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Affiliation to Alcoholics Anonymous or Narcotics Anonymous among patients attending an English specialist addiction service

Abstract

Purpose

Attendance at Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) meetings and affiliation with the Fellowship has potential benefits for people with alcohol or drug use disorders. This effect is present whether or not the individual attends professional treatment services, but the two process can have a synergistic effect. Limited information exists about the extent to which people attending UK specialist treatment services also attend AA/NA and their views about such attendance.

Design/methodology/approach

A cross-sectional survey of 200 consecutive attendees at the specialist treatment service in an English region was conducted between January and April 2018. A measure of past attendance and affiliation with AA/NA (AAAS) and a scale designed to quantify future readiness to attend (SYRAAP) were administered and anonymously linked to data supplied to the National Drug Treatment Monitoring Service (NDTMS).

Findings

A minority of the sample had ever attended an AA meeting (31%, n= 59) or an NA meeting (41%, n=79), and only 14% (n=27) and 24% (n=45) had attended an AA or NA meeting respectively in the past year. Only two variables significantly predicted level of readiness to attend AA or NA in a regression model: attended more AA/NA meetings in the past ($\beta=0.149$, $p=0.036$) and previous level of participation (AAAS score) ($\beta=0.409$, $p<0.001$).

Practical implications

A significant proportion of attendees of a specialist drug and alcohol treatment service had never attended AA/NA, despite many positive views about their potential benefits. Given the established benefits of attending AA/NA meetings and participating in the AA or NA Fellowship, these results suggest that professional treatment services should do more to explain the process and challenge pre-conceived ideas about how they operate.

Originality/value

The authors are not aware of any published research that captures the rates of attendance of and participation in both AA and NA groups in a UK-based community treatment sample. These results may therefore provide a baseline for evaluating the impact of interventions to increase attendance/participation, and also provide some insight into the potential barriers to attendance in this population.

Keywords

Self-help groups; Alcoholics Anonymous; Narcotics Anonymous, Addiction Treatment; Attitudes; Affiliation

Paper type – research paper

Research Funding

None. One author analysed the data as part of a University degree course (MSc in Addiction Studies at King's College London)

Conflicts of Interest

One author is a clinician working in the treatment team that hosted the study.

Introduction

Rates of abstinence from alcohol among individuals who attend Alcoholics Anonymous (AA) are more than double that of non-attenders, with evidence of a dose-response effect (Kaskutas, 2009). Encouraging 12-Step mutual self-help group (TSG) attendance significantly reduces healthcare utilisation costs (Humphreys and Moos, 2001, Humphreys et al., 2004), and participation in AA after professional treatment is associated with reduced drinking and fewer psychosocial problems (Emrick et al., 1993, Humphreys and Noke, 1997, Tonigan et al., 1996). Less is known about Narcotics Anonymous (NA), but length of time in NA has been found to be related to abstinence from illicit drugs (Christo and Franey, 1995), and involvement with NA after treatment is associated with the development of social networks that are more supportive of abstinence (Humphreys and Noke, 1997).

Combined professional and peer-support recovery is associated with better long-term outcomes than either approach alone (Dawson et al., 2006), and attempts to systematically engage people with substance use disorders in TSGs have yielded positive outcomes (Manning et al., 2012, Timko and DeBenedetti, 2007). However, the limited evidence base from the UK suggests that relatively few substance users attend them, and any attendance is short-lived (Day et al., 2005, Gossop et al., 2007, Gaston et al., 2010). The English National Drug Treatment Monitoring Service (NDTMS) requires treatment services to report activity in delivering two intervention strategies related to TSGs. The first is called '*12-step work'* and is defined as '*a 12-step intervention for recovery from addiction, compulsion or other behavioural problems'*, where the aim is '*to facilitate service users to complete some or all of the 12 steps*'. This intervention was initially developed for Project MATCH (Nowinski et al., 1999), and later adapted for patients with drug use disorders (Baker, 1998). The second, '*facilitated access to mutual aid'*, is defined as the process where '*staff provide a service user with information about mutual aid groups and facilitate their initial contact by, for example, making arrangements for them to meet a group member, arranging transport and/or accompaniment to the*

first session and dealing with any subsequent concerns'. These groups may be based on 12-step principles or another approach (such as SMART Recovery). This intervention has been particularly influenced by the work of Timko and colleagues (Timko and DeBenedetti, 2007). Activity in delivering either of these interventions is reported every three months for all patients. Of the 262,109 individuals who had received treatment from specialist services for drug or alcohol use disorders by the final quarter of 2017-18, 4% (10,874) had received a '12-step work' intervention, and 24% (63,256) had received a 'facilitated access to mutual aid' intervention. The latter is likely to overestimate referral to TSGs specifically, as the reporting criteria refer to any mutual aid group.

Professional treatment staff in England are ambivalent about encouraging their patients to attend, and often have low levels of knowledge about TSGs (Day et al., 2005, Wall et al., 2014). However, 'facilitated access' interventions have been shown to be associated with more meeting attendance during follow-up than merely recommending attendance among patients with limited previous 12-Step meeting attendance (Manning et al., 2012, Timko and DeBenedetti, 2007). The UK treatment population may therefore benefit from better linkage between professional and peer-led groups. There has been a growth in interest in TSGs in the UK in the past 10 years (Public Health England, 2013). However, there is very little published UK-based research data to quantify the level of TSG attendance amongst treatment populations (see table 4). The National Treatment Outcome Research Study (NTORS) explored TSG attendance in a subsample of drug users treated in residential settings (Gossop et al., 2007). During the 2 years prior to treatment, 35% (50/142) of the sample attended at least one NA or AA meeting, and among those who attended NA/AA the mean number of meetings attended was 26.6. NA attendance was more common than AA attendance (28% versus 16%). Patients who attended NA or AA after treatment were more likely to be abstinent from opiates at follow-up, but no additional benefit was found for NA/AA attendance in stimulant users. More frequent NA/AA attenders were more likely to be abstinent from opiates and alcohol when compared both to non-attenders and to infrequent (less than weekly) attenders.

Three separate projects explored TSG attendance amongst patients at two specialist inpatient units in south London. Best et al. surveyed 200 inpatients, half of which had a primary alcohol problem and half a primary drug problem (Best et al., 2001). Over three-quarters (77%, n=154) had attended a 12-step meeting in the past, and 51% had done so in the past year (n=102). Gossop et al. interviewed 150 admissions with primary alcohol problems and followed them up over 6 months post-discharge (Gossop et al., 2003, Harris et al., 2003). Again, three-quarters had added an AA meeting in their lifetime (73%, n=110), but only 41% (n=61) in the year prior to admission. Finally, a randomised controlled trial of methods to facilitate attendance at TSG meetings conducted in an inpatient unit reported that 108 of 151 (72%) participants (primary problem = 57% alcohol, 43% drugs) had ever attended an AA/NA meeting, and 38% (n=57) in the past year (Manning et al., 2012). London has traditionally had a high level of weekly TSG meetings, but a similar study with a mixed drug/alcohol dependent population at a specialist inpatient unit in Birmingham found similar results (69% ever attended, 33% in the preceding year (Gaston et al., 2010). Research has therefore focussed on treatment populations in specialist residential settings, where the treatment goal has usually been abstinence. There is no equivalent research in the UK focussing on community treatment settings, and in particular opioid dependent individuals receiving opioid agonist treatment (OAT). Data from the USA indicate that levels of AA/NA attendance and affiliation in this population are lower than in residential settings where patients are often actively encouraged to participate in TSGs (Humphreys et al., 1998).

This project aimed to explore past attendance and participation in TSG meetings in patients attending a community substance use treatment service, and their potential readiness for future participation. We wanted to measure the level of acceptability of TSGs to current patients of the service, and compare those with a primary alcohol problem to those with a primary illicit drug problem. By linking data on TSG participation/future intentions to routinely-collected demographic and substance use data we also aimed to highlight possible ways of targeting interventions to patients.

Methods

Setting

A survey was conducted of patients receiving treatment for alcohol or drug problems within a single metropolitan borough in the English West Midlands with a population of approximately 250,000 in urban, suburban and rural locations. The treatment service was provided by the National Health Service (NHS) in partnership with three local not-for-profit agencies and commissioned to provide specialist community services for alcohol and drug (opiate and non-opiate) problems for people of all ages living within the borough. It had a caseload of 1200 active patients at the time of the survey.

Participants

The eligibility criteria were: (1) attending a routine appointment at the service between April and June 2019; (2) able to read and understand English; (3) able and willing to complete a questionnaire taking approximately 10 minutes; (4) aged 18 years or above.

Procedure

Sequential patients attending the service for a routine appointment were approached by staff over a 12-week period in order to survey 200 patients. Participation was voluntary, and refusal to participate did not have any impact on the treatment received from the service. The keyworker asked the patient to complete the questionnaire, and the patient was given a £5 shopping voucher in recognition of their time.

No personal information that would identify the patient was added to the questionnaire (name, date of birth, address), but the keyworker added the client's unique service number. This was then linked to data routinely collected for the National Drug Treatment Monitoring System (NDTMS) through the service number, thus avoiding any patient-identifiable data being included. Patients give consent for this data to be analysed anonymously as part of service evaluation, and if this consent was not

received the data was not included. The study was approved as a Service Evaluation project by the NHS Trust Research & Innovation Department.

Measures

Self-administered survey measures have been developed to assess both previous participation in AA/NA-related activities and future intentions to participate (e.g. (Humphreys et al., 1998, Kingree et al., 2007). Past research has examined a wide range of demographic, personality, social, cognitive, and substance-related variables as potential predictors of AA participation. Reviews of this research have indicated alcohol problem severity is the most reliable predictor (Emrick et al., 1993, Tonigan et al., 1996), but other variables have been less promising (Emrick et al., 1993, McKay et al., 1998, Morgenstern et al., 1998). Two measures with established reliability and validity in treatment populations were therefore used:

1. The AA Affiliation Scale (AAAS) is a 9-item scale covering a range of AA experiences (Humphreys et al., 1998). Questions 1 to 7 cover examples of participation in AA activities, and questions 8 and 9 capture the number of meetings attended by the respondent in their lifetime and the past 12 months respectively. The scale is internally consistent across diverse demographic groups in multiple health service settings, with psychometric norms established in a large, diverse, representative sample of treatment and non-treatment seeking individuals.

2. The Survey of Readiness for Alcoholics Anonymous Participation (SYRAAP) is a brief, multidimensional, self-administered instrument that assesses beliefs associated with AA participation (Kingree et al., 2006). Based on the health belief model, it includes 15 items comprising three 5-item subscales: perceived *severity* of substance use, perceived *benefits* of AA participation, and perceived *barriers* to participation. Responses are made on a 5-point Likert-type scale, with options ranging from (1) “strongly disagree” to (5) “strongly agree”. The measure has shown strong internal reliability and validity, and has been shown to predict TSG affiliation better than any demographic or life context factor in North American treatment populations (Kingree et al., 2007).

Both measures were adapted to include questions about NA in addition to AA. Data were linked to NDTMS data including age, gender, ethnic group, primary problem substance, length of time in treatment, and 5 measures from the latest Treatment Outcome Profile (TOP) (Marsden et al., 2008): days used primary substance, days of paid work, psychological health score, physical health score and quality of life score. The TOP is administered every 3 months in clinical practice and assesses function over the preceding 30 days.

Statistical analysis

The first stage of the analysis was to describe the levels of TSG attendance and affiliation in the community sample and compare them with other published UK samples. We were also interested in measuring the level of acceptability of TSGs to the participants using the three components of the SYRAAP scale (perceived problem severity, benefits of attending TSG meetings, and barriers to TSG attendance). Secondly the sub-sample with primary alcohol problems was compared to those with primary illicit drug problems. Finally bivariate associations between the predictor variables and the SYRAAP sub-scales were examined. Pearson correlations examined associations between two continuously coded variables (e.g. SYRAAP severity and age) and independent groups t tests evaluated associations between one dichotomously-coded variable and one continuously-coded variable (e.g. SYRAAP severity and gender). Linear regression analysis was used to test the independent contributions of factors associated with the SYRAAP composite total (with the barriers sub-scale reverse coded).

Results

Sample characteristics

The 200 questionnaires were distributed to consecutive attendees (5 patients declined to participate), and 191 were available for analysis (2 patients completed the questionnaire twice, and 7 either failed to complete the full questionnaire or a failure to include the unique service number

prevented linkage to NDTMS data). Of the 191 participants, 73% (138) were male and 172 (90%) were of white British ethnicity. The mean age was 40.1 years (range 19 to 73), and 41 (21%) were in the first 3 months of treatment, 45 (24%) had been in treatment for between 3 months and 12 months, and the remaining 105 (55%) had been in treatment for over 12 months. According to the NDTMS classification, 35% (n=67) reported a primary alcohol problem and 65% (n=124) reported a primary drug problem. When the sample was compared with NDTMS data for the whole service, there were no differences in mean age, sex distribution, or ethnicity.

Attendance and participation in AA or NA meetings

A minority of the sample had ever attended an AA meeting (31%, n= 59) or an NA meeting (41%, n=78). In the past year 27 (14%) participants had attended an AA meeting and 45 (24%) had attended an NA meeting. In total 92 (48%) of the participants had ever been to either an AA or an NA meeting, and 52 (27%) had been to either meeting in the past year. Of those who had attended at least one AA or NA meeting, the median number of meetings ever attended and the median number attended in the past year are shown in table 1. Only 4 participants had attended 50 or more (i.e. weekly) meetings in the past year. Table 2 summarises the responses to individual items of the SYRAAP questionnaire.

Comparison between primary alcohol and primary drug users

Table 1 shows a comparison between the group with primary alcohol problems (n=67) and those with primary drug problems (n=124). There were no statistically significant differences between the group with alcohol problems and the drug-using group in their responses to individual items of the SYRAAP instrument.

Possible predictors of AA or NA attendance

Bivariate associations between potential predictors of AA or NA attendance and the SYRAAP subscales are shown in table 3. There was a significant correlation between previous attendance and

involvement in TSGs and all three SYRAAP sub-scales, although the level of correlation was lower for the (reversed) barriers sub-scale than the others. There was a significant correlation between TOP psychological health, physical health and quality of life scores and the SYRAAP severity scale (negative correlation, i.e. the better the reported health, the lower the severity) and the SYRAAP (reversed) barriers scale (positive correlation i.e. the better the reported health, the less perceived barriers to attendance at TSGs). However, there was no correlation between health/quality of life and SYRAAP beliefs. The number of days of substance use in the past 30 was significantly negatively correlated with all three health/quality of life measures and the reversed SYRAAP Barriers subscale, suggesting more current use was associated with worse health and more barriers to TSG attendance.

A linear regression model was then used to examine the simultaneous effects of the best predictor variables available from previous research (AAAS 'participation' score, number of TSG meetings attended in lifetime, age, length of time in treatment, gender, alcohol or drug problems, days used primary drug in the past 30, and quality of life) and the SYRAAP composite total (with the barriers sub-scale reverse coded). A total of 187 cases were analysed and the full model was significantly reliable ($F = 8.698$, d.f. = 7, $p<0.001$) with a model fit of $R^2 = 0.25$. Only two variables significantly predicted SYRAAP score in the final model: attended more TSG meetings in the past ($\beta=0.149$, $p=0.036$) and AAAS participation score ($\beta=0.409$, $p<0.001$).

Discussion

Just under half of nearly 200 consecutive attenders at an English specialist drug and alcohol service had ever attended an AA or NA meeting, and just over a quarter had attended in the past year. Those with a primary drug problem were more likely to have ever attended, but those with a primary alcohol problem were more likely to have attended in the past year. Current data suggest that very few English community services offer treatment interventions that incorporate the 12 steps, and this is not surprising. Traditionally residential services offered the bulk of the abstinence-

focussed treatment, particularly those utilising the Minnesota Model (Leighton and Barton, 2005). Strong links were often formed with local TSGs, and NA in particular (Leighton, 2012). However, despite the established benefits of attending TSG meetings and participating in a 12-step Fellowship (Humphreys et al., 2004), less than 25% of patients nationally received an intervention with the goal of linking them to TSGs in 2017-18. Best-practice guidance and evidence-based systematic reviews both advocate professional linkage to TSGs (Clinical Guidelines on Drug Misuse and Dependence Update 2017 Independent Expert Working Group, 2017, National Collaborating Centre for Mental Health, 2008), and so the low rates of activity reported to NDTMS are surprising and disappointing. NDTMS data about treatment interventions are not verified independently, but in the competitive world of treatment provision in England services are more likely to over-estimate the number of interventions delivered than under-estimate. Therefore, what are the possible barriers to TSG referral and attendance, and what are the potential solutions to increase such linkage?

Barriers to TSG referral and attendance

One barrier is an objection to elements of the 12-step programme. Many of the core features (spiritual awakening, powerlessness over substances, and the need to surrender) go against the dominant western cultural norms of self-reliance and widespread secularism (Laudet, 2000, Laudet, 2003), and UK treatment staff report that these elements are major obstacles to recommending NA attendance (Day et al., 2015). In a Norwegian treatment sample, Vederhus *et al*. found that embarrassment at attending AA/NA (37%) and not wanting other people to know that s/he was going to AA/NA (29%) were the most frequently cited barriers (Vederhus et al., 2011).

SYRAAP data from the present study suggests that patients see the impact of drink or drugs on their interpersonal relationships, and recognise the potential benefits of a Fellowship in helping them. The whole sample was more likely to agree than disagree with positive statements about TSGs and demonstrated an awareness that they may meet positive people and find people who understood them there. In terms of potential barriers to attending, less than a third felt that TSG attendance

would be embarrassing (31.4%), depressing (18.9%) or require changes that were too difficult (24.1%). However, a majority (56.1%) still endorsed the statement 'I feel I do not belong at AA or NA meetings'.

It is also significant that the study sample had twice as many participants with primary drug problems than alcohol problems, and over half (57%) were receiving a prescription for opioid agonist treatment (OAT). The expectation that patients are encouraged to attend TSGs is based on the assumption that abstinence is their primary goal. However, there is evidence that this is not always the case in people with opioid dependence. For example, only 61% of a study population receiving OAT in specialist treatment services in the English West Midlands reported a goal of being abstinent from all opioids within 12 months (Day et al., 2018). It is not clear that NA participation is an effective strategy in helping people to move from OAT to abstinent recovery, and OAT programmes and 12-step programmes have been considered incompatible (Ronel et al., 2011). The 12-Step philosophy of complete abstinence is *'rooted in the collective experience of its members that all past attempts that fell short of complete abstinence ended in pain and tragedy.'* Taking prescribed methadone or buprenorphine may be considered *'a continued effort at control rather than surrender',* and restrictions placed on OAT patients when attending TSGs (e.g. the right to claim ''clean time'', speak at meetings, sponsor others or hold service positions) (Day et al., 2015, White, 2011, White et al., 2013). Therefore, it may be inappropriate to expect this population to participate regularly in TSGs.

The figures for TSG attendance in the current study are lower than previous estimates in English treatment populations (approximately 75% ever attended and 33-58% in the past year, see table 4). However, previous studies involved patients of residential treatment services (see table 4), and previous work has shown greater AA/NA involvement amongst patients in residential settings than community settings (Humphreys et al., 1998), perhaps because there is a greater focus on

abstinence. The overall mean AAAS score in this study (1.71) was lower than both residential (3.48) and outpatient (2.16) scores in US samples (Humphreys et al., 1998).

Possible solutions

One possible answer is to create and promote mutual aid groups that provide an alternative to TSGs, but research on the nature and effectiveness of such alternatives is limited. Zemore et al. identify three mutual aid organisations as being the most active and well-used alternatives to AA/NA: Women for Sobriety (WFS), LifeRing Secular Recovery (LifeRing), and SMART Recovery (Self-Management and Recovery Training, or SMART) (Zemore et al., 2018). Unfortunately, only one of these has a significant presence in the UK: there were seven weekly SMART meetings held within a 10-mile radius of the treatment centre under investigation, but no LifeRing or Women for Sobriety groups (compared to 22 NA and 71 AA meetings). However, there is definitely a place for alternatives to TSGs and efforts to boost SMART and other approaches should be supported.

A second option is to provide education for professional staff about TSGs. Increased staff knowledge is associated with the likelihood of recommending TSG attendance to patients (Wall et al., 2014), and so an on-going process of education about AA/NA is important in all professional services. Such efforts can improve knowledge/attitudes and change practice, but these initiatives tend to have a short-lived impact (Best et al., 2016). It is likely that a broader approach encompassing efforts to change staff knowledge, changes to staff-patient interactions, and broader organisational change is required to bring about large increases in TSG attendance in treatment populations (Day et al., 2015).

Study Limitations

The limitations of this study mean that the results should be interpreted cautiously. Firstly, it was conducted at a single treatment service using a convenience sample, and so cannot be said to be representative of all patients accessing specialist treatment. The history of AA and NA in the UK

suggests that its uptake has varied indifferent areas, and a search for a local meeting on the UK AA or NA websites in different geographical areas produces a variable number of meetings with a 10-mile radius. Secondly, the measures were self-reported, and there were no objective measures of behaviour (e.g. meeting attendance).

Another limitation was the cross-sectional nature of the study, and the UK lacks high quality long-term (5 years plus) cohort studies of treatment populations that measure the impact of interventions. Best and colleagues have begun to describe theoretical models that underpin the transition from addiction to recovery, and two of the most widely researched areas are changes in social networks and changes in identity (Best et al., 2018). Increasing positive social connections, particularly with positive and supportive people that reinforce a social identity in recovery, appears to be an important process. The recovery-focused agenda that UK treatment services are now following demands greater attention to underpinning theoretical models and their use in guiding effective treatment interventions over time.

REFERENCES

BAKER, S. 1998. *Twelve Step Facilitation Therapy for Drug Abuse and Dependence,* New Haven, Conecticut, Yale University Psychotherapy Development Center.

BEST, D., BLIUC, A.-M., IQBAL, M., UPTON, K. & HODGKINS, S. 2018. Mapping social identity change in online networks of addiction recovery. *Addiction Research & Theory,* 26**,** 163-173.

BEST, D., SAVIC, M., MUGAVIN, J., MANNING, V. & LUBMAN, D. I. 2016. Engaging with 12-Step and Other Mutual Aid Groups During and After Treatment: Addressing Workers' Negative Beliefs and Attitudes through Training. *Alcoholism Treatment Quarterly,* 34**,** 303-314.

BEST, D. W., HARRIS, J. C., GOSSOP, M., MANNING, V. C., MAN, L. H., MARSHALL, J., BEARN, J. & STRANG, J. 2001. Are the twelve steps more acceptable to drug users than to drinkers? *European Addiction Research,* 7**,** 69-77.

CHRISTO, G. & FRANEY, C. 1995. Drug users' spiritual beliefs, locus of control and the disease concept in relation to Narcotics Anonymous attendance and six-month outcomes. *Drug and Alcohol Dependence,* 38**,** 51-56.

CLINICAL GUIDELINES ON DRUG MISUSE AND DEPENDENCE UPDATE 2017 INDEPENDENT EXPERT WORKING GROUP 2017. Drug misuse and dependence: UK guidelines on clinical management. London: Department of Health.

DAWSON, D. A., GRANT, B. F., STINSON, F. S. & CHOU, P. S. 2006. Estimating the effect of help-seeking on achieving recovery from alcohol dependence. *Addiction,* 101**,** 824-834.

DAY, E., COPELLO, A., SEDDON, J. L., CHRISTIE, M., BAMBER, D., POWELL, C., BENNETT, C., AKHTAR, S., GEORGE, S., BALL, A., FREW, E., GORANITIS, I. & FREEMANTLE, N. 2018. A pilot feasibility randomised controlled trial of an adjunct brief social network intervention in opiate substitution treatment services. *BMC Psychiatry,* 18**,** 8.

DAY, E., GASTON, R. L., FURLONG, E., MURALI, V. & COPELLO, A. 2005. UK Substance Misuse Treatment Workers' Attitudes to Twelve-Step Self-Help Groups. *Journal of Substance Abuse Treatment,* 29**,** 321-327.

DAY, E., WALL, R., CHOHAN, G. & SEDDON, J. 2015. Perceptions of professional drug treatment staff in England about client barriers to narcotics anonymous attendance. *Addiction Research & Theory,* 23**,** 223-230.

EMRICK, C. D., TONIGAN, J. S., MONTGOMERY, H. A. & LITTLE, L. 1993. Alcoholics Anonymous: What is currently known? *In:* MCCRADY, B. S. & MILLER, W. R. (eds.) *Research on Alcoholics Anonymous: Opportunities and Alternatives.* New Brunswick: Rutgers Center of Alcohol Studies.

GASTON, R. S. L., BEST, D., DAY, E. & WHITE, W. 2010. Perceptions of 12-step interventions aong UK substance misuse patients attending residential in-patient treatment in a UK treatment setting. *Journal of Groups in Addiction & Recovery,* 5**,** 306-323.

GOSSOP, M., HARRIS, J., BEST, D., MAN, L.-H., MANNING, V., MARSHALL, J. & STRANG, J. 2003. Is attendance at Alcoholics Anonymous meetings after inpatient treatment related to improved outcomes? A 6-month follow-up study. *Alcohol and Alcoholism,* 38**,** 421-426.

GOSSOP, M., STEWART, D. & MARSDEN, J. 2007. Attendance at Narcotics Anonymous and Alcoholics Anonymous meetings, frequency of attendance and substance use outcomes after residential treatment for drug dependence: a 5-year follow-up study. *Addiction,* 103**,** 119-125.

HARRIS, J., BEST, D., GOSSOP, M., MARSHALL, J., MAN, L.-H., MANNING, V. & STRANG, J. 2003. Prior Alcoholics Anonymous (AA) affiliation and the acceptability of the Twelve Steps to patients entering UK statutory addiction treatment. *Journal of Studies on Alcohol,* 64**,** 257-261.

HUMPHREYS, K., KASKUTAS, L. A. & WEISNER, C. 1998. The Alcoholics Anonymous Affiliation Scale: Development, Reliability, and Norms for Diverse Treated and Untreated Populations. *Alcoholism: Clinical and Experimental Research,* 22**,** 974-978.

HUMPHREYS, K. & MOOS, R. 2001. Can encouraging substance abuse patients to participate in self-help groups reduce demand for health care? A quasi-experimental study. *Alcohol Clin Exp Res,* 25**,** 711-716.

HUMPHREYS, K. & NOKE, J. M. 1997. The influence of posttreatment mutual help group participation on the friendship networks of substance abuse patients. *American Journal of Community Psychology,* 25**,** 1-16.

HUMPHREYS, K., WING, S., MCCARTY, D., CHAPPEL, J., GALLANT, L., HABERLE, B., HORVATH, A. T., KASKUTAS, L. A., KIRK, T., KIVLAHAN, D., LAUDET, A., MCCRADY, B. S., MCLELLAN, A. T., MORGENSTERN, J., TOWNSEND, M. & WEISS, R. 2004. Self-help organizations for alcohol and drug problems: Toward evidence-based practice and policy. *Journal of Substance Abuse Treatment,* 26**,** 151-158.

KASKUTAS, L. 2009. Alcoholics Anonymous effectiveness: faith meets science. *Journal of Addictive Diseases,* 28**,** 145-157.

KINGREE, J. B., SIMPSON, A., THOMPSON, M., MCCRADY, B. & TONIGAN, J. S. 2007. The Predictive Validity of the Survey of Readiness for Alcoholics Anonymous Participation. *Journal of Studies on Alcohol and Drugs,* 68**,** 141-148.

KINGREE, J. B., SIMPSON, A., THOMPSON, M., TONIGAN, J. S., MCCRADY, B. & LAUTENSCHLAGER, G. 2006. The Development and Initial Evaluation of the Survey of Readiness for Alcoholics Anonymous Participation. *Psychology of Addictive Behaviors,* 20**,** 453-462.

LAUDET, A. B. 2000. Substance Abuse Treatment Providers' Referral to Self-Help: Review and Future Empirical Directions. *International Journal of Self Help & Self Care,* 1**,** 213-225.

LAUDET, A. B. 2003. Attitudes and beliefs about 12-Step groups among addiction treatment clients and clinicians: toward identifying obstacles to participation. *Substance Use & Misuse,* 38**,** 2017-2047.

LEIGHTON, T. 2012. Fostering or wrecking mutual aid: Whose responsibility is it? *Addiction Research & Theory,* 20**,** 107-108.

LEIGHTON, T. & BARTON, N. 2005. The origins, arrival and spread of residential Minnesota Model centres across the UK. *In:* STRANG, J. & GOSSOP, M. (eds.) *Heroin addiction and 'The British System' Volume II: Treatment and other responses.* Abingdon: Routledge.

MANNING, V., BEST, D., FAULKNER, N., TITHERINGTON, E., MORINANA, A., KEANEY, F., GOSSOP, M. & STRANG, J. 2012. Does active referral by a doctor or 12-Step peer improve 12-Step meeting attendance? Results from a pilot randomised control trial. *Drug and Alcohol Dependence,* 126**,** 131-137.

MARSDEN, J., FARRELL, M., BRADBURY, C., DALE-PERERA, A., EASTWOOD, B., ROXBOROUGH, M. & TAYLOR, S. 2008. Development of the Treatment Outcomes Profile. *Addiction,* 103**,** 1450-1460.

MCKAY, J. R., MCLELLAN, A. T., ALTERMAN, A. I., CACCIOLA, J. S., RUTHERFORD, M. J. & O'BRIEN, C. P. 1998. Predictors of participation in aftercare sessions and self-help groups following completion of intensive outpatient treatment for substance abuse. *Journal of Studies on Alcohol,* 59**,** 152-162.

MORGENSTERN, J., KAHLER, C. W. & EPSTEIN, E. 1998. Do treatment process factors mediate the relationship between Type A-Type B and outcome in 12-Step oriented substance abuse treatment? *Addiction,* 93**,** 1765-1775.

NATIONAL COLLABORATING CENTRE FOR MENTAL HEALTH 2008. *Drug Misuse: Psychosocial Interventions,* London, British Psychological Society & The Royal College of Psychiatrists.

NOWINSKI, J., BAKER, S. & CARROLL, K. 1999. *Twelve Step Facilitation Therapy Manual. A clinical research guide for therapists treating individuals with alcohol abuse and dependence,* Rockville, Maryland, National Institute on Alcohol Abuse and Alcoholism.

PUBLIC HEALTH ENGLAND 2013. A briefing on the evidence-based drug and alcohol treatment guidance recommendations on mutual aid. London: PHE.

RONEL, N., GUETA, K., ABRAMSOHN, Y., CASPI, N. & ADELSON, M. 2011. Can a 12-step program work in methadone maintenance treatment? *International Journal of Offender Therapy and Comparative Criminology,* 55**,** 1135-1153.

TIMKO, C. & DEBENEDETTI, A. 2007. A randomized controlled trial of intensive referral to 12-step self-help groups: One-year outcomes. *Drug and Alcohol Dependence,* 90**,** 270-279.

TONIGAN, J. S., TOSCOVA, R. & MILLER, W. R. 1996. Meta-analysis of the literature on Alcoholics Anonymous: sample and study characteristics moderate findings. *Journal of Studies on Alcohol,* 57**,** 65-72.

VEDERHUS, J.-K., TIMKO, C., KRISTENSEN, Ø. & CLAUSEN, T. 2011. The courage to change: Patient perceptions of 12-Step fellowships. *BMC Health Services Research,* 11**,** 339.

WALL, R., SONDHI, A. & DAY, E. 2014. What Influences Referral to 12-Step Mutual Self-Help Groups by Treatment Professionals. *European Addiction Research,* 20**,** 241-247.

WHITE, W. L. 2011. Narcotics Anonymous and the Pharmacotherapeutic Treatment of Opioid Addiction in the United States. Chicago, IL: Philadelphia Department of Behavioral Health and Intellectual Disability Services & Great Lakes Addiction Technology Transfer Center.

WHITE, W. L., CAMPBELL, M. D., SHEA, C., HOFFMAN, H. A., CRISSMAN, B. & DUPONT, R. L. 2013. Coparticipation in 12-Step Mutual Aid Groups and Methadone Maintenance Treatment: A Survey of 322 Patients. *Journal of Groups in Addiction & Recovery,* 8**,** 294-308.

ZEMORE, S. E., LUI, C., MERICLE, A., HEMBERG, J. & KASKUTAS, L. A. 2018. A longitudinal study of the comparative efficacy of Women for Sobriety, LifeRing, SMART Recovery, and 12-step groups for those with AUD. *Journal of Substance Abuse Treatment,* 88**,** 18-26.

Table 1. Comparison between the sub-sample with primary alcohol problems and the sub-sample with primary drug problems

	ALCOHOL (n=67)	**DRUGS (n=124)**	**Whole sample (n=191)**	
Mean age	43.1	38.5	40.1	F=12.225 p=0.001
Male (%)	42 (63%)	97 (78%)	139 (73%)	X^2=5.301 p=0.021
Ethnicity = white British (%)	63 (94%)	109 (88%)	162 (85%)	n.s.
TOP Days used primary substance (out of 28)	11.2 (0-28)	8.2 (0-28)	9.3 (0-28)	n.s
TOP Days paid work (out of 28)	6.8 (0-28)	3.4 (0-24)	4.6 (0-28)	F=7.493 p=0.007
TOP Psychological (1-20)	12.3 (2-20)	13.4 (4-19)	13.0 (2-20)	n.s
TOP Physical (1-20)	13.3 (2-20)	13.2 (5-20)	13.2 (2-20)	n.s.
TOP QoL (1-20)	13.3 (3-20)	13.6 (2-20)	13.5 (2-20)	n.s.
Of those who had attended a meeting:				
How many AA meetings would you estimate that you have gone to during your life? Median (Interquartile range, IQR)	6 (21.5) N=25	6.5 (27.3) N=34	6 (27) N=59	n.s.
How many NA meetings would you estimate that you have gone to during your life? Median (IQR)	19 (14) N=20	12.5 (52.3) N=58	16.5 (46) N=78	n.s.
How many AA meetings have you been to in the last 12 months? Median (IQR)	4.0 (14.3) N=16	3 (4) N=11	4 (7) N=27	n.s.
How many NA meetings have you been to in the last 12 months? Median (IQR)	6 (17) N=15	4 (11) N=30	4 (13) N=45	n.s.

Table 2. Summary of the responses to the individual items of the Survey of Readiness for Alcoholics Anonymous Participation (SYRAAP) questionnaire.

n=191	**Strongly disagree/ disagree**	**Neither disagree or agree**	**Strongly agree/ agree**
SYRAAP Severity			
1. My alcohol or substance abuse problem is serious	29.4%	12.5%	58.1%
6. My friendships have suffered as a result of my use of alcohol/substances	18.4%	12.5%	69.1%
7. I have been hurt financially by the use of alcohol and substances	13.0%	8.0%	79.0%
11. My alcohol or substance use has hurt some other people	6.8%	10.3%	82.9%
12. Using alcohol or substances has interfered with my ability to deal with everyday problems	35.6%	37.2%	27.2%
SYRAAP Beliefs			
2. If I go to AA or NA, I will find people who can guide me in how to be sober/clean	18.4%	27.7%	53.9%
4. I will feel better about myself if I go to AA or NA	17.8%	41.9%	40.3%
9. I know someone who has been helped by going to AA or NA meetings	18.3%	25.6%	56.1%
10. Going to AA or NA gives me courage to change	9.9%	46.1%	44.0%
14. In AA or NA I will find people who understand me	7.4%	34.4%	58.2%
SYRAAP Barriers			
3. Going to AA or NA can be embarrassing to me	40.8%	27.8%	31.4%
5. Going to AA or NA makes me feel depressed	39.8%	41.3%	18.9%
8. I feel I do not belong at AA or NA meetings	18.3%	25.6%	56.1%
13. I do not want people to know I am going to AA or NA	35.6%	27.2%	27.2%
15. Going to AA or NA requires changes that are too difficult	34.6%	41.3%	24.1%

Note: The two positive responses (‘strongly agree’ and ‘agree’) and the two negative responses (‘disagree’ and ‘strongly disagree’) have been collapsed into one category to simplify the presentation.

Table 3. Bivariate associations between potential predictors of AA or NA attendance and the SYRAAP subscales

Table 3	AAAS	No meetings ever attended	AAAS lite	Age	Gender	Time in Rx	Drugs v Alcohol	Days of use of primary substance	Days work	TOP Psych	TOP Phys	TOP QoL	SYRAAP Total	SYRAAP Severity	SYRAAP Beliefs	SYRAAP Barriers
AAAS total																
Number of TSGs ever attended	.47[a]**															
AAAS lite	.99[a]**	.43[a]**														
Age	-.15[a]	.03[a]	.03[a]													
Gender (male vs female)	-1.20[b]	-2.42[b]*	-1.16[b]	1.43[b]												
Length of time in treatment	0.57[b]	-0.00[b]	0.75[b]	-2.29[b]*	1.37[b]											
Drugs vs Alcohol	0.51[b]	-0.74[b]	0.63[b]	4.40[b]**	4.36[b]*	30.18[b]**										
Days of use of primary substance	-.11[a]	.04[a]	-.10[a]	.14[a]	-1.54[b]	1.77[b]	1.96[b]									
Days work	-.04[a]	-.10[a]	-.03[a]	.04[a]	-1.23[b]	1.73[b]	2.56[b]*	.01[a]								
TOP Psychological	.07[a]	-.03[a]	.06[a]	.03[a]	.84[a]	-2.09[b]*	-1.33[b]	-.39[a]*	.15[a]*							
TOP Physical	-.08[a]	-.06[a]	.07[a]	-.06[a]	.45[a]	.85[a]	.15[a]	-.29[a]**	.23[a]**	.66[a]**						
TOP Quality of life	-.02[a]	-.09[a]	-.02[a]	.02[a]	1.04[b]	-1.82[b]	-.13[a]	-.45[a]**	.21[a]**	.79[a]**	.66[a]**					
SYRAAP Total	.49[a]**	.20[a]**	.47[a]**	.09[a]	-1.09[b]	-1.08[b]	.82[a]	-.07[a]	.03[a]	.08[a]	-.03[a]	-.03[a]				
SYRAAP Severity	.32[a]**	.16[a]*	.32[a]**	.07[a]	1.14[b]	1.69[b]	-.07[a]	.08[a]	-.03[a]	-.15[a]*	-.18[a]*	-.25[a]**	.72[a]**			
SYRAAP Beliefs	.46[a]**	.19[a]**	.45[a]**	.07[a]	0.92[b]	1.14[b]	1.13[b]	-.06[a]	.00[a]	.04[a]	-.01[a]	-.02[a]	.85a**	.47[a]**		
SYRAAP Barriers‡	.26[a]**	.08[a]	.25[a]**	.06[a]	0.25[b]	.65[a]	1.05[b]	-.20[a]**	.10[a]	.30[a]**	.15[a]*	.23[a]**	.59[a]**	.01[a]	.35[a]**	

[a]= Pearson correlation, [b]=t test

*= p<0.05, **= p<0.005

Table 4. Summary of UK research into levels of attendance of and participation in TSGs, including the current study

	Solihull, whole sample 2018 (n=191)		**London IPU (Manning et al., 2012)**	**Birmingham IPU 2005 (Gaston et al., 2010)**	**London IPU (Gossop et al., 2003, Harris et al., 2003)**	**London IPU (Best et al., 2001) (n=200)**	
Type of sample	Community	Community	Inpatient	Inpatient	Inpatient	Inpatient	Inpatient
Primary substance	35% A (n=67)	65% D (n=124)	57% A 43% D (n=151)	74% A 26% D (n=125)	100% A (n=150)	100% A (n=100)	100% D (n=100)
Mean age	43.1	38.5	39.9	39.8	42.2		
% male	63%	78%	67%	78%	74%		
Ever attended a 12-step meeting	27 (40%)	65 (52%)	108 (72%)	84 (69%)	110 (73%)	77 (77%)	77 (77%)
Attended a 12-step meeting in the past year	19 (28%)	33 (27%)	57 (38%)	41 (33%)	61 (41%)	45 (45%)	58 (58%)
Attended first 12-step meeting in the past year	17 (18%)				26 (17%)		
AA Affiliation Scale (AAAS)							
Ever considered yourself a member of AA or NA	22 (33%)	44 (36%)		6 (5%)	22 (15%)	17 (17%)	22 (22%)
Ever called an AA or NA member for help	20 (30%)	34 (27%)					
Do you have an AA or NA sponsor at the moment	4 (6%)	7 (6%)					
Have you ever sponsored anyone in AA or NA	0	7 (6%)		2 (2%)		1 (1%)	3 (3%)
Ever had a spiritual awakening or conversion experience through your involvement with AA or NA	11 (16%)	21 (17%)			3 (2%)	2 (2%)	12 (12%)
In past 12 months have you read any AA or NA literature	27 (40%)	46 (37%)					
In past 12 months have you done service (helped newcomers, set up chairs, made coffee, cleaned up after meeting)	14 (21%)	15 (12%)					
Additional items from AA Involvement Scale (AAIS)							
Ever attended 90 meetings in 90 days					7 (5%)	5 (5%)	12 (12%)
Ever celebrated a sobriety birthday				2 (2%)		7 (7%)	7 (7%)
Ever worked a step					17 (11%)	6 (6%)	12 (12%)
Ever had a sponsor					8 (5%)	12 (12%)	11 (11%)
Mean number of TSG meetings in lifetime (range)*	134.3 (1-2000)	153.6 (1-2000)		26.2			
Mean number of AA meetings in lifetime (range)*	70.2 (0-1000)	51.0 (0-1000)			45.3 (1-500)	52.7	
Mean number of NA meetings in lifetime (range)*	64.1 (0-100)	102.6 (0-1000)					
Mean number of TSG meetings in past 12 months (range)*	23.1 (2-150)	19.6 (1-300)		3.9		20.9	28.5
Mean number of AA meetings in past 12 months (range)*	12.8 (0-100)	5.8 (0-150)			17.8		
Mean number of NA meetings in past 12 months (range)*	10.4 (0-50)	13.7 (0-150)					
Mean AAAS score (SD)	1.71 (2.1)	1.66 (2.0)	1.49 (1.8)				

*of those who had attended at least one AA or NA meeting