	9 men, mainly vocational school	9 women, mainly college, university	12 men, mainly vocational school
	Other	10 women, problems with group, authorities, missing school, grades, behavior (disturbing, inattention, rudeness), substance abuse	27 men with the same problems as the women and in addition + bully or bullied, hyperactivity, crimes, forgetfulness, fights, aggression, moodiness + dyslexia, dysgraphia, dyscalculia	6 women, incomplete education, missing school, fights with teachers, grades	16 men, behavior, grades, missing school, unwillingness to study, substance abuse
Addictological anamnesis	Primary substance	8 women methamphetamine 5 women metham-phetamine/polydrug use 1 woman cocaine 1 woman heroin	21 men methamphetamine 4 men heroin + methamphetamine, 1 man alcohol, 1 man braun, 1 man polydrug use	6 women methamphetamine 4 women methamphetamine + heroin 2 women heroin	11 men methamphetamine 8 men heroin/Subutex/ benzodiazepines, 2 men cannabinoids
	Age of first use Average	15.1	15.8	15.5	17.7
	Range	11–21	11–27	13–18	14–27
	Number of persons with first use under 15 years of age	9	13	6	7
	Number of months of abuse	5–240	24–240	12–216	36–228
	average/range	111.8	129.4	99	107
	Form of application	9 women I.V. 5 women sniffing** 1× n/a	24 men I.V. 3 sniffing 1 p.os.	4 women I.V. 6 women sniffing 2 women smoking	16 men I.V. 4 men sniffing 1 men smoking

Problems associated with substance use	Legal problems	3 women Based on debts, foreclosure/auction, nutritional obligations to children primary drug crimes	7 men Community service, jail, suspended sentence	3 women Based on debts, primary crimes, current criminal prosecution	6 men Primary and secondary crimes, current criminal prosecution
	Financial problems	11 women family, non-bank companies, health insurance, transport debts	21 men with the same problems as the women and in addition + credit fraud and debts, a large number of creditors per person	9 women with the same problems as the women with ADHD	15 men with the same problems as the men with ADHD and in addition + high amount owed (800 thousand or more in three clients)
	Health problems	7 women 1× HCV, 1× limb amputated, kidney inoperative + severe back pain, arthralgia, asthma, …	16 men 5× HCV, 1× HBV, epilepsy, type I DM, 5× asthma; further allergies and skin problems	5 women thyroid, allergies and asthma, dental problems	12 men 1× HCV, 1× syphilis, dental problems, allergies, asthma
Consequences/ causes of substance use	Psychological problems	11 women 2× BAD and ED, half depression and anxiety, mental instability and instability of moods	20 men More than half depression, aggression and psych. lability; often suicidal ideation, restlessness, and mood disorders, anxiety and self-harming	6 women 1× BAD and ED, aggression, addiction, and toxic psychosis	11 men 6× toxic psychosis, BAD 1×, 1× depression, self-pity, and aggressiveness + abuse and addiction
	Treatment of substance use	5 women repeatedly in TC, 10 women expert care – 22 treatment interventions/11 finished	2 men repeatedly TC 19 men similar treatment – 70 treatment interventions/21 finished	3 women repeatedly in TC, 8 women similar treatment – 11 treatment interventions/5 finished	4 men repeatedly in TC 14 men similar treatment – 34 treatment interventions/14 finished
	Psychiatric care/medication	3/3 women unspecified	11/5 men antidepressants, anxiolytics, antipsychotics, + aggressiveness medication, BAD	1/0 women	2/1 men Antidepressants
Childhood problems	Stay in psychiatric hospital	2 women	6 men	0 women	1 men
	Stay in a child/educational institution	2 women	5 men	0 women	0 men
	Learning/behavior/mood disorder examination	4 women	16 men	0 women	10 men
	Speech therapy	4 women	8 men	5 women	5 men

Note. ADHD = attention deficit hyperactive disorder.

problems in defined areas were exhibited mainly by patients with ADHD; the gender perspective shows an interesting difference in substance abuse and personal anamnesis (use the lowest average age - women in both groups; lowest first use by age 11 years—a group with ADHD; the highest average number of months of abuse reported men with ADHD—129, 4 months). The area of school problems was balanced from the perspective of qualitative comparisons in the first group (with ADHD); the women manifested a high rate of unfinished education, whereas a higher rate of repeated years occurred among the men. Abuse of methamphetamine as a primary drug is visible in the substance abuse anamnesis in both groups and even in gender comparison (59 clients used methamphetamine/46 of these only methamphetamine). The intravenous form of application prevails for the clients with ADHD (33 clients with ADHD/20 without ADHD). Repeated treatment in TCs was reported more often by the women with ADHD; the men, on the other hand, exhibited higher numbers of incomplete attempts at treatment and interventions (for 19 men with ADHD total of 70 treatments interventions/but only 21 finished). Proven problems in childhood (treatment, special examinations for learning and mood disorders, psychiatric care, etc.) were represented at a much higher rate among the men in both groups.

Comparison of results of self-evaluating questionnaires

The anamnestic list according to WURS 25 showed the highest average number of points obtained by the women with ADHD; the highest score was a woman with ADHD (96 out of 100 points on the WURS 25). The men with ADHD showed, on average on the 25-point scale, a lower level of childhood problems. Women with ADHD had average values of 58.3, men 57.0. The second group, without ADHD, was significantly different from the gender perspective - women without ADHD had average values of 28.9; men 33.3. When the points obtained in the AL based on WURS 61 were observed, the highest score was achieved by a man with ADHD (195 out of 244 points on the WURS 61)—women with ADHD had average values of 111.9; men 113.7—dispersion of the values from 68 to 195. Women without ADHD had average values of 68; men 75—the dispersion of the values went from 43 to 103. The self-evaluating questionnaire based on ASRS shows higher values for the women in the group of clients with ADHD (in Part A—the average value of 13.6/12.8 for men). The women without ADHD showed milder problems in childhood than the men, but a higher rate of these in adulthood (in Part A—the average value of 9.8/8.7 for men).

Complications in treatment of clients with and without ADHD: Gender differences

The main category of complications in treatment was represented by nine subcategories (a–i; Table 4A and 4B). More severe problems often showed up in the (a) acceptance of the treatment program in the men with ADHD and even without ADHD; men are often rated as more complicated when accepting the rules of a TC

Table 4A. Complications of treatment: Gender comparison; continuation, item a–h.

	I: Group with ADHD		II: Group without ADHD	
Group/subgroup	Women	Men	Women	Men
a) acceptance of the treatment program (changes in the sense of deterioration / improvement)	¼: the recognition authorities, control of emotions low degree of openness and accountability, mismanagement of escape tendencies ¼ relationships with the team and with the family, self-acceptance, self confidence	½ strong and inappropriate expressions of aggression, acceptance of regulations and rules, the low openness to groups, individualistic solutions, lack of interest in team, repeating medication for worsening of psychiatric conditions, manipulation and devaluation ¼ negative feelings, self-confidence and independence, frustration tolerance, openness to the community	1 woman - a slight worsening of in the adoption of rules ¾ assertivity, communication skills and openness, acceptance of treatment, self-esteem, insight into the problems, strong motivation, demarcation to surroundings, accepting the past, trust in change of the current treatment, the adoption of spiritual values	¼ acceptance rules no sexual restraint, disregard for the care of their own health problems and laziness / low motivation for treatment ¾ mental lability and control of emotions, openness to groups, communication skills, rules and regulations - acceptance, empathic behavior and altruism, authenticity, self-care, insight into the behavior and regulation
b) behavior within the community team (problems considerable or very considerable)	¼ impulsiveness, relationships with clients, moodiness, interrupting in the speech of others, irritating behavior towards others, inaccessibility to personal issues, isolation from the team	½ impulsiveness, relationships with clients, unrest-inattention-difficulty concentrating, boredom on groups, complaining to others and discontent, isolation and reclusiveness, low acceptance of team, the taciturnity of personal issues	1/5 impulsiveness, problems with the acceptance of borders, irritation of other community members	½ relationships with others, impulsiveness, restlessness and imprudence, dissatisfaction with others, low rate of acceptance of the collective, the problem with the acceptance of borders
c) participation in community activities	insulation, low participation in joint work and boredom, active only in the context of the obligations, limiting contacts immediately after the program ends	low rate of participation in the collective, the low participation in joint work and boredom, active only in the context of the obligations, limiting contacts immediately after completion of the program, significantly active to engage in the program	disrespect to work together,	low rate of participation in the collective, the low participation in joint work, active only in the context of the obligations, significantly active to engage in the program

(Continued on next page)

Table 4A. (Continued)

	I: Group with ADHD		II: Group without ADHD	
Group/subgroup	Women	Men	Women	Men
d) attitude towards authority	½ non-cooperation and handling of the therapist, submissiveness, defiance of family and negative feedback, duties,	¾ extraordinary demands on therapists attention, some therapists rejection, disrespect recommendations of therapists, anxiety in relation to the request from the authority + the same as women with ADHD	¼ submissiveness, manipulation and rejection of therapist defiance of family, irresponsibility of at work with daily	½ submissive, non-cooperation and handling - disrespect - refusing therapists difficulties in carrying out assigned tasks
e) position in the group	¼ problems establishing a interpersonal relationships and communication among program, individualistic approach	½ the same problem as women with ADHD + problem with concretized the topic	1/5 individualistic approach	½ the same problem as men with ADHD
f) observance of rules / complications of treatment	¾ difficulties in adhering to the timetable of programs, not respecting the opinions of others and oneself, irresponsibility, problem with the phases of treatment and adaptation to new conditions, unrealistic preview, boycotting of rules, problems with the acceptance of the traditions of the community, relationships with family, difficulties in phys. activity	½ openness before a group, disrespect for the opinions of others and oneself, irresponsibility, messiness, problem with discipline, problem with the phases of treatment and adaptation, unrealistic view, problem stand before the group and with the acceptance of therapy, the devaluation of the community, relationships with family, difficulties in fyz.aktivitách	1/5 openness before the group, irresponsibility, compliance with the time schedule, disrespect myself	½ openness before a group, disrespect for the opinions of others and to ourselves, irresponsibility, unrealistic preview, boycotting of minor rules
g) End of treatment in the TC / grounds for termination	7 women prematurely 3x I.phase 1x disciplinary reasons (nekompliance with the rules) 3x managed departure	7 men prematurely 2x escape 2x violation of the cardinal rules 1x I. Phase 2X managed departure	1 woman prematurely disciplinary reasons	3 men prematurely disciplinary reasons

Table 4B. Complications of treatment: Gender comparison; continuation, item h–i.

	I: Group with ADHD		II: Group without ADHD	
Group/subgroup	Women	Men	Women	Men
h) complications compared with other clients	I) diameter 2,1	I) diameter 3,1	I) diameter 3,0	I) diameter 2,8
I) 1–5 scale; 1 trickiest; 5 minimum	5 women ratings 1	1 men ratings 1	2 women ratings 1	2 men ratings 1
II) Psychiatric care/ medication	II) 3/3	II) 11/5	II) 1/0	II) 2/1
III) family relations during treatment at TK	III) ½ unimproved family relationships	III) ½ unimproved family relationships	III) 1/5 persisting complications	III) 1/5 persisting complications
i) major complication in the treatment	¾ žen	¾ mužů	1/5 žen	1/5 mužů
I) the functioning on the group II) related to the primary family III) individual area	I) prioritization of individual solutions, adaptation problems, mental leaks, lack of interest on the work itself + the same problems as women without ADHD II) separation from the primary family, unclear roles, refusing to contact III) Low self-esteem and self-acceptance, disrespect for others + 1/3 eating disorders, obsessive compulsive disorders, mood instability, personality disorders, suppression of emotions, focus on performance and outcome	I) prioritization of individual solutions mental leaks, disrespect for the order of TK + the same problems as men without ADHD II) separation from the primary family, unclear roles, refusing to of parental authority, loss of contact with family, feeling hurt by their families III) unclear motivation, low self-confidence and self-acceptance, disrespect for others + Depressive tendencies, quick resignation manifestations of superiority, mental instability, severe personality disturbance, aggression and its inadequate ventilation, manipulative behavior extremely powerful, heavily borderless	I) negation of feedback withdrawal, rejection of criticism II) separation from the primary family, dependent role III) Low self-esteem and self-acceptance, the problem with the acceptance of borders (esp. to maintain its own borders)	I) negation of feedback withdrawal, rejection of criticism II) separation from the primary family, unclear roles III) unclear motivation, low self confidence and self-acceptance, disrespect for others + psychological complications (toxic residues), the problem of clarifying and setting boundaries (often exceeded)

Note. ADHD = attention deficit hyperactive disorder.

and in the interpersonal sphere (1/2 men with ADHD aggression, did not accept the treatment and rights, repeated medication); 1/4 men without ADHD did not accept the treatment and rights). When it comes to the subcategory of (b) behavior in the group of people in the community, the men had higher rates of complications (1/2 men in both groups; 1/4 women with ADHD and 1/5 without ADHD). Problems corresponding with manifestations of ADHD occurred in the men with ADHD (1/2 men). Participation in the (c) activities of the community showed high rates of activity in participation in the program by the men; the women with ADHD were more reticent in adopting an active approach (isolation from the collective, low participation in common work, active only in duties). Women with ADHD had the same basic problems (d) regarding poor cooperation with the therapists as the men (1/2 women, 3/4 men). Women without ADHD had the lowest negative rating for their (e) role in the group (1/5); men without ADHD exhibited problems with functioning in a group and were negatively rated even in establishing contacts outside the group (1/2). Men without ADHD were most frequently tagged as outsiders or popular people. Men with ADHD were most often tagged as leaders (1/2).

The item (f) concerning compliance with the rules mainly showed the prevailing problems of the women with ADHD; these were negatively rated in three-quarters of cases and in comparison to the men. The women without ADHD showed negative complications in treatment in a milder form. The (g) manner of departure from the therapeutic community in the meaning of not completing the treatment (remaining there for the proper length of the program) pointed to a higher rate of dropping-out in women with ADHD and it was a half of the population; a quarter of the men with ADHD manifested this (premature termination of treatment—14 clients with ADHD/four without ADHD). When it comes to relevance, an early drop-out (in the first month of treatment) occurred more frequently in the women with ADHD—for the men with ADHD, it was because of escaping or violation of cardinal rules. The women without ADHD showed higher rates of compliance with treatment and problems with discipline than the men. When observing (h) complications in comparison to other clients, those of the women with ADHD who were negatively rated with respect to the rest of the group proved to display significant complications; a neutral rating prevailed in the men with ADHD. Neutral rating prevailing for group without ADHD. The women with ADHD (1/5), compared to the men, showed a need for psychiatric dispensary, the women were on medication in all cases, compared to the men. Complications in the family area proved to be approximately the same in the women and men with ADHD. The women and men without ADHD had problems with a lower frequency. Major (i) complications which were described and scored by the therapists were assessed in their own words. The women with ADHD had an equal frequency of the occurrence of major complications; an interesting difference was described by the therapists on an individual level. Problems connected with a psychiatric comorbidity (mainly eating disorders and obsessive compulsive disorder and personality disorders), psychological instability, and perfectionism were often described in the women with ADHD. The men with ADHD were repeatedly described as fundamentally complicated. Major

complications in the group without ADHD were described with lower frequency. Psychological complications occurred in the men—hose were described by the therapists as consequences of the abuse of methamphetamine (toxic psychosis and residues, lasting hallucinations compatible with diagnostic criteria for toxic psychosis).

Influence of ADHD on initiation of treatment and its course in the therapeutic community: Gender differences

To answer the third research question, relating to the influence of ADHD on the initiation and course of the treatment in the therapeutic community, analysis of the questionnaires for therapists was used (open and scale questions). On the basis of a cluster analysis, two main categories were identified—(a) complications of initiation of the treatment in the therapeutic community (subcategories: individual characteristics; psychological problems; respecting the rules and order) and (b) complications during the treatment (subcategories: individual characteristics; psychological complications, family problems, and respecting the rules and the group in the community). Summaries of the results are provided in Tables 5 and 6.

There are noticeable differences between the women and men in the groups by percentage. The group with ADHD shows an increasing number of persons with complications and their severity, while an opposite trend was noticed in the second group. The women show complications when initiating the treatment and during it in lower numbers than the men in both groups. Extreme complications are manifested by the men with ADHD.

Discussion

The topic of this article is gender differences in terms of complications and the course of treatment; the discussion, therefore, has to start from discovering the influence of ADHD on the given parameters in the whole sample population (cf. Kalina et al., 2014). More severe complications in treatment occur in patients with a probable diagnosis of ADHD than in the control group. ADHD affects the initiation and course of the treatment of patients in therapeutic communities. Complications that connect the individual level with psychological problems and ability to function according to the rules and order occur in clients with ADHD.

In general, the gender analysis leads to the conclusion that the women and men with a probable diagnosis of ADHD (see Characteristics of Clients With and Without ADHD: Gender Perspective) experience more complications in treatment and its initiation and course than the women and men from the control group. These complications are, to a certain extent, different in women and men. When assessing all the ranked parameters in the Questionnaire for Therapists (Tables 4–6), we cannot make a conclusion that the women or men from the ADHD+ group would have a higher rate of problems in treatment than the opposite gender. Gender differences in individual items cannot be generalized either; however, they are interesting and can at least tell us that women and men have different characteristics

Table 5. Complications at the initiation of the treatment: Gender comparison.

	I: Group with ADHD		I: Group without ADHD	
Main categories/subcategories	Women	Men	Women	Men
Repeated patterns of complications in given sample	65%	70%	50%	70%
a) Individual characteristics	Low self-esteem, self-acceptance, and self-care, a higher degree of introversion and isolation from the group effort, mistrust and detachment from the group, trying to be on good terms with everyone and perfectionism, tendencies to exit from treatment	Hidden and conscious manipulation to achieve their needs, problem with developing a realistic view and a low level of personal autonomy at the beginning of treatment and the need for companionship, motivation fluctuations – its ambiguity and unclarified personal attitudes toward treatment and tendency to exit treatment	Low self-esteem, self-acceptance and self-care, problem with making their voice heard	Hidden and conscious manipulation to achieve their needs
b) Psychological issues	Emotional instability, moodiness, self-pity, cognitive leaks outside the hospital environment, hyperactivity, depression	Restlessness, cognitive leaks outside the hospital environment, hyperactivity, depression, aggressive and impulsive behaviour, verbalization of violent tendencies	Depressive tendencies, leaks outside the hospital environment, moodiness	Depressive tendencies, problems with giving vent to negative inner states and the subsequent increased pressure
c) Respecting the rules and order	Excessive adherence to rules and mode, slow adaptation, problems with understanding the rules and structure of the program, a strong tendency to exit	Acceptance of the regime and rules, disregard for hierarchy in the community and questioning the competence of the members of the treatment team, problems with the internalization of rules, very quick adaptation to the program, attempting to get ahead of each treatment phase (by the men), repeated punitive penalties and mistakes at the beginning of treatment, conscious planning relapse and abuse	Slow adaptation, problems with understanding the rules and structure of the program	Problems with the internalization of rules, problems with the internalization of rules, questioning the competence of the members of the treatment team, repeated punitive penalties and mistakes at the beginning of treatment

Note. ADHD = attention deficit hyperactive disorder.

Table 6. Complications during the course of treatment: Gender comparison.

Main categories and subcategories	I: Group with ADHD		II: Group without ADHD	
	Women	Men	Women	Men
Repeated patterns of complications in given sample	72%	94%	40%	56%
a) Individual characteristics	Low self-esteem, self-acceptance, and self-care; cognitive escapes out of the situation here and now, fluctuating motivation, persistent belief in perfectionism and desire for a perfect result but without any change	Low self-improvement, manipulative behavior, the pursuit of constant attention, impatience, lack of a systematic approach to the problem, cognitive leaks out of the situation here and now, giving up easily on goals and complex tasks, fluctuating motivation, introversion and low openness to groups	Introversion and low openness in groups, low self-acceptance	Manipulative behavior and use of the environment, avoidance of accountability and taking on adult roles, low self-improvement
b) Psychological complications	Mental instability and moodiness, depressive, low degree of tolerance of frustration	Impulsive and aggressive behavior – inappropriate form of venting feelings, inability to control compulsive behavior nd inappropriate verbalization and control of aggression, negative feelings of isolation and subsequent strong tension, depressive, mental instability	Brooding, strong degree of introversion, inability to be authentic	Unrealistic perception of their own symptoms in the context, delusions of grandeur, narcissistic tendencies
c) Family issues (low number of participants with complications)	Completely ruined family relationships, low insight into the complexity of problems	Rejection of the family, refusal to establish new contacts, problematic separation	Problematic separation, co-dependency	Co-dependency and dependence on the family system
d) Respecting the rules and the group	Tendencies to departure, continuous planning of relapse (conscious desire to take the drug), the program and the rules and treatment regimen are not accepted	Inability to accept abstinence and a changed lifestyle, lies and excuses when rules are broken, inability to accept negative feedback and criticism, tendency to exit	Behavior preceding conflict and conflict with the community, low level of authentic self-representation	Lies and excuses when rules are broken, inability to accept negative feedback and criticism is not accepted, disrespect for the rules and procedures of the program

Note. ADHD = attention deficit hyperactive disorder.

regarding complications in the areas of the social behavior needed in a TC, interpersonal relationships, approaches to authority, and the rules of a TC and remaining in treatment. In terms of the improvement of a majority of these complications and trends, the presence of a complex of ADHD symptoms diagnosed by the self-evaluating questionnaire plays a negative role.

This phenomenon is more visible in women. We found out that the group of women without ADHD have fewer complications than men and show the lowest rate of problems in the therapeutic community. The women with ADHD, on the other hand, show negative ratings towards other clients, have trouble getting along with the daily regime and tasks involved in the phases of treatment more frequently, and were the only group of participants for whom a very early departure from treatment was noted. The reasons for departure are, unfortunately, not recorded. It seems that the women who remained in treatment were getting better in comparison to the men; moreover, they also showed higher compliance with treatment, which would agree with the findings of De Leon and Wexler (2009).

In the analysis of the problems of the male segment of the participants, we can find many characteristics that correspond with the specific features of the men, as described, for example, by Kooyman (1993) and TCC (2006)—see the second part of this article. Nowadays, in adolescents and young adults, we keep noticing more and more traits connected with personal vulnerability and unmanaged developmental tasks of adolescence and young adulthood, such as identity disorder, weak identification with one's own body and sexual roles, emotional addiction to the original family. These clients do not correspond with the traditional gender stereotype of a man (Kalina, 2008a).

A diagnosis of ADHD in adulthood in clients with an addiction disorder is a topic for discussion in itself as its symptoms can be clouded for multiple reasons. The disorder can persist from childhood to adulthood in 40–50% of cases, but the impulsivity and hyperactivity retreat, while dull attention disorder remains (Paclt, 2007). Mainly, other psychiatric comorbidities occur with ADHD in adulthood which are basically the same as those occurring together with addictive disorders. At the same time, we identified clients with psychological profile in our study. Our findings on the prevalence of frequent mental health problems in women who abuse substances correlates with other research (; Fattore et al., 2014; Martens, 2004; UNODC, 2004; Yates & Wilson, 2001; Zhou et al., 2015); and with research that indicates the occurrence of additional comorbidity with ADHD—particularly in women with ADHD (Kalina & Minařík, 2015; Van Emmerik-van Oortmerssen et al., 2014).

If we follow the clients with ADHD some of our findings are consistent with other studies (Gershon & Gershon, 2002; Rucklidge, 2010). Women with ADHD do not show aggression, impulsivity, and high levels of externalizing behaviors, whereas men do significantly. At the same time it can be said that many problems in the group with ADHD are considerable and for women unusually high; their severity is very similar. As described ADHD in adults in terms of behavioral differences Carducci (2009) presented a few differences in the behavior of people with ADHD in adulthood. Gender issues are similar.

The limits of our research are given by the pilot study and exploration of hitherto unexplored phenomena. Clients of therapeutic communities for people who abuse substance are, from many perspectives, very complicated (Kalina, 2008b, chapter 19) and it is possible to assume some kind of pre-selection based on different psychopathological complications of addiction syndrome. This preselection may explain the major difference between the 56% of the ADHD+ clients in our study and the data from the last work of van Emmerik-van Oortmerssen et al. (2014), which reported the 13.9% of ADHD+ clients in an extensive sample, however without regard to a type of treatment. From the diagnostic perspective, another limit can be the fact that the diagnostic tools for ADHD are not standardized for the clients of users of psychoactive substances. It was visible in the QT, which was modified on the basis of the CTQ School Inventory, that it is almost impossible to rid the influence of ADHD of the influences of other associated psychiatric complications (Rubášová et al., 2015). Another limitation on the analysis of gender differences was the small number of participants in the subcategories that were analyzed (women/men; with/without ADHD), which basically prevents us from making general conclusions applicable to the generalized public. Qualitative analysis still has some heuristic value.

Conclusions

This study deals with gender differences between the clients of and therapeutic communities for people who abuse substances in relation to the main one observed trait—the absence or presence of symptoms of ADHD, with special regard to its influence on the course of treatment. It is based on the results of a previously published pilot study (Kalina et al., 2014; Rubášová et al., 2015). The main method used in the analysis of the gender differences was secondary data analysis of the data obtained by the pilot study using clinical scaling methods; these were two self-evaluating questionnaires for clients: an AL for discovering ADHD in childhood, based on the WURS 61/25 scale, and the self-evaluating questionnaire for diagnosis of ADHD symptoms in adulthood based on the version 1.1 of the ASRS scale, and, furthermore, on the QT modified from the CTQ scale (Conners Teacher Questionnaire). The original study divided the research sample into two primary categories: clients with ADHD and clients without ADHD. The division led to quite low numbers of male and female clients in the individual samples, which limits the redeemable value of the results. We approach the results with the necessary humility and circumspection.

Characteristics of clients with and without ADHD from the gender perspective

The gender representation in the group of clients with a probable diagnosis of ADHD was quite balanced: 55% of all the women and 57% of all the men from the research sample. This does not correspond with the fact that this disorder is more common in the male population (Paclt, 2007; Miovský, Čablova, Kalina, & Šťastná,

2014); our population, however, represents very specific clients. The women with ADHD show higher scores on the 25 key items in the AL than the men, whereas in the group without ADHD the men have higher average scores than the women. The self-evaluating questionnaire based on ASRS shows higher values in the women in the groups of clients with and even without ADHD. The women with ADHD show more severe symptoms in childhood and adulthood in comparison to the men. The women without ADHD had less severe problems in childhood than the men, but show higher rates of problems in adulthood.

We can also see from the anamnestic data that problems in childhood (e.g., treatment, special examination for disorders of learning and moods, psychiatric care) were significantly represented in the men in both groups and at a lower rate even in the women with ADHD; the women without ADHD were almost without complications. The women in both groups had a lower average age of first substance use and the groups also contained more participants who had first used at an age under 15 years. The intravenous form of application prevails in the clients with ADHD; however, the women without ADHD show a less risky form of application in higher numbers than the men (sniffing or smoking). The consequences of abuse (mainly financial and health problems) are more frequent and severe for the men than for the women. The men with ADHD also show a high rate of incomplete attempts at treatment and treatment interventions, while the women with ADHD exhibit repeated treatment in a TC more often.

Gender differences in terms of complications associated with treatment

Generally speaking, the men with ADHD and even without ADHD have higher rates of complications than the women. The men with ADHD are more often and more distinctly rated negatively, mainly as regards general behavior, attitudes to authority, acceptance of the treatment program, and compliance with the order of the community. The women with ADHD are, however, more problematic than the men for some items (e.g., fulfillment of tasks in treatment and attitude to treatment and the group). The women with ADHD also have higher rates of other psychopathological complications and very early departures occur; they also have more problems in the areas of the family and self-respect. The women without ADHD have the lowest rates of problems in the community (Tables 4A and 4B).

Influence of ADHD on initiation and course of treatment

The group with ADHD shows a higher number of participants with complications and their severity during the treatment, whereas an opposite trend was recorded in the group without ADHD. The women in both groups, when compared to the men, show complications at the beginning in lower numbers than the men. Extreme complications are demonstrated by the men with ADHD during the treatment (Tables 5 and 6).

To conclude, the men with ADHD and even without ADHD have higher rates of complications than the women. With a certain amount of caution, we could associate men with more frequent and more severe problems in the group with ADHD, whereas gender differences are visible mainly in the qualitative area: men have different issues than women. The differences between the women with and without ADHD are more distinct than those between the men: the presence of ADHD symptoms is associated with a higher rate of complications in the women.

Knowledge that the women in the TCs that were studied are probably not discriminated against and women and men have equal opportunities to enter these facilities and use them for their recovery can be considered as a side-product of this study. The authors of this study, however, recommend that more attention be paid to gender sensitivity concerning women and men and deepen it by suitable education of the therapeutic teams.

This study represents a rare (maybe unique) gender-oriented clinical research study in the Czech field of addiction sciences. It opens up a wide field for other research projects, not only in therapeutic communities for people who abuse substances, but also in other types of treatment and expert care. We are aware that this article offers more questions than answers; that is, however, the main purpose of pilot studies.

Acknowledgments

The authors would like to thank the teams of the therapeutic communities which participated in the pilot study for their cooperation, which allowed the execution of the research and creation of this and both previous articles. The study was significantly shortened for the purpose of publication. Detailed spreadsheet analysis of individual results is available from the authors.

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Příloha č. 4. Study IV. a

European Addiction Research

Research Article

Eur Addict Res
DOI: 10.1159/000508571

Received: November 11, 2019
Accepted: May 4, 2020
Published online: August 11, 2020

Attention Deficit Hyperactivity Disorder among Clients Diagnosed with a Substance Use Disorder in the Therapeutic Communities: Prevalence and Psychiatric Comorbidity

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Keywords
Epidemiology · Diagnosis · Attention deficit hyperactivity disorder · Treatment of addictions · Therapeutic community · Comorbidity · Substance use disorder · Methamphetamine · Psychiatric symptoms · Mental health

Abstract
Background: Most severe substance use disorders (SUDs) are connected with attention deficit hyperactivity disorder (ADHD) and other mental health problems. Therapeutic communities (TCs) provide a suitable option for the treatment of severe SUDs. The relationship between ADHD, the severity of the SUD, and other comorbidities in residential TCs is unknown. ***Objective:*** To estimate the prevalence of ADHD among clients with an SUD in residential rehab, and to compare the mental health of clients with and without ADHD. ***Methods:*** A cohort study was conducted in 5 residential TCs (N = 180, 76.7% male, 53.9% 25–34 years, 79.2% diagnosed with methamphetamine use disorder). We assessed ADHD symptoms, substance use, mental health problems, and psychiatric symptoms. ***Results:*** ADHD was found in 51% of the clients who showed significantly higher scores for their psychiatric status composite score (ASI-PSY) (F = 9.08, p < 0.001; t = 5.05, p < 0.001), the positive psychiatric symptoms total (SCL-PST) (F = 3.36, p < 0.05; t = 3.15, p < 0.01), and the global severity index (SCL-GSI) (F = 3.27, p < 0.05; t = 3.18, p < 0.01). The ASI-PSY and SCL correlated significantly with the symptoms of attention deficit disorder (Pearson's r's = 0.30–0.42, p's < 0.001) and the symptoms of hyperactivity disorder (r's = 0.24–0.30, p's < 0.01). Even when severity of substance use was accounted for, ADHD was confirmed as a significant predictor of ASI-PSY (B= 0.14, p < 0.001 for combined disorder; B = 0.20, p < 0.001 for attention disorder) and partially of SCL-PST (B = 8.12, p < 0.05 for attention disorder). ***Conclusions:*** The ADHD prevalence in TCs was nearly 10-fold compared to the globally recorded values. ADHD diagnostic procedures and interventions should become an integral part of the standard diagnostic and treatment process.

Introduction

Attention deficit hyperactivity disorder (ADHD) is a substantial mental health comorbidity in substance users [1]. The overall prevalence of ADHD has been estimated at 3.4% in the adult population [2] and 7.2% for those

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aged up to 18 years [3]. In the population of substance users, the prevalence of ADHD, according to a meta-analysis, has been estimated at 23.1% (21% in adults and 25.3% in adolescents) [4]. The prevalence estimates may differ according to the type of substance used and the subpopulations or treatment modality. For example, the following populations of patients in opioid maintenance treatment (OMT) were screened positively for ADHD: in Norway, 33% of OMT patients [5], in Austria, in 50% of children and 17% of adults of the mainly male prison inmates in OMT [6], and in Italy, 11.2% of OMT patients [7]. In the methamphetamine-using population of one hospital's psychiatric center, the prevalence of the ADHD diagnosis went up to 55.6% [8]. In a feasibility study conducted in therapeutic communities (TCs) in the Czech Republic, the prevalence of ADHD reached 56.6% [9]. However, both studies have methodological limitations.

ADHD can contribute to the development and persistence of substance use disorders (SUDs) [10, 11]. Kalbag and Levin [12]described ADHD as a factor which complicates the therapeutic process. In addition to ADHD itself, the treatment process may be complicated by other mental health problems which are frequently reported in relation to ADHD, for example, personality disorders [1, 13–15] or specific learning disorders [16]. Arias et al. [17] found more severe SUDs in ADHD patients in connection with repeated hospitalization as a result of the associated comorbidity.

TCs provide a suitable option for the treatment of severe SUDs [18–20], including methamphetamine dependence, in a relatively homogenous setting [21]. TCs are the treatment of choice for those who have had repeated treatment attempts and have a complicated addiction profile that is often accompanied by other comorbid conditions which do not require intensive medical attention. TC residents with ADHD showed higher rates of treatment-related complications (early drop-out, psychological problems, psychiatric comorbidity, psychopharmacotherapy, and behavioral and cognitive deficits) [9, 22]. Currently, the number of research studies conducted in TCs is limited, current evidence is scarce, there are indications of a huge insufficiency in communication between the science and the practice [23], and clinical research conducted in TCs which has publishable and respectable scientific results is lacking [21]. Therefore, we decided to conduct a study on the relationship between ADHD, the severity of SUDs, and other comorbidities in residential TCs.

The aim of the study was to assess the prevalence of ADHD among clients in residential TCs for addiction treatment. Furthermore, we compared the frequency and severity of mental health problems between clients screened ADHD positive and those without ADHD.

Materials and Methods

Setting

Residential TCs are an integral part of the treatment services for substance users; 78% of the clients in TCs were users of methamphetamine as a primary drug in 2016 [24]. In total, 15 residential TCs provided addiction treatment, 10 of which TCs were certified, that is, they provided treatment according to the Czech professional standards and internationally recognized treatment models and methods [19, 24]. Clients of Czech TCs do not constitute a large population. Combined, all certified TCs provide treatment to ~300 clients per year [25, 26].

Data Collection

The data were collected between June 2014 and December 2015 (18 months). All 10 certified Czech TCs were asked to participate in the study. Seven TCs agreed to participate, but 2 of them failed to start the data collection and so were excluded from the study. Out of the total number of 271 patients entering treatment in the 7 participating TCs during the study period, 242 patients agreed to participate and start data collection. Fifty participants were excluded as their TC ceased its participation, and 12 more were excluded from the dataset because of the large number of missing values (66.69–100% in variables of interest; see below). The study sample consisted of 180 clients from 5 TCs, which means that the response rate was 66.4%. No significant differences were found between the excluded participants and the final sample in the areas of education, marital status, residence, duration of previous therapy, dominant drug distribution, ADHD distribution (the ratio of those who screened positive), and the severity of psychiatric symptoms (as measured by SCL-GSI). However, we found that the excluded participants were significantly younger (M = 24.2, SD = 5.61, t [55.2] = −3.84, $p < 0.001$) and had a smaller proportion of men (47.6%, χ^2 [1] = 14.0, $p < 0.001$, N = 222) when compared to the final sample. It should be noted that we did not have all of the data from all the excluded participants. All of the participants were assessed within the first 10 days of the initiation of treatment [27]. The data were collected by professionals who were trained in test battery administration and were supervised by 3 research co-ordinators. Substance use-related diagnoses were coded according to the International Statistical Classification of Diseases, 10th Revision (ICD-10).

Outcome Measures

Standard sociodemographic characteristics were obtained (Table 1).

ADHD Measurement

For the assessment of ADHD, we used the *DIVA 2.0* inventory [28], which is a comprehensive self-report scale for ADHD screening according to the DSM-5 criteria. It contains the manifestations for the 9 core symptoms of attention disorder and hyperactive disorder that are typical in either adulthood or childhood. A positive screening requires the presence of at least 6 of

Table 1. Sociodemographic characteristics of the sample ($N = 180$)

	N	Percentage
Gender		
Male	138	76.70
Female	42	23.30
Age*		
15–24 years old	56	31.11
25–34 years old	97	53.88
>35 years old	26	14.44
Missing	1	0.56
Education**		
Elementary (9)	72	40.00
Practical (12)	61	33.90
Practical with graduation (13)	4	2.20
High school with graduation (13)	31	17.20
Uncompleted further education	12	6.70
Marital status		
Single	162	90.00
Married	3	1.66
In partnership	3	1.66
Divorced	11	6.11
Missing	1	0.56
Residence		
Large city (>100,000 inhabitants)	51	28.33
Medium-sized town (10,000–100,000 inh.)	70	38.89
Small town/country (<10,000 inh.)	40	22.22
Missing	19	10.56
Previous therapy		
<6 months	97	53.89
6–12 months	36	20.00
12–18 months	12	6.67
>18 months	8	4.44
Missing	27	15

* Age ranged from 17 to 50 (mean = 28.1, SD 6.11, median = 28.0). ** The usual number of years spent in education to reach the level that appears in parentheses next to the educational level.

Table 2. Substance use characteristics of the sample ($N = 180$)

Substance	Users*	Usage in years		
	N	mean	median	SD
Alcohol use	158	11.60	12.00	6.61
Alcohol heavy use	91	6.27	4.00	6.10
Heroin	38	4.85	3.00	4.82
Opioids	33	4.70	2.00	4.89
Depressants	45	4.83	3.00	4.67
Methamphetamine	166	9.04	9.00	5.05
Cocaine	33	2.10	2.00	1.63
Amphetamine	75	4.96	4.00	3.94
Cannabis	162	9.46	8.50	5.56
Hallucinogens	78	5.32	5.00	4.53
Inhalants	21	2.95	1.00	3.96
Combination	98	8.42	8.00	5.46
Overdose	89	–	–	–
Substance count	–	3.65	3.00	1.91
Substance use total	–	25.10	21.00	17.80

* A person using the substance regularly for at least 6 months was categorized as a user.

the symptoms, which must be present from childhood. DIVA 2.0 distinguished the 4 groups of (1) participants with a combined disorder who reported 6 or more symptoms for both attention disorder and hyperactivity disorder which were present from childhood, (2) participants with attention disorder who reported 6 or more symptoms of attention disorder which were present from childhood, (3) participants with hyperactivity disorder who reported 6 or more symptoms of hyperactivity which were present from childhood, and (4) non-ADHD participants who reported <6 symptoms in either the attention disorder or the hyperactivity disorder part. Since these are nonparametric measures, we also used 2 parametric measures – attention deficit disorder symptoms and hyperactivity disorder symptoms, calculated as a sum of the positive symptoms in each section. Both DIVA scales demonstrated very good internal consistency in our sample. The Attention scale showed Cronbach's $\alpha = 0.920$ with item-rest correlations ranging from 0.50 to 0.66, and the Hyperactivity scale showed Cronbach's $\alpha = 0.917$ with item-rest correlations ranging from 0.39 to 0.70.

Psychiatric Symptoms

Two scales were used to assess the psychiatric symptoms: (1) *EuropASI* [29] – Psychiatric status (part I), which consisted of 23 items. The participants were asked to indicate whether, in the past 30 days, they had experienced mental health problems such as serious depression, anxiety, cognitive deficit, hallucinations, self-control deficit, suicidal thoughts, or suicide attempt(s) and whether they had had psychiatric medication. (2) *Symptoms Checklist 90 (SCL-90)* [30, 31] consists of 90 items divided into 9 sections measuring the respondent's symptoms of somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.

We used 2 different scales to measure mental health – EuropASI and SCL-90 – because both methods have their merits. EuropASI showed good predictive validity for the additional psychiatric treatment of SUD patients [32]. SCL-90 was developed for a more general use and thus enables comparisons across different populations.

To assess the psychiatric symptoms, 3 scores were computed: (1) *the EuropASI composite score for psychiatric status* (ASI-PSY) using the standard procedure for the computation of EuropASI composite scores [33]; (2) *the psychiatric symptoms total* (SCL-PST) as a sum of individual psychiatric symptoms (0–90), and (3) *the global severity index* (SCL-GSI) as the average value of all symptoms, indicating the severity of symptoms (with the severity of each symptom measured on a scale from 0 to 4).

Substance Use Severity

The severity of the participants' substance use was assessed using the European Addiction Severity Index (EuropASI [29]) – the

Table 3. Mental health problem means for the whole sample and ADHD groups

Variable (*N*)	Whole sample	ADHD group				
	N = 180	combined *N* = 39 (21.7%)	attention *N* = 38 (21.1%)	hyperactive *N* = 14 (7.8%)	none *N* = 89 (49.4%)	*F*
ASI-PSY (176)	0.28 (0.22)	0.34 (0.21)	0.39 (0.22)	0.30 (0.23)	0.20 (0.19)	9.08***
SCL-PST (180)	53.1 (19.6)	56.4 (16.2)	57.7 (18.6)	60.2 (16.8)	48.6 (20.9)	3.36*
SCL-GSI (180)	1.18 (0.68)	1.33 (0.62)	1.35 (0.73)	1.28 (0.64)	1.02 (0.67)	3.27*
Somatization (180)	0.86 (0.67)	0.93 (0.71)	1.03 (0.69)	0.76 (0.64)	0.76 (0.63)	1.61
Obsessive-compulsive (180)	1.50 (0.73)	1.77 (0.64)	1.66 (0.71)	1.63 (0.84)	1.29 (0.70)	5.46**
Interpersonal sensitivity (180)	1.44 (0.91)	1.65 (0.87)	1.71 (0.98)	1.53 (0.84)	1.23 (0.87)	3.48*
Depression (180)	1.36 (0.85)	1.46 (0.84)	1.60 (0.84)	1.31 (0.64)	1.22 (0.87)	2.01*
Anxiety (180)	1.25 (0.79)	1.49 (0.70)	1.43 (0.86)	1.37 (0.61)	1.05 (0.78)	4.16
Hostility (180)	1.12 (0.86)	1.36 (0.84)	1.28 (0.85)	1.55 (1.00)	0.88 (0.79)	4.94**
SCL-phobic anxiety (180)	0.73 (0.70)	0.72 (0.64)	0.90 (0.86)	0.94 (0.67)	0.62 (0.64)	1.69
SCL-paranoid ideation (180)	1.33 (0.86)	1.50 (0.84)	1.44 (0.92)	1.58 (0.84)	1.16 (0.82)	2.34
SCL-psychoticism (180)	0.93 (0.74)	1.08 (0.67)	1.01 (0.87)	1.10 (0.78)	0.80 (0.689)	2.04

Date are presented as means (SD). ADHD, attention deficit hyperactivity disorder; ASI-PSY, EuropASI composite score for psychiatric status; SCL-PST, psychiatric symptoms total; SCL-GSI, global severity index. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Drug Anamnesis part. We measured 4 variables: (a) The presence of polydrug use (simultaneous use of at least 2 different substances) – question "Have you been using at least 2 different substances in the same day?" (b) The history of overdose – question "How many times have you overdosed?" (c) The cumulative substance use in years – the sum of answers to question "For how many years have you been using heroin?," "For how many years have you been using cannabis?," "For how many years have you been using methamphetamine?," etc. (d) The number of different substances that the participant had used for at least 6 months. The full list of substances is shown in Table 2.

Analysis Strategy and Statistics

Initially, we divided the sample into ADHD groups based on DIVA 2.0 and assessed the prevalence. The means and standard deviations of ASI-PSY, SCL-PST, and SCL-GSI were computed for each ADHD group. Between-groups differences were analyzed by mean comparison methods. Correlation analyses were computed to further investigate the links between attention deficit and hyperactivity disorder symptoms and mental health.

Finally, we used regressive modeling to further examine the effects of ADHD on ASI-PSY (model 1) and SCL-PST (model 2). In both models, the ADHD group (combined, attention, and hyperactivity) was tested as a predictor, along with variables indicating the severity of substance use. The data were analyzed with the statistical program R [34].

Missing Data

The variables of interest (DIVA, SCL-90, EuropASI Psychiatric status items) were analyzed for missing data. We found that the ratio of missing values ranged from 0% (DIVA) to 2.32% (EuropASI Psychiatric status). The overall ratio of missing values was 0.38%. Most participants ($n = 169$) had no missing values. In the case of EuropASI Psychiatric status, we found 4 participants with a high percentage of missing values (73–100%) and decided not to use their data in relevant analyses. In participants with <20% of missing values per test, the multiple imputation (Amelia II software by Honaker et al. [35]) was used to replace the missing data [36, 37]. The number of imputed values was very small: 0% in the case of DIVA, 0.3% in the case of SCL-90, and 0.3% in the case of EuropASI Psychiatric status.

Ethics

The study was approved by the Institutional Review Board of the General University Hospital in Prague (9/2013 Grant GACR 1. LF UK). Informed consent was obtained in written form from all participants.

Results

Sample Characteristics

The sociodemographic characteristics of the sample are shown in Table 1. We observed very high sociodemographic homogeneity in the sample. There was a distinctive majority of young, single men with elementary or vocational education. The majority of the participants had a history of previous SUD treatment shorter than 6 months at the time of the data collection.

Substance Use

Homogeneity was also found in the clients' drug use history. The dominant drug problem which motivated clients to enter the TC was mostly methamphetamine

Table 4. Pearson's correlations between mental health problems and ADHD symptoms ($N = 180$)

	Attention deficit disorder symptoms	Hyperactivity disorder symptoms
ASI-PSY	0.42***	0.30***
SCL-PST	0.31***	0.24**
SCL-GSI	0.30***	0.25***
Somatization	0.21**	0.16*
Obsessive-compulsive	0.35***	0.30***
Interpersonal sensitivity	0.32***	0.22**
Depression	0.25***	0.14
Anxiety	0.30***	0.27***
Hostility	0.30***	0.31***
Phobic anxiety	0.22**	0.17*
Paranoid ideation	0.21**	0.23**
Psychoticism	0.20**	0.22**

ADHD, attention deficit hyperactivity disorder; ASI-PSY, EuropASI composite score for psychiatric status; SCL-PST, psychiatric symptoms total; SCL-GSI, global severity index. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

(141 participants, 79.2%), followed by cannabis (7.9%), opioids (5%), and alcohol (4.5%). Other substances were reported as a dominant drug problem in <2% of the patients. Table 2 shows the number of users of each substance, the average duration of the substance use in years, and the substance use severity measures.

ADHD Prevalence

Table 3 shows the prevalence of ADHD in the sample. ADHD was indicated in 50.6% of the sample. The most common were combined disorder (21.7%) and attention deficit disorder (21.1%). A minority of the participants showed symptoms of hyperactivity disorder (7.8%).

Mental Health Problems in ADHD and Non-ADHD Participants

The scores for mental health problems were lowest in the non-ADHD group. The between-groups differences were statistically significant for all the composite scores and for some symptoms (namely, obsessive-compulsive, interpersonal sensitivity, anxiety, and hostility) (Table 3). Post hoc tests (Games-Howell) showed significant differences in ASI-PSY between the combined ADHD and non-ADHD participants (MD = 0.14, t [68.3] = 3.57, p = 0.004) and attention disorder and non-ADHD participants (MD = 0.19, t [62.1] = 4.69, $p < 0.001$). For the SCL variables, post hoc tests were significant for differences between combined ADHD and non-ADHD in cases of obsessive-compulsive symptoms (MD = 0.48, t [78.8] = 3.77, $p = 0.002$), anxiety (MD = 0.44, t [79.8] = 3.19, p = 0.011), and hostility (MD = 0.48, t [69.0] = 3.05, $p = 0.017$). Finally, there was a significant difference in the interpersonal sensitivity between participants with attention disorder and non-ADHD participants (MD = 0.49, t [62.8] = 2.65, $p = 0.048$).

The merged group of ADHD participants (consisting of participants with combined, attention, and hyperactivity disorders) showed significantly higher scores for ASI-PSY (MD = 0.157, Welch's t [173] = 5.07, $p < 0.001$, Cohen's $d = 0.76$), SCL-PST (MD = 8.98, t [170] = 3.15, p = 0.002, $d = 0.47$) and SCL-GSI (MD = 0.315, t [178] = 3.18, $p = 0.002$, $d = 0.47$) and for all the categories of symptoms, excluding somatization. The most pronounced were the differences between ADHD-positive and ADHD-negative participants in obsessive-compulsive (MD = 0.41, t [178] = 3.90, $p < 0.001$, $d = 0.58$), anxiety (MD = 0.40, t [178] = 3.50, $p < 0.001$, $d = 0.52$), and hostility (MD = 0.48, t [177] = 3.87, $p < 0.001$, $d = 0.58$). Furthermore, we found small to medium correlations between the mental health problems and the attention and hyperactivity symptoms (Table 4).

Finally, ADHD (specifically combined disorder and attention disorder) was found to be a statistically significant predictor of ASI-PSY, which was alone able to account for ~14% of its variance (Table 5). Surprisingly, the variables indicating the severity of substance use were not significant predictors and only improved the overall explanatory power of the model by 1.2% (Table 5).

The relationships between the ASI-PSY and SCL scores were statistically significant ($p < 0.001$) and moderately strong (Pearson's r was 0.35 between ASI-PSY and SCL-PST and 0.43 between ASI-PSY and SCL-GSI). ADHD was also partially able to predict SCL-PST; however, only attention disorder proved to be a statistically significant predictor, and the overall explanatory power of the model was weak – about 5% of the variance (Table 6).

Discussion

Our study confirmed the strong link between methamphetamine use and ADHD, and also between ADHD and mental health problems. More than 79% of those in the study sample were primarily methamphetamine users. More than half of the sample of TC clients were ADHD positive. ADHD-positive clients showed a more

Table 5. Summary of hierarchical regression analysis for variables predicting psychiatric status (ASI-PSY) ($N = 176$)

Variable	Model 1a			Model 1b		
	B	SE	*t*	*B*	SE	*t*
ADHD group						
Combined-none	0.142	0.040	3.57***	0.143	0.042	3.396***
Attention-none	0.194	0.059	4.80***	0.197	0.041	4.785***
Hyperactivity-none	0.101	0.059	1.70	0.099	0.060	1.645
Substance use total				0.000	0.001	−0.578
Substance count				0.014	0.012	1.157
Overdose: yes–no				−0.028	0.033	−0.827
Combined use: yes–no				−0.026	0.033	−0.767
R^2	0.140			0.152		
F for ΔR^2	0.564					

ADHD, attention deficit hyperactivity disorder. *** $p < 0.001$.

Table 6. Summary of hierarchical regression analysis for variables predicting the sum of positive psychiatric symptoms total (SCL-PST) ($N = 180$)

Variable	Model 2a			Model 2b		
	B	SE	*t*	*B*	SE	*t*
ADHD group						
Combined-none	7.82	3.68	2.12*	5.38	3.90	1.38
Attention-none	9.18	3.72	2.47*	8.12	3.77	2.15*
Hyperactivity-none	11.65	5.51	2.11*	10.57	5.57	1.90
Substance use total				0.014	0.118	0.121
Substance count				0.407	1.15	0.355
Overdose: yes-no				4.48	3.06	1.46
Combined use: yes-no				1.85	3.06	0.545
R^2	0.055			0.077		
F for ΔR^2	1.02					

ADHD, attention deficit hyperactivity disorder. * $p < 0.05$.

severe psychiatric symptoms profile compared to those without ADHD. ADHD was a significant predictor of EuropASI psychiatric status, and able to account for 14% of its variance. Attention deficit disorder was more strongly associated with mental health problems in SUD clients than hyperactivity disorder. It should be noted that all of the TC clients (even those without ADHD) seemed to show a number of psychiatric symptoms. In our sample, we found no clients without any psychiatric symptoms as measured by SCL-90. Each client showed positive symptoms in at least 3 different areas covered by SCL-90. More than 70% of the participants reported positive symptoms in all of the 9 areas which were assessed. In our study, the average global severity index (SCL-GSI) was 1.18, which was approximately double that found in the normal population [38].

On the basis of the meta-analysis of van Emmerik-van Oortmerssen et al. [13], the prevalence of ADHD in SUD patients was 23.1%, with the stimulant users being predominantly represented by cocaine users. In a more recent and large multicentric study, the prevalence of ADHD in the adult population was even lower (13.9% out of 1,205 treatment-seeking SUD patients). In our study, the prevalence was twice as high (50.6%), compared to the average prevalence found in the meta-analysis of van Emmerik-van Oortmerssen et al. [13]. This difference may be attributed to the type of substance, represented in the Czech Republic mainly by methamphetamine. Those with ADHD are more prone to using stimulants [39], and the stimulating effects of self-medicated methamphetamine (e.g., elevated concentration) may have the desired effects on ADHD symptoms [40, 41]. In addition, this 2-fold prevalence may also be ex-

plained by the population of drug users who are treated in TCs. Users with ADHD may encounter problems with the treatment rules in other residential treatment modalities more frequently than those without ADHD. The problems may, for example, be represented by a lower adherence to treatment, and conflicts with treatment staff and other patients, resulting in a higher number of treatment drop-outs. A high prevalence of ADHD in TCs in methamphetamine users was also found in small-scale studies from the Czech Republic (56.6%) [9] and Japan (55.6%) [8]. Despite the methodological weaknesses in these 2 studies, their findings were consistent with ours. The importance of our study lies in its methodologically sound and recent prevalence estimates of ADHD in TCs.

In addition to the prevalence of ADHD in the TC population, our TC clients with ADHD experienced frequent and various mental health problems. They also reported a broader and more severe psychiatric symptomatology compared to clients without ADHD. Other studies also showed that adult drug users with ADHD experienced other psychiatric disorders more frequently [42], for example, a prevalence of 10–50% of anxiety disorder, depressive disorder (15–75%), broad autism phenotype (6–27%), oppositional defiant disorder (85%), behavioral disorder (15–56%) [43, 44], emotional lability [45], and personality disorders [46]. Barkley and Murphy [43] reported that up to 75% of those diagnosed with ADHD are predisposed to at least one comorbid disorder. This implies the need for specific therapeutic approaches, individual treatment plans, and the monitoring of the treatment response in clients with ADHD [47]. TCs, which have a more suitable and accepting setup for addressing the specific needs of their clients, may be one of the last alternatives for SUD patients with ADHD and other psychiatric comorbidities [18, 19].

The assessment of ADHD in SUD patients always carries the risk of lower accuracy due to acute intoxication, withdrawal syndrome, or the residuals of long-term use. We reported that the participants were screened within the first 10 days of admission. However, all TCs in our study required, according to the national quality treatment standards, the clients to complete an ~3-week long detoxification unit or other relevant treatment programs. In addition, the clients were screened and observed by the TC staff. There is a very low probability that the clients were intoxicated or experiencing acute withdrawal syndrome at the time of the inquiry. To further minimize the long-term use residuals on ADHD symptomatology, we conducted additional analysis on the differences in ADHD between participants who reported having abstained from drugs for the past 30 days ($N = 92$, 51.1%) and participants who reported drug use during the past 30 days ($N = 88$, 48.9%). We found no significant between-groups differences in ADHD prevalence (χ^2 [1] = 2.70, $p = 0.10$) and the core symptoms of attention or hyperactivity disorder ($p > 0.18$, Cohen's $d < 0.20$). However, abstainers reported significantly lower number of hyperactivity symptoms experienced in adulthood ($M = 3.97$, SD = 2.96), when compared to participants who were using drugs during the past 30 days ($M = 4.90$, SD = 2.75, t [178] = 2.187, $p = 0.030$, Cohen's $d = 0.33$). Irrespective of the above, the evidence suggests that the patients may be evaluated for ADHD, even if not yet abstinent [48].

The results of this study indicate the need for a consistent diagnosis of ADHD in TC clients throughout the treatment, to account for possible complications in treatment. Reflecting the high prevalence of ADHD in TC clients, the issue of ADHD represents a challenge for TCs in terms of (1) revisions and modifications of treatment programs in the TC (standard clinical assessment, monitoring of treatment response, and specific training of staff) and (2) the development of specific support components (individualization of treatment and improvement of self-regulation skills in clients) which address the discrepancy between the requirements and which of them this group is able to meet in clinical practice. To facilitate this process, we recommend referring to the international consensus statement on screening, diagnosis, and treatment of patients with comorbid substance use disorders and ADHD [49].

Strengths and Limitations

The study could be regarded as a solid piece of replication research on ADHD comorbidity in a specialized setting, which corroborates earlier findings of high ADHD prevalence rates among patients with SUDs, in particular among those with a stimulant use disorder. Of the studies analyzing ADHD in the treatment of SUDs, our study was among the first to rigorously study the primarily male clients of TCs who had been diagnosed with methamphetamine use disorder. Another strength of the current study lies in the fact that the Czech Republic is known for the persisting popularity of methamphetamine among drug users [50]. This is due to the history of its use, going back nearly 50 years [51]. It has expectable implications for the spectrum of patients receiving treatment: (1) the majority (80%) of Czech problem drug users inject the drug [52]; (2) the treatment settings in TCs allowed us to study

a population with a generally severe addiction profile, which is, however, not accompanied by serious somatic complications requiring intensive medical attention. Furthermore, the study sample consisted of 180 clients in TCs meeting the national quality treatment standards. Czech TCs share a uniform quality policy and adhere to the Czech Professional Standards and internationally recognized treatment models and methods [24], which results in a high institutional homogeneity in terms of the treatment program and rules. Last but not least, the ADHD assessment was based on DIVA [28], a comprehensive diagnostic method which measured the ADHD symptoms in adulthood and childhood, while most other studies used simple screening tools.

This study also had limitations. The assessment of ADHD in childhood was not confirmed by a person close to the client and, therefore, the recall bias was not completely controlled. However, at least from a psychometrical point of view, the measurement of ADHD was reliable. Despite the fact that the clients of the Czech TCs were predominantly male, the ratio of men in our sample was even higher because the TC which exclusively treats women and mothers with children was one of the 3 TCs which declined to participate. The study would also profit from a proper clinical assessment by a qualified psychiatrist with a full medical record of ADHD diagnosis for every client in our sample. Finally, the superimposition onto female patients would be somewhat problematic as the majority of the sample were men.

Conclusions

Nearly half of the population of severe, mostly intravenous, male TC clients primarily diagnosed with methamphetamine use disorder, who normally might not be targeted in outpatient research, were screened ADHD positive. ADHD relates to other mental health problems and psychiatric symptoms which may significantly complicate the treatment process. This implies that specific attention should be paid to proper ADHD diagnostic procedures, and the diagnosis of ADHD should be reflected in treatment interventions. In addition to ADHD, attention should also be paid to other psychiatric problems which seem to be frequent in TC clients. Future research should reflect this finding when studying the effectiveness of treatment in TCs. Our findings constitute a significant contribution to the long-lasting debate and criticism of a lack of rigorous clinical studies in TCs [21, 23].

Acknowledgement

The authors would like to thank the teams of the therapeutic communities who participated in the pilot study for their cooperation, which allowed the execution of the research and the creation of this article.

Statement of Ethics

The study was approved by the Ethics Committee (IORG0002175) of the General University Hospital in Prague (Ref. No. 9/13 GACR; first FM, Charles University; date: April 10, 2013). The informed consent was obtained from patients.

Disclosure Statement

The authors declare that they have no conflicts of interest to disclose.

Funding Sources

This study was funded by the project GAČR No. 14-07822S and the institutional financial program PROGRES-P06/LF1/9.

Authors Contribution

K.L. had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. M.M. and L.Š. were responsible for concept and design. K.L., M.M., R.G., M.Š., and E.R. were involved in acquisition, analysis, or interpretation of data. M.M., K.L., R.G., and E.R. drafted the manuscript. M.M., K.L., and M.Š. were involved in critical re-

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Příloha č. 4. Study IV. b

The role of ADHD in the development of motivation for change in persons with SUD treated in Czech therapeutic communities

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ABSTRACT

Fluctuations in motivation to change in persons with substance use disorder (SUD) may lead to their dropping out of treatment. ADHD in SUD persons is known to have a negative effect on motivational processes in general. Residents with comorbid ADHD may therefore experience more fluctuations in motivation during treatment. We assessed the development of motivation to change within the initial three months of treatment in a sample of 80 residents treated in certified therapeutic communities in the Czech Republic. ADHD was assessed by means of a DIVA 2.0 diagnostic interview and motivation to change by the Change Questionnaire. We found that motivation decreased between the first and the second wave: $t(79)=2.09$, $p=.040$, Cohen's $d = 0.23$. The persons with ADHD did not differ from the rest in terms of their first-wave motivation (Bayes factor 10 = 0.235). The interaction between ADHD and between-waves differences in motivation was not confirmed ($F(1;78)=2.65$, $p=.108$); however, a Tukey post hoc test showed a significant between-waves decrease in motivation in the ADHD group, while in the clients without ADHD between-waves differences in motivation were not found. We found a small decrease in motivation to change after three months. Our data suggested that ADHD may affect the development of motivation.

Keywords: ADHD ; SUD ; development of motivation ; treatment entry ; treatment process ; therapeutic community ; predictors of effective treatment

Funding for indexing purposes

GAČR Project
14-07822S

Institutional programme PROGRES (1st Faculty of Medicine, Charles University)
Q06

Specific University Research (1st Faculty of Medicine, Charles University)
260500This work was supported by the GAČR Project under Grant No. 14-07822S; Institutional programme PROGRES (1st Faculty of Medicine, Charles University) under Grant No. Q06 and Specific University Research (1st Faculty of Medicine, Charles University), Grant No. 260500.

Introduction

Comorbid diagnoses in people who have used drugs are known to complicate the treatment and promote negative treatment outcomes (Arias et al., 2008; Barkley et al., 2010). Attention Deficit Hyperactivity Disorder (ADHD) has been found to be a very common comorbidity among people who have used drugs. While the average aggregate prevalence of ADHD in the general population is estimated at 3.5% (De Graaf et al., 2008), its average prevalence among

people with drug dependence reaches up to 23.1% (van Emmerik-van Oortmerssen et al., 2012) and up to 50% in those who predominantly use stimulants (Matsumoto et al., 2005). According to recent findings by van Emmerik-van Oortmerssen et al. (2020), small neurocognitive deficits in persons with ADHD increase the risk of early drop-out from treatment. It also seems that some personality traits connected with ADHD, such as impulsiveness, may have a negative effect on treatment outcomes (Hershberger et al., 2017; Stevens et al., 2014). Moreover, ADHD is often combined with other comorbidities and with more severe addiction (comprehensive addiction anamnesis of the client) and psychopathological profiles (Liao et al., 2017; Reale et al., 2017), which have also been found to have a negative influence on SUD interventions (Alterman et al., 1993; McLellan et al., 1983; Timko & Moos, 2002). This all makes people with drug dependence with ADHD a group with a severe risk of premature drop-out and negative treatment outcomes.

The negative treatment outcomes in people with drug dependence with ADHD may be related to motivation. The positive effect of motivation on the success of SUD treatment (defined as abstinence, reduction of use, and changes in the social and legal domains) has been described by a number of studies (Adamson et al., 2009; De Leon et al., 1994, 2000) and was also found for SUD persons with comorbidities (Cornelius et al., 2017; Ryan et al., 1995). Even in non-comorbid persons the motivation tends to fluctuate during the treatment, which may cause premature drop-out (Andersson et al., 2018; Ball et al., 2006; López-Goñi et al., 2012).

One of the manifestations of ADHD is a multi-systemic and lifelong deficit in motivation caused by fronto-striatal and fronto-cortical brain abnormalities (Cubillo et al., 2012). In the case of people with drug dependence with ADHD, the motivation deficit is associated with disruption of the dopamine reward pathways, which substantiates the use of therapeutic interventions intended to enhance motivation in adults with ADHD (Modesto-Lowe et al., 2013; Volkow et al., 2011). The incorporation of motivational techniques as part of an integrated treatment model applied to SUD clients with comorbid schizophrenia – another condition characterised by a motivational deficit – resulted in a major improvement in the effectiveness of SUD treatment (Barrowclough et al., 2001; Fervaha et al., 2018). It has been demonstrated that persons with complex addiction and psychopathological profiles usually require special care and that an individual approach must be applied to maintain clients' motivation to treatment (Breda & Heflinger, 2007; Bukstein & Roberto, 2018). Some research suggests a negative effect of chronic conditions and overall profile on motivation (DiClemente et al., 2008).

Research on the effect of treatment of childhood ADHD on the prevention of adolescent SUD is inconclusive, and studies on the diagnosis and treatment of adolescents with ADHD and SUD are scarce (Özgen et al., 2020). Thus, the available evidence is generally not sufficient to justify robust treatment recommendations, and much of the ADHD research on people who have used drugs shows significant shortcomings. It is not known how persons with ADHD manage the demanding residential treatment programme and what the development of their motivation during treatment is. It is not known how they perform compared to people with drug dependence without ADHD.

Therapeutic communities represent a specific form of residential treatment, which targets clients with severe substance use disorders (SUDs) and a high potential for acute intoxication and relapse, i.e. clients with more severe emotional, behavioural, and biomedical complications and clients with an uncertain attitude and motivation for treatment and a non-supportive or risky social environment in relation to treatment (APA – American Psychiatric Association, 2006). According to systematic reviews, therapeutic communities are an effective treatment intervention that has an impact on improving an individual's quality of life in the areas of substance use, crime, mental health, and social affairs (Magor-Blatch et al., 2014). Vanderplasschen et al. (2013) report the importance of the length of stay in TCs as significant in predicting good changes in many areas of an individual's quality of life. The profile of TC clients includes repeated previous treatment episodes and frequent drop-outs, dual diagnoses, long-term drug careers, a severe criminal history, and severe personality disorders. The specific features of Czech TCs are related to the local population of substance users; previous studies on clients of Czech TCs showed that (1) the majority of clients are methamphetamine (MA) users and (2) there is a highly prevalent ADHD comorbidity (Miovský et al., in press; Rubášová et al., 2015). The prevalence of ADHD in Czech TC clients was estimated between 51 and 56.6% (Miovský et al., in press; Rubášová et al., 2015), which is higher than the prevalence among the general population of SUD patients, which was estimated to be 23.1% (van Emmerik-van Oortmerssen et al., 2012). The reason for the high prevalence of comorbid ADHD in Czech SUD patients may lie in the high prevalence of MA users among Czech substance users (out of a total of 47,800 problem drug users, approximately 73% were MA users in 2016; Mravčík et al., 2017); other studies also found a high prevalence of ADHD in users of stimulants (Matsumoto et al., 2005).

This study focused on the development of motivation in residents treated in Czech TCs. We observed the effect of ADHD on the level of motivation at the start of the treatment and during its course. The study should fill the gap regarding the motivation of people who have used drugs in residential treatment, especially those treated in therapeutic communities and showing the symptoms of ADHD. The aim of this study was to assess the development of self-reported motivation to change within the initial three months of treatment with respect to ADHD comorbidity. Our main question was whether clients' motivation decreased over time and whether persons with comorbid ADHD entered treatment less motivated and showed a steeper decrease in motivation when compared to persons without ADHD. Finally, we aimed to assess the effect of initial motivation on early dropout, presuming that a high level of motivation would prevent early dropout.

Research design and methods

Settings and sample

The data were acquired from residential care provided by Czech TCs, where MA users account for the majority (78%) of substance users (Mravčík et al., 2017). A total of 10 TCs are certified according to the treatment and professional competency standards in the Czech Republic (Mravčík et al., 2017). The present study drew on the design of the main research project, where there is a detailed description of the methodology (Miovský et al., 2014). Seven TCs agreed to participate. Out of all the clients who entered treatment in one of the seven participating TCs during the study period ($N = 271$), 180 participants from five different TCs (two TCs had to be excluded as a result of mistakes in the data collection process) comprised the first-wave data sample. One hundred and four participants stayed in treatment until the second wave of data collection, which followed three months after the first wave, but only 80 participants provided valid data; for details, see Figure 1. The characteristics of both samples are shown in Table 1. No significant differences in sociodemographic variables, severity of substance use, psychiatric symptoms, or the distribution of ADHD were found between the second-wave sample ($N = 80$) and the rest of the participants ($N = 100$), who either dropped out of the treatment during the initial three months ($N = 76$) or were excluded because of missing data ($N = 24$) (Table 1).

Figure 1. The flowchart of participants. *There are ten certified therapeutic communities (TC) in Czechia; seven agreed to participate.

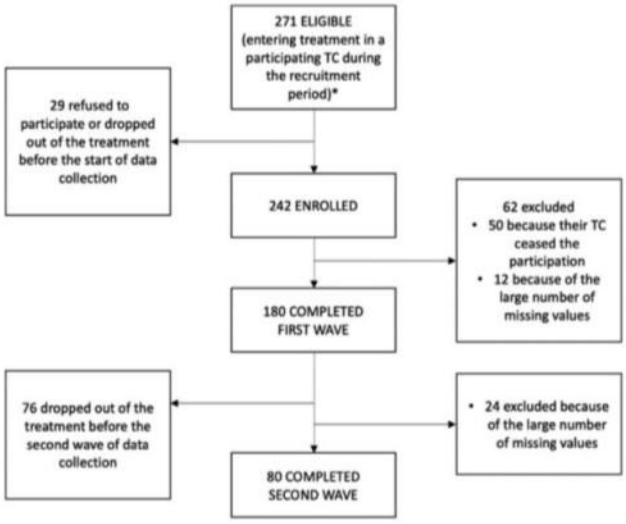


Table 1. Sociodemographic characteristics, substance use, psychiatric symptoms and ADHD in second-wave sample ($n = 80$) and early drop-outs ($n = 100$).

	Second-wave sample	Drop-outs	t/χ^2
Gender			χ^2 (1)=2.74
Male	82.5% (n = 66)	72.0% (n = 72)	
Female	17.5% (n = 14)	28.0% (n = 28)	
Education			χ^2 (4)=0.906
Elementary	38.8% (n = 31)	41.0% (n = 41)	
Practical	36.3% (n = 29)	32.0% (n = 32)	
Practical with graduation	2.5% (n = 2)	2.0% (n = 2)	
High school with graduation	15.0% (n = 12)	19.0% (n = 19)	
Uncompleted further education	7.5% (n = 6)	6.0% (n = 6)	
Marital status			χ^2 (2)=0.185
Single	90.0% (n = 72)	90.0% (n = 90)	
In partnership or married	2.5% (n = 2)	3.0% (n = 3)	
Divorced or separated	7.5% (n = 6)	6.0% (n = 6)	
Missing		1.0% (n = 1)	
Residence			χ^2 (2)=2.78
>100,000 inhabitants	31.9% (n = 23)	28.0% (n = 28)	
10,000–100,000 inh.	37.5% (n = 27)	43.0% (n = 43)	
<10,000 inh.	30.6% (n = 22)	18.0% (n = 18)	
Missing		11.0% (n = 11)	
Age (range = 17–50)	27.98 (5.94)	28.27 (6.27)	t (173)=0.325
SCL.PST (range = 4–90)	51.68 (20.32)	54.24 (18.96)	t (164)=0.867
SCL.GSI (range = 0.08–3.36)	1.13 (0.67)	1.12 (0.70)	t (172)=0.807
ADHD			χ^2 (1)=0.188
Positive	48.8% (n = 39)	52.0% (n = 52)	
Negative	51.2% (n = 41)	48.0% (n = 48)	
Methamphetamine (MA) users	95.0% (n = 76)	90.0% (n = 90)	χ^2 (1)=1.55
The length of MA use in years (range = 1–34)	9.79 (5.90)	8.40 (4.13)	t (131)=1.73
Combined (polydrug) use	55.0 % (n = 44)	54.0% (n = 54)	χ^2 (1)=0.018
Cumulative substance use (range = 1–113)	30.17 (22.25)	27.17 (17.37)	t (147)= −0.987

Differences between second-wave sample and early drop-outs were analysed by the Welch t-test and χ^2 test of association. Standard deviations are in brackets next to means. All p>.05, all Cohen's d< 0.30.

The data were collected by professionals (therapists and medical staff from the TCs) who were trained and supervised by the research team. The participants were not intoxicated or suffering from acute withdrawal syndrome when they were questioned (all of them were interviewed after detoxification, because this is a strict requirement for acceptance into a TC programme).

Ethics

The study was approved by the Institutional Review Ethics Committee of the General University Hospital in Prague (Grant No. J. 9/13 of the Grant Agency of the Czech Republic; 1st Faculty of Medicine, Charles University; date 10 April 2013). This study was approved by the Institutional Review Board of the General University Hospital in Prague (Grant GACR 1. LF UK, 9/2013). We obtained written informed consents from all the participants.

Measures

Motivation measurement

Motivation to treatment was measured by the Change Questionnaire (Miller & Johnson, 2008), which is a brief screening self-report measure that is based on natural language that addicted clients use when talking about their motivation to stop using drugs. It consists of 12 items in the form of statements to which respondents express their agreement on an 11-point scale from 0 to 10. The average score for each participant was computed in both the first wave (within the first month of treatment) and the second (approximately three months after the first wave). By subtracting the first-wave score from the second-wave score, the development of motivation was obtained for each participant. The questionnaire was administered to the participants in pen-and-paper form; its administration was conducted by trained data collectors in the TCs who were subject to regular supervision and intervention by the research team. The internal consistency of the Change Questionnaire was found to be acceptable (Cronbach's $\alpha = 0.748$).

ADHD measurement

ADHD symptoms were assessed using DIVA 2.0 (structured Diagnostic Interview for Adult ADHD; Kooij & Francken, 2010), in its standardised Czech version (DIVA 2.0, 2012). According to Ramos-Quiroga et al. (2019), DIVA 2.0 constantly shows high diagnostic accuracy and better outcomes than other commonly used methods, e.g. the Conners Adult ADHD Interview (CAADID). DIVA 2.0 provides two separate scores for childhood and adulthood symptoms and two separate sections for assessing the attention disorder and hyperactivity disorder symptoms. During the DIVA 2.0 diagnostic interview, respondents are presented with 4–10 typical markers of each of the nine symptoms of either attention disorder or hyperactivity disorder according to DSM-5. In order to show attention disorder or hyperactivity disorder they have to acknowledge the presence of markers for six out of the nine symptoms in both adulthood and childhood. On the basis of DIVA 2.0, we distinguished two groups of participants: ADHD-positive (who showed attention disorder or hyperactivity disorder or both) and ADHD-negative (who did not fulfil the criteria for either attention disorder or hyperactivity disorder). The ADHD symptomatology was determined on the basis of the participant's self-report. No other heteroanamnesis was used. The identification of ADHD-positive participants therefore resulted from their meeting the diagnostic criteria for symptomatology for ADHD according to DSM-5 and DIVA 2.0; full confirmation of the diagnosis by a clinician was not performed. DIVA 2.0 showed very good internal consistency, with Cronbach's $\alpha = 0.920$ for the Attention scale and Cronbach's $\alpha = 0.917$ for the Hyperactivity scale.

While the residual effects of long-term use might influence the self-perception of ADHD symptoms, we checked for differences in ADHD between first-wave participants ($N = 180$) who reported having abstained from drugs for the past 30 days ($N = 92$, 51.1%) and participants who reported the intake of drugs during the past 30 days ($N = 88$, 48.9%). We found no significant between-groups differences in terms of the prevalence of ADHD ($\chi^2(1)=2.70$, $p=.10$) and core symptoms of attention or hyperactivity disorder ($p>.18$, Cohen's $d < 0.20$). However, the abstainers reported a significantly lower number of hyperactivity symptoms experienced in adulthood ($M = 3.97$, SD = 2.96) when compared to the participants who had used drugs during the past 30 days ($M = 4.90$, SD = 2.75): $t(178)=2.187$, $p=.030$, Cohen's $d= 0.33$. The DIVA 2.0 showed very good internal consistency with Cronbach's $\alpha = 0.920$ for the Attention scale and Cronbach's $\alpha = 0.917$ for the Hyperactivity scale.

Measurement of psychiatric symptoms

Psychiatric symptoms were measured using the validated and standardised Symptoms Checklist-90 (SCL-90; Derogatis, 1977) in its Czech version (Boleloucký et al., 1993). SCL-90 consists of 90 items divided into nine sections measuring the respondent's symptoms of somatisation, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. For each item, respondents express their level of agreement on a five-point scale from 0 (not at all) to 4 (very much). We computed two 'general' scores showing the overall presence of psychiatric symptoms: Positive Symptoms Total (PST) as a sum of the items with non-zero values and the Global Severity Index (GSI) – the average value of positive symptoms indicating the severity of symptoms. SCL-90 showed excellent internal consistency with Cronbach's $\alpha = 0.977$.

Substance use measurement

The severity of the participants' substance use was assessed using the Drug Anamnesis part of the European Addiction Severity Index (EuropASI; Kokkevi & Hartgers, 1995). We measured two variables: (a) the presence of polydrug use (simultaneous use of at least two different substances) – item 'Have you been using at least two different

substances within one day?' and (b) the cumulative substance use in terms of years – the sum of the answers to the items 'For how many years have you been using heroin?', 'For how many years have you been using cannabis?', 'For how many years have you been using methamphetamine?', etc. The full list of substances was alcohol (heavy use), heroin, heroin substitutes (methadone/LAAM), other opioids, depressants (benzodiazepines, barbiturates), cocaine, MA (pervitin), cannabis, hallucinogens (LSD), inhalants (toluene), and other (e.g. MDMA).

Analysis strategy and statistics

The main goal was to analyse the motivation to change and its development within the early stage of treatment (the first three months) with respect to ADHD.

Given the relatively low retention rate between the first and second waves (see Figure 1), as the first step we analysed whether the second-wave sample ($N = 80$) differed from early drop-outs ($N = 100$) with respect to sociodemographic variables (age, gender, education, marital status, residence), drug career (cumulative substance use, combined polydrug use), psychiatric symptoms, and ADHD.

Second, the first-wave and second-wave motivation scores were compared using a paired *t*-test to see whether there were significant changes in motivation after three months of treatment. Third, the motivation scores (first-wave, second-wave, and the between-waves development) were compared between the ADHD-positive and ADHD-negative participants (using Welch's *t*-tests) to see whether the ADHD-positive participants were more or less motivated than the ADHD-negative participants when they entered treatment or after three months. Bayesian statistics were used to test the null hypothesis (the non-existence of a difference between the ADHD-positive and ADHD-negative clients in motivation at the beginning of treatment, i.e. in first-wave motivation). Fourth, we conducted repeated measures ANOVA with post hoc tests to analyse the effect of the interaction between time (first versus second wave) and ADHD (ADHD-positive versus ADHD-negative) on motivation to see whether the development of motivation was different for the ADHD-positive and ADHD-negative participants. Fifth, we computed Pearson's correlations between motivation variables (first-wave motivation, second-wave motivation, and the development of motivation) and attention disorder symptoms and hyperactivity symptoms to further analyse the effects of ADHD on motivation. Finally, we examined the effect of background variables by observing the relationships between all the motivation variables and psychiatric symptoms (SCL-GSI and SCL-PST) and substance use severity variables (combined use, cumulative use). Combined use (also a polydrug term according to the WHO lexicon) is the use of more than one drug by an individual, consumed concurrently or intermittently (EMCDDA, 2002); the evaluation of combined use was carried out on the basis of EURO ASI (mapping of the client's condition one month before).

The analyses were performed using R (R Core Team, 2018), jamovi (The jamovi project, 2019), and various R-packages: Singmann (2018), Lenth (2018), Morey and Rouder (2018), and Rouder et al. (2009).

Missing data

Both the first-wave and second-wave data were checked for missing values. In DIVA, there were no missing values, while in SCL-90 we detected five participants with one missing value and one participant with 16 missing values. The missing values were imputed using a multiple imputation method (the Amelia II software by Honaker et al., 2011), using the whole first-wave dataset ($N = 180$). In the Change Questionnaire, there were missing values in both the first-wave and second-wave variables. Within the first wave, one participant had one missing value and six participants had four missing values. Within the second wave, three participants had one missing value, six participants had four missing values, and one participant had five missing values. We did not impute these values, as it is not recommended in the case of outcome variables. Instead, we used the average score for each participant with respect to the number of items he/she had reported.

Results

Characteristics of sample

We did not find any significant differences between the second-wave sample and early drop-outs from treatment in therapeutic communities in terms of either the sociodemographic background variables or in ADHD and psychiatric symptomatology or in drug career variables (Table 1). The clients of the TCs that participated in our study were most-

ly long-term MA users, more than a half of whom had experience of combined (polydrug) use. The majority of the participants were single young male adults.

Motivation to change and its between-waves development

As presumed, the initial motivation to change decreased with time. The first-wave motivation was significantly higher than the second-wave motivation (see Table 2): $t(79)=2.09$, $p=.040$, Cohen's $d= 0.23$. However, the mean difference was rather small (0.24) and the average motivation in the second wave was still very high (8.81 on a scale from 0 to 10).

Table 2. Means, standard deviations, and between-groups differences in motivation variables in second-wave sample ($N = 80$).

Variables	Whole sample	ADHD group		MD	t (df)	Cohen's d
		Negative	Positive			
Motivation – wave 1	9.05 (0.917)	9.07 (0.873)	9.03 (0.973)	0.035	0.170 (76.1)	0.038
Motivation – wave 2	8.81 (0.938)	9.01 (0.851)	8.61 (0.991)	0.404	1.95 (75.0)	0.438
Motivation – development	–0.239 (1.02)	–0.059 (1.05)	–0.428 (0.973)	0.369	1.63 (77.9)	0.364

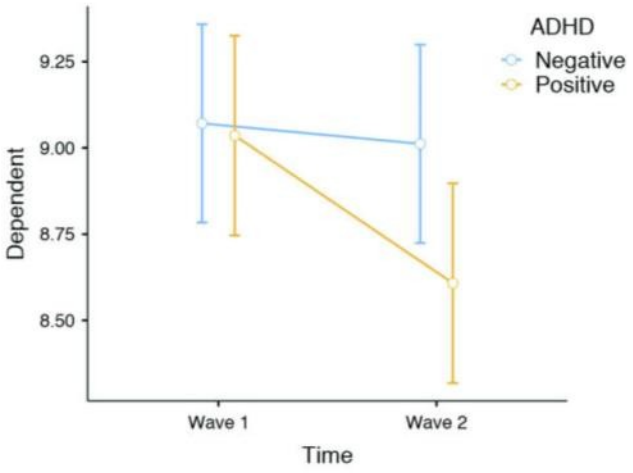
Standard deviations appears in brackets below means.

The ADHD-based differences in motivation

There were no significant differences in the level of initial motivation between the ADHD-positive and ADHD-negative participants. Using Bayesian statistics, we acquired anecdotal evidence for the null hypothesis (i.e. for there being no difference between the ADHD-positive and ADHD-negative participants in terms of their initial motivation) for both the second-wave sample ($N = 80$): $BF_{10}=0.235$ (see Table 2) and first-wave sample ($N = 180$): $BF_{10}=0.221$, $t(173)=0.821$, $p=.413$, MD = 0.12. In the case of second-wave motivation and the development of motivation, the ADHD-based differences were not significant, although in the case of second-wave motivation Cohen's d suggested a moderate effect (Table 2).

To analyse the development of motivation with respect to the initial level of motivation, repeated measures ANOVA was used to estimate the effect of time and ADHD interaction on motivation. The effect of interaction was not statistically significant: $F(1;78)=2.65$, $p=.108$, although the decrease seemed to be larger in the ADHD-positive participants compared to the ADHD-negative participants (see Figure 2). Tukey's post hoc tests showed a statistically significant difference between the first-wave and second-wave motivation in the ADHD-positive participants: $t(78)=2.638$, $p=.048$ (MD = 0.42, SE = 0.162). In comparison, the difference was very small and non-significant in the ADHD-negative participants (MD = 0.06, SE = 0.158). However, this cannot be treated as conclusive evidence of the effect of ADHD on the development of motivation.

Figure 2. The development of motivation in ADHD groups. Means and 95% confidence intervals of motivation – first wave and motivation – second wave are presented.



Using the number of positive symptoms of attention and hyperactivity disorder rather than a yes/no diagnosis, we found that attention disorder symptoms showed a significant correlation with the development of motivation, but generally the associations between motivation and ADHD symptoms were small – see Table 3.

Table 3. Pearson's correlations between motivation variables and ADHD symptoms ($N = 80$).

	1	2	3	4
1. Motivation – wave 1	–			
2. Motivation – wave 2	0.391***	–		
3. Motivation – development	–0.537***	0.566***	–	
4. Attention disorder symptoms	0.047	–0.213	–0.238*	–
5. Hyperactivity disorder symptoms	–0.095	–0.219	–0.115	0.709***

*$p<.05$.

**$p<.01$. [AQ2]

***$p<.001$.

The effect of psychopathology and the severity of substance use on motivation

Current literature sources on SUD presume that a severe profile (more severe SUD and psychiatric comorbidity) leads to higher initial motivation but at the same time may cause a decrease in motivation throughout the treatment. Therefore, we analysed the relationships between all three motivation variables and variables indicating the psychiatric comorbidity (SCL indices) and the severity of SUD, namely the total duration of regular substance use in years (excluding tobacco and non-excessive use of alcohol) and the incidence of the combined use of two or more substances (yes/no). The only statistically significant relationship was found between the anamnesis of combined use (the use of two or more substances at the same time) and second-wave motivation. The participants who reported combined use showed lower second-wave motivation ($N = 44$, $M = 8.625$, SD = 1.034) than those without this experience ($N = 36$, $M = 9.041$, SD = 0.758): $t(77.2)=2.077$, $p=.041$, Cohen's $d= 0.453$.

Discussion

Summary of results

We aimed to conduct a thorough investigation of the motivation to change in SUD persons entering community-based treatment in the Czech Republic, especially with respect to ADHD comorbidity. Our sample represented the target population well, with a high prevalence of male MA users (Mravčík et al., 2017).

We showed that the motivation at the beginning of treatment was very high and did not differ between the ADHD-positive and ADHD-negative persons. The development of motivation was found to be negative, showing a significant but small decrease with time (on average, the decrease was 0.24 points on the 0–10 scale). The decrease was more pronounced in the ADHD-positive group (0.42 on average) than in the ADHD-negative group (0.05), but the between-group difference was not statistically significant. We found a significant negative correlation between attention disorder symptoms and the development of motivation, i.e. showing more attention disorder symptoms meant a steeper decrease in motivation. From the substance use severity indicators that were assessed, the anamnesis of combined use was found to affect second-wave motivation; combined users showed lower second-wave motivation (0.42 on average) than users of a single substance. The difference was statistically significant, with a moderate effect size. The psychiatric symptoms were not found to affect motivation to change.

Interpretation of results

The drop-out rate within the first three months of treatment estimated in this study could be considered high (42.2%). However, it is congruent with other studies focused on similar treatment and clienteles. Deane et al. (2012) reported a drop-out rate from residential treatment of 57.3% in the first three months and demonstrated a non-alcoholic drug career to be a major factor that increases the risk of dropping out of treatment. A systematic review and meta-analysis by Lappan et al. (2020) confirmed that the rate of premature drop-out from in-person treatment was highest among stimulant (MA and cocaine) users. A systematic review dedicated to the effectiveness of TCs with respect to drop-outs showed that the treatment failure rates ranged from 44 to 94% (Malivert et al., 2012). At the same time, the results of our study indicated that SUD clients determined to enter inpatient treatment in a therapeutic community were very well motivated to change, which is in agreement with knowledge on the motivation of clients entering treatment (DiClemente et al., 2004; Simpson & Joe, 1993; Volkow et al., 2016). The high level of initial motivation in TC clients may also relate to the fact that they usually show a more severe SUD profile and person profile (compared to other treatment options – APA – American Psychiatric Association, 2006) and the severity of the user's profile is known to have a positive influence on the initial motivation – the more severe the SUD, the higher the motivation (DiClemente et al., 1999; Havassy et al., 1991). On the contrary, we did not find any of the indicators of severe use to be related to initial motivation, although we found a significant effect of combined use (compared to use of a single substance) on second-wave motivation. But, as stated earlier, it may be that the majority of TC clients represent rather severe SUD cases.

The research does not provide much information on initial motivation across various SUD treatments. The degree of motivation for treatment may be related (i) to the profiles and (ii) to the requirements for entry into treatment. As for the severity of the profile, according to APA – American Psychiatric Association (2006), TCs represent treatment for clients with the most difficult personal profile (addiction, psychiatric, social and health, etc.), so it can be presumed that TCs concentrate on severe cases, which are known to show high initial motivation to treatment. TCs have very strict admission requirements (e.g. detoxification, short-term treatment, administrative requirements, and waiting time). Therefore, we can assume that only clients with very high initial motivation to treatment actually completed the admission procedure.

Motivation to change has traditionally been viewed as a key factor for successful SUD treatment (Hiller et al., 2002; Simpson et al., 1995). Internal motivation to treatment has been described as the essential predictor of success, in comparison with external pressures (Cornelius et al., 2017; Ryan et al., 1995). Some studies conducted among people who have used drugs across a network of addictology services show the impact of high initial motivation on treatment compliance, successful treatment outcomes, and treatment retention (Cady et al., 1996; De Leon et al., 2000; Melnick et al., 1997). Melnick et al. (1997) confirmed CMRS (Circumstances, Motivation, Readiness, Suitability) motivation and readiness for treatment as clear predictors of dropping out in persons in TCs.

It seems important to distinguish between initial motivation and motivation in later stages of treatment. Studies have shown that a decrease in motivation is influenced by the severity of the person's profile (Breda & Heflinger, 2007; Bukstein & Roberto, 2018; Romano & Peters, 2015). Time and the abstinence process were reported to affect

motivation, which tends to show a negative development in people who have used drugs, especially in those with a comorbid profile of greater severity (Alterman et al., 1993; Barrowclough et al., 2001; Timko & Moos, 2002). Our study aimed to quantitatively explore the role of motivation in the initial stages of the SUD treatment process, especially with respect to comorbid ADHD. We used a representative sample of clients of therapeutic communities, which is a seriously under-researched population (Vanderplasschen et al., 2017). The results of our study confirm a decrease in motivation over time in TC clients in general. Although the effect of the interaction between time (differences between the first and second waves) and ADHD was not significant, the decrease in motivation was more pronounced in the ADHD-positive participants as compared to the ADHD-negative participants. The ADHD individuals were found to display lifelong and multisystemic deficits in terms of their reward system and motivation, with major issues concerning self-motivation and keeping themselves motivated (Cubillo et al., 2012). Miovský et al. (2018) described motivation deficits in ADHD-positive clients receiving treatment in Czech TCs as an integral part of a low sense of coherence (SOC – Antonovsky, 1993), also pertaining to cognition and the cognitive domain; individuals with ADHD were found to have substandard motivation scores. While the targeted enhancement of motivation in people who have used drugs in recovery is particularly important during periods of full abstinence (Bastle et al., 2018), in ADHD-positive persons with SUD, it represents the key intervention that can have an effect on primary neurobiological ADHD deficits, as well as regulating changes caused by comorbid SUD. The problem of dopamine regulation and the motivation deficit is coupled in the case of comorbid SUD and ADHD (primary and secondary neurobiological levels in comorbid SUD).

This study is one of the first attempts to investigate clients of therapeutic communities using a national representative sample. To assess ADHD, the study applied the latest research tools, which are based on the most recent diagnostic criteria. A limitation of the study is that the period assessed in the study (three months) was probably too short to capture more significant changes in motivation. Additionally, the relatively small sample (resulting from the small size of the target population) prevents us from performing more convincing and multivariate statistical analyses. Additionally, the between-waves attrition rate was small, which resulted from the high drop-out rate, which is usual in SUD treatment residents, especially in users of stimulants (Lappan et al., 2020) and in the case of treatment in TCs (Malivert et al., 2012). However, we demonstrated that the second-wave sample was very similar to the rest of the participants who either dropped out or failed to provide data with respect to sociodemographic variables, drug career, psychiatric symptoms, and ADHD. Another limitation is the possibility that the ADHD assessment might be biased because of the lack of confirmation of symptoms by a person close to the client. Finally, the assessment of ADHD in persons with SUD always bears the risk of less accuracy as a result of intoxication, withdrawal syndrome, and/or the residual effects of long-term use. However, all the TCs that participated in our study required that clients could enter treatment only after detoxification and approximately one month of abstinence in a protected environment. Therefore, participants should at least not be intoxicated or experiencing acute withdrawal syndrome at the time of the inquiry. The residual effects of long-term use on ADHD symptomatology are beyond the scope of this study, although they are relevant, especially in MA users.

Conclusions

At the beginning of the therapeutic community-based treatment, the level of motivation among people dually diagnosed with ADHD and SUD is high and no different from that among clients without an ADHD comorbidity. We confirmed the small decrease in motivation which is usual in people who have used drugs. ADHD seems to have some effect on the decrease in motivation within the critical period in the early stage of treatment. This opens up the hypothesis that there are discrepancies in the perception of needs between treated clients and TC staff, which underlie some specific treatment problems of comorbid people who have used drugs reported by the studies cited above.

Acknowledgements

The authors thank the certified therapeutic communities participating in the research project: TK Renarkon, TK Advaita, TK White Light I., TK Fénix, and TK Fides.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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