

Outpatient and Aftercare Treatment for Substance Use and Addiction: Analysis of Completion and Dropout Rates

Raqota Berger

Center for Criminal and Psychological Studies

Los Angeles, United States

E-mail: rberger@vcccd.edu

Received: June 23, 2026 Accepted: July 15, 2026 Published: July 28, 2026

doi:10.5296/ijsw.v13i2.23845 URL: <https://doi.org/10.5296/ijsw.v13i2.23845>

Abstract

Treatment for substance use and addiction is very complex and challenging. Clinical outcome data consistently demonstrates that this field has an ongoing problem with treatment dropout. The data for this research were gathered from an outpatient treatment facility over the course of approximately two years. The findings revealed that 60.6% of clients successfully completed outpatient level of care. Around 4 out of 10 clients did not complete treatment (most of these clients dropped out). Out of the clients that completed outpatient level of care, 61.3% continued on to aftercare services. Once in aftercare, survival analysis determined that there was a probability of .83 that women would return after one aftercare meeting and a probability of .81 that men would return. Survival trends further revealed that there was only a probability of .39 that women would make it past five aftercare meetings and a probability of .29 that men would make it past five meetings. Attendance probabilities further declined with each subsequent meeting. The outcome data from this study further highlights the ongoing need to better retain clients in outpatient treatment and aftercare. The findings from this study may be of practical use to clinical directors, alcohol and drug counselors, case managers, social workers, and psychotherapists working within the field of substance use and addiction.

Keywords: substance use, outpatient treatment, aftercare, addiction, alcohol and drug counseling, dropout rates

1. Introduction

There are millions of adults struggling with alcohol and drug addiction at any given point in time. It is estimated that hundreds of thousands of Americans die each year as a direct and

indirect result of alcohol and drug abuse. Substance use/abuse is associated with a wide range of mental and physical health problems (e.g., cardiovascular disease, liver disease, depression, eating disorders, suicidal thinking, respiratory problems, post-traumatic stress disorder). There is currently an indubitable epidemic across the nation when it comes to substance use, dependency, and addiction. This cultural problem only appears to be getting worse over time. The need for professional treatment services is also at an all-time high. Professional treatment modalities typically include outpatient treatment, inpatient treatment, and hospitalization. Professions that are known for being directly involved in treatment include alcohol and drug counseling, clinical counseling, marriage and family therapy, social work, psychiatry, and clinical psychology. The scope of each profession varies, but every professional working in substance use treatment must have a solid understanding of the many different complex factors that contribute to addiction and dependency.

Successful treatment is dependent, in part, upon professionals having a firm grasp of the biological, psychological, social, and environmental factors that all play into the use and misuse of substances. In the field of alcohol and drug counseling, licensed and certified professionals are required to receive ongoing continuing education to help ensure that they remain current and competent in their work. Research in this area is constantly evolving (e.g., understanding underlying brain mechanisms associated with addiction), therefore counselors and therapists must stay up to date on the latest research findings in order to best serve their clients. Treating clients for abuse and addiction is very complicated, for many different reasons. Each client brings with them their own unique genetic and physiological makeup, their own life histories, their own personality traits and styles, their own peer and family dynamics, their own mental health issues, their own levels of motivation and commitment, and much more. For these reasons, and more, the success rates across substance use treatment facilities leaves much to be desired.

The majority of people that are struggling with alcohol and drug use never receive treatment. For those that do seek out treatment, most do not successfully abstain from using over time. Many that seek out treatment never successfully complete their programs (e.g., inpatient, outpatient). Dropout rates for substance use treatment across the nation are concerning. There are many reasons as to why people leave treatment prematurely (e.g., financial reasons, legal problems, interpersonal conflict, lack of commitment, health problems). There is no one way to approach treatment, as each person requires their own unique and individualized treatment plan. Even when a client has a personalized plan created for them, there is still a good chance that they will not complete treatment. Some clients enter treatment fully committed, then something happens in their lives and they cease their participation. Some enter treatment with little to no motivation and are resistant to everything put forth by counselors and case managers. There are so many variables that play into all of this that it can be quite challenging (difficult) to really predict whether or not any given person will successfully complete treatment.

Successful completion is something that all treatment facilities place at the heart of their missions. No facility has a perfect success rate. In fact, most facilities see a good percentage of their clients leaving against clinical advice (ACA). Many facilities around the nation have notably low levels of treatment success. The purpose of this study is to bring forth empirical

findings that will shed further light on actual retention and dropout rates. This study will place its emphasis on treatment in an outpatient facility. The focus will be on statistical outcome data that will bring forth relevant information useful to those working in substance use treatment. The data presented in this study should be of interest and value to clinical directors, substance use counselors, treatment facility owners, case managers, social workers, and to all practicing clinicians working in this field.

2. Literature Review

The seriousness of substance use and addiction cannot be overstated. Each year in the United States there are over 100,000 overdose deaths directly connected to taking one or more substances. At this time, opioids account for the vast majority of overdose deaths (e.g., fentanyl). Many overdose due to taking substances that have been adulterated with chemicals that they do not know that they are taking (e.g., cocaine adulterated with fentanyl). It is estimate that over 140,000 people die every year in the United States as a consequence of alcohol (Koob, 2024; Kranzier, 2023). Alcohol is generally considered the most destructive overall when everything is taken into consideration (e.g., legal problems, driving under the influence, car crashes, liver disease, domestic violence, brain damage, violent behavior, etc.). It has been estimated that about 5% of all cases of cancer are attributed to alcohol. Around half of the population 12 years of age and older consume alcohol. It is estimated that around 133 million people consume alcohol each month in the United States, with around 60 million binge drinkers. Alcohol use disorder (AUD) accounts for around 11% of the nation's population, and only around 15% with a lifetime diagnosis will ever receive treatment (Kranzier, 2023). Koob (2024) put forth that less than 8% of the people that need treatment actually receive it within one year. These low treatment rates may be due to the stigma associated with addiction (Crapanzano et al., 2019).

Treatment for AUD is even lower in poorer nations (compared to the United States). According to Mekonin et al. (2021), only around 1 in 6 people in the world with AUD ever receive treatment. In low-income nations, they stated that treatment rates are as low as 9.3%. Witkiewitz et al. (2022) explained that around 60% of the United States adult population uses one or more psychoactive substances each month (50% alcohol, 13% illicit drugs). They put forth that out of the 22 million people that need treatment, only around 12.5% actually receive it in the past year. Although alcohol is the top substance when it comes to overall numbers seeking treatment, millions of people enter treatment every year for different types of substances (e.g., methamphetamine, cocaine, heroin). Cannabis is the most widely used illicit substance (for both adolescents and adults). Chronic use of cannabis can result in social withdrawal, respiratory problems, and issues with learning, memory, attention, and recall. Around 9% of cannabis users develop a dependency (Thomasius et al., 2022). Millions enter treatment each year for other substances, such as cocaine. It is estimated that around 2.2 million Americans use cocaine and that around 1 million have cocaine use disorder (CUD) at any given point in time (Kampman, 2019).

The majority of people that abuse substances, as well as the majority that meet the criteria for one or more substance use disorders, never receive treatment. Substance use disorders are

characterized by continued harmful consumption despite ongoing and severe unpleasant/harmful consequences, such as impaired executive functioning, social impairment, pathological habits, loss of control, withdrawal, and negative emotional states (Koob, 2024; Rosenthal et al., 2022). Osborne et al. (2022) looked at the close connections between the abuse of alcohol and other drugs (AOD) and a range of physical health comorbidities, such as diabetes, cardiovascular disease, respiratory disease, and other chronic illnesses. Substance use negatively impacts brain networks involved in learning, reward, motivation, and inhibitory control (Rosenthal et al., 2022). It also negatively impacts physiological pathways, dysregulates brain circuits, damages (destroys) brain cells, and causes neurochemical dysregulation (Courtney et al., 2015; Kranzier, 2013). According to Courtney et al. (2015), all drugs of abuse (e.g., nicotine, cocaine, alcohol, opioids) cause these neurological alterations, and this is what is at the root of drug dependence and the disruption of the pathways associated with reward and motivation.

The treatment of alcohol and drug addiction poses many challenges. There are many reasons as to why treatment is effective with some people, but not effective with others. Some people are fully committed to treatment and healing, while others are completely resistant and in denial about their dependency and addictions. Impulsivity appears to be a major factor in treatment outcomes. Loree et al. (2015) found in their research that higher pretreatment impulsivity is closely associated with poorer treatment outcomes. They also determined that various personality traits (e.g., neuroticism, low conscientiousness, thrill-seeking) serve as risk factors for substance use and are also closely connected to initiating and continuing use. There are many factors that play into whether or not a person is successful in treatment and if they remain in aftercare, such as stigma, lack of resources, transportation issues, lack of family support, race, health problems, etc. (Crapanzano et al., 2019; Lappan et al., 2020).

Effective treatment needs to be sensitive to the unique needs of individuals in order to increase the chances of success. For example, research has found that women differ in their treatment needs (e.g., often have co-occurring substance use disorder with certain mental illnesses) and require treatments that are designed to target these co-occurring issues (Johnstone et al., 2023). Other research has found that women tend to do better with behavioral treatments (e.g., couples therapy, gender-responsive group therapy, mixed-gender behavioral treatment) than men. The same researchers found that men tend to fare better than women with pharmacotherapy treatments (Sugarman et al., 2017). Researchers have also found that systemic family, behavioral family therapy, and behavioral couple therapy are all effective standalone treatments for SUD (Hogue et al., 2021). Some people prefer individual treatment sessions, while others prefer being in groups. Others in treatment prefer to have a combination of both individualized and group therapy sessions. Some focus entirely on behavioral treatment, whereas others combine psychotherapies with medication treatment. There is no single way to best treat each person that seeks treatment. Counselors, therapists, and case managers must pay close attention to the unique needs of each of their clients in order to increase retention in treatment and aftercare (e.g., Kampman, 2019; Magill et al., 2023).

Clients drop out of treatment and aftercare for many different reasons. In a meta-analysis of 151 studies, Lappan et al. (2019) found that around 30% of participants drop out of in-person

SUD treatment. They found various factors that appeared to play some role in dropping out, such as number and length of sessions each week (e.g., longer duration and more sessions had higher dropout rates), types of drugs used by clients (e.g., cocaine and methamphetamine had higher dropout rates), and social class (e.g., low-income clients had higher dropout rates). People dropout of treatment for many different reasons, such as household problems, stressors (e.g., financial), relapse, withdrawal, chronic health problems, low self-efficacy, mental illness, etc. (Koob, 2024; Thomasius et al., 2022; Witkiewitz et al., 2022). Relapse rates for psychosocial SUD treatment continues to remain high. This is important to pay attention to because dropping out of treatment and aftercare is one of the strongest predictors of relapse (Lappan et al., 2020).

There are various approaches that have been shown to be relatively effective for the treatment of SUD and retention in aftercare. As covered, there is no “one-size-fits-all” approach, but some therapeutic approaches have consistently shown efficacy across treatment populations and settings. Some effective approaches include cognitive-behavior therapy (CBT) for the treatment of a range of substances (e.g., cocaine, cannabis, alcohol, opioids), acceptance and commitment therapy, dialectical behavior therapy, contingency management, cognitive bias modification, neurofeedback, group therapy, etc. (Kampman, 2019; Magill et al., 2023; Rosenthal et al., 2022). Pharmacotherapy is also a widely used approach (e.g., disulfiram, naltrexone, acamprostate, buprenorphine) that has shown clinical efficacy across treatment settings (e.g., inpatient, outpatient, hospitalization) and various types of treatment populations (Courtney et al., 2015; Kampman, 2019; Kranzier, 2023). SUD treatment is difficult for many different reasons and dropout rates remain high across the nation (Crapanzano et al., 2019; Loree et al., 2015). To improve the rates of success in SUD treatment and aftercare it is essential that treatment facilities cater to the unique needs of each client (Johnstone et al., 2023; Magill et al., 2023).

3. Methodology

Data for this study were obtained from an outpatient treatment facility over the course of almost two years. The name and location of the facility will not be disclosed in order to protect the privacy of participants. No identifiable information will be included in this report for the purposes of confidentiality. The facility specializes in the treatment of adults (18+) and provides both intensive outpatient (IOP) and partial hospitalization services (PHP). Minors are not accepted for treatment at this facility and therefore excluded from the study. IOP treatment typically involves attending 3 meetings each week (3 hours per meeting), having individual sessions with clinical counselors and case managers, random drug testing, homework assignments, making peer phone calls each week, etc. IOP treatment is typically 12 weeks in length. PHP involves most of the same requirements as IOP but is more intensive in the meeting requirements (e.g., Monday through Friday, twice per day, three hours each meeting). PHP typically lasts for around two weeks, after which participants are scheduled for standard IOP services.

Data were collected and retained for the purposes of making sense of primary outpatient treatment and aftercare retention and dropout rates. Over the course of data collection, there

were 176 individuals that entered outpatient treatment services. The majority of treatment participants were male ($n = 114$, 64.8%), with women making up 34.7% ($n = 61$) of the participants. The gender of one participant was not reported (0.6%). For the purposes of this study, no other demographic variable information (e.g., age, social class, ethnicity/race) was collected or analyzed. A total of 65 people participated in aftercare services during the data collection period. Each of these individuals that participated in aftercare services successfully completed IOP level of care at the facility. Careful record keeping is maintained concerning when clients were present for their scheduled meetings and when they were absent. For this study, the bulk of record keeping was maintained for the analysis of retention in aftercare. Participants signed their names on a sheet and this (their attendance) was verified by the group facilitator after each meeting.

Attendance information was then inputted into an Excel datafile by a facility counselor assigned to this task by the clinical director. Once all data were collected, the file was imported into the statistical software program SPSS (version 29) in order to conduct more complete and proper analyses and testing available on that particular program. Relevant statistics and tests utilized for this research involved mean scores, medians, confidence intervals, chi-square, independent t -tests, hazard functions, and survival analysis techniques. Seeing that the focus of this research was fundamentally on retention and dropping out, the emphasis of analysis has been placed on survival analysis. Survival analysis essentially breaks down (in probabilities) the time it takes for an event to take place. Particular tests utilized for this purpose include Kaplan-Meier, Cox regression, Mantel-Cox, Breslow, and Tarone-Ware. Each of these tests have been widely validated and broadly accepted for both medical research and behavioral scientific research. All parametric tests were two-tailed for the purposes of this study. All analyses of significance followed the default alpha level of 0.05. Any test that resulted in a probability (p) greater than alpha was deemed to be statistically insignificant.

4. Findings

The majority of the clients that entered treatment successfully completed outpatient care ($n = 106$, 60.6%). A total of 69 clients (39.4%) did not successfully complete IOP level of care. Fifty-four clients left treatment against clinical advice (ACA), 11 were administratively discharged, and 4 clients ceased treatment for other reasons. Administrative discharge can occur for various reasons such as clients excessively missing appointments, missing group meetings, ceasing contact with staff, repeatedly testing positive for substances, behaving aggressively (violently) toward staff or other clients, etc. Seventy-three men (64%) successfully completed treatment. A total of 33 women (54%) successfully completed outpatient treatment. Chi-square testing revealed that there were no gender differences for successfully completing IOP treatment, $\chi^2(1) = 1.836$, $p = .175$.

Figure 1 shows the total survival rates at the time data collection for this study came to an end. There were a total of 83 participants in aftercare services, of which 17 (20%) were still active at the time data collection came to an end. As can be seen in the graph, there was a probability of 84.3% that the participants made it past 1 aftercare meeting, 71.9% past 2 meetings, 56.8% past 3 meetings, 50.5% past 4 meetings, 44.0% past 5 meetings, 42.7% past 6 meetings, 38.5%

past 7 meetings, and so forth. Only 14.7% of the participants were expected to make it past 20 aftercare meetings before dropping out. Seven participants had completed over 20 meetings at the time data collection was terminated. One of the participants in aftercare treatment had attended 41 meetings at the time data collected came to an end.

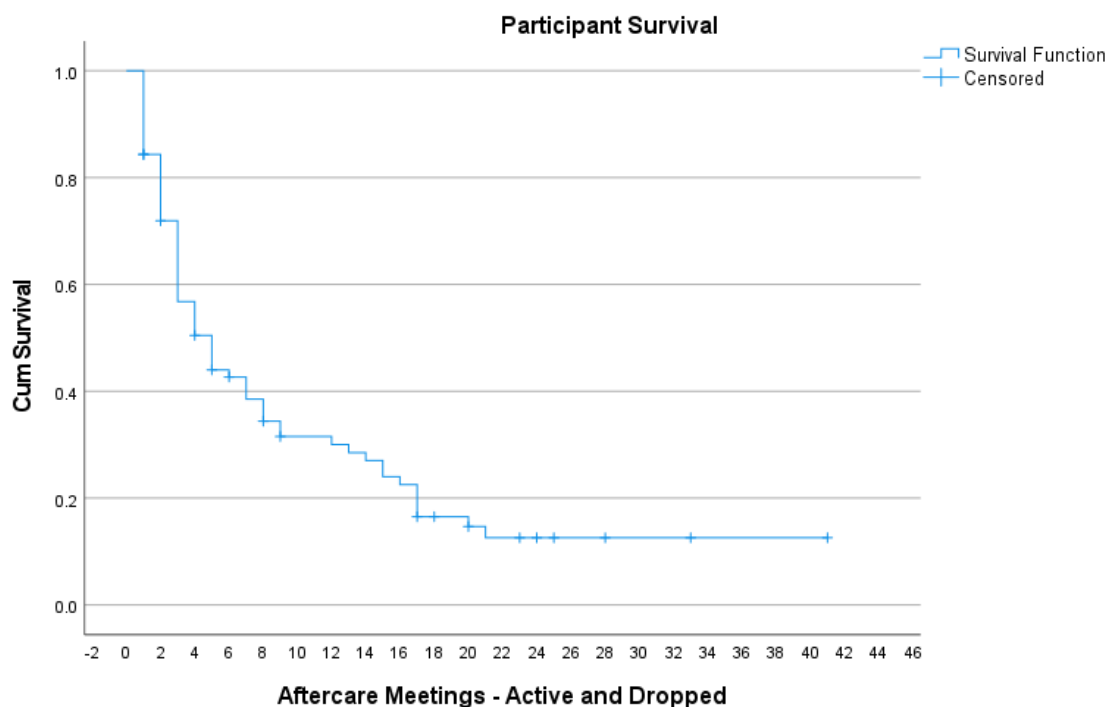


Figure 1. Survival and Dropout Rates in Aftercare (N = 83)

Six out of ten clients successfully completed outpatient level of care. In order to enter aftercare treatment, clients are required to successfully complete IOP level of care. Of the clients that completed IOP treatment, 61.3% made the decision to enter aftercare services. Forty-three men (58.9%) and 22 women (66.7%) made the decision to continue treatment in aftercare. Chi-square testing resulted in no significant gender differences concerning attendance in aftercare, $X^2(1) = .577$, $p = .477$. Figure 2 shows the gender distribution of aftercare attendance for those that dropped out of aftercare. The average number of total aftercare meetings attended was 5.71 (SD = 5.49, Sk = 1.35, Ku = 0.67) before dropping out, with a median of 3 and a mode of 1. Women attended an average of 6.22 aftercare meetings (SD = 5.52), and men attended an average of 5.55 aftercare meetings before dropping out. An independent samples t -test did not produce a significant gender difference concerning number of aftercare meetings attended, $t(63) = .466$, $p = .643$.

Of the 66 participants that dropped out of aftercare services, the majority did not make it past 3 meetings. The probability of making it past 1 meeting was 80.3%, past 2 meetings was 65.2%, past 3 meetings was 47.0%, past 4 meetings was 39.4%, past 5 meetings was 31.8%, past 6

meetings was 30.3%, past 7 meetings 25.8%, past 8 meetings was 21.2%, past 9 meetings was 18.2%, past 12 meetings was 16.7%, past 13 meetings was 15.2%, past 14 meetings was 13.6% meetings, past 15 meetings was 10.6%, past 16 meetings was 9.1%, past 17 meetings was 3.0%, past 20 meetings was 1.5%, and getting past 21 meetings was 0%. In other words, none of the participants that dropped out of aftercare treatment made it past 21 meetings.

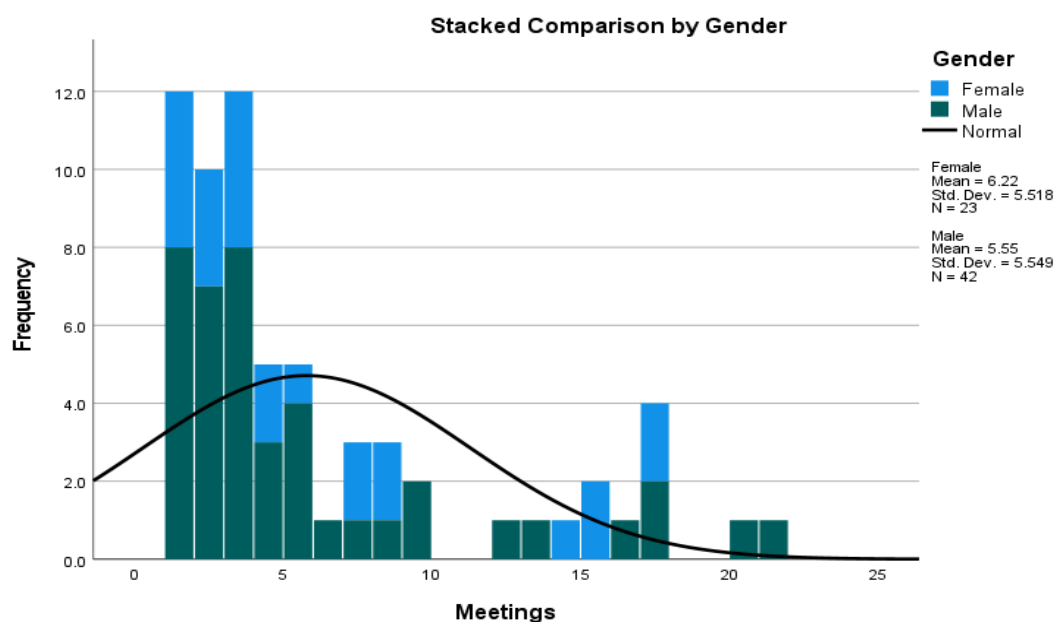


Figure 2. Attendance Rates in Aftercare by Gender (N = 65)

Survival analysis was conducted to highlight gender in aftercare services. Men ranged from 1 meeting up to 21 meetings before dropping out. Women ranged from 1 to 17 before dropping out. Men had an 81% probability of making past one meeting, a 64.3% probability of making it past 2 meetings, a 42.5% probability of making it past 3 meetings, a 38.1% probability of making it past 4 meetings, and a 28.6% probability of making it past 5 meetings. There was 9.5% probability of men making it past 16 meetings and a 2.4% probability of making it past 20 meetings. None of the men that dropped out made it past 21 meetings.

Of the women that dropped out of aftercare services, there was an 82.6% probability of making it past 1 meeting, a 69.6% probability of making it past 2 meetings, a 52.5% probability of making it past 3 meetings, a 43.5% probability of making it past 4 meetings, and a 39.1% probability of making it past 5 meetings. There was only a 17.4% probability of making it past 14 meetings and an 8.7% probability of making it past 15 meetings. None of the women that dropped out of aftercare made it past 17 meetings. There was no significant gender difference detected concerning gender and surviving in aftercare (Mantel-Cox = .049, $p = .826$; Breslow W = .265, $p = .607$; Tarone-Ware = .197, $p = .657$). Figure 3 displays the survival trends for both men and women in aftercare. Figure 4 (on the next page) displays the cumulative hazard

for gender. As can be seen on both of the graphs, the risk of dropping out consistently increases as time passes. The basic interpretation of both the survival comparison rate and the hazard function is that the risk of dropping out increases as the number of aftercare meetings attended also increases.

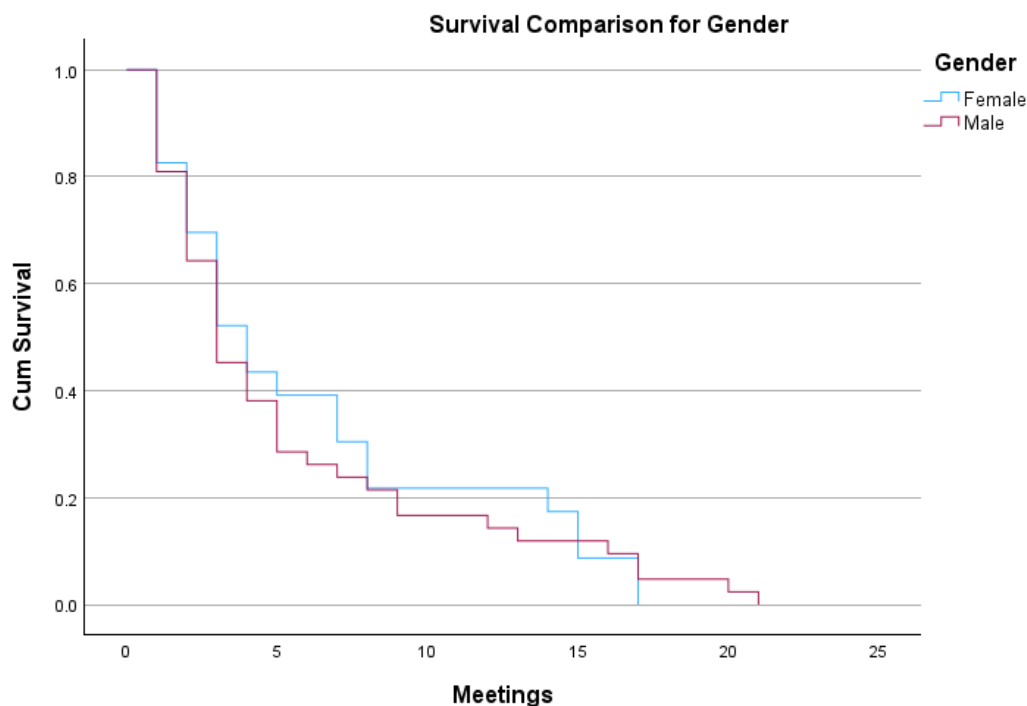


Figure 3. Survival Probabilities in Aftercare by Gender (N = 65)

5. Discussion: Conclusion, Limitations, and Recommendations

This study has presented data from an outpatient treatment facility that is focused on success rates and dropout rates in IOP level of care and aftercare. The majority of the clients in treatment (60.6%) were able to successfully complete the 12-week IOP program. The dropout rate in this program was within the average range (margin of error) of what is seen in other treatment settings (e.g., Courtney et al., 2015; Crapanzano et al., 2019; Lappan et al., 2020). There are various reasons as to why people leave treatment against clinical advice, such as financial strain, transportation issues, relapse, lack of commitment, health problems, and so forth. Clinical directors and counselors would be advised to pay close attention to various factors that pull people out of treatment prematurely. Studies have consistently shown that when people do not complete their respective treatment programs, as well as continue with aftercare services and self-help groups, that they are at increased risk of relapsing (e.g., Lappan et al., 2020; Rosenthal et al., 2022). Other factors that increase the chances of dropping out, such as impulsivity and stigma should also be addressed in treatment (Crapanzano et al., 2019; Loree et al., 2015).

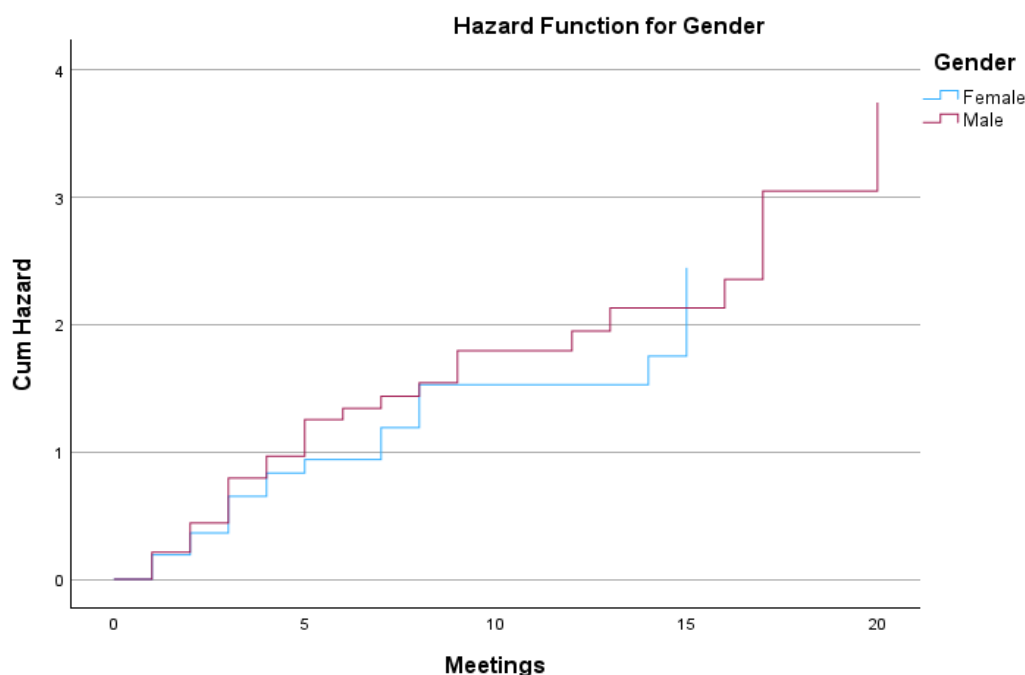


Figure 4. Accumulated (Hazard) Risk of Dropping Out of Aftercare by Gender (N = 65)

Out of the clients that successfully completed IOP level of care, around 6 out of 10 made the decision to continue into aftercare services. Most of these aftercare participants did not make it past 5 or 6 meetings. Even though the average for men and women was 5.71, the median was actually 3, suggesting that the mean was influenced by the participants that remained in aftercare services for a relatively long time (e.g., one participant that completed 21 meetings). Level of commitment and motivation are important factors that need to be taken into consideration. Some participants that were highly committed to their sobriety had attended meetings numbering in the 20's, 30's, and 40's at the time data collection ceased, at which point they were still actively attending. Clinical directors, counselors, and case managers should pay close attention to the personal needs and levels of motivation and commitment of program participants.

The findings did not reveal any statistically significant gender differences concerning success rates in IOP level of care, attending aftercare, or number of meetings attended before dropping out. Although these findings are not in accord with certain studies on gender and treatment, this is something to consider as many researchers believe that gender-responsive programs and individualized treatment better address the unique needs of clients (e.g., Hogue et al., 2021; Johnstone et al., 2023; Witkiewitz et al., 2022). There may be certain things that could be better addressed in treatment programs to help keep both men and women more committed to formal treatment services. Programs could consider things such as better addressing physical health needs, mental health needs, and a broader range of therapies (e.g., acceptance and commitment therapy, neurofeedback, cognitive bias modification, mindfulness-based therapy) in order to enhance commitment and increase the chances that clients successfully complete their

respective programs (Magill et al., 2023; Rosenthal et al., 2022).

This study utilized various statistical techniques in order to better understand larger treatment patterns when it comes to successful completion and dropping out. Survival analyses clearly show that people are at the highest of dropping out within the first few weeks. It appears that once clients become more habituated to (comfortable with) treatment the more likely they are to stick it out and finish. Clinical directors and counselors should give attention to building rapport and a sense of comfort with new clients. It is also important to make sure that new clients (and prospective clients) see the value in receiving professional treatment services. Doing this would help to increase the chances that they return to the program and commit to their treatment. Many that first enter treatment facilities are experiencing things such as ambivalence, embarrassed, resistance, and even anger or hostility. This is to be expected when working with people struggling with alcohol and drug addictions.

Future studies on this topic could collect data on other important variables such as age, ethnicity/race, prior treatment, social class, etc., in order to better make sense of factors that contribute to success in treatment or to dropping out. Relapse rates are high when it comes to substance use and addiction (Lappan et al., 2020; Thomasius et al., 2022) and there are many reasons for this. In order to best reduce the risks of dropping out, clinical directors, case managers, and counselors should pay close attention to both the individual circumstances and needs of their clients, as well as to larger patterns that can be seen across populations. The survival trends produced in this study demonstrate that there is still a long way to go before we can really be satisfied with the retention rates in outpatient treatment and in aftercare programs. Ideally, every person that is in need of professional treatment services would get the exact services that they require. Ideally, every person would be fully committed to treatment and to completing their respective programs. There is clearly still a long way to go when it comes to best addressing the needs of, and effectively treating, those that are struggling with substance use and addiction.

Funding

None.

Informed Consent

Obtained.

Provenance and Peer Review

Not commissioned; externally double-blind peer reviewed.

Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

References

- Courtney, K. E., Schacht, J. P., Hutchison, K., Roche, D. J., & Ray, L. A. (2015). Neural substrates of cue reactivity: Association with treatment outcomes and relapse. *Addiction Biology*, 21(1), 3–22. <https://doi.org/10.1111/adb.12314>
- Crapanzano, K. A., Hammarlund, R., Ahmad, B., Hunsinger, N., & Kullar, R. (2019). The association between perceived stigma and substance use disorder treatment outcomes: A review. *Substance Abuse and Rehabilitation*, 10, 1–12. <https://doi.org/10.2147/SAR.S183252>
- Hogue, A., Schumm, J. A., MacLean, A., & Bobek, M. (2022). Couple and family therapy for substance use disorders: Evidenced-based update 2010–2019. *Journal of Marital and Family Therapy*, 48, 178–203. <https://doi.org/10.1111/jmft.12546>
- Johnstone, S., Dela Cruz, G. A., Kalb, N., Tyagi, S. V., Potenza, M. N., George, T. P., & Castle, D. J. (2023). A systematic review of gender-responsive and integrated substance use disorder treatment programs for women with co-occurring disorders. *The American Journal of Drug and Alcohol Abuse*, 49(1), 21–42. <https://doi.org/10.1080/00952990.2022.2130348>
- Kampman, K. M. (2019). The treatment of cocaine use disorder. *Science Advances*, 5(10), aax1532. <https://doi.org/10.1126/sciadv.aax1532>
- Koob, G. F. (2024). Alcohol use disorder treatment: Problem and solutions. *Annual Review of Pharmacology and Toxicology*, 64, 255–275. <https://doi.org/10.1146/annurev-pharmtox-031323-115847>
- Kranzler, H. R. (2023). Overview of alcohol use disorder. *American Journal of Psychiatry*, 180(8), 565–572. <https://doi.org/10.1176/appi.ajp.20230488>
- Lappan, S. N., Brown, A. W., & Hendricks, P. S. (2020). Drop out rates of in-person psychosocial substance use disorder treatments: A systematic review and meta-analysis. *Addiction*, 115, 201–217. <https://doi.org/10.1111/add.14793>
- Loree, A. M., Lundahl, L. H., & Ledgerwood, D. M. (2015). Impulsivity in substance use treatment. *Drug and Alcohol Review*, 34, 119–134. <https://doi.org/10.1111/dar.12132>
- Magill, M., Kiluk, B. D., & Ray, L. A. (2023). Efficacy of cognitive behavioral therapy for alcohol and other drug use disorders: Is a one-size-fits-all approach appropriate? *Substance Abuse and Rehabilitation*, 14, 1–11. <https://doi.org/10.2147/SAR.S362864>
- Mekonen, T., Chan, G. C., Connor, J., Hall, W., Hides, L., & Leung, J. (2021). Treatment rates for alcohol use disorders: A systematic review and meta-analysis. *Addiction*, 116, 2617–2634. <https://doi.org/10.1111/add.15357>
- Osborne, B., Larance, B., Ivers, R., Dane, F. P., Robinson, L. D., & Kelly, P. J. (2022). Systematic review of guidelines for managing physical health during treatment for substance use disorders. *Drug and Alcohol Review*, 41, 376–390. <https://doi.org/10.1111/dar.13504>
- Rosenthal, A., Ebrahimi, C., Wedemeyer, F., Romanczuk-Seiferth, N., & Beck, A. (2022). The treatment of substance use disorder: Recent developments and new perspectives. *Neuropsychobiology*, 81, 451–472. <https://doi.org/10.1159/000525268>

Sugarman, D. E., Reilly, M. E., & Greenfield, S. F. (2017). Treatment outcomes for women with substance use disorders: A critical review of the literature (2016–2016). *Current Addiction Reports*, 4, 482–502. <https://doi.org/10.1007/s40429-017-0172-9>

Thomasius, R., Paschke, K., & Arnaud, N. (2022). Substance-use disorders in children and adolescents. *German Medical Journal International*, 119, 440–450. <https://doi.org/10.3238/arztebl.m2022.0122>

Witkiewitz, K., Pfund, R. A., & Tucker, J. A. (2022). Mechanisms of behavior change in substance use disorder with and without formal treatment. *Annual Review of Clinical Psychology*, 18, 497–525. <https://doi.org/10.1146/annurev-clinpsy-072720-014802>

Copyright Disclaimer

Copyright reserved by the author(s).

This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).