Journal of Substance Abuse Treatment 84 (2018) 57–67

Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment

Duration of therapy – Does it matter?☆ A systematic review and meta-regression of the duration of psychosocial treatments for alcohol use disorder

Lotte Kramer Schmidt [a,*], Anders Bo Bojesen [b], Anette Søgaard Nielsen [b,c], Kjeld Andersen [b,d]

[a] Unit of Clinical Alcohol Research, University of Southern Denmark, J.B. Winsløwsvej 20, entrance 220B, 5000 Odense C, Denmark
[b] Unit of Clinical Alcohol Research, University of Southern Denmark, Denmark
[c] OPEN Odense Patient data Explorative Network, Denmark
[d] Department of Mental Health, Region of Southern Denmark, Denmark

ARTICLE INFO

Article history:
Received 16 June 2017
Received in revised form 26 October 2017
Accepted 6 November 2017

Keywords:
Alcohol use disorder
Duration
Dose-effect
Psychotherapy
Psychosocial treatment
Research assessments

ABSTRACT

Background: The recommendations in clinical guidelines for duration of therapy for alcohol use disorder (AUD) are based on consensus decisions. In reality, we do not know the optimal duration of an alcohol treatment course.
Methods: A systematic review and meta-regression of randomized controlled trials of psychosocial treatment in alcohol outpatient treatment centers. The population consisted of adults suffering from AUD, treated in an outpatient facility with at least two sessions of therapy. Meta-regression analysis was performed with treatment outcome as a function of duration of therapy across studies. Treatment outcome was defined as long-term alcohol use measured in percentage of days abstinent (PDA), percentage of heavy days drinking (PHD), and/or proportion of participants abstinent (ABS).
Results: 48 studies encompassing 8984 participants. Mean planned duration of therapy: 18 (8–82) weeks and 14 (2–36) sessions. Mean actual attended sessions: 9 (1–26). Mean follow-up time: 43 (8–104) weeks with a mean of 6 (2–18) research assessments. Neither planned weeks, duration of sessions, frequency of sessions per week, nor actual attended sessions were associated with long-term alcohol use outcomes. However, frequency of research assessments was positively associated with PDA and PHD.
Conclusion: No associations between long-term alcohol use outcomes and planned or actual attended duration of psychosocial treatment in outpatient care. Research assessments and, accordingly, the research project in itself may influence outcome in studies of psychosocial treatment for alcohol use disorder.

1. Introduction

Many different psychosocial treatments are offered to patients with alcohol use disorder (AUD). In large part, they have been found equally effective (Martin & Rehm, 2012). While some therapies are conducted over a few weeks, others may last for years. But what is the optimal duration of therapy?

The question about duration of therapy is not new. Dose-response research in psychotherapy in general has sought to answer the question: "How much therapy is enough?" Two major models of how to explain and study the associations between duration and outcome are the "dose-effect" model and the "good-enough level" model. The dose-effect model is based on a medical understanding of dose and assumes a positive association between outcome and dose in the form of sessions demonstrating a negatively accelerating curve: that is, patients improve as the number of sessions increases, but at higher doses the benefit of additional sessions decreases (Kopta, 2003). Based on the dose-effect model, reviews of the duration of psychotherapy estimate that after 13 to 18 sessions, 50% of the patients achieve a good clinical outcome (Hansen, Lambert, & Forman, 2002; Howard, Kopta, Krause, & Orlinsky, 1986). The good-enough level model is based on the belief that patients respond to treatment at different rates and that outcome trajectories are steeper for patients attending fewer sessions (Barkham et al., 2006). This indicates that longer treatment duration might be associated with less rapid rates of change at the individual level (Barkham et al., 2006).

Reviews of duration of therapy for substance use disorder have applied the dose-effect model, but have focused on planned duration of continuing care. Continuing care is defined as treatment after intensive

Abbreviations: AUD, alcohol use disorder; ABS, proportion of participants abstinent; CBT, cognitive behavioral therapy; DDD, drinks per drinking day; PDA, percentage of days abstinent; PHD, percentage of heavy days drinking.

☆ Conflicts of interest: None.

* Corresponding author.
E-mail address: lkramer@health.sdu.dk (L. Kramer Schmidt).

http://dx.doi.org/10.1016/j.jsat.2017.11.002

in- or outpatient care (Lenaerts et al., 2014). Small to no advantages for longer planned durations of continuing care have been found (Blodgett, Maisel, Fuh, Wilbourne, & Finney, 2014; Lenaerts et al., 2014; McKay, 2005, 2009). Moreover, motivational enhancement therapy, which often includes four planned sessions of therapy, has been proven as effective a treatment as cognitive behavioral therapies with longer durations (Martin & Rehm, 2012; Smedslund et al., 2011).

In the treatment of substance use disorder, duration and intensity of treatment have been studied in non-comparable ways and with diverging findings. Some have found inverse associations between longer duration of treatment and drug use outcomes. Magill and Ray (2009) analyzed the effect of cognitive behavioral therapy for substance use disorder in 53 studies and found effect-size diminished after twenty sessions of therapy. Another study analyzed 34 outpatient psychosocial intervention studies for substance use disorders (excluding alcohol dependence), and found that the number of treatment weeks was negatively correlated with substance use outcomes (Dutra et al., 2008). Finally, a study of planned duration of inpatient drug abuse treatment found better effects (in 628 participants) after six months (comprising 42 sessions) of treatment than in either three or twelve months of treatment (McCusker et al., 1997). In contrast, a recent Cochrane review (Gates, Sabioni, Copeland, Le Foll, & Gowing, 2016) of 23 psychosocial intervention studies for cannabis use disorder found positive associations between more than four sessions or four weeks of treatment and an effect on use of cannabis, and a non-randomized study by Moos and Moos (2003) encompassing 473 first time treatment seekers with AUD indicated not <27 weeks of in-or outpatient treatment to be effective at one year follow-up (Moos & Moos, 2003). Moreover, there are expert recommendations for treating AUD as a chronic disease, with a continuum of care of possibly longer duration (McKay & Hiller-Sturmhofel, 2011; Willenbring, 2013) or a stepped-care model (Haber, Lintzeris, Proude, & Lopatko, 2009). Regarding intensity or frequency of treatment, another Cochrane review (Lancaster & Stead, 2017) of behavioral interventions for smoking cessation indicated higher intensity treatment may be better than lower, but in general, intensity of treatment was not associated with use of drugs in the abovementioned studies (Dutra et al., 2008; Moos & Moos, 2003), except for one which found lower intensity to be better (McCusker et al., 1997).

Reviews of duration of therapy in general and for substance use disorders in particular have assumed treatment uniformity and pooled different treatments. Since variation in treatment effect sizes is low, and other possible causes of the efficacy of treatment than the specific treatment methods are considered (Imel, Wampold, Miller, & Fleming, 2008; Miller & Moyers, 2015), the assumption of treatment uniformity will also be applied in this study.

Given the gap in the literature concerning the appropriate duration of therapy for AUD in alcohol outpatient care, the recommendations for the planned duration of therapy for AUD are based on consensus decisions (Group, 2008; Haber et al., 2009; Health, 2011; Kleber & Association, 2006). If the effect of duration of therapy is unknown, risks are that patients will receive either too little or too much therapy, with burdensome consequences for both themselves and society (Cuijpers, Huibers, Ebert, Koole, & Andersson, 2013).

Relatedly, how much therapy is actually received? Reviews of therapy for AUD are primarily based on planned durations rather than actually attended weeks or sessions. Moreover, duration of therapy can be interpreted in different ways and in this study we want to include both the planned and actual duration in weeks, duration of sessions, and frequency of sessions per week. Another concern of psychotherapeutic research for AUD is the effect of research assessments as studied by Clifford and Maisto (2000). Since there is a risk of research assessments having a therapeutic effect, the duration and frequency of these will also be taken into account (Clifford, Maisto, & Davis, 2007).

The treatment duration of outpatient care for AUD in general has to our knowledge not been investigated, and a search in the databases for randomized controlled studies of different lengths of the same treatment for AUD threw up only one study (Kamara & Van Der Hyde, 1997).

It is, therefore, an open question whether there are associations between alcohol use outcomes and duration of therapy for AUD as in psychotherapy in general. Knowledge in this area could optimize treatment in alcohol outpatient centers.

To test whether there are positive associations between outcome and duration of treatment of AUD – applying the dose-effect model and assuming treatment uniformity – the research questions of this study are:

- Are there positive associations between duration of treatment and long-term alcohol use outcomes in a population randomized to different kinds of outpatient psychosocial therapy for AUD? Duration of treatment defined as planned and attended weeks, number of sessions, and frequency of sessions per week.
- How does the duration of the research assessments of the studies included affect the long-term alcohol use outcomes? Duration of the research assessments defined as the number of research assessments, duration of follow-up in weeks, and the frequency of the research assessments over this period.

2. Methods

2.1. Information sources

We searched PubMed and Psych info, covering the years from 1966 to 2016, using the search terms: "Alcoholism"[Mesh], therapy*, treatment*, intervention*, train*, counsel*, course*, program*, coach*, session*, consultat*, guid*, mentor*, interview*, period*, month*, week*, year*, length, sequence*, time, duration*, schedul*, short-term, long-term, outpatient*, out-patient*, ambulatory, ambulant. Filters used were randomized controlled trials and only articles in English were reviewed.

A search through references of the background literature and of included articles was also reviewed for potential studies.

The searches were performed in November 2016.

2.2. Eligibility criteria

Using the PRISMA guidelines for systematic reviews (Moher, Liberati, Tetzlaff, & Altman, 2010), the following study characteristics were included (PICO):

Study population: A population randomized at the start of different psychosocial treatments at an outpatient facility for AUD by DSM-III or IV (APA, 1980, 1994). If DSM criteria were not described in the inclusion, the characteristics of the study population at baseline were checked to see if they were likely to fulfill criteria for AUD. If the populations were described as alcoholics, alcohol abusers, addicts, alcohol dependent, or had a MAST (Michigan Alcohol Screening Test) (Selzer, 1971) score above five, they were included. Comorbidity was accepted, but the primary aim of the study was to investigate AUD first and foremost. Use of medication for treating AUD was accepted. Furthermore, the population had to be adults (>17 years) and to have received no more than one month of inpatient treatment prior to the intervention studied.

Intervention: Any psychosocial intervention performed in outpatient alcohol care services with personal contact (face-to-face, telephone, computer), group or individual treatment, and involving a minimum of two sessions. If the control condition in the study fulfilled these criteria, it was also registered as an intervention.

Comparison: The treatments were not compared relative to one another within the same study. Instead, data on treatment duration from each intervention were used in the meta-analysis and compared across studies and treatment methods.

Outcome was the most frequently used measures of long-term alcohol use: percent days abstinent (PDA), percent heavy days drinking