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Helping family members affected by a relative's substance use or gambling: an evaluation study of the 5-Step Method delivered in the Netherlands

Max van Beek^{a,b,c,d} , Richard Velleman^{e,f}, Tamara de Bruijn^g, Gill Velleman^h and Anna E. Goudriaan^{a,b,c,d} 

^aArkin, Department of Research, Amsterdam, the Netherlands; ^bJellinek, TOPGGz department Jacob Obrechtstraat 92, Amsterdam, the Netherlands; ^cAmsterdam UMC location University of Amsterdam, Department of Psychiatry, Amsterdam, Meibergdreef 9, the Netherlands; ^dAmsterdam Institute for Addiction Research (AIAR), Amsterdam, the Netherlands; ^eDepartment of Psychology, University of Bath, Bath, UK; ^fAddictions Research Group, Sangath, Goa, India; ^gDepartment of Prevention, Jellinek, Amsterdam, the Netherlands; ^hVelleman Consultancy, Bath, UK

ABSTRACT

Aims: Research over many years indicates that individuals with problematic alcohol or drug use or gambling disorders can cause considerable burden on family members. And yet, affected family members (AFMs) are largely neglected in research, health and social care policy and provision. To address the needs of AFMs of people struggling with a substance use or gambling disorder, the 5-Step Method was developed.

Methods: The goal of this study is to evaluate the routinely delivered 5-Step Method in the Netherlands using measures at baseline ($N = 145$), and end-of-treatment ($N = 102$). In addition, a sub-sample at three-month post intervention ($N = 70$) was included. The intervention was delivered via video-conferencing to half (47.6%) of the participants.

Findings: Participants reported significantly lower rates of Total Family Burden after completing the 5-Step Method, when comparing measurements at baseline and end-of-treatment ($d = 0.56$), and measurements at baseline and three-month post intervention ($d = 0.85$). In addition, participants following the intervention via video-conferencing ($N = 69$) performed equally well or better compared to participants following the intervention face-to-face ($N = 76$).

Conclusions: Following the 5-Step Method for AFMs results in lower Total Family Burden. In accordance with the Stress-Strain-Information-Coping-Support (SSICS) model, the effectiveness of the intervention could be improved by finding new ways of increasing support for AFMs.

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Introduction

It has been known for many years that affected family members (AFMs) of people with alcohol, drug or gambling problems can experience high levels of stress and strain leading to a deterioration of psychological and physical health (Birkeland et al., 2018; Di Sarno et al., 2021; Lindeman et al., 2022; Orford, Velleman, et al., 2010). The negative consequences are documented across different countries and cultures (e.g. Arcidiacono et al., 2010 [Italy]; Asante & Lentoer, 2017 [South Africa]; Dayal et al., 2020 [India]; Meulewaeter et al., 2022 [Belgium]; Ólafsdóttir et al., 2018 [Iceland]; Riley et al., 2020 [South Australia]; Tasdemir et al., 2020 [Turkey]). It is also generally acknowledged that the numbers of AFMs are very high—certainly higher than the number of people with problems due to their own alcohol, drug or gambling problems, which themselves number more than 300 million (United Nations Office on Drugs and Crime, 2021; World Health Organization, 2011). However, there is no general agreement over what multiplier to use, to calculate how many AFMs there are worldwide (Family Engagement Project

Partners, 2021; Orford et al., 2013). Nevertheless, however these numbers are calculated, it is clear that there is a major area of need which is overlooked in health and social care policy and provision: the people close to those with substance or gambling problems (Birkeland et al., 2018; Di Sarno et al., 2021; Lindeman et al., 2022).

Despite these very high numbers, the focus of health care policy on addiction tends to be on the substance user. This point of view neglects the heavy burden placed on AFMs, when dealing with substance users or gamblers within the family (Orr et al., 2014; Riley et al., 2018). As a consequence, AFMs receive minimal support and generally play a trivial part in treatment (Bagley et al., 2021; Hogue et al., 2021; Mafa & Makhubele, 2020). There are a relatively small number of interventions or services aimed at family members: examples are the *Community Reinforcement and Family Training* (CRAFT) programme (Miller et al., 1999), the *Invitation to Change approach* (CMC, 2018), *SMART Recovery's Family and Friends* programme (SMART Recovery, undated), the *5-Step Method*, and independent self-help groups, such as *Al-Anon/Nar-Anon*. However, many of these interventions or

CONTACT Anna E. Goudriaan  a.e.goudriaan@amsterdamumc.nl  Arkin, Department of Research, Amsterdam, the Netherlands

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services are primarily aimed at utilizing the family to encourage and mobilize the problem user to enter or remain in treatment: few of the available interventions are specifically designed for AFMs, and are aimed to help these AFMs in their own right (McGovern et al., 2021). Predominantly, this field is underrecognized and in urgent need of attention from researchers and policy makers (Birkeland et al., 2018; Di Sarno et al., 2021; Lindeman et al., 2022).

The present study evaluates a psychosocial intervention called the 5-Step Method (Copello et al., 2010b; Orford et al., 2017), which focuses on the needs of AFMs in their own right, when coping with a substance user or gambler within the family or close social proximity. The aim of the intervention is to support and help the AFMs and reduce family burden. The 5-Step Method is based on the *stress-strain-information-coping-support* (SSICS) model of addiction (Orford et al., 2013). This model is based on a number of assumptions, all of which are key to the 5-Step Method, which is drawn from that model. First, the SSICS model rejects the idea of AFMs as being dysfunctional, pathological, or the cause of substance usage or gambling. Secondly, the SSICS model views having a problematic substance user or gambler within the family as a significant stressor, comparable to chronic family illness, unemployment, flood, or famine. Lastly, the SSICS model views AFMs to be in dire need of support to help them cope with the substance use(r) or gambler within the family (Orford, Templeton, et al., 2010). The efficacy of the 5-Step Method has been examined in various countries, including the UK (Velleman et al., 2011), Mexico (Natera et al., 2010), Italy (Velleman et al., 2008), and India (Gujar & Ali, 2021; Nadkarni et al., 2019), and results from its introduction into routine service delivery in Ireland, New Zealand, and the UK are in preparation. Most evaluations have used simple before-after designs, although there has been one UK-based randomized controlled trial (Copello et al., 2009, Velleman et al., 2011). Copello et al. (2010a) reviewed seven evaluation studies of which most were conducted in the UK.

In all studies, except Nadkarni et al. (2019), the 5-Step Method led to significantly lower family burden. However, a number of studies contained a low number of participants ($N=1-52$), which limits the currently existing empirical evidence. Empirical evidence regarding longer-term effects of the intervention is lacking, and the indication of a possible longer-term improvement after finishing the intervention was only found by one study (Velleman et al., 2011). In addition, no study has examined the differences in treatment effects between participants following the intervention via videoconferencing and participants following the intervention face-to-face. Lastly, almost all previous published studies on the 5-Step Method have come from funded (clinical trial) studies and scientific evidence regarding the effectiveness of the 5-Step Method in routine clinical practice is lacking. As a consequence, evidence on effectiveness of the 5-Step Method remains limited, especially in routine clinical practice.

As part of an implementation project, the 5-Step Method was initiated in 2019 in the Netherlands into routine clinical practice in the cities of Amsterdam, Utrecht, and Amersfoort, and provided by Jellinek, a mental healthcare organization within the Netherlands, which specializes in treating

addiction disorders. This new service was available to support family members or concerned significant others affected by substance users or gamblers. This use of the 5-Step Method in the Netherlands was evaluated for the first time by routinely collecting information from a large group of participants who received the 5-Step Method, at baseline, end-of-treatment, and at three-month post intervention. Additionally, comparisons in efficacy of the intervention between participants following the intervention via videoconferencing and participants following the intervention face-to-face were made. The following research question was formulated: to what extent does the 5-Step Method reduce levels of reported family burden by AFMs? Two hypotheses were formed: the level of reported family burden by AFMs will significantly reduce at end-of-treatment compared to levels of reported family burden by AFMs at baseline (1), the level of reported family burden by AFMs at three-month post intervention will not significantly increase compared to the levels of family burden reported by AFMs at end-of-treatment (2).

Methods

Setting

The study was conducted at the addiction treatment organization *Jellinek* in the Netherlands in collaboration with the *AFINet* organization (www.afinetwork.info), within which the 5-Step Method is housed. *AFINet* aims to promote the well-being of AFM's through research, practise and policy development; it is an international organization with an international board of Trustees, with the 5-Step Method component being administered from the UK. *Jellinek* is located in the Netherlands and provides addiction-related services to adults, adolescents, children, and other professional workers covering seven municipalities in total. The organization is divided in multiple departments, such as a prevention department, and outpatient and inpatient departments for substance use disorders and behavioral disorders. The 5-Step Method is conducted by *Jellinek* staff within the prevention department.

Study design

The study consisted of two phases: the implementation phase (1) and the evaluation phase (2). In the implementation phase, staff within the prevention department of *Jellinek* were trained by professionals from the *AFINet* organization to deliver the 5-Step Method to AFMs. First, 10 members of the *Jellinek* staff were trained in English by accredited 5-Step Method Trainers from the *AFINet* organization. This training encompasses two days of initial formal training and includes the research basis underpinning the SSICS model, theory related to each step of the 5-Step Method plus practice and feedback of each of those steps, and exercises to improve counseling skills. Afterwards, the trained staff went through a standard rigorous accreditation trajectory in order to become accredited 5-Step Method practitioners. The 5-Step Method can be delivered both in a group format and as a 1-to-1

Table 1. Frequencies of collected FMQs at baseline, end-of-treatment, and three-month post intervention.

Type of measurement	Number of completed FMQs	Percentage of total number of participants
Single measurement completed		
Baseline	33	22.7
Two measurements completed		
Baseline + end-of-treatment	42	29.0
Baseline + three-month post intervention	10	6.9
Complete cases	60	41.4
Total number of participants	145	100.0
Excluded cases ^a	5	

^aFive participants were excluded when running the analyses, because of missing baseline measurements.

intervention. In this evaluation, all interventions were undertaken using the group format.

In the evaluation phase, 22 groups were initiated at three locations of Jellinek: Utrecht, Amsterdam, and Amersfoort. Standardized questionnaires were used at baseline, end-of-treatment and three-month post intervention to evaluate the 5-Step Method. In total, data from 145 participants were collected during the evaluation phase (see Table 1). Data was collected between October 2019 and May 2021. Due to the enforcement of COVID-19 measures in the Netherlands 13 groups were held via video-conferencing ($N = 69$).

Procedure and participants

Jellinek offers a support program for affected family members or others in close social proximity, named 'sterk ernaast' (translation: 'strong alongside'), consisting of multiple interventions and support services. One of these interventions is the 5-Step Method. AFMs select which service they wish to receive. In order to reach AFMs and inform them about the help on offer, the program 'strong alongside,' and the 5-Step Method intervention, were promoted through various means, such as the Jellinek website, the Jellinek telephone helpline, information seminars, and social media. Also, AFMs of relatives in treatment for their substance or gambling problem were informed about the 'sterk ernaast' program for AFMs, which they could sign up to. Interested AFMs could sign up for the intervention by visiting the Jellinek website, reading the sign-up information, and providing their contact information accordingly. Once participants were positively identified as AFMs and presented for help during the intake, they received the offer to partake in the intervention (treatment as usual). AFMs were included in the intervention, when meeting the following criteria: aged 18 years or older (1), presence of a person with substance use disorder or gambling disorder within the family or within close social proximity (2). AFMs were excluded from the intervention if the participants themselves engaged in problematic substance use or gambling (1), or if the safety at home of the AFM was at risk, because of (for example) domestic violence (2). In case of the latter, additional care was provided to ensure the safety of the AFM and any children. No distinction was made between AFMs of persons with a substance use disorder or gambling disorder 'in treatment' and AFMs of substance

users or gamblers 'not in treatment'—both type of AFMs were included in this study. During the intake, all participants were informed about the terms and conditions of the intervention and agreed to participate in the evaluation study by providing written informed consent. If participants did not want their data to be used in the evaluation study, the participants still received the intervention, but were excluded from this study. The medical ethical committee of the Amsterdam University Medical Center, University of Amsterdam, approved the study.

Intervention

The 5-Step Method as delivered in this study consisted of five structured group sessions, or five steps, each of 2 hours, that were scheduled after an intake session with the AFM to explain the 5-Step Method. In the first session, family members are encouraged to tell their story and listen to the story of others (this relates to better understanding of the Stress and Strain components of the SSICS model). In the second session, AFMs are asked to identify questions or concerns they have regarding addiction and other subjects related to the substance user or gambler, or other related issues that they may have (such as sleep problems or anxiety problems, for example). Afterwards, corresponding information to answer these questions is provided (this relates to the Information component of the SSICS model). In the third session, current and alternative ways of coping with the substance user or gambler within the family or close social proximity are discussed, by clarifying their advantages and disadvantages (relating to the Coping component). In the fourth session, the degree of helpful and unhelpful support experienced by the AFMs is assessed and new ways to get helpful support in line with the AFMs needs are explored (relating to the Support component). In the last session, the previous steps are reviewed and additional help is facilitated in case this is deemed appropriate.

Each 5-Step Method group contains six to eight participants and is conducted by two accredited practitioners of Jellinek. The staff providing the intervention are required to follow the guidelines within the 5-Step Method practitioners handbook. Besides five groups sessions, each participant receives a self-help handbook, in which additional information and homework assignments are provided. Usage of the self-help handbook is encouraged but is not mandatory. If two or more group sessions out of five were missed by the participants, their case was considered a drop-out.

Measures

Outcomes of the intervention were measured by using the Family Member Questionnaire (FMQ) (also known as the SQFM-AA) (Orford et al., 2017). The FMQ was used before the start of the intervention, at the very end of the intervention, and three months later. The FMQ consists of 33 items and measures 4 psychological constructs: impact, symptoms, coping styles, and support, which align with four key elements of the stress-strain-information-coping-support (SSICS) model. Scores of the impact scale, the symptoms scale, and scales

assessing two forms of coping (engaged-emotional coping and tolerant-inactive coping) are used to calculate *total family burden*. All items within the FMQ come from four longer standard questionnaires: the *Coping Questionnaire* (CQ) (Orford et al., 2005), the *Symptom Rating Test* (SRT) (Kellner & Sheffield, 1973), the *Family Member Impact scale* (FMI) (Orford et al., 2005), and the *Alcohol, Drugs, and the Family Social Support Scale* (ADF-SSS) (Toner & Velleman, 2014) containing 101 items in total. In order to create a tool both useful in clinical practice and short enough to be useable for routine evaluation purposes, the FMQ was developed, which is a shorter version of all 4 previously mentioned questionnaires and consists of 33 items in total (Orford et al., 2017; Orford, Velleman, et al., 2010). Until now, only a limited number of psychometric studies have evaluated the reliability and the validity of the FMQ (Orford et al., 2017), although there have been a number of psychometric studies which have examined the reliability and validity of the four questionnaires from which the FMQ items are taken (Horváth et al., 2020; Orford et al., 2005; Toner & Velleman, 2014). The various scales and subscales within the FMQ are described in Appendix A.

Analysis

SPSS edition 27 was used to analyze the data. A significance level of $\alpha = .05$ (two-sided) was applied for all tests. Regarding

Table 2. Descriptive statistics of baseline variables of study sample ($N = 145$).

Baseline variable	Total sample ($N = 145$)
Gender, family member	
Men (%)	19 (14.4%)
Women (%)	113 (85.6%)
Number of missing values	13
Gender, relative with problematic substance or behavior use	
Men (%)	113 (85.6%)
Women (%)	19 (14.4%)
Number of missing values	13
Age	
Family member (mean, SD)	46.43 (13.79)
Relative with problematic substance or behavior use (mean, SD)	40.82 (15.52)
Treatment setting	
Using video-conferencing (%)	69 (47.6%)
Face-to-face (%)	76 (52.4%)
Duration of problematic substance or behavior use	
Length of period in years (mean, SD)	13.40 (12.33)

data imputation, all missing items on the FMQ subscales which did not exceed 20% of total number of items of the subsequent subscale, were computed by person-mean substitution (Downey & King, 1998). In total, five baseline scores, five end-of-treatment scores, and three-month post intervention scores of the FMQ were completed using person mean substitution (PMS). Five cases were excluded when running the analyses, because of missing baseline measurements (see Table 1). Finally, an additional intention-to-treat (ITT) analysis was conducted by applying *last observation carried forward* (LOCF) to address the number of missing values in this study and to provide supplementary results.

One-way repeated measures ANOVA was conducted to evaluate the effect of the 5-Step Method on AFMs over time using measurements at baseline, end-of-treatment, and three-month post intervention. In addition, *paired t-tests* were conducted to estimate effect sizes (Cohen's d) between baseline and end-of-treatment group scores, and baseline and three-month post intervention group scores. Effect sizes were estimated using the following formula: $ES = (\text{baseline mean} - \text{end-of-treatment mean})/SD$ pooled. Lastly, a mixed ANOVA design was conducted to analyze differences in total family burden group scores between participants following the intervention via video-conferencing and participants following the intervention face-to-face. Between subject factor was divided into two groups: using video-conferencing or face-to-face. Within subject factor was formulated as 'time' using three measure points: baseline and end-of-treatment, and three-month post intervention.

The assumptions underlining the repeated ANOVA analysis were tested before running the analysis. According to the output, the assumption of sphericity was violated. As a consequence, the *Huynh-Veldt* correction was applied, when reporting the results of the outcomes variables Total Family Burden, Total Impact, Tolerant Inactive Coping, Withdrawal Coping, and lastly Helpful Informal Support (see Table 3). In addition, the assumption of normality was violated, when conducting the repeated ANOVA analysis. However, according to the central limit theorem, whenever the sample size exceeds 30 participants, normality can be assumed in most cases regardless of the shape of the distribution (Field, 2009).

Results

Overall, 136 out of the 145 participants finished the intervention, whereas 9 out of 145 participants missed at least two or

Table 3. Repeated measures ANOVA of complete cases ($N = 60$) with mean scores, standard deviations, F -values, p values, and effect sizes.

	Pre ($N = 60$) Mean (SD)	Post ($N = 60$) Mean (SD)	Three-month follow-up ($N = 60$)				
			Mean (SD)	F (df)	p	η^2	ES
Total impact	6.43 (3.90)	4.87 (3.18)	3.83 (3.07)	17.42 (1.79)*	.000*	0.23	0.62
Total symptoms	7.98 (2.74)	6.82 (2.59)	5.98 (2.89)	18.83 (2)	.000	0.24	0.65
Engaged emotional coping	5.64 (2.33)	4.60 (2.51)	3.22 (2.69)	26.88 (2)	.000	0.31	0.88
Engaged assertive coping	5.67 (2.75)	4.28 (2.66)	3.43 (2.42)	21.83 (2)	.000	0.27	0.72
Tolerant inactive coping	2.79 (2.31)	1.97 (1.96)	1.33 (1.69)	12.73 (1.84)*	.000*	0.18	0.60
Withdrawal coping	4.91 (2.51)	5.04 (2.56)	5.58 (2.39)	2.37 (1.60)*	.111*	0.04	-0.35
Helpful informal support	6.45 (2.93)	6.41 (2.62)	5.66 (2.72)	3.50 (1.87)*	.037*	0.06	0.18
Helpful formal support	4.19 (2.96)	5.55 (2.60)	4.19 (2.96)	5.75 (2)	.004	0.09	-0.06
Unhelpful informal support	1.52 (2.11)	1.55 (2.19)	0.95 (1.21)	2.81 (2)	.065	0.05	0.25
Total family burden	22.85 (9.12)	18.25 (8.44)	14.37 (8.71)	29.38 (1.87)*	.000*	0.332	0.85

Note. ES: Cohen's d effect size; η^2 : partial eta squared (effect size); *: corrected with Huynh-Feldt.

Table 4. Repeated measures ANOVA of pre-treatment and post-treatment measurements ($N=102$) with mean scores, standard deviations, F -values, p values, and effect sizes.

	Pre ($N=102$) Mean (SD)	Post ($N=102$) Mean (SD)	F (df)	p	η^2	ES
Total impact	6.76 (3.60)	5.32 (3.25)	18.10 (1)	.000	0.15	0.42
Total symptoms	8.02 (2.55)	6.85 (2.60)	23.81 (1)	.000	0.19	0.48
Engaged emotional coping	5.85 (2.33)	4.53 (2.41)	27.53 (1)	.000	0.21	0.52
Engaged assertive coping	5.65 (2.57)	4.50 (2.50)	22.05 (1)	.000	0.18	0.47
Tolerant inactive coping	2.80 (2.37)	1.96 (2.14)	13.02 (1)	.000	0.11	0.36
Withdrawal coping	4.78 (2.51)	5.31 (2.51)	3.90 (1)	.051	0.04	-0.20
Helpful informal support	6.36 (2.91)	6.21 (2.69)	0.44 (1)	.510	0.00	0.07
Helpful formal support	3.98 (2.89)	5.57 (2.48)	22.51 (1)	.000	0.19	-0.48
Unhelpful informal support	1.86 (2.30)	1.81 (2.30)	0.05 (1)	.832	0.00	0.02
Total family burden	23.43 (8.22)	18.66 (8.37)	32.40 (1)	.000	0.24	0.56

Note. ES: Cohen's d effect size; η^2 : partial eta squared (effect size).

more group sessions and were considered drop-outs. Accidentally, 16 out of the 70 follow-up measurements were administered six weeks after the end of the intervention instead of three months later. However, no significant differences in Total Family Burden group score between participants completing the FMQ six weeks later and participants completing the FMQ three months later were found ($p=.162$); the follow-up data presented below contains both the six-week and the three-month follow-up results.

Sample characteristics

Descriptive statistics of baseline variables of all participants are depicted in Table 2. When looking at primary substance or behavior of the relative, problematic alcohol usage is most frequently mentioned by AFMs (60.5%), with the second and third primarily used substance or behavior being cocaine usage (11.6%) and gambling (9.3%). In addition, most AFMs request help in regard to their husband or male partner (44.6%); with in second and third place, requests for help in regard to their son (25.4%), or brother (8.5%).

Intervention outcome

To evaluate the effect of the 5-Step Method on AFM's, a one-way repeated measures ANOVA comparing baseline scores, end-of-treatment scores, and three-month post intervention scores of Total Family Burden was conducted (see Table 3). The result demonstrates that AFMs experience significant lower rates of family burden over three timepoints (baseline, end-of-treatment, three-month post intervention). With an ITT-analysis using LOCF ($N=145$), similar results were found, $F(1.67, 237.61) = 40.49$, $p < .001$, $\eta^2 = 0.22$, $d = 0.63$. In addition, a pairwise comparison to compare mean Total Family Burden scores end-of-treatment ($M=18.25$, $SD = 8.44$, $N=60$) with three-month post intervention ($M=14.37$, $SD=8.71$, $N=60$) showed a significant reduction in mean Total Family Burden ($p < .0005$). Similar results were found for pairwise comparisons between end-of-treatment scores and three-month post intervention scores for Total Impact ($p=.006$), Total Symptoms ($p=.006$), Engaged-Emotional Coping ($p < .0005$), Engaged-Assertive Coping ($p=.012$), Tolerant-Inactive Coping ($p=.010$), and Withdraw Coping ($p=.022$). The ITT-analysis using LOCF ($N=145$) comparing mean Total Family Burden scores at end-of-treatment

($M=20.09$, $SD=8.43$, $N=145$) with three-month post intervention ($M=18.05$, $SD=9.14$, $N=145$) yielded a comparable result and demonstrated a significant reduction in mean Total Family Burden ($p < .0005$).

The results also demonstrate that AFMs experienced a significant decrease in Informal Support over three timepoints (baseline, end-of-treatment, three-month post intervention), $F(1.87, 106.58) = 3.67$, $p < .05$, $\eta^2 = 0.06$, $d = 0.18$. However, the result of a paired t-test between baseline group scores of Informal Support ($M=6.42$; $SD=2.88$; $N=67$) and three-month post intervention group scores of Informal Support ($M=5.76$; $SD=2.78$; $N=67$) yielded no significant difference ($p=.094$). Lastly, no significant decrease in Unhelpful Informal Support was found at three-month post intervention, $F(2, 118) = 2.81$, $p=.065$, $\eta^2 = 0.05$, $d=0.25$. Again, the result of a paired t-test yielded different results. The group scores of Unhelpful Informal Support at baseline ($M=1.54$; $SD=2.02$; $N=69$) and the group scores of Unhelpful Informal Support at three-month post intervention ($M=0.94$; $SD=1.19$; $N=69$) were found to be significantly different ($p=.021$). Comparable results were found when conducting a paired t-test between group scores of Unhelpful Informal Support at end-of-treatment ($M=1.58$; $SD=2.18$; $N=59$) and the group scores of Unhelpful Informal Support at three-month post intervention ($M=0.97$; $SD=1.20$; $N=59$) ($p=.019$).

Video-conferencing versus face-to-face treatment

A mixed ANOVA design was conducted to analyze differences in Total Family Burden group scores between participants following the intervention via video-conferencing and participants following the intervention face-to-face. The analysis yielded a significant medium effect size interaction effect of group by time, $F(1.85, 107.22) = 3.61$, $p < .05$, $\eta^2 = 0.059$. The scores were adjusted with *Huynh-Feldt* correction. This demonstrates that, three months later, participants following the intervention via video-conferencing report significant lower Total Family Burden scores compared to participants following the intervention face-to-face. However, when comparing only baseline and end-of-treatment group scores of Total Family Burden, no significant interaction effect of group by time was found, $F(1, 100) = 0.38$, $p=.563$, $\eta^2 = 0.003$. The ITT-analysis using LOCF ($N=145$) showed a similar result: no significant effect of group by time was found, when

comparing the differences in Total Family Burden group scores between participants following the intervention via video-conferencing and participants following the intervention face-to-face, $F(1.66, 236.92) = 2.61, p = .086, \eta^2 = 0.018$. Finally, no significant differences in drop-out rates were found between participants following the intervention via video-conferencing and participants following the intervention face-to-face, $\chi^2(1, N = 145) = 0.782, p = .377$.

Discussion

The goal of this study was to evaluate the 5-Step Method, newly implemented into routine care in the Netherlands, using a naturalistic design, with measures of the FMQ at baseline, end-of-treatment, and three-month post intervention. To a number of participants, the intervention was delivered via video-conferencing, because of the Dutch COVID-19 measures ($N = 69$). Before the start of data collection, the following hypotheses were formulated: the level of reported family burden by AFMs will significantly reduce at end-of-treatment compared to levels of reported family burden by AFMs at baseline (1), the level of reported family burden by AFMs at three-month post intervention will not significantly increase compared to the levels of family burden reported by AFMs at end-of-treatment (2).

The results indicate that participants following the 5-Step Method report significantly lower rates of Total Family Burden after completing the intervention, and appear to benefit, when coping with substance use or gambling within the family (see Table 4). The results support hypothesis 1. Scores of total family burden decreased significantly by about 20% by the end of the intervention. Additionally, there were also longer-term changes: a further significant reduction of around 20% in Total Family Burden was observed by the time of the three-month follow-up (see Table 3). Contrary to hypothesis 2: a further reduction of Total Family Burden group scores was found at three-month post intervention compared to end-of-treatment—instead of a possible increase of Total Family Burden group scores over time due to loss of treatment effect. Looking more closely, the mean group scores of various coping scales also changed considerably three months later compared to baseline, Engaged Emotional Coping (past three months: from ‘sometimes’ to ‘once or twice’), Engaged Assertive Coping (past three months: from ‘sometimes’ to ‘once or twice’), and Tolerant Inactive Coping (past three months: from ‘once or twice’ to ‘never’). These results suggest that the 5-Step Method helps family members learn new skills or ways of behaving, which appear to have a positive effect on their experienced level of burden even after the intervention was formally completed. This idea is reinforced, when the results of the 12-month follow up of the UK RCT are looked at, where they also found that improvements continued between the 3-month and the 12-month follow-ups (Velleman et al., 2011).

In addition, conducting the 5-Step Method via video-conferencing instead of face-to-face was found to have similar results, suggesting that the 5-Step Method appears to be a flexible program, capable of being effective under different

conditions, such as through video-conferencing in long distance treatment settings. However, several factors limiting the generalizability of these findings should be noted. First of all, the video-conferencing versus face-to-face delivery of the intervention was not allocated randomly and not set up intentionally before the start of the study. Selective effects might have occurred due to group assignment based on national COVID restrictions instead of randomizing the allocation of the treatment condition, and the first sessions of the video conferencing condition might have been different and more experimental compared to sessions at the end of the study. Secondly, the video conferencing condition may have been affected by several (psychosocial) consequences of the Dutch COVID-19 lockdown measures. For example, participants might have been more motivated and inclined to participate in online sessions due to the forced regulations to stay at home, or might have experienced several facets of family burden differently, such as worrying behaviors, active disturbances, and coping behaviors (see Appendix A), due to psychosocial consequences of the COVID-19 lockdown. Overall, a number of subscales did not improve. The increase in Withdrawal Coping between baseline and end-of-treatment was in the right direction (4.78 (2.51) to 5.31 (2.51) with withdrawal coping being seen as a more effective coping style for many AFMs, but it just did not reach statistical significance ($p = .051$). Similarly, the changes in Unhelpful informal support also moved in the right direction after treatment ended (pre: 1.52 (2.11), post: 1.55 (2.19), $f/u: 0.95$ (1.21)): the changes combined over the three time periods did not reach statistical significance ($p = .065$), although the differences between either baseline or end-of-treatment compared to three-month post intervention scores were statistically significant: ($p = .021, p = .019$, respectively). Furthermore, no lasting increase in Helpful Formal and Informal support was realized at three-month post intervention after completing the intervention. This finding is in line with the study of Orford et al. (2017), who also found no significant increase in Helpful Informal Support after completing the intervention three to six months later. This is regrettable since, according to the SSICS-model, support is considered a key factor, when dealing with a substance user or gambler within the family (Orford et al., 1998, 2013).

Again, a possible explanation is that the level of informal support experienced by family members may have been affected by the implementation of the Dutch COVID-19 lockdown measures. The first implemented Dutch COVID-19 measures were enforced during March 2020, whereas data collection started in October 2019 and finished in May 2021. As a consequence, some groups began and ended before Dutch COVID-19 measures began, whereas others would have been influenced by these measures. For example, meeting up with group members after the intervention was formally finished might be more difficult during enforced COVID-19 measures compared to normal circumstances. This confound may have been especially true for those who attended the intervention through videoconferencing, during the COVID-19 restrictions, versus those who followed the face-to-face intervention, before COVID-19. Therefore, completing the intervention as a family member at a time where

social contact was strictly limited due to Dutch COVID-19 measures might have led to lower levels of reported informal support compared to completing the intervention during a time period when no Dutch COVID-19 measures were implemented.

Limitations

A number of participants did not provide end-of-treatment and three-month post intervention measurements. Out of the overall sample, we used 145 baseline, 102 end-of-treatment, and 70 three-month post intervention measurements, when running the analyses. The incomplete dataset could lead to a biased interpretation of the results, because of the possibility of the drop-out of participants, who experience little to no effect of the intervention. However, when looking at the drop-out statistics, only 9 out of 145 participants did not complete the intervention. This indicates the total number of missing FMQs (43 at end-of-treatment) does not correspond with participants giving up on the intervention and dropping out. Instead, this finding suggests the missing FMQs either were not obtained or were lost, because of accidental flaws in the data collection processes of this study, most likely because of the enforced Dutch COVID-19 measures and the forced switch to a video-conferencing intervention setting. In addition, when examining the data, no significant group differences in baseline Total Family Burden scores were found between participants completing only a single pre-treatment measurement ($M=23.50$; $SD=8.10$) and participants completing all measurements ($M=22.85$; $SD=9.12$) ($t(91) = 0.34$, $p = .732$), indicating similar family burden at the start of the intervention between measurement completers versus non-completers. Regarding demographics, there was no age difference between measurement completers ($M=47.36$, $SD=13.22$) and non-completers ($M=44.69$, $SD=13.98$) ($t(82) = -0.86$, $p = .390$). However, Chi-square analysis did show that, even though we had far fewer men in the sample, men were significantly more likely than women to complete all three measurement points (baseline, end-of-treatment, three-month f/u), and women were relatively more likely to solely complete baseline measures with no further measurement points ($\chi^2(2, N=84) = 4.24$, $p = .039$). Overall, more women were included in the research sample (14.4% men vs 85.6% women at baseline). In addition, no changes in main outcomes were found, when conducting the ITT-analysis using LOCF, except when comparing the video-conferencing and face-to-face treatment conditions, suggesting similar overall results, when using an imputed complete dataset. Lastly, preliminary analyses indicate location of study site might have an effect on treatment outcome. A possible, although speculative, explanation could be the difference in work experience of the 5-Step Method practitioners within the addiction field. Unfortunately, no information was collected about the work experience of the practitioners before the start of the study.

Future directions

A number of directions for future research have been stated. First of all, the efficacy of the 5-Step Method might improve by finding additional ways to increase informal and formal support, which might be good additions to the intervention and might generate a lasting increase in informal support. For example, AFMs might be encouraged to meet up on their own accord with other group members, after finishing the intervention, or it might be possible to establish a digital platform to stay in contact and meet. Obviously, if such changes to the 5-Step Method were to be implemented, these would need to be formally scientifically evaluated.

Secondly, no study has yet compared the effect of the 5-Step Method with other interventions or services aimed at improving the psychosocial wellbeing of AFMs, such as the CRAFT programme (Miller et al., 1999), the Invitation to Change approach (CMC, 2018), SMART Recovery's Family and Friends programme (SMART Recovery, undated), and independent self-help groups, like Nar-anon or Al-anon. In order to guide evidence-based health and social care policy provision for AFMs, the 5-Step Method should be compared to other psychosocial interventions in randomized controlled trials to examine the question of what works best for whom and why.

Thirdly, the design of this study could be improved. For example, no longer-term follow-up measures (such as after six months or one year) were collected. As a consequence, the effects of the intervention over a time-period longer than three months post-intervention remain unclear. To improve the quality of research on the 5-Step Method, future research should include six month and one year follow-up measurements (Rane et al., 2017), as was undertaken in the Velleman et al. (2011) study. In addition, more men should be included within research samples. Currently, most studies on the 5-Step Method (including this study) consist of mostly women (Copello et al., 2010a). Also, no data was systematically collected on how many family members volunteered and how many family members decided not to participate in the 5-Step Method program. To provide more clarity on the recruitment procedure, data on total number of volunteers and total number of volunteers deciding not to participate should also be routinely collected. Finally, no data was collected about either the socio-economic status (SES) of the participants or the length of the relationship between the AFM and the relative with substance use disorder or gambling disorder, both of which could be factors influencing the results of the study. In future research, such information about the participants should be collected, in order to control for potential interaction effects on intervention outcome.

Conclusion

The 5-Step Method was found to be an promising intervention for AFMs in the Netherlands. Participants finishing the 5-Step Method reported lower levels of family burden, lower levels of impact, lower levels of symptoms, and decreased rates of maladaptive coping styles. Furthermore, participants following the intervention via video-conferencing reported

changes, which were equal or better compared to participants following the intervention face-to-face. This has relevance for implementing the 5-Step Method through E-health, and in less densely populated areas. In accordance with the SSICS model, the intervention could be improved by finding additional ways of increasing support for AFMs.

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- Max van Beek is employed as a psychologist and researcher within Jellinek, which hosts the 5-Step Method in the Netherlands.
- Anneke Goudriaan is an endowed professor in Addiction at the Department of Psychiatry, AmsterdamUMC, University of Amsterdam and is head of the research department of Jellinek and Arkin.
- Tamara de Bruijn is employed as a senior prevention worker within the Prevention Department of Jellinek, which delivers the 5-Step Method in the Netherlands.
- Gill Velleman is the Lead International Assessor of 5-Step Method competence and an AFINet Trustee (AFINet is the international host of the 5-Step Method).
- Richard Velleman is one of the originators of the 5-Step Method and an AFINet Trustee (AFINet is the international host of the 5-Step Method).

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ORCID

Max van Beek  <http://orcid.org/0000-0002-6188-4984>

Anna E. Goudriaan  <http://orcid.org/0000-0001-8670-9384>

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Appendix A

Subscales of the family member questionnaire (FMQ)

Total impact subscale

The total impact scale measures the harmful impact of the substance or gambling user on the AFM or family as a whole in the past three months. The items are scored based on the perception of the AFM. The scale consists of six items. The questions are rated on a four-point Likert-scale: 'no,' 'once or twice,' 'sometimes,' and 'often' (0–3). There are two sub-scales which together comprise 'total impact': 'active disturbance' (e.g. 'Has your relative picked quarrels with you?') 'Has your relative upset family occasions?') and 'worrying behaviour' (e.g. 'Have the family's finances been affected?') 'Are you worried that your relative has neglected his/her appearance or self-care?').

Total symptoms subscale

The total symptoms scale measures the degree of physical and psychological ill health of AFMs in the past three months. The items are scored based on the perception of the AFM. The scale consists of six items. The questions are rated on a three-point Likert-scale: 'never,' 'sometimes,' 'often' (0–2). There are two sub-scales measuring physical (e.g. 'Awakening early and not being able to fall asleep again?') 'Had parts of the body feel weak') and psychological (e.g. 'Worrying?') 'Being irritable') symptoms, respectively.

Coping styles subscale

The coping style scale measures to what extent AFMs have applied coping actions in the past three months. The scale distinguishes four categories of coping: engaged-emotional coping (e.g. 'Started an argument with him/her about his/her drinking/drug use/gambling?') 'Watched his/her every move or checked up on him/her or kept a close eye on him/her?'), engaged-assertive coping (e.g. 'Sat down together with him/her and talked frankly about what could be done about his/her drinking/drug use/gambling?') 'Made it clear that you won't accept his/her reasons for drinking/taking drugs/gambling, or cover up for him/her?'), tolerant-inactive coping (e.g. 'Given him/her money even when you thought it would be spent on drink/drugs/gambling?') 'Put yourself out for him/her, for example by getting him/her to bed or by clearing up mess after him/her after he/she had been drinking/taking drugs/gambling?'), and withdrawal coping (e.g. 'Got on with your own things or acted as if he/she wasn't there?') 'Pursued your own interests or looked for new interests or occupation for yourself, or got more involved in a political, church, sports or other organisation?'). The scale consists of 12 items (three for each category). The questions are rated on a four-point Likert-scale: 'no,' 'once or twice,' 'sometimes,' and 'often' (0–3).

Support subscale

The support scale measures the extent of experienced support in the past three months. The items are scored based on the perception of the AFM. The scale distinguishes three categories of support: helpful informal support (e.g. 'Friends/relations have listened to me, when I have talked

about my feelings'/'Friends/relations have been there for me'), helpful formal support (e.g. 'Health/social care workers have made themselves available for me'/'I have confided in my health/social care worker about my situation'), and unhelpful informal support (e.g. 'Friends/relations have said nasty things about my relative'/'Friends/relations have said that my relative does NOT deserve help'). The scale consists of nine items (three for each category). The questions are rated on a four-point Likert-scale (0–3).

Total family burden

The Total Family Burden scale measures the degree of burden experienced by the family member and is the main outcome variable of this evaluation study. Total Family Burden is calculated by adding up the scores of the Total Impact Scale, the Total Symptoms Scale, Engaged-Emotional Coping and Tolerant-Inactive Coping (Orford et al., 2017, p. 264).