Persons with drug dependence treated at Dianova Sweden

A one- to two-year follow-up of the first cohort

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Foreword

The study was initiated by Dianova Sweden, which, in 2004, contacted Mats Fridell, Department of Psychology, Lund University, in order to have an evaluation made of their activities. This study commenced in 2005 financed by the governmental research council - Mobilisation against Drugs (Mobilisering mot Narkotika).

One aim was to keep the costs low by having two psychologists in their final term of Psychology training at the University do the collection of data and the preliminary report in the form of their final psychology examination essay; Johanna Crabo and Maja Gradowska (2006). This was named - How did it go for Dianova Sweden's Clients- An outcome study of persons treated for drug addiction and was published in 2007.

The original intent was that the follow-up study should cover all the first years of patients who had been treated by Dianova Sweden. Johanna Crabo and Maja Gradowska constructed in collaboration with the staff from Dianova an update and a systemisation of all information from the time of admission, which was hence used for sampling and for representativity analysis. In the first phase the authors got in touch with 38 patients. In agreement with Dianova it was later decided to enlarge the original cohort and do additional interviews. In its final version, the study therefore includes 43 patients, 65% of all living clients. Of all the original patients, 5 persons were deceased in the original cohort. This makes in all, 72 patients. The outcome thus is known for 67% of the whole group when both those who completed treatment and those who interrupted are included, a so called intent-to-treat-design.

The data collection was carried out by Johanna Crabo and Maja Gradowska under the supervision of Mats Fridell. The design, analysis and final report is a shared product of the three authors. In a study of this magnitude, the focus is primarily directed towards the problems and difficulties that accompany a drug dependency problem and perhaps in a lesser extent to the resources that they have had and perhaps acquired during their stay at DIANOVA. The systematic use of standardised scales, test and questionnaires provides possibilities to make comparisons with other studied groups, and finally if the group, diagnostically, contains as problematic patients as is the case in most other studies of drug dependent populations.

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Content

Summary

The present study is an evaluation of Dianova Sweden and follows a cohort of patients consisting of all of those who have been registered for treatment for drug addiction at Dianova between January 2002 and june 2004 (n=72). Forty-three people were interviewed with a standardised interview: Addiction Severity Index (ASI) and a series of psychological assessment instruments: AUDIT, SCL-90, DIP-Q, GAF, KASAM, BCT, ISSI, SF-36-SR and a quality questionnaire.

The follow up percent calculated on those who were still alive (n=67) was reasonably high. The outcome was known for 43 persons (65%). Five people were deceased and 24 could not be traced. We used standardised methods of measurement to examine whether Dianovas treatment group differed in the question of psycho-social problems from patients in other treatment groups and narcotic addicts.

At the time of registration the persons interviewed were a heavily burdened group. On average the addiction had been going on for over 11 years: the average age was 31,2 years and on average the persons had 1,7 treatment attempts prior to the treatment at Dianova. Amphetamine was the most prevalent drug and was used by 17 persons (40%) followed by Heroin, 16 persons (37%). The majority abused more than one drug where Cannabis was the most common substance (13) (30%) followed by various forms of sedatives and hypnotics for 12 persons (28%). The majority (58%) were homeless at the time of the admission to treatment and 70% supported themselves financially mainly through social subsidies. Another 21% supported themselves mainly through criminal activities. The majority (61%) had primary school education as their highest grade of education.

After the treatment at one of Dianova´s treatments facilities in Europe and America, 63% of the group completed aftercare in Sweden. Sixteen (16) persons (37%) were classified as treatment dropouts at that time. On average the participants had over a year of treatment in Dianova´s institution. Of the 43 persons that were interviewed, 33 (77%) were free from drugs at the time of the interview while active drug dependence prevailed in 10 (23%). Calculated according to intention-to-treat, i.e. on the whole group including those that interrupted treatment 49% were drug free. Due to the relatively short time proceeded after the completed treatment, 23 (53%) had been drug free for more than 6 months. 21 (49) persons had been drug free for more than

one year and 11 (26%) had a abstinence that had lasted for two years or more. Only four persons were addicted to alcohol (10%).

At the follow up, the majority did not have a permanent source of income and almost 60% had social care or temporary disability pension as their major source of income. Some members in the group continued supporting themselves by criminal activities and in the whole group, 17% were prosecuted during the six months that preceded the study. The general level of psychiatric symptoms were low, whilst however 47% of the studied group were diagnosed with a personality disorder. Comparing this group to other Swedish clinical cohorts the conclusion is that the group, in its entirety, have about the same psychological and psychosocial level of problems as do other groups of drug dependent patients. The residence- and employment situation was improved whilst the group's social network was still small. Regarding treatment, the patients were most satisfied by the social fellowship, and less satisfied by the aspects pertaining to the individual's adjustment of the treatment.

The conclusion is that the group in its entity did not differ from the groups that have been examined in other studies of substance dependence and the readjustment figures are in the level of improvement comparable to other clinical studies of drug dependent persons.

Key words: Dianova, outcome study, substance dependence, residential treatment, aftercare, psychiatric disorder.

DIANOVA TREATMENT ORGANISATION

According to the MAX-project from 2001 and the Central association for alcohol- and narcotics information (CAN - 2005) there was approximately 26000 drug dependent persons in Sweden, a problem causing significant costs for both the drug dependent person but also for society at large. Furthermore the persons with drug addiction often have a complex problem picture, often with great physical, mental, criminal and/or social problem load. The mortality in groups with narcotic addiction has, in most long-term follow-ups been significantly higher than for the average population (Fridell & Hesse, 2006, Grant, Stinson, Dawson, Chou, Hser, et al 2004; Hoffman, Grella, & Anglin, 2001; Sörenssen, Jespen, Haastrup, & Juel, 2005).

As the number of narcotic dependent persons in the population is considerably fewer than those with an alcohol dependence, there is less knowledge about the long-term course of events for drug dependent persons. There is unverified information about how many and in which contexts drug addicts ”spontaneously recover”, i.e. leaves a drug problem without having passed through treatment. But treatment only does not secure stabile freedom from drugs, but also changes in the social environment, for like better accommodations, a stabile income, a meaningful occupation, a functioning family life or a social network make it easier to find a way out of drug use (Blomqvist, 2002).

Scientists are, however, at large in agreement that treatment has an effect (se for example the Governments Commission for Evaluation of Medical Technology (SBU), 2001; Berglund, Thelander & Jonsson, 2003; Prendergast, Pondus & Chang, 2000; Ravndal, 1993; Simpson, Joe & Brown, 1997; McLellan et al 1996). Yet there exist many ineffective treatment methods and organisations. Treatment for addiction, in the cases where it is effective, is an important resource in order to reduce costs and the personal suffering for the individual, relatives and society at large. It is therefore important to do evaluations of the treatments so that the treatment facilities themselves and society at large gain knowledge about which is the best available. For clients, the greatest importance is to avoid unnecessary and repetitive treatment failures.

Eleven percent of care for addiction in Sweden was carried out in the year 2003 by non profit organisations that work with addiction readjustment and social exclusion (The Governments public reports, Statens offentliga utredningar) (SOU), 2005:82): Dianova Sweden was one of these organisations, a client based organisation that is part of Dianova International and

that, amongst other things, operates with institutionalised treatment interventions with a client group that mainly consists of drug dependent individuals.

The introduction to this study begins with a presentation of the organisation Dianova. This is followed by a section on theory that begins with a description of treatment models along with a short presentation of concept and definitions of terminology in addiction research. Thereafter follows an account of a research overview where the outcome criteria that are used in research are described along the different dimensions that should be paid attention to when following up treatment for addiction. Subsequently follows an account of the results from what previous evaluations have shown. Finally the objectives and hypotheses for the study.

Dianova as a variant of therapeutic community

Generally a therapeutic society is a label for organisations that view the therapeutic process as a massive intervention on the individuals behaviour, attitudes, problem patterns and social capacities. This implies that one uses the outside environment as the most important tool of social influence to change aspects of person's behaviour (Fridell, 1996a). Dianova could fit under the label of the American type of therapeutic society.

The American therapeutic societies evolved from the premises of self-help organisations, often influenced by the AA-movement. The first therapeutic society Synanon, was established in 1958 by Chuck Dederich (Ravndal & Vaglum, 1994; Kaplan & Broekaert, 2003). Examples of other therapeutic societies of the American type are Day-top Phoenix House, the Italian work cooperative, San Patrignano and Patriarche- the organisation that became Dianova. In many aspects they work as total organizations with the aim of influencing all aspects of the individuals ways of thinking and behaving.

Hansson and Wijkström (2001) describe that branch of the TC movement which above all is characterised by a domination by former clients amongst the staff. Common features amongst these organisations are, according to the authors, that they retain a restrictive outlook regarding drug politics, that they have a relatively critical attitude towards operations that are run by professional care personnel and that they have a relatively independence towards Governments and public sectors. In this group of therapeutic societies one sometimes uses work as a means for readjustment and have a strict social control of those who participate in the operations (Hansson & Wijkström, 2001). The control has resulted in regulations that have been

criticised for being undemocratic and for being oppressive towards the participants. In the ideology of both San Patrignano and Dianova self-help exists as a requirement and former addicts as role models.

History

The organisation started as Le Patriarche in France 1972 and during the 1980s expanded in to other countries in Europe and America. Le Patriarche is both the name of the organisation and pet name of the organisation's founder, Lucien J. Engelmajer. Patriarche's history resembles in this regard the mmore recent work cooperative San Patrignano. Both organisations were started by a "charismatic person". Patriarche has been an organisation involved in many controversies and Engelmajer pulled himself out of the organisation which was hence reorganised under the name Dianova 1997 after a conflict with the French Inland Revenue. The development resembles greatly the one that has been described by Fridell (1996) under problems pertaining to charismatic leadership in addiction treatment, albeit an ending of Le Patriarche that was somewhat less dramatic and destructive than for many other similar organisations.

Under it´s new brandmark: Dianova, the organisation changed its treatment philosophy in important aspects (Hansson & Wijkström, 2001). Work and occupation is still an important part of the treatment model, however there is a more professional staff and contributions of program based interventions than was previously the case. According to information from Dianova, an attempt to keep that what was good from Patriarche was made: such as the element of self-help, the structure and activities as important components in the treatment. The centralistic control was reduced and replaced by a more independent organization for each country, with its own board of directors and programs. Dianova International owns the name, and keeps an eye on all the countries organisations to make sure they follow the mission that has been set.

Organisation

Dianova is a NGO (Non Governmental Organisation) and is founded on non-profit funds and foundations. The organisation is politically and religiously independent. The significant part of the treatment for Swedish clients takes place at one of the treatment collectives/centres abroad. The third and final phase of the treatment, the readjustment phase takes place at lodgings tied to Dianova Sweden. The organisation is currently represented in

15 countries, where eight countries are from Europe and seven from North-, Central and South America. Dianova Sweden has agreements with centres in Europe and Canada, and number of centres varies between the different member count-ries. In Sweden there is no treatment collective instead only referral offices, accommodation for the readjustment phase and relapse prevention. Dianova has over different periods during the 1990s had over 8000 substance users in treatment in over 200 units, however the number of places has decreased over the past few years.

Dianova was introduced in Sweden in 1997. From the operations start till 2005, circa 400 clients from Sweden have been in treatment abroad and circa 70 people have completed all the phases of the treatment. Dianova has two offices in Sweden, with headquarters in Stockholm and a branch in Malmö. The treatments third phase, the readjustment phase, takes place in a transitory rehabilitation accommodation in Stockholm, where the clients come after having spent time at a treatment collective abroad. For the clients from Skåne, in the south of Sweden, there is also accommodation in connection to the Malmö office and the possibility exists to stay there after the time spent in Stockholm. In Stockholm there is also a program for relapse prevention that is lead by a cognitive psychotherapist. The remaining five employees who work at Dianova Sweden all have their own experiences of treatment in either Dianova or its forerunner Patriarche.

Dianova is a client-managed organisation and the operations are dominated by former clients as part of the staff, so called monitors. There are however professional personnel tied to the treatment collective, where doctors and psychologists form, together with the employees, the team that is responsible for the operations. Abroad it is usual for the clients themselves to finance their own treatment, whilst in Sweden it is the Social Services that refer the clients and pay for their treatment.

Dianova is a part of the network Rainbow Sweden, an umbrella organisation for different client run associations that direct their efforts towards persons who experience problems with substance abuse, criminality and social exclusion. The organisation works with common readjustments ethical and drug political issues (Hansson & Wijkström, 2001). Dianova has, through membership in Rainbow, also the opportunity to offer clients employment and accommodation after treatment. Rainbow has during 2005 been granted money from Mobilisation against narcotics (Mobilisering mot narkotika) to develop quality guarantee and evaluation within operations.

The group of residents*[1]

The organisation accepts all types of clients, if the client does not have any physical or psychiatric illnesses or injuries that would be a direct obstacle to treatment. This mostly exclude people with physical disability or with a psychotic illness in their medical history. The organisation accepts clients with Hepatitis and HIV-infection, however they do not accept persons with active AIDS, TBC and/or acute Hepatitis. Dianovas treatment collective accepts Swedish clients over the age of 18 years and up to the age of 55, with variations in the highest age limit for acceptance between the member countries.

With the help of Dianovas information system DUSNAT, the sociologist José Carrón has been able to put together a report over the client group of 2004. It comprises of treatment collectives in both Europe and America, and shows some differences between the different geographical areas, addiction profiles, with examples of gender distribution and drug habits.

In the year 2003, Dianova International had 972 admissions. The gender distribution varied between the different countries, where the average of females enlisted was 14,9%. The majority used more than one substance and Heroin, Cannabis and Cocaine were the most common. Approximately half of the patients were treated for Heroin dependence. Women used more Amphetamine and synthetic drugs, while Crack was most often used by men. 27,6% had mainly an injections addiction, which was 10% less than the year before. The average age was 27,6 years and the number of years in an drug addiction was 11 on average. Forty percent were in treatment for the first time, which, according to Carrón (2004) is twice as many as in 2002. The clients had on average three preceding treatment occasions. There were fewer persons who had undergone some form of psychiatric treatment; despite, that in 2002, a fourth of the clients were being treated for mental problems. This varied between the different countries.

In Belgium half of the admitted clients had a history of psychiatric illness. One out of five had previously had an overdose, 4% of the admitted clients had an HIV-infection and 21% had Hepatitis. About half of them had com-pulsory school education as their highest level of education and 7,6% had a university education. A third of the admitted clients had been taken into custody at some point and 25% had at some point been in jail. One out of ten had been convicted before treatment. English was spoken by only 22,1% of the admitted clients. Those who could speak more than one language were

[1] The concept resident, client or patient implies the same kind of relation to the DIANOVA.

primarily those that were referred to Germany, Portugal, Belgium and Canada (Carron, 2004).

One third of the discharges in the cohort of 2003 occurred because of treatment interruption before three months. In an addition in 21,8% of the cases, the treatment was discontinued at a later point in time. The treatment interruptions by the initiative of the staff occurred in 12,1% of the cases, 11,7% were referred to other types of treatment and 2,7% to other countries. The number of clients that completed the treatment and were discharged according to plan was only 17,8%. The average time of treatment was 4,5 months in the year of 2003 and 40,7% still remained in treatment after one year. Women interrupted their treatment to a greater extent than did men (Carron, 2004).

The retention levels are therefore somewhat lower than the well functioning therapeutic societies in America or Sweden (Fridell 1996a) where the retention by one year lies between 40 and 50%. Another difference is that women, as a rule, have been able to complete the treatment better than men unlike Dianova. How the selection of women plays a part in this has not been discussed, however ordinarily in Scandinavian materials, women tend to consist of a third of the treated group (Fridell1996a).

Treatment Content

Dianova requires abstinence from alcohol and drugs during treatment. The goal with the treatment is that clients should learn to live a life free from drugs and live independently in society and take responsibility for their behaviour regarding drugs, social, family and employment. Dianovas objective is founded on the idea that every person, with the right support and help, has the ability to find the tools she or he needs to develop personally and become integrated into society. The program is adapted to the individual needs. One has a number of overall principals for ones work, and the principles are translated into interventions that will encourage self-help, autonomy and integration. The treatment period lasts most often for 12-18 months. However, there are also shorter programs with more limited objectives for clients who's situation in life is already arranged with work and accommodations waiting.

The program looks principally the same for the treatment collectives in all countries, with some variations in focus and techniques. In Portugal a more psychological approach is used with group discussions as the main intervention. In Spain there is a program for substitution treatment and also a treatment aimed at Cocaine problems. Italy is in the process of developing a

program for women, where women and men live separately, but work together during the day. There is also a substitution treatment since four-five years. The Methadone program is a part of a damage- and risk reduction perspective, and is motivated by previous failures to avoid multi-consumption of drugs. In Spain there is a program for co-morbidity that however is restricted to Spanish citizens.

Detoxification often occurs at the treatment collective and as part of the process. Detoxification is managed on drugfree terms with a strong personal support during the abstinence phase. The days are structured around programs from seven in the morning to eleven a'clock at night. There is thus very little free time alone.

The Treatment Philosophy

The treatment has three distinct phases. In the first phase the detoxification takes place, under the supervision of a doctor, unless the client has not al-ready been detoxified in Sweden. The client must be able to recover phy-sically and recover a normal daily rhythm. Another goal in this phase is that the client should learn to handle constructive criticism and find conflict solu-tions, further to respect the rules that apply for when one is a part of a social community. The client receives a contact (person) at the treatment collective and begins after two weeks to participate in the group activities.

In the second phase, the treatment phase, the goal is for the client to learn how to continue living a life without drugs and develop his personality in different ways, gain responsibility and practice social competence.

In the third phase the readjustment starts in accommodation that in Sweden is located in Stockholm. The goal is that the client shall start with vocational training or an education, and hence arrange their own accommodation. The program contains, according to Dianovas presentation, four themes;

- One questionnaire on psychological assessment, that concludes with an individual readjustment plan.
- One manual based course in relapse prevention that aims to help the client learn a method to not relapse into previous problematic behaviours. The program for relapse prevention is time limited.
- Group discussions once a week.
- Structured leisure time and occupation where the clients are offered the opportunity to participate in scheduled activities.

Because the treatment collectives alter their treatment content a little, some of the clients get extra support during the readjustment phase.

Outcomes in residential therapeutic treatment (TC:s).

About the outcome criteria

In as good as all treatment programs the objective is that the whole individual shall improve – not just the addiction (McLellan et al, 1996). For a successful outcome, physical and mental health and the social functioning should therefore improve. Changes in the 7 different problem areas in the client evaluation interview Addiction Severity Index (ASI) are dependent on an improvement in the area of mental health, for a stable change of the life situation to be accomplished (McLellan et al, 1992). Serious mental illness demands that goals must be nivellated compared to those for persons without mental illness yet with a heavy addiction (Fridell, 1996b).

In addition to abstinence and reduced treatment costs, society profits from less criminality, reduced infections of narcotic related illnesses and finally changes pertaining to gains for relatives and the family of the addict (McLellan et al, 1996). One difference between the result studies and effects studies is that the outcome criteria have to, as a rule, become more exact yet limited in effect research (Prendergast et al 2000, 2002). Another and more important is the design, which in effect studies proper, demands a randomization of patients into experiment- and control groups. Most studies of residential treatment options like Dianova are not based on RCT-design, but more often on quasi-experimental or observational designs. Nor is the treatment philosophy based on experimental research, rather on aggregated experiences among the staff in charge.

In the BAK/SWEDATE-project (Bergmark et al, 1994) eleven criteria were defined: outcome in narcotics, alcohol, criminality, economical support and mental health etc. placing the different outcome criteria stepwise towards each other one can find different results depending on what one wants to put into a successful treatment outcome. This, means Bergmark et al (1994), make the process that is involved in quitting narcotics, visible. Fridell (1996a) argues that a model with many combined outcome criteria becomes a kind of ”complete renovation model” that lacks comparability with other studies and furthermore gives an unrealistic description of what is possible to accomplish.

DeLeon (1984) has in his evaluations chosen to present the result in terms that give maximal favourable improvement versus a favourable outcome. With the first named criteria a person should at a two year follow up not have used drugs, alcohol or committed a crime. With the second criteria the person should not have committed any crimes during the past two years, and only an occasional relapse is acceptable. Also important is that DeLeon in his original evaluation of Phoenix House used an equivalent design to randomised controlled study named cross-validation design, which implies that two different and comparable cohorts are assessed with the same instruments and effects registrated over time. The design uses the organisation as it´s own control.

There are lots of disagreement among researchers, but in general the discussion of outcome criteria and alternative designs has resulted in better operationalised and assessable dimensions.

Time in treatment and dropout

Time in treatment is a key factor for future freedom from drugs for narcotic addicts (Fridell, 1996a; Bergmark et al, 1994; Simpson et al, 1997; Moos & Andrassy, 1999; Ravndal, Vaglum & Lauritzen, 2005). However McLellan et al (1996) argue that one cannot exclude the fact that it is the most motivated persons who stay for a long time in treatment, rather than time in it self become the decisive factor. A similar connection between time spent in treatment and outcome has not been found for the care of chronic alcoholics or persons with psychosis or personality disorders (Fridell, 1996a) In randomised controlled studies (RCT-studies) it has been shown that time spent in treatment has an effect up to 3 months in treatment but not beyond 6 months after starting treatment (Fridell 2003). We get two rather different perspectives when using RCT-studies versus when using observation studies like the DIANOVA study presented below.

The minimum time in treatment that is necessary to achieve a result is between 50 and 190 days (Berglund et al, 2003). Simpson et al (1997) indicate three months as the lowest limit for remaining in treatment. Repeated care occasions also tend to improve the results (Davidsson & Magoulias 1992). Furthermore in the SBU- report (Berglund et al, 2003) it is mentioned that the cohort studies show that treatment the second or third time around usually gives better results than the first treatment contact. At the same time other studies indicate that many treatment occasions often implies a negative outcome. Perhaps more treatment occasions indicate more severe problems in these latter persons which make them return to treatment (Berglund et al,

2003; Ravndal et al 2005). Finally it has been established that regular aftercare, for example in form of self-help groups, influences the outcome positively for persons with alcohol addiction (Moos et al 1999; Bergmark et al, 1994; Fiorentine, 1999). A recent meta-analysis by Holloway, Bennett & Farrington (2006) indicates that structured interventions like TC within the prison system which continues uninterrupted into outpatient settings have largest and most robust effects on substance abuse and criminal patterns.

In well monitored TC:s, about 50% of the intial samples remain in treatment after six months, (Fridell 1996a; Ravndal, 1993). As a rule 30-35% in well monitored TC:s remain in treatment up to completion (Fridell, 1996a). Research about who dropout from treatment is not unambiguous and shows some contradicting information. It is however clear that a selection of more well functioning and socially integrated drug treatment leads to a better completion rate (Fridell, Al-Obaidy et al, 2002). Early dropouts are often persons with more serious mental problems than those who interrupt treatment later on. They also have a more negative view on treatment (Fridell, 1991, 1996a).

Personality disorders that show an association with low completion of treatment and retention, is primarily anti-social or schizoid (Fridell, Hesse & Johnsson, 2006; Ravndal et al, 2005). An American study on institutional treatment showed that low stress tolerance predicted early dropout (Daughters et al, 2005). Other studies show that Opiate addicts interrupt treatment more often than Amphetamine addicts (Ravndal et al, 2005).

It is however not only the clients character traits that influence the dropout level, but more so how the organisation operates in practice. An initial well-motivated client can loose motivation or conversely, depending on the organisation he or she encounters (Fridell, 1996a). Ball, Carroll, Canning-Ball and Rounsaville (2006) published a pilot study where the clients with early drop-out were asked to give the reason for what caused their interruption of treatment. The informants stated that they primarily lost motivation and lost hope that they could change due to conflicts with and within the staff. Clients with high dropout risk tend also to dropout from treatment programs with many control functions and might need more support functions (McKellar, Kelly, Harris & Moos, 2006). Davidsson & Magoulias (1992) states however that those who drop out often benefit from a new treatment opportunity. As can be seen from this brief exposé, the only chance to predict dropout is to gather information on the individual assets and difficulties a client might have as early as possible in the treatment process.

Organisational factors

Research has shown that treatment of drug addiction, as a rule, yields better results if it occurs within environmental therapeutic institutions rather than in outpatient care. This is however not the case for alcohol addiction, where one cannot find any significant differences in treatment effects between the two forms of care (SBU, 2001). There is however a large variability in effectiveness amongst the programs and even if the treatment is generally seen as effective it does not proove every program to remain effective (Prendergast et al, 2000; Prendergast, Podus; Chang et al, 2002; SBU, 20019. Furthermore the treatments results can vary to a great extent between organisations with the same ideology and theoretical point of view, depending on differences in the organisation (Fridell, 1996a).

Prendergast et al (2002) in a meta analyses of 78 effect studies found that treatments with high effectiveness were more successful in implementing the ideas behind the operation, for example through manual based programs and education of personnel. Fridell (2003) like Andréasson and Öjehagen (2003) show that as well as for alcohol- as for narcotic addicts, there are four factors that indicates well functioning treatment settings before less well functioning: 1) that the treatment focuses on the addiction, 2) that there exists a high level of structure, 3) that the treatment last long enough for there to be an effect (at least three months) and 4) that there is a comorbidity is dealt with in the same treatment occasion.

Fridell (1996a) summarises organisational research that indicates that in an effective organisation there should be clear and realistic goals that can be achieved and evaluated, a firm and dependable structure and clearly defined leadership. Furthermore well functioning organisations employees have the competence that corresponds to the client needs, with work methods adapted to the latter (Fridell, 1996a) and which is modified depending on where in the process of change the clients find themselves (Blomqvist, 2002). A high level of structure and clarity should be in focus for the operations, especially regarding work with clients who have personality disorders (Swedish National Board of Health and Welfare, 2006).

Personal experience of alcohol problems seems to be a positive factor in the 12-steps- and Minnesota treatment modalities where recruitment of patients often resembles the staff regarding background. One advantage of this is that former addicts are very familiar with the behaviour that follows the addiction and the cultural conditions of the group. However in treatment of addicts with mental illness, education and professional knowledge is what is more important. One negative aspect with addiction experience can be that

staff members are not yet ”finished” with their own personality problematic or other serious problems. Operational divisions for heavy drug abusers with a lot of professionally educated personnel tend to obtain better results than operations with only former addicts as caregivers (Bergmark et al, 1994).

Addiction and psychiatric/psychological disorders

To have both an addiction diagnose and a mental illness implies a greater burden and suffering for the individual, and implies a negative prognosis for treatment (Fridell 1990, 1991, 2004; Schaar & Öjehagen, 2001), especially if the treatment is not adapted to both conditions. If the addiction is not treated, the patients mental health can deteriorate; if on the other hand the mental state is not paid attention to, the patient risks relapse into the addiction after treatment. Patients with “double diagnoses” are also at risk to a greater extent than persons with only a substance addiction, like physical illness, violence, criminality, problems with social functioning and relations (Schaar & Öjehagen, 2001).

The term mental disorder is not synonymous with mental illness even if mental illness sometimes tends to overinclude, for example states of crisis and personality disorders (Swedish National Board of Health and Welfare, 1996). The relationship between mental illness symptoms and addiction are complex. Drugs and alcohol trigger mental problems, amongst other things substance conditioned psychoses and depression, and accidently ease mental troubles like for example anxiety. Consequently the drugs effect can come to conceal the mental troubles and disorders, which does not manifest itself until the person terminates their addiction (Swedish National Board of Health and Welfare 1996).

Amongst heavy substance abusers are mental disorders of different kinds a common occurrence. Fridell (1991, 1996b) means however that it does not to a large extent include a group of seriously mentally ill persons, because the number of persons with mental illness is relatively small. The group of personality disorders instead, is by far the most common disorder amongst persons with a drug addiction. In an review of studies within Scandinavia, Fridell (1996b) found a prevalence of 65-85% personality disorders in groups of persons with drug addiction. Öjehagen (1998) found a prevalence of 40-70% personality disorders amongst alcohol addicts, however she writes that the numbers vary depending on which group that is being studied. In the normal populations from the USA, the occurrence of personality disorders is around 6% (Fridell, 1996b).

The most general clinical picture of mental disorders in drug addiction is an often simultaneous occurrence of personality disorders in between 65-80%, (Axis-II-disorders), anxiety or medium severe to severe depressions (axis I-syndromes, 60%) and finally psychiatric disorders (Axis I) with or without psychoses (15%). Half of this last subgroup have substance related symptoms, while the remaining group have more severe chronic non-substance related psychiatric disorders (Fridell 1991; 1996b; 2004; Fridell & Hesse et al 2005; 2006; 2006a; 2006b; 2006c; 2006d; 2007; 2008).

Amongst the people that have been treated and followed up in another Swedish national project; BAK/SWEDATE- project, depression occurred at up to 60% even in those being abstinent (Bergmark et al, 1994). This is very much the same picture we have found in later follow ups (Fridell & Hesse 2005; 2006, 2006a,b,c, Fridell, Hesse & Billsten 2007).

In the recent population based study, the NESARC-project an evaluation of the prevalence for and co morbidity between substance addiction and mental disorders in the American population was carried out. The study includes 43.093 persons. Diagnoses according to DSM-IV were assessed with AUDADIS-IV that is based on the DSM-IV:s criteria for mental disorders. Grant, B. F., Stinson, F.S., Dawson, D.A., Sher et al (2004) found that 16% of those with an alcohol addiction had at least one personality disorders. In the group with drug use disorder at least one personality disorder was present in 48%. The comorbidity of drug depen-dence and personality disorder was even higher, 60%.

Antisocial personality disorder was the most common amongst people with drug dependence and the portion was 28%. In clinical samples persons with both an addiction and mental disorder are more common than in population studies. Those who seek treatment experience more mental suffering. Grant et al (2004) also found significant connections between substance use and affective disorders such as anxiety. Twenty percent of all substance abusers had some form of affective illness, whilst 18% at the same time had an anxiety syndrome. Amongst the drug addicts who sought treatment for drug dependence, 60% had some form of affective disorder, 43% had some kind of anxiety disorder. Those who sought treatment had more symptoms. Few persons had substance induced affective disorders or anxiety syndromes. Grant et al (2004a) points at the importance to give mental treatment during treatment for addiction.found a few predictors to mortality in a fifteen-year follow up of a group of heavy narcotics abusers (Fridell and Hesse 2006). Abstinence at the fifteen-year follow up of the same group could not predict mortality at the 15-year follow up, while mental status at the same point in

time could. Factors that predict mortality at the fifteen-year follow up were high levels on the GSI-scale in SCL-90, low levels in the SOC-test and levels under 70 on the GAF-scale (Fridell & Hesse, 2006; Fridell, Hesse et al, 2006a).

In a Norwegian prognosis study with a selection of persons with heavy narcotics abuse psychopathology was related to overdose and suicide at the fifteen-year follow up. Those who are included in the study were originally registered for treatment in a therapeutic society of the type Phoenix House (Ravndal & Vaglum, 1995).

Antisocial personality disorder has in a series of studies from the S.t Lars-material shown to give an essentially poorer outcome from the individual care episode up to five-year and in a fifteen-year follow up (Fridell, 1996b, 2002; Fridell and Hesse 2006a,b,c). Ravndal et al (2005) showed that personality disorders were negatively related to completion of treatment. According to Ravndal and Vaglum (1995) antisocial or narcissistic personality disorders predicted death by overdose, possibly related to the increased risk taking described in those persons. Fridell, Hesse & Johnsson (2006) showed a clear relation between antisocial personality disorder and a number of convictions, abstinence and dependence on social security assistance, in a five-year follow up of heavy narcotic addicts. The group with antisocial personality disorder had a continuously high level of treatment consumption and criminality, whilst the positive changes were lower concerning drug habits than for the group without that diagnosis. In this follow up 29,6% of the cohort (n=125) and 24,5% of the population, which consisted of 773 persons, fulfilled the criteria for antisocial personality disorder at their first admission to treatment (Fridell, Hesse & Johnsson 2005).

Other problems however less often associated with Antisocial personality disorder was that 60% of patients in the five-year follow up stated that they felt psychologically ill, and loneliness was the main cause. Thirty-three percent had experienced serious depression at some point in their life and 45% had at some time made a suicide attempt. During the past year 30% they admitted having had recurrent suicide thoughts. At the follow up, the group was clearly over the average on SCL-90. The men had greater symptom levels than the women on SCL-90 and mental problems existed even with those who were abstinent (Johnsson & Fridell 1997). The rate of personality disorders within the dramatic cluster fell from 58% at the treatment occasion to 37% at the five-year follow up. The rate with personality disorders decreased at the same time from 29 to 14% (Fridell, Hesse & Johnsson, 2006). Persons with a personality disorder within the dramatic cluster had a lower level of symptoms, which implies that they do not suffer t the same extent as other patients and therefore are difficult to influence.

Mental difficulties are not unambiguously negative when it comes to addiction treatment; symptoms can also be motivating for treatment and with at least anti-social personality disorder, depressive symptoms improve the prognosis (Woody, McLellan, Luborsky & O´Brien, 1987). Rao, Broome and Simpson (2004) found a relationship between depression and reduced drug usage during the year preceeding a follow up versus five-years after treatment, whilst anger/ hostility was associated with continued drug usage and criminality during the same period. As a basis for depression respectively, anger subscale from SCL-90 was used in combination with a self-evaluation questionnaire for psychiatric symptoms.

Several earlier studies have found that women as a group have more psychiatric symptoms than men, both regarding groups of addicts, psychiatric patients or the population at large (Fridell, 2002; De Wilde et al, 2004). Mental disorders by the side of addiction is more common amongst women than men, with the exception of Antisocial personality disorders that existed in a significantly lower rate amongst women (Fridell, 2002). If one looks at the dramatic cluster the number of women and men with one diagnose in the cluster is however about the same, as is the same for the remaining population. De Wilde et al (2002) interviewed 828 women from 33 different therapeutic societies and found that women had more mental difficulties than men, had been more exposed for assault and considered that is was more important with treatment for ones mental difficulties.

It is important to know the level of mental disorders in the group that is being treated. A large study on 15 different 12-step programmes in the USA verified at a generally lower level of mental disorders (29%). In out own 2-4 year follow up of a random sample of patients (n=80) from a cohort from a Haezelden treatment unit in Sweden (Nämndemansgården; Fridell et al 2002) treated 1997-2000 (n=798) this was verified. This last group of patients showed the same level of mental disorders as in the American multicenter-study (29%). A unique characteristic in the sample was that personality disorder were only 17%, in principle the same level as in the NESARC-study (Grant et al 2004). No patient had an anti-social disorder. Furthermore it was shown that the patients in this cohort as well as in the American study, had a relatively well-ordered social and employment existence in contrast to the heavier narcotics addicts examined in the Dianova study. Lower levels of psychopathology has earlier been found to give a better outcome than those who have a heavier co-morbidity.

Social networks

Skårner (2001) in her literature review on support- and network research, found that addicts have relatively small social networks and that these often have a negative effect on the person's life in the cases where it involves other active substance abusers. A common cause of relapse is the relation to events, places and people that were earlier associated with the addiction (De Leon, 1990-91, in Fridell, 1996a). Skårner (2001) writes that research also has shown that treatment can contribute to improvement of the network and that social support from the network in turn usually is connected to a favourable treatment outcome. The drug user has consequently just like other vulnerable groups, sparse social relations and they tend do decrease with time. Relatives and family members often constitute the sole existing relationships and many times there exists a lack of lasting and good friends. The close relationships that exist are characterised in their turn in many cases by ambivalence and dependency problems.

One thing that separates drug dependent individuals from other exposed groups, is that they have their social networks almost exclusively in the world of present or former addicts. It is a social world that there is no equivalence to in other burdened groups, for example persons with serious mental illnesses. To break with the drug using world and build a "normal" social life is in general a long process and consequently a difficulty that most people that quite abusing must learn to handle in addition to restrain from drugs (Skårner, 2001).

In a five year-follow up of heavy narcotics addiction, those who had succeeded in becoming abstinent mean that the most important factor in their lives has been that someone has cared about them, someone who would stay even if things went bad. Those who still abuse, even in lower quantities than before, tell instead about their difficulties establishing a "normal" social life and of a great loneliness (Fridell, Johnsson Fridell et al, 1996, Fridell 1998). Even the information in Blomqvists study (2002) witnesses of a personal commitment from a helper one trusts contributes to a drug free living.

Outcome from other relevant studies

In a long-time follow up of drug addiction there is less focus on treatment results than with short-term follow ups because a lot can have changed in a person's life since the treatment. According to Fridell (The National Board of Health and Welfare, 2006) there exist only a handful of studies that have longer follow up time spans than 15 years when it comes to drug addicts. Hser et al (2001), conducted a 33-year follow up of 242 (originally 581) male

Heroin addicts in California. Almost half of the original cohort was dead after 33 years. Fifty-six percent of the examined group did not use Heroin at the time of the follow up and 47% (20% of the original cohort) had not used Heroin in five years. Of these there was only 15% who drank alcohol daily and 25% that still used Marijuana. The people who had not used heroin in five years were less criminally active, with less physical and mental symptoms and a higher level of employment. The study also showed that the risk for relapse decreased considerably after a two years of abstinence with a couple of exceptions.

In the above referred five-year follow up of Fridell, Cesarec et al (1996) of drug dependent patients from a psychiatric narcotics care unit for detoxification and short term readjustment, outcome data existed for 90% of the whole cohort (n=125) treated between 1988 and 1999. Thirty-nine percent had been continuously abstinent two years or longer at the time of the follow up, which was named stable abstinence, where 17% during all the five years. An additional 4% had been drug free during the past year and to that 5% who had been drug free the past six months. Twenty-three percent had not been of drugs at all during the five years and another 13% had been drug free only for the last couple of months (Fridell, Hesse, & Billsten 2006). The women had significantly higher levels of stable drug freedom than the men, 54% versus 30%. Thirty-two percent of the group had economic aid and 6% had been convicted to jail the past year. Repeated treatment respectively continued treatment after the time of index care was related to positive outcome (Fridell, 1998; Fridell, Cesarec et al, 1996).

The fifteen-year follow up (Fridell, Billsten, & Jansson, 2006) was based on the same selection as the five-year follow up. The outcome at fifteen years is known for 88% of the sample. At the fifteen-year follow up 34% had been free form drugs that had lasted for two years or longer, 54% had been abstinent for half a year or more. At the time of the interview 60% were drug free. Almost a fourth of the original cohort had died (34/125). Even after fifteen years were the women free from drugs to a larger extent than the men. Thirty-five percent had experienced mental problems during the past thirty days and symptoms existed independently from the addiction. The number or persons that felt mentally ill were however fewer than at the five-year follow up and the occurrence of suicide thoughts had decreased considerably. Criminality had also decreased and only 2% had been convicted for a crime during the past six months. Fifty-five percent had their own accommodation and 30% were married or cohabiters. Forty-four percent had social subsidies, and some 25%% had had a stabile employment during the past ten year period while 29% supported themselves on disability pension.

The BAK/SWEDATE-project is a one-year follow up of 438 narcotics abusers that have been treated at 23 different treatment facilities in Sweden. The results showed that 36% of the clients had been free from narcotics during the whole time after the treatment and an additional 15% had not used narcotics during the past six months (Bergmark et al, 1994). The women's situation one year after the treatment was somewhat better than the men's on all of the criteria, except regarding mental health and abuse of psychopharmacologic drugs (Bergmark et al, 1994). The women as a group in Scandinavian studies seemed generally more severe than the men on background factors and also made their addiction debut earlier than men (Fridell, 2002). Women make up for circa 25% of persons with an addiction problem, yet men however overrepresented in treatment, where 33% of those treated for an addiction are women (Fridell, 2002).

Most evaluations that have been done of TC:s have been done in the USA where there exist a large number of treatment specialisations within this branch of addiction care. Three large national evaluations have been done with the aim to measure treatment effect, where the last one is Drug Abuse Treatment Outcome Study (DATOS). In an article of Simpson et al (1997) the outcome is described from a selection of 788 people from the original registrations in the DATOS-project that includes over 100 000 per-sons. From these came 342 persons from institutional treatment, primarily therapeutic societies. The study was a one-year follow up with a before- and after design. The results show that for all treatment programs longer stays are associated with more favourable outcome. The median time in treatment at institutionalised treatment was 92 days. For the group that was followed the injection addiction decreased from 17% to 5%, Heroin use from 19% to 7%, daily alcohol consumption from 23% to 11%, arrests from 53% to 32% whilst employment increased from 54% to 68%. 30% had re-entered some form of treatment during the past year. Significant improvements were found over time on principally all outcome criteria (Simpson et al, 1997).

Moos et al (1999) compared the outcome after one year for persons who had been treated in a TC, 12-step institutional readjustment and treatment program without any defined treatment method. The only differences that were found were between the unidentified treatment where these showed the worst results. The sample from the therapeutic society consisted of 712 persons and the number of drug-free clients had increased from 5,8% to 40,5% after one year. Furthermore, the clients with significant clinical mental symptoms decreased from 45,5% to 29,1%, the number of arrested persons decreased from 40,9% to 27,3%, while employment increased from 12,7% to 38,1%. The trends are very similar to those in the study of Simpson et al above.

Studies of the TC of the American type points to the fact that there are heavy groups of chronic addicts who are treated, most often in the age of 19 to 35 years. It is common with drug related crime, problems with social relations and low levels of education. In Minnesota and the 12-step treatment it is often about addicts without serious mental disorders (Fridell, 1996a).
On average in the TC:s in the USA today, there are circa 35% of the patients that complete the whole program. Almost all studies with before- and after measurements show that short- as well as long term improvements between registration and discharge in the therapeutic society, for example for drug use, occupation, education and criminality. De Leon (1990-91) implies that relapse levels are high, especially amongst drop-outs. Forty percent of these persons relapse within a year, compared to the 10% of them who pursue treatment and the relapse risk is the highest during the first six to twelve months after discharge.

Two evaluations have been carried out by Patriarches operations. One study of Patriarche´s German clients, is from the middle of the 1990s (Gerlich & Gerlich, 1995). The selection procedure is incorrect as the follow up anticipated that addicts in general would have to travel to Bonn in Germany at a specific time to be included in the study. The study therefore only ended up comprising of 51 persons from a group of 587 german drug addicts that had been treated within the Patriarches. All of the persons interviewed had at least been 10 months in treatment, with an average treatment time of 21,8 months. At the follow up 40 of 51 of those interviewed had been drug free the whole time after the treatment and 50 out of 51 were drug free at the time for the interview.

An Italian outcome study of Patriarche (De Allegri et al, 2001). The follow up percent was low, only 262 persons from a sample of 1314 persons could be contacted, accepted participation and were followed up in an interview. A disadvantage from a comparative viewpoint is that everyone in the group that was followed up had stayed the Patriarche centre for 24 months or more. From the original selection, 183 had died, most in AIDS. During Patriarche time there was no time-limited treatment and it was considered that the minimum time spent at the centre should be two years. Thirty-six percent had used drugs in some form after the treatment whilst 16% used drugs at the follow up occasion. The majority used Cannabis (14,2%) and a few used heroin or cocaine. A major lapse in the analysis of results, regardless of a low follow-up percentage, is that the original cohort has not been described or used in the comparison of which of the patients dropped out of treatment. The results seem very imcomplete and nonconclusive.

Objectives and Research questions

The aim of the present study is to do a follow up with multiple criteria of Dianova´s clients who have been registered for treatment between 01-09-2002 and 30-06-2004. To achieve this objective the following research questions have been formulated:

How do clients life situation look at the follow up regarding:

- A comparison of back-ground data for patients who complete treatment at Dianova and those who drop out of treatment.
- Alcohol- and narcotics use. Clients drug habits after discharge from Dianova with focus on the current addiction situation and other possible treatment contacts since the stay at Dianova.
- Social situation. Clients' current situation regarding work, employment/occupation and accommodation.
- Social network and social integration. Clients' social relations regarding family relationships, living standards, social network and level of social integration.
- Physical health. Clients' current physical health condition and possible healthcare contacts.
- Mental health. Clients' mental symptoms, indications of personality disorders, problem evaluations of mental difficulties. Mental treatment contacts, personality traits, feeling of coherence and social and level of mental functioning.
- Criminality. Clients' judicial situation regarding prosecution and conviction and possible illegal activity.
- A quality aspect is included in the hypotheses; how did the interviewed experience the treatment at Dianova?

METHOD

This study is based on a well-definied cohort of all the patients treated at Dianova Sweden between 01-09-2002 and 30-06-2004.

The design is a base-line description of a consecutive sample of persons that started treatment within the defined cohort period. It is a single-group design, and outcome study with a follow up. It does not contain a control group, except for comparisons made above on sample characteristics. The sample contain all patients who was included at Dianova´s start in 2002. The patients were previously referred to residential treatment within Dianova International. The establishment of a national organisation opened for the possibility for Dianova to place 72 clients through their matching model, where different centres receive patients with different problem profiles. We decided this was the best period to start a follow-up of the patients.

We follow the patients between one year and up to two years to see how clients' life situation looks at the follow up. When initiating the study, Dianova had no standardised registration method like ASI, which later became part of the organisation´s register system as a consequence of this study. The organisation was not familiar with methodology or the principles of research at that time. It was therefore deemed necessary to build a battery of standardised base-line data in collaboration with the staff at Dianova. This was a precipitate for us to be able to compare in a standardised way, how life situation has changed for the group examined. The original registration information was in many cases brief in its character. Base-line data and criteria for outcome had to be developed in collaboration with Dianova and adapted to the standardized model of ASI.

Inclusion criteria

The inclusion criteria in this study are the clients from Sweden that have been registered and begun their institutional treatment at Dianova during the time period of 01-09-2002 to 30-06-2004.

The study has and intent-to-treat-design, which means that all the clients that have been registered for treatment have been included in the study, even those who have interrupted treatment.

Patients with mental illness were not accepted to Dianova.

Material

On the basis of these criteria the cohort comprises 72 persons, 14 women and 58 men.

The total number of persons interviewed was 43 persons, of which eight were women and 35 were men. The table 1 shows the characteristics of the non responders

Table 1. Non responders in the cohort (n=29)

Status	n
Refused interview	4
Died	5
Resident abroad – not approachable	4
Not possible to contact at the time of the study	15
Not interviewed due to safety reasons	1
Protected identity	1

A few had declined the opportunity to participate in the interview and the largest share of the dropout is due to problems in contacting the former clients. Only four refused interview. Many had moved to another part of the country and ended their contact with social services. A final search via the tax authorities address register was started but, at that time, most of the interviews had been completed and therefore could be useful only to a limited extent.

29 persons from the sample were not been interviewed. The outcome data is missing. In the cohort there are five people that have died where of three were women and two men. As the reason for death is known for four of these people and it is drug related, these four people belonging to the group of ”outcome known” in the dropout analysis that are presented in the results section. The outcome is thus known for 67%.

Procedure for first contact and ethical considerations

Due to secrecy, it was decided that Dianova staff members always made the first contact with the clients. At this stage it was only the staff at Dianova who knew the identities of those of who were a part of the cohort. In the introductory letter the clients were asked if he/she wanted to participate and were informed that their participation was voluntary, that private information would not be communicated to Dianova and that their identity was never to be combined with interview data. Those clients who accepted to participate received a second letter where the interview was introduced. The

ethical rules of the ethical committee at Lund University was followed. The study was approved by the Ethical Committee of Lund University (LU 22/ 1983 and Dnr 587/2005).

The interview was carried out during the autumn of 2005 up until the spring of 2007 and took place at Dianova offices in Malmö, and in Stockholm and at two other occasions at the Institute for Psychology at the University of Lund. The interviews lasted between two to five hours.

During the interview the participants were informed about the study's contents and that they could refrain from answering questions that they felt were too personal or they could interrupt entirely. The participants were informed about study aims. Participants were offered feedback of the test data from the interviewer over the telephone, and to take part of the results. The participants were financially compensated with 300kr and expenses for travel costs. The interview persons also handed in a written consent at the beginning of the interview.

Mixed with questions from the interview guide the persons were asked to fill in the questionnaires AUDIT, DIP-Q, SCL-90, ISSI-SR, KASAM and a quality survey. Questionnaires not finished during the interview were complemented after the interview and sent by mail to the Department of Psychology in Lund. Three people were interviewed per telephone because they lived far away from Stockholm or Malmö and did not have the opportunity to travel to the follow-up facility.

Assessment instruments

The interviews were semi-structured and contained closed and some few open questions. The interview guide that was used is a revised version of the interview that was used in Fridells et al:s (2006a) fifteen-year follow. It was based on the Addiction Severity Index- follow up (ASI), questions with addition of a Time Line Follow Back-interview covering dimensions of ASI.

Addiction Severity Index follow up (ASI)

The ASI-interview is used today in many countries and is a standardised interview published first in 1984 by the American addiction researcher Thomas McLellan. It was originally used as an evaluation method to be able to match clients to different treatments (McLellan et al, 1992). In Sweden the ASI-interview was primarily used within social services and in research contexts, as a method to collect information about clients in a systematic way. ASI covers seven different problem areas: physical health, work/employment,

alcohol- and narcotics usage, criminality, family and relations, addiction, mental problems in the family and mental health with a high reliability and validity regarding the assessment of clients need of assistance and general life situation (Andréasson et al, 1999). It has been used for follow up activities and to evaluate the effects of different contributions within addiction care. When it comes to self-reporting of drug problems, studies have shown high validity and reliability. The authenticity in the self-reporting data is as a rule high if the person that has been interviewed has not had anything to gain from giving a deceptive view of the situation. 90-95% of the interviewed in BAK/ SWEDATE were reliable according to Bergmark et al (1994), with only 0,1 to 0,2% not reliable.

The version of the ASI-interview that was used in this article is the ASI-follow up version. It is a little shorter than the main interview and amongst others the section on addiction and mental problems in the family has been removed. Our additional questionnaires compensate this dimensions. ASI has evolved with the aim to map out how clients situation and need for support changes over time (Andréasson et al, 1999). In the interview, the main focus is directed at mapping what has happened in the clients' life during the past 30 days and over the past 6 months (See table 2).

At the end of every subject area the interviewed person are requested to rate their current problems and possible needs of support, beyond the help they already have access to, within the same field. Finally the interviewer makes an estimation of the persons problems and need of support.

Besides accounting for the interviewed persons answers to the individual ASI-questions, there are mathematical summation indexes, so called composite scores, which are the sum of several answers in each and every one of the six problem areas that the interview is designed to cover. The composite values are used to get a more simplified comparison of change as an indication of treatment results. For all the areas except work, high points indicate problems.

Worth notation is that the mathematical formula for work and employsment is adapted to American conditions. This imply that the capacity to provide for oneself implies having a drivers licence and access to a car. This make the score disproportionally large in comparison with European situation of being able to provide for oneself. This is important since it is within this area that the indication of problems tends to be largest in groups of addicts. Andréasson et al note that this composite value should be interpreted with caution (Andréasson et al, 1999).

Table 2. *Overall problem areas in the ASI follow up interview, number of item and examples of content in each respective area.*

Area	**Content**
Physical health (13 item)	Questions on Hepatitis, HIV, prescription drugs, doctor visits, pension/ temporary disability pension.
Work/employment (24 item)	Employment patterns, sources of income, income, notification of illness, education level.
Alcohol-and narcotics usage (26 item)	Use of alcohol, narcotics and medication regarding extent and intake method, treatment contacts for the addiction.
Family and relations (24 item)	Current civil status, living conditions, number of friends, occurrence of conflicts, addiction and support in relations.
Mental health (22 item)	Mental care contacts, occurrence of mental difficulties and suicide thoughts.
Criminality (19 item)	Occurrence of detention, prosecution, judgements and specification of which crimes they concern and possible duration of sentence.

Time Line Follow Back (TLFB)- method

A few of the questions in the interview guide are structured according to the Time Line Follow Back (TLFB)-method, where the questions originates from how the life situation looks in the present according to the ASI-questions, and then goes backwards each quarter of a year until the time of index care. In the original I TLFB-method the point is to obtain daily information about a per-sons life situation from a 12 months perspective. In the follow up by Dianova Sweden the main patterns in a three months period are examined with a more general estimation of the amount of alcohol and drugs per day as well as other problem areas.

Sobell and Sobell (1996) initiated the TLFB-method and have subsequently been able to show high test-retest reliability and a high convergent and discriminating validity compared to other methods and instruments such as information from relatives and urine samples. However the same study has shown poor discrimination between days with high and low alcohol use. Fals-

Stewart, O'Farell, Freitas, McFarlin & Rutigliano (2000) confirmed the generally high validity and reliability of TLFB. In our own study accounts from cross-section data in comparison with the TLFB-method has not shown any contradictions.

Documentation within Addiction Care-DOK

The evaluation- and documentation system DOK has been developed in collaboration with the Governments Institutional Board of Institutional Care (SIS) and the Institute for Knowledge Development within Addiction Care (IKM). It is a mapping instrument that is used within compulsory institutionnal care (LVM-vården) and compatible with ASI with the same structuring of problem areas. Questions from the DOK, primarily regarding addiction related care and accommodation, have been used in the interview guide as a complement to the data that has been gathered from the ASI-follow up. The reliability and validity of the instrument is satisfactory to good (Jenner & Segraeus, 2005).

The Alcohol Use Disorders Identifications Test (AUDIT)

The Alcohol Use Disorders Identifications Test (AUDIT) is an international screening instrument developed by a group of scientists on commission from the WHO as a tool that aim at diagnosing alcoholism (Saunders, Aasland, Babor, De La Fuente & Grant, 1993). AUDIT is intended to be used as a screening instrument to identify possible alcohol problems before the criteria for addiction according to DSM-IV are fully met.

The questionnaire has 10 items where the client is asked to estimate their own alcohol habits. Every item give between 0-4 points and the whole test maxi-mum 40 points. The results give separate points for at risky alcohol consumption (three item), dependency symptoms (four item), harmful consumption (three item) and total sum score. International studies show that an average of 8 points or more indicates a harmful or at risk alcohol intake (Saunders et al, 1993). Gender- and age corrected linear T-points can be calculated for the total points according to Swedish norms, where the above limit for "normal" alcohol consumption is at 70 T-points. AUDIT shows satisfying reliability for the Swedish version where Cronbachs alpha for internal consistency is .82 and the test-retest .93 during a 3-4 week interval for the total points (Bergman & Källmén, 2001).

Symptom Checklist (SCL-90)

The Symptom Checklist is a self-evaluation questionnaire that measures current mental health status, based on how the persons themselves appreciate that they have felt. The questionnaire comprises of 90 statements where the

person has to estimate how much he or she has been bothered by the symptom during the past week. The statements can be grouped into 9 scales with between 6-13 statements describing a specific symptom. Seven items are not present in any of the scales. The points are summarised and converted to T-points with T=50 as the average, the standard deviation Sd=10 and where T-points above 70 indicates the occurrence of a mental suffering and values over 80 represent clinical levels of symptomatic difficulties. In addition to the clinical subscales, there are three global measurements on mental difficulties that are used as an "all inclusive measurement on the level of psychopathology". The nine sub-scales in SCL-90 are Somatisation, Obsessive-compulsive, Interpersonal sensitivity, Depression, Anxiety, Hostility/anger, Phobic anxiety, Paranoid thinking and Psychoticism. The three global measurements are shown in table 3.

The instrument was modified by Derogatis et al (1974) based upon the Hopkins Symptom Checklist. It is used internationally and was standardised for Swedish conditions by Fridell, Cesarec et al (2002) on commission by SIS. The test has been standardised on 5000 persons from the general population validated on 2000 patients in various patient groups (Fridell, Cesarec, Malling Andersen & Johansson, 2002)

Table 3. *The three global index measurements of discomfort.*

Global measurement	**Description of the scales content**
Global severity index (GSI)	General measurement of the experience of difficulty. Average answer regardless of the subscale.
Positive symptom disorders index (PSDI)	Intensity in the experienced problem and answer style, tendency to magnification or diminution. Average of the answers that are not zero.
Total of number of positive symptoms (PST)	Number of experienced symptoms. Numbers of answers that are not zero.

SCL-90 is much used in research studies, and can deepen and broaden the view of patient's symptoms and in that way complement diagnostic investigations (Fridell et al, 2002). This should not be used alone to evaluate clinical syndromes.

The psychometric characteristics shows a high internal consistency for all scales, measured with Cronbachs alpha =.98 in the patient material and

.97 in the norm material. The inter correlations between the different scales is high, r=.68 (patient material) and r=.72 (norm material) in both materials. The factor analysis has shown that different scales correlate highly with each other and that they measure a general factor of symptom. GSI and PST have the most consequent results, however not always the best differentiation, which for now entails that all scales should be considered, according to Fridell, Cesarec et al (2002). Zack, Toneatti and Streiner (1998) draw the same conclusions, with a superior factor that measures general mental illness with addicts and also mental disorders and that is in their study explained by 60% of the variance.

The Swedish standardisation has, corrected for gender and age, through lineal T-points being calculated so that one can compare groups with different gender and age distribution. The scales in SCL-90 discriminate well on a number of other tests that are used in this study. In the addicts groups, SCL-90 differed between low respectively high ISSI, between low and high KASAM and between low and high GAF-values. SCL-90 has a reasonably good ability to predict clinical or non-clinical group affiliation.

Personality disorders according to DSM-IV

Personality disorders can be a somewhat problematic conception, both theoretically and methodologically. The definition of what characterises persona-lity disorders and their aetiology differs between different theoretical positions. In research contexts it is most common to use DSM-IV:s criteria for personality disorders. DSM-IV contains descriptive definitions of personality disorders, without and specific connection to personality theories about the disorders origin or background (Ottosson, 1999). The diagnose system builds on a medical model, with types and a clear boundary between normal and pathological. There are both advantages and disadvantages with using this type of categorical system that exists in DSM-IV. The empirical data supports a more dimensional model, where personality traits are seen as a continuum where one has more or less and not either or, according to a research overview in Ottosson (1999). Overlaps between different diagnoses is also common with DSM-IV:s system and occurs more often between than within clusters, according to Ekselius et al (1994). It is not unusual for a person to have four to five diagnoses. It can partly be because the criteria for the different diagnoses resemble each other. It is for example common with overlapping between histrionic and borderline personality disorders (Ottosson, 1999).

The advantages with categorical models is of a practical nature; it is com-municable, especially in research contexts and it follows clinical tradition. In research about addiction and concurrent mental disorders it has been

proble-matic that one has used very different theoretical and methodological models to appreciate mental disorders (Fridell, 1991).

In the DSM-systems, coding personality disorders has its own axis with mental retardation: axis II. Personality disorders are described in DSM IV as "an enduring pattern of experiences and behaviour that obviously differs from that which is generally expected in the persons socio-cultural environment". The pattern manifests itself within at least two of the following areas: cognitions, affectivity, inter human interaction and impulse control" (APA 1995, Pp.215). To get a personality disorder diagnose according to the DSM-IV-system the general criteria must be met as well as enough of the criteria for the individual personality disorder are met. It requires that the symptoms cannot be better explained by psychosocial stress, depressive syndromes, a psychosis disease or physiological effects from some form of substance, soma-tic illness or injury. Furthermore the personality disorders are divided into three clusters that are illustrated in the table below:

Table 4. *Personality disorders according to DSM-IV.*

Personality disorders in DSM-IV	
Cluster A or Odd Personaity disorders	**Description**
- Paranoid personality disorder	*Persons that often are perceived*
- Schizoid personality disorder	*as odd or eccentric, timid or sus-*
- Schizotypal personality disorder	*picious towards their environment*
	Avoidance strategy
Cluster B or Dramatic personality disorders	
- Antisocial personality disorder	Often perceived as dramatizing,
- Borderline personality disorder	superficially emotional or conflict
- Histrionic personality disorder	inclined. Often having chaotic
- Narcissistic personality disorder	and transient relations.
	Confrontative and limit testing
Cluster C or Sensitive Personality disorders	
- Avoidant personality disorder	Persons can be perceived as intro-
- Dependent personality disorder	verted, anxious or frightened:
- Obsessive-compulsive disorder	They often have a low self-esteem
- Masochistic Personality disorder	and low self-assertiveness
	Avoiding or submissive strategy

For a more detailed description of the individual categories of personality disorders please refer to Mini-D IV (American Mental Association, 1995).

In a study by de Groot, Franken, van de Meer and Hendriks (2003) the stability and changes in personality disorders were examined in a group that had been treated in a TC; the Phoenix House and a Synanon model. The diagnoses were based on the MCMI-II (Millon Multiaxal Clinical Inventory II) that emanates from the DSM-III-R:s criteria, yet however is validated for DSM-IV. The significant changes occurred with regard to schizoid, phobic, passive-aggressive, schizotypal and borderline personality disorders yet not for antisocial and narcissistic personality disorder.

The authors supported this by the argument that the changes that did not occur are related to the clinical picture of self-orientation and resistance to-wards pressure from the outside that is related to antisocial and narcissistic personality disorders. The weakness with the study that the authors stress is the absence of a control group and over reporting that accompanies self-evaluation questionnaires. The changes after treatment when it comes to personality disorders have even been shown in other studies (see for example Fridell et al, 1996d) and can be related to the socialisation process during treatment, where the concept of self and self-esteem is influenced and one can for example learn new coping strategies (Groot et al, 2003).

DSM-IV Personality Questionnaire (DIP-Q)

DIP-Q is a self-evaluation questionnaire for personality disorders that builds on the DSM-IV and ICD-10-systems descriptive model for personality disorders. It can be seen as a screening instrument to create hypotheses for continued research. To be able to diagnose personality disorder, a more comprehensive clinical analysis and evaluation is needed.

DIP-Q has been used with follow ups to obtain an evaluation of the occur-rence of personality disorders on a group level, that is to say to see if the group that is being treated at Dianova resembles those in other materials of substance abusers. The questionnaire contains 140 statements with the alternatives: “correct” and “not correct”. The instruction that is given is that the questionnaire should be filled out according to how one usually tends to think and has felt on average during the past five years. The DSM-IV-criteria has been used for the accounting of the results because ICD-10 according to Ottosson (1999) tends to overestimate personality disorders.

Measured with DIP-Q at least two of five general criteria are met, alterna-tively that the interview person has evaluated themselves lower than 70 on the GAF-scale regarding social and mental functioning during the past year. The general criteria are based on an ID-scale (Impairment/Distress) with five items. Seeing as personality traits are often seen as ego synthetic it can be expected that lesser reporting on the ID-scale, writes Ottosson (1999). It demands that the person can recognise difficulties and place them in their relation with maladaptive personality traits. The GAF-scale is therefore used as a complement to the ID-scale. The test points for DIP-Q are calculated both in raw points and adjusted points where either the general criteria is met or the test person has estimated a GAF-value lower than 70. The adjusted points are shown as points after "cut-off".

Ottosson et al (1998) warn for the tendency in DIP-Q to over diagnose personality disorders, especially in cluster A or "odd personality disorders" and persons with anxiety or depression symptoms. In the absence of a state of anxiety and depression DIP-Q had good test-retest reliability for all personality disorders in DSM-IV, measured with Cohen's kappa (Ottosson, 1999). The cluster A tends to be insensitive towards depression and anxiety syndromes. Borderline and cluster C-disorders showed lack of test-retest stability regarding depression, and cluster C-diagnoses were unstable regarding state of anxiety. DIP-Q had an acceptable accordance with structured interviews when it came to establishing whether there was a personality disorder or not, yet was low for some of the specific personality disorders, especially for histrionic, narcissistic and schizoid. The accordance with the structured interviews (SCID II)=.61 measured for Cohen's kappa (Ottosson et al, 1998).

The questionnaire is also sensitive for external factors. Ottosson et al (1998) showed in their study that the sensitivity is .50 or lower for schizoid, anti-social, histrionic and narcissistic personality disorders, which suggest that DIP-Q is less useful for screening these groups. The sensitivity is better for cluster C, borderline, paranoid and schizotypal personality disorders and the overall sensitivity was .84 for diagnoses according to DSM-IV.

Global Assessment of Functioning Scale (GAF)

Global Assessment for Functioning Scale or GAF-scale as it is usually abreviated is the fifth axis in the DSM-IV manual. It is a measurement of mental and social functioning level and tends to usually to be carried out by professsionals. The GAF-scale varies between values of 1 and 100, where 100 indicates total absence of symptom. For a description of the GAF-scales different signification, se MINI-D IV (American Mental Association, 1995).

Basic Character Trait Test (BCT)

The Basic Character Trait Test is a questionnaire for personality evaluation where four stable personality traits are assessed. It has been developed by Cesarec and Fridell and builds on the factor analysis of four fundamental character traits according to classical psychoanalytical theory. The questionnaire includes 80 questions that are answered with yes or no. It is intended to measure four personality variables: oral optimism (OOC), oral pessimism (OPC), anal reactive character (ARC) and omnipotent compulsive character (OCC), see table 5.

Oral optimism (OOC) is the variable that mimics the generally seen most adaptive personality traits, whilst the other three variables give more "pathological" indications. The questionnaire has Swedish norms that is standardised in stanine points and linear T-points (Fridell et al, 2002). Cronbachs alpha for the four variables ranges from .66 and .83. The re-test for the interval 5,9 years gives the correlation of .67 and there above. The test has been standardised on two norm samples; hospital and treatment personnel (n=990) and a random nation wide sample (n=1000). The validation has been done on 1200 patients and for the construct validity a comparison has been made with 16 other scales and tests (Cesarec & Fridell, 2997).The theoretical and construct validity of the test is satisfactory.

Table 5. *Description of the four BCT-variables (Cesarec & Fridel, 2010).*

BCT-variables	**Description**
Oral optimism **(OOC)**	Measures characteristics such as curiosity, interest in environment and new events, spontaneity, sociability, credulity, dependence, impulsivity and naivety.
Oral Pessimism **(OPC)**	Includes traits of verbal aggressiveness, depressiveness, and tendency to frustration, impatience, jealousy and negativism.
Anal reactive **(ARC)**	Measures amongst other things obstinacy, cleanliness, perfection, thriftiness and need for control that expresses itself through following rules and norms.
Obsessive-compulsive **(OCC)**	Is characterised by indecision, brooding, magical thinking, guilt and strong need for control of emotional life.

Sense of coherence (SOC)

KASAM is a scale developed by Antonovsky and was originally named the Sense of Coherence Scales (SOC) that in Swedish is called Känsla av sammanhang. The questionnaire is based on Antonovskys theories on salutogenous factors that are considered predictive to how physical and mental health is affected in crisis situations. This is related to his notion of health where the ability to understand the meaning of a situation and use the personal resources at hand. It is named Sense of Coherence (Eriksson & Lindström, 2005).

SOC contains questions that cover three different dimensions: the ability to understand what is happening in the surroundings, the extent to which a person can handle a situation by them self or with the help of a close friend, and the ability to find meaning in existence (Eriksson & Lindström, 2005).

The questionnaire consists of 29 item with a 7-degree scale and generates partly a total of points and partly three sub scales called Comprehension, Manageability, and Meaningfulness. A total of points between 120 and 150 is regarded to be within the norm value (Fridell, Cesarec et al, 2002). The questionnaire intends to first of all measure the ability to handle stress where low values indicate weaker physical and mental health (Eriksson & Lindström, 2005). A systematic international study of 458 articles and 13 dissertations show that KASAM has an acceptable validity and is intellectually applicable. Furthermore the value varies for Cronbahs alpha for internal consistence between .70 and .95 and re-test gives a value of .77, with an interval of six months. The total points tend however to rise somewhat with age (Eriksson & Lindström, 2005).

The Interview Social Schedule of Social Integration (ISSI-SR)

The Interview Social Schedule of Social Integration is originally an Australian scale that intends to measure both qualitative and quantitative dimensions of social support, created by Henderson, Duncan-Jones, Byrne and Scott and translated to Swedish by Undén & Orth-Gomer (1989) as ISSI-R. The questionnaire aim to map both the individual's needs and the access to profound emotional contacts and level of social integration. Social integration is in this case meant as the relations where common interests are shared, where support is given and a feeling of personal intrinsic value can be communicated (Undén & Orth-Gomer, 1989). The Swedish revision of the scale has been carried out by Undén and Orth-Gomer (1989), called ISSI-SR that was used. The version was tried on a small group of Swedish men.

The questionnaire consists of 30 item with varying answer alternatives and is measured with the help of four variables: AVSI-access to social integration (6 item), AVAT is access to profound emotional relations (6 items), ADSI indicates experienced satisfaction with social integration (8 item) and ADAT indicates experienced satisfaction with access to profound emotional relations (10 item). Moreover a total of points is calculated that can be used as a global index on social network. A total of points that falls below 20 raw points is construed as there is a lack of social support, whilst a value of 20 points or more indicates a normal to good level of support. Cronbachs alpha gives a value of between .63 and .76. With a re-test under an interval of 1 year is found at between .66 and .85, where the stability is somewhat greater for the variable that measures satisfaction (Fridell, Cesarec et al, 2002). In regards to reliability the ISSI-SR lies somewhat lower than the original version, yet is still considered acceptable (Undén & Orth-Gomer, 1989).

User study for quality measurement (quality questionnaire)

In order to study how clients perceive the treatment quality, a users questionnaire has been developed by Rusmiddeletaten in Oslo Municipality and has been used during follow ups. The user study is a part of a larger more com-prehensive project of quality measurement, where there also exists a work place survey, a client questionnaire and an outcome assessment where one can follow up the individual's objectives and the outcomes that are achieved during the time. All the parts can be used together to get an overall measurement of the organisations quality, yet one can also use the different questionnaire separately (Rusmiddeletaten, 2005). In this study focus has been on getting the clients perception of their stay at the treatment centre and not to get a more overall quality measurement of the work Dianova carries out. Therefore only the users version is applied.

The user study is according to Rusmiddeletaten (2005) a treatment satisfaction study. In this type of study the clients experiences placed in relation to the expectations the clients have had on the treatment is being measured. The questionnaire is designed so that the interviewed persons first evaluated how satisfied they are with different aspects of the treatment, and then how important these aspects are for them. The scale contains four alternatives: very satisfied, quite satisfied, quite dissatisfied, and very dissatisfied respectively very important, important, less important and unimportant.

The questionnaire contains in its original version 29 questions, whereof 24 quality questions and 5 background questions about clients

gender, age and type of addiction. Quality questions are distributed in four areas, see table 6.

The results of the study indicates the clients experiential and subjecttive evaluation. In the study several quality indicators are treated, yet the most important are organisational culture, organisational dimensions and results (Rusmiddeletaten, 2005).

Table 6. *Description of the content and number of item for the four areas that the user studies quality questions are divided into (Rusmiddeletaten, 2005).*

Main area	**Areas signification**
Information/organisation (4 item)	The questions are about how satisfied clients are with the information they have received and if accessibility and how well one has been at conveying what the organisation stands for.
Content and individual adjustment (6 item)	Questions about the method content and individual adjustment of the treatment content, if the clients own resources have been made use of in the treatment and if the relationship between client and treatment content.
Collaboration (11 item)	The area cover the relations between clients and personnel, relations between clients and between personnel. This area contains the most questions, as the quality of relations is important for the treatment to succeed and touches subjects like engagement, understanding and respect.
Service and comfort (3 item)	Questions about materialistic relationships at the treatment unit, such as drug controls, activities and about the premises.

The quality study has been translated from Norwegian to Swedish by the authors of the report and all the questions except four have been used. In the Norwegian original there is room for the individual treatment unit to develop their own questions and possibilities to evaluate these after the same principles as the remaining questionnaires. In the revised version there is instead room at the end of the questionnaire to add personal points of view

and comments. The satisfaction- and importance scales gets recoded to values between one and four, and imported into a data file where the high values indicate a high level of satisfaction respectively importance. In the analysis of the results a summary measurement called GFI (average satisfaction) was used, where the average value of 2,5 is the minimum for approved quality.

The expression GVI (Average Importance Index) is used to decipher which aspects that are viewed as important for the clients, average values under 2,5 indicate low importance and over 2,5 that the area is important. In the analysis one can compare if different background factors gives a difference in the answers as for example gender, age and number of previous treatments. One can also appreciate general satisfaction and importance of the four different overall question areas. They are above all questions that are answered with high satisfaction and high importance, and low satisfaction and high importance that is of interest.

Statistics

The student's t-test for independent groups has been used for comparisons of variables at the interval and quota scale-level. Mann-Whitney's U-test has been used with quantative variables with non normal distribution or numerically small random samples. Chi-two has been used for the comparisons of proportions. The variance analysis (ANOVA) has been used to examine the differences between groups and variables where several simultaneous t-test otherwise had been necessary to undertake. The significance level is set at $p<0,05$ and statistical tendency $p<0,1$.

Comparison materials

In the account of the results the comparison with two different comparisons material illustrate how the results for Dianovas clients compare to other clinical groups of narcotic addicts. The first comparison material is the group of heavy narcotic addicts that have been diagnosed at their first admission to a psychiatric addiction treatment unit and followed up by Fridell et al (1996c, 1996d) five years after the treatment at a narcotic addicts care unit at S:t Lars hospital: In the result section this will be referred to as the five-year follow up. Finally we have received a comparison material from Rusmiddeletaten, Oslo municipality for evaluation the quality evaluations. It is one May- and one October assessment from three different institutions for addiction treatment: Blå Kors, Fredheim and Stenslökka. The persons who

have answered the quality questionnaire in the comparison material have primarily resided in institutional care, yet some have even been in treatment without staying the night.

RESULTS

The Dianova patient cohort at admission

The examined cohort consists of 14 women (19%) and 58 men (81%), a total of 72 persons. Five persons have died since the treatment at Dianova, which gives a mortality of 7% in the group over the four years observation, 1,8 persons/year.

Table 7. *Table over the selection of background information for the cohort (n=72): interviewed (n=43), not interviewed (n=29) at registration to Dianova. (Percentages in brackets).*

Variable	Cohort (n=72)	Interview (n=43)	Not interviewed (n=29)
Women	14(19,4)	8 (18,6)	3 (12,5)
Men	58 (80,6)	35 (81,4)	21 (87,5)
Age (years)	M=31,4 (8,32)	M=30,65 (7,86)	M=31,9 (7,53)
Accommodation			
Own home	8 (11,1)	8 (18,7)	3 (12,5)
Homeless	37 (51,4)	33 (76,8)	16 (66,8)
Other	23 (31,9)	-	1 (4,2)
Missing data	4 (5,6)	2 (4,7)	2 (8,3)
Main drug			
Alcohol	2 (2,8)	1 (2,3)	1 (4,2)
Amphetamine	26 (36,1)	17 (39,5)	8 (33,3)
Heroin	32 (44,4)	16 (37,2)	12 (50,0)
Other	12 (16,7)	9 (21,0)	3 (12,5)
Years of addiction	M=12,9 (7,14)	M=11,4 (6,44)	M=14,54 (6,61)
Number of addiction treatm.			
Missing data	2,61 (3,86)	1,70 (1,52)	3,95 ggr (6,0)
Conviction			
None	28 (38,9)	17 (39,5)	9 (37,5)
1-5	32 (44,4)	21 (48,9)	9 (37,5)
6 or more	4 (5,6)	2 (4,6)	1 (4,2)
Missing data	8 (11,1)	2 (4,7)	5 (20,8)

The average age at registration was 31 years old and the median age is somewhat lower: 29 years. The majority is in the lower age interval and only a fourth of the cohort were over 34 at the time of registration for treatment.

Before treatment, about half of the group was homeless, five persons were institutionalised and eight persons had their own accommodation. The remaining persons either lived with family or relatives, in some form of second hand accommodation, at a hotel or in student accommodation. Persons in the cohort supported themselves either on social subsidies, unemployment benefit funds or from the help of illegal activities. The majority had compulsory school as their highest level of education, 29% had finished secondary school and some had some additional vocational training.

Amphetamine (36%) and Heroin (44%) dominated as the main drug. In the group there was a small number who mainly used alcohol (3%). In the remaining group primary drugs were distributed at eleven percent Cannabis, a few used Cocaine, Ecstasy or sedating medication. When it comes to simultaneous use of other drugs most persons in the group could be described as having a mixed abuse. Only three persons, or 4% of the cohort abused only one drug exclusively. The three most common mixes were with amphetamine, cannabis and sedatives. Four percent had a mixed dependence of heroin and alcohol at the same time. The number of years in addiction was on average 13 years and nobody in the group had an addiction that lasted less than three years.

Sixty percent of the cohort had some kind o long lasting physical illness or injury. Twelve persons (17%) had at the time of registration previously made a suicide attempt and about one of three had previously received some form of psychiatric treatment. Twelve percent had, according to information, over-dosed at some point beforehand. Regarding criminality, 39% did not have a conviction prior to registration whilst half the group had been convicted for one or more crimes. A small part had been convicted more then six times. Information is missing for six persons.

Fourteen percent were in treatment for the first time for their addiction during the registration at Dianova. Half the group had been in treatment at one or two occasions before, whilst one out of ten had more than six treatments in their past.

From table 8 we find that about one third of the cohort completed their treatment within three months whilst 40% had been in treatment at Dianova for more than 12 months. Thirtysix percent of the whole group and

fifty-four percent of those who were interviewed completed their treatment including the readjustment phase at Dianova in Sweden. Eight percent versus 9 percent completed the treatment abroad, but did not complete the aftercare in Sweden, whilst 55% of the whole group interrupted their treatment prematurely, whereof 37% were interviewed. For the majority of the cases it was a treatment interruption on their own initiative. For the cases where Dianova expelled the person, the reason was because violent behaviour or threat of violence, drug usage during treatment or that the person was found to be in acute need for psychiatric care.

Table 8. *Time of treatment for the cohort (n=72), the interviewed (n=43) and those not interviewed (n=29). Number of termination and dropouts during treatment at Dianova. Percentages in brackets.*

Variable	**Cohort (73)**	**Interviewed (43)**	**Not interviewed (24)**
Length of stay at Dianova-months			
0-3	20 (27,8)	6 (14,0)	12 (50,0)
4-6	10 (13,9)	5 (11,6)	3 (12,5)
7-12	13 (18,1)	8 (18,6)	5 (20,89
13-24	23 (31,9)	21 (48,8)	1 (4,2)
More than 24 months	6 (8,3)	3 (7,0)	3 (12,5)
Completed incl. rehab	32 (44,4)	24 (56,0)	1 (4,16)
Completed only abroad	6 (8,3)	3 (8,6)	3 (8,1)
Dropout own initiative	28 (38,9)	16 (37,2)	14 (58,3)
Expelled by Dianova	6 (8,3)	-	6 (16,2)

Representativeness analysis

A representativity analysis based on the background variables compares patients who were interviewed, those with known outcome and those not interviewed in the cohort, see table 9. The deceased persons are distributed in both of these groups. In the cases were the cause of death is known and related to the drug addiction they have in some calculations been included in the group with a known outcome. Under these prerequisites we find n=48 for the group "outcome known" and n=24 for the group "outcome unknown". The important point is whether it is possible to generalise these findings from the interviews to Dianova Sweden in general.

Of the differences shown here between the group where the outcome is known and the group where it is not known there are a few differences. In the background variables there is no difference between the groups regarding gender, age, preferred drug, and number of years of addiction, previous mental health treatment, or previous suicide attempts. There is neither any significant difference in regards to accommodation, level of education, serious somatic illness/injury or number of convictions. However there exists a significant difference in the treatment related variables so that the group with known outcome have had more treatment attempts prior to Dianova than for those where the outcome is not known. The patients with known outcome also have more days of care at Dianova and a lower level of drop out from Dianova than the group where the outcome is not known. Patients who were not possible to contact also have had more overdoses.

Table 9. *Those who completed treatment versus drop-outs, regarding background data for the groups "outcome known" (n=48) and the group "outcome unknown" (n=24).*

Variable	**Value**	**df**	**p**
Gender	Chi-two=0,359*	1	n.s.
Age	t=.266	70	n.s.
Main drug	Chi-two=.4,327	6	n.s.
Number of years in addiction	t=0,006	70	n.s.
Number of previous treatments	T=4,8484	70	.038
Number of previous overdoses	t=5,772	70	.019
Previous mental treatment	Chi-two=0,589	1	n.s.
Previous suicide attempts	Chi-two=0,739	1	n.s.
Long-term physical injury or illness	Chi-two=0,803	1	n.s.
Occupation at registration	Chi-two=.842	1	.359
Accommodation at registration	Chi-two=4,436	2	n.s.
Number of convictions	t=192	70	n.s.
Level of education	Chi-two=1.584	1	n.s.
Number of days in treatment at Dianova	t=2,637	70	.01
Drop-out	Chi-two=11,250	1	.001

The representativity analysis is rather complete, with only some failing test-data for dropouts.

The group followed-up

The followed up group consists of 43 persons, whereof eight women (23%) and 35 men, in all 77% of those alive. The average age for the group at the follow up was 31 years and the median age 29 years. At the time of the interview, four persons were institutionalised or had been some time in treatment during the past thirty days, two of these at Dianova. One person was still in the treatments readjustment phase at the time of the interview. Five persons had been remitted to treatment, that is to say that they have interrupted one treatment to return, in all the cases to a new treatment collective. Thirty-two persons had completed their treatment, whereof six persons only completed the treatment abroad. Fourteen persons had interrupted their treatment before time, on their own initiative.

The interviewed group had on average been in treatment for 14 months. Only five persons stayed in treatment for less than three months and eight persons were in treatment for a shorter period than six months (see table 8).

Dependence, alcohol- and drug use

By way of introduction the outcome is displayed for abstinence with an evaluation of whether the interviewed persons fulfilled the criteria for addiction or abuse. The persons that were evaluated as drug free can therefore have had an occasional relapse, yet in general has a strict evaluation of abstinence been put into practice. In the expression substance both alcohol and narcotics is included.

Table 10. *Duration of abstinence including the treatment at Dianova (n=43). Percentages in brackets (%).*

Not abstinent at interview	10 (23,3%)
Abstinent past 30 days before follow up	10 (23,3%)
Abstinent past 6 months before follow up	2 (4,7%)
Abstinent past year	10 (23,3%)
Abstinent past two years	6 (14%)
Abstinent past four to five years	5 (11,6%)

Table 10 shows for how long a person in the interview group has been abstinent at the time of the interview. For continuous abstinence since treatment, the time spent at Dianova was included. This give 77% that were abstinent at the time of the interview, 22 (51%), past six months, (49%), abstinence last year or longer and 11 (26%) having a stable abstinence for two years or longer and 5 (12%) abstinent constantly for two years or longer. Time

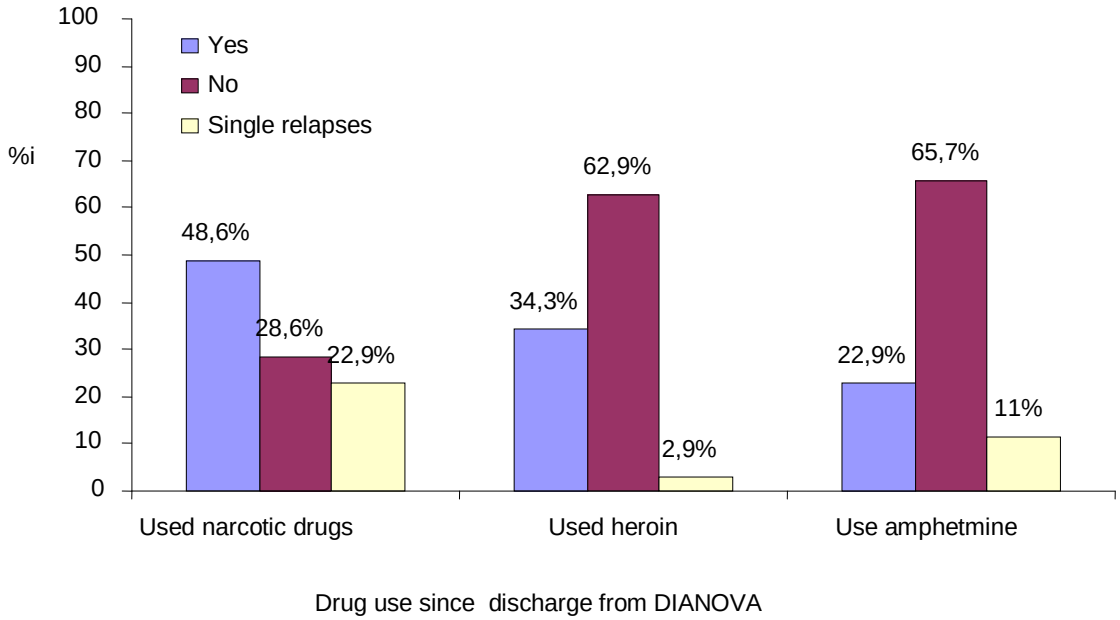
of the follow up 70% decides the number of months available for calculation. In three cases this means abstinence from the year 2006.

The drug that the patients consider as their primary drug is displayed in table 11. Of the 10 persons that stated that they have a problematic relationship to some drug are there two persons (20%) that mentioned alcohol and eight persons (80%) that stated one or some narcotic substance. The persons that could not state a primary drug are in the category Addiction of more than two substances. The majority used however more than one drug even if they considered one substance to be the main problem.

Table 11. *Dominating substances at the time of the interview (n=43). Percentages in brackets.*

Substance	**Number (%)**
No problem	29 (67,4)
Alcohol	4 (9,3)
Heroin	2 (4,7)
Amphetamine	1 (2,3)
Cannabis	2 (4,7)
Addiction of more than two substances	5 (11,6)

Ten persons (23%) have during the past months fulfilled the criteria for heavy addiction, that is to say according to CANs definition that signifies injection of drugs and/or a daily usage of narcotic substances. Four persons (11%) have overdosed on narcotics the past six months.



Figur 1. *Abstinence and drug use since discharge from Dianova (*n=43).

Thirty-three persons (77%) of the interviewed have at some point in their life injected drugs and ten persons (23%) have injected drugs in the past six months, where of six of them (14%) did so during the past 30 days.

Only two persons (6%) state that their drug habits have worsened over the past six months. For the majority (63%) the situation has hardly changed and here persons that have not abused the past six months can be found, yet also a small number of persons who have had a more constant drug use. Finally eleven persons (23%) consider that their drug habits have become better or much better during the past six months.

In addition, several persons consider their drug habits improved since the treatment at Dianova even if they are not classified as completely abstinent or have been drug free only for a short while. The improvements implies using less heavy drugs or having decreased their drug habits.

Table 12. *Alcohol problems and need for treatment over the past 30 days (n=43). Percentages in brackets.*

Evaluation	**Number with problems**	**Need of help**
Nothing/little	33 (94,3)	35 (100,00)
Moderately	8 (18,6)	6 (14)
Evidently/great	2 (5,7)	0 (0)

Five persons (81%) have not experienced any days with alcohol problems over the past 30 days, whilst five persons mention alcohol problems for in between one to eight days. Days with narcotics problems have been registered by nine persons, where of three have had every day problems. Some narcotics- or alcohol problems have here even been included in an eventual pronounced want or abstinence after the drug.

Table 12 and table 13 illustrate how the interview persons have evaluated their problems and their need of help for alcohol - respectively narcotics problems.

Table 13. *Experienced alcohol problems and need of treatment for the past 30 days (n=43). Percentages in brackets.*

Evaluation	**Number with problems**	**Need of help**
Nothing/little	28 (80,0)	30 (85,7)
Moderately	8 (18,6)	9 (21)
Evidently/great	6 (17,1)	4 (11,4)

Problems with narcotic drugs is the main problem the interviewed group experience to a varying degree (moderately a great need). Of the persons that have mentioned that they have alcohol problems there is none who has more than a small need of help besides what they might already have access to.

Twenty-nine percent have not used any narcotic substances since being discharged. An additional 23% have had an occasional relapse. Hardly half the group has used narcotics during differ-rent lengths of time since the treatment at Dianova.

Alcohol habits according to AUDIT

From table 13 is known that the median lies essentially lower than the avera-ge on all the subscales for AUDIT, which indicates that a few persons high values have raised the average value for the group. The interviewed groups average value in T-points lies, despite this, just above the normal populations average value, which implies that their alcohol consumption at a group level resembles that of the population at large. On an individual level a group of seven can be found (16%) and their alcohol use exceeds 70 T-points, which is an indication of alcohol problems.

Table 14. *Average value, standard deviation and median in on AUDIT (n=43).*

AUDIT Variable	M	SD	Md
Risk consumption	4,14	3,49	3,5
Dependency symptom	1,71	3,03	0
Dangerous consumption	2,83	4,07	1,0
AUDIT total	8,69	8,67	5,0
T-points AUDIT total	**59,43**	**23,27**	**48,5**

Current treatment contacts

Five persons (12%) had been in detoxification for narcotics during the past six months, where of three in outpatient care and one in institutional care. Eleven persons (26%) have been treated in outpatient care for addiction over the past six months, which in all cases were progressive contacts. Contact with Dianovas aftercare program is a part of this group. Nine persons (21%) have been treated at a treatment facility over the past six months. Even here in seven cases the current treatment at Dianova is included whilst two are following a different treatment. Five persons are staying for the time being at a treatment facility, where of one is at Dianova. No one in the interviewed group have

been convicted to compulsory institutional care over the past six months. Four persons (9%) are currently following Subutex treatment.

Employment, occupation and accommodation

Table 15. *Employment pattern over the past six months (n=43). Percentages in brackets.*

Employment pattern	**Number of persons**
Full time	12 (27,9)
Part time	5 (11,7)
Studies	5 (11,7)
Pension/ disability pension/ social allowance	" (4,7)
Unemployed	17 (39,5)
Admitted at an institution	2 (4,7)

Over fifty percent or 22 persons have had work in some form or studies as their most common employment pattern over the past six months. Full time- or part time work includes even different kinds of trainee jobs. Twenty persons had worked at least ten days over the past month. Four had been on sick-leave ten days or more, yet only one person during the whole month. Five persons studied the greater part of the six month period that preceded the follow up interview.

Table 16. *Main source of occupation over the past 30 days (n=43). Percentages in brackets.*

Main source of income	**Number of persons**
Employment	10 (23,3)
Social subsidies	18 (41,9)
Temporary disability pension	4 (9,3)
Partner/ family or friends	1 (2,39
Illegal activities	1 (2,3)
Prostitution	1 (2,3)
Other sources	6 (17,1)

As it can be seen from table 16 the largest group had received economical support from social subsidies. One fourth received their main source of income from employment over the past 30 days. Examples of other sources, from which six people received their main income from unemployment subsidies and governmental student subsidies and loans. Four persons had received money from illegal activities during the last month, without it being their main source of income.

One third of the group had attended high school, 21 persons had, nine-year public school as their highest level of education and two had not finished public school. No one had completed a university equivalent education. Some had however attended courses at that level.

The interviewed persons were also asked to evaluate how great a problem they perceived it was to be unemployed. Six persons mentioned problems and four of these had experienced difficulties every day (Table 17).

Table 17: *The interviewes estimation of problems within the area of work/employment (n=35). Percentages in brackets.*

Evaluation	**Number with problems**	**Need of support**
Nothing/ or small	30 (85,8)	30 (85,8)
Moderately	2 (5,7)	2 (5,7)
Evidently/ great	3 (8,6)	3 (8,6)

Concerning accommodation, (table 18), the largest group had some form of second hand accommodation without a first hand contract, both during the past month and over the past six months.

Table 18. *Principal accommodation over the past six months and the last 30 days. Percentages in brackets.*

Type of accommodation	**Last six months**	**Last 30 days**
Own residence	5 (14,3)	6 (17,1)
Second hand/collective/student housing/ lodging	10 (28,6)	12 (34,3)
Training apartment	6 (17,1)	7 (20,0)
Institution	3 (8,6)	2 (5,7)
Family care	1 (2,9)	1 (2,9)
With family or relatives	4 (11,4)	2 (5,7)
Homeless	4 (11,4)	2 (5,7)
Other	2 (5,7)	3 (8,6)

Only four persons had principally been homeless during the past six months. During the last month that number had decreased to two persons. Three persons had principally been in residential care over the last six months and two during the last thirty days. Two were in treatment at Dianova.

Somatic health

Eight of the persons interviewed had had problems with their physical health the last month. Of these persons had five experienced mental

difficulties every day. In table 19 below follows an account of how great a problem and the need for help the persons interviewed experienced with their mental heath.

Table 19. *The interviewed persons evaluation of problems and need of help with their physical health (n=43). Percentages in brackets.*

Evaluation	Number with problems	Need of help
Nothing/ little	31 (88,6)	29 (82,9)
Moderately	2 (5,7)	1 (2,9)
Evidently/ great	2 (5,8)	5 (14,3)

According to table 19, the majority of the group have not experienced any greater problems with their physical health over the last month and have neither experienced any need for help for their problems. Five persons have however experienced that they have an evident or great need of help for their physical health problems.

Twenty-one or 60% of the interviewed stated that they had a Hepatitis infection. Twelve persons had HIV-tested themselves during the past six months, yet all reported negative results.

Only three persons had been hospitalised over the last six months, whereof two had need extensive hospital care, between 23 and 46 days.

Mental health

Slightly more than half the interviewed group stated that they had not had any days during the past month where they had experienced mental difficult-ties. Of the remaining 17 persons ten had mental difficulties between one and ten days, four persons between eleven and twenty days, and three had in principle daily problems. Two persons of these 17 had not experienced men-tal difficulties except when taking drugs or alcohol. Table 20 illustrates the interviewed persons problem evaluation of their mental difficulties, and their need for help in this area.

Table 20. *The interviewed persons level of concern and need of help for mental difficulties (n=43). Percentages in brackets.*

Evaluation	Number with problems	Need of help
Nothing/little	22 (62,8)	26 (74,3)
Moderately	5 (14,3)	4 (11,4)
Evidently/great	8 (22,9)	5 (14,3)

Twenty-two persons or 63% of the group that was followed up stated that they had not had any problems with their mental health. Eight persons had experienced evident or great difficulties. Five persons stated that they had had an evident or great need of help for these difficulties. The majority of the group were therefore not troubled at all or very little by mental difficulties, whilst almost one out of four had high evaluations on magnitude of problem.

When it comes to treatment for mental difficulties, only one person had been treated in a mental institution during the past six months. Three persons (9%) had been treated in mental outpatient care and one person in an addiction related institutional care over the past six months. Three persons had disability pension or temporary disability pension because of mental difficulties related to current or earlier addiction.

Five of the persons interviewed had had depressive difficulties of a more coherent and serious kind over the past month and nine persons stated that they had had problems with acute anxiety during the same period. Thirteen persons (37%) had had difficulties to understand, remember or concentrate over the past thirty days. Two had experienced hallucinations and two per-sons mentioned that they had had difficulties controlling violent behaviour. Three persons (9%) had been prescribed medication for their mental difficult-ties during the past month before the follow up. None had sucidial thoughts.

Table 21. *Composite problem for seven areas in ASI (n=43). Percentages in brackets.*

	Som health	**Work/ employm**	**Alc**	**Narc**	**Crim**	**Numb**	**Fam**	**Psy**
n	43	43	43	43	43	43	43	43
Mean	0,14	0,65	0,13	0,08	0,07	0,4571	0,12	0,18
Std.	0,29	0,187	0,141	0,121	0,137	0,919	0,161	0,188

Symptoms according to Symptom Checklist-SCL-90

The results from SCL-90 show group average values for all the scales similar to the average values for the normal population. All the scales show T-points between 50 and 60 except for Aggression where the average value is at 48,71. The scale that shows the highest group average value is phobic-anxiety, 58,35 T-points. None of the results for the scales point towards the occurrence of symptoms and the average values lies far beneath the clinical levels (T < 70).

Table 22a. *Comparison of SCL-90 scores from Dianova and a five-year follow-up of heavy drug abusers. Average T-scores for patients with an abstinence shorter than 30 days (n=12) and for those having an abstinence longer than 30 days (n=28).*

SCL-90 variable	**Dianova** Abstinent > 6 mo (n=21)	**5 year F-U** Abstinent > 6 mo (n=52)	**Dianova** Not abstinent < 6 mån (n=20)	**Five year F-U** Not abstinent < 6 mån (n=20)
Somatisation	47,57	54,04	51,75*	67,03*
Obsessiv-kompuls.	48,93	53,71	53,50*	68,53*
Interperson sensit.	50,57**	56,40**	52,35*	72,53*
Depression	60,64	57,35	56,70*	72,66*
Anxiety	48,86	55,92	54,65*	75,13*
Aggression	46,36	51,48	50,35*	63,39*
Phobic anxiety	57,71	62,44	58,80*	77,97*
Paranoidal ideation	46,86*	55,50*	52,80*	68,61*
Psychoticism	50,64	58,44	54,85*	72,76*
GSI	49,64	57,10	55,30*	75,16*
PSDI	47,36	52,37	55,05*	63,89*
Tot Pos. Symptom	49,29	54,90	53,70*	66,66*

Table 22a illustrates that the groups in DIANOVS as well as in the five-year follow-up of heavy drug abusers have higher T-scores, but the five-year group has much higher T-scores for those still using drugs than was the case in the DIANOVA-sample.

Table 22b. *Group averages in T-scores for the three standard dimensions in SCL-90 (n=43). Percentages in brackets.*

SCL-90 variables	**M**	**SD**
Global severity index (GSI)	56,71	18,53
Positive symptom disorder index (PSDI)	53,43	13,55
Total number of positive symptoms	53,95	12,73

Personality disorders according to DIP-Q

The results form DIP-Q indicates personality disorders in 25 (60%) of the persons interviewed. Of those twenty-five persons where there was an indication of a personality disorder an average of 2,2 diagnoses according to DIP-Q:s DSM IV-criteria were obtained. Three persons met the requirements for only one diagnosis. 20 (46,5%) and received no personality disorder diagnose at all. Consequently in this diagnostic system every patient has more than one diagnose and the sum always ends up than more than 100%.

Seventy-five percent of those that met the criteria for at least one personality disorder also met the criteria for borderline or schizotype personality disorder, which were the diagnoses that occurred most in the group.

Twenty-four percent or eight persons met the criteria in DIP-Q for antisocial personality disorder, which was half of the group that met criteria for a diagnosis. It is however a smaller number of persons who had an antisocial personality disorder as their first diagnose.

In DIP-Q a personality disorder diagnose is also determined with consideration to another variables, amongst others GAF and if the individual has been afflicted with special stressful circumstances, and with this correction the number of persons with a certain personality disorder diagnose decreases to 22 (51,2%) and the number of those who do not have a diagnose increases to 20 (46,5%).

Table 24. *Personality disorders diagnoses according to DIP-Q for every defined diagnose according to criteria with a cut-off of (n=43). (%)Percentages in brackets.*

Personality disorder according to DIPQ	**Pd without cut-off**	**Pd with cut off**
No personality disorder	20 (46,5%)	20 (46,5%)
Paranoid	11 (25,6%)	13 (30,2%)
Schizoid	2 (4,6%)	2 (4,7%)
Schizotypal	16 (55,2%)	16 (37,2)
Antisocial	13 (30,2%)	13 (30,2%)
Borderline	17 (39,5%)	17 (39,5%)
Narcissistic	4 (9,2%)	4 (9,2%)
Histrionic	4 (9,2%)	1)2,3%)
Avoidant	9 (21%)	4 (9,2%)
Dependent	3 (6,9%)	3 (7,0%)
Obsessive-compulsive	7 (16,3%)	7 (16,3%)

An combination of the diagnoses above in DSM clusters give a more broad delineation of personality disorder diagnoses (table 25). The persons who have met the requirements for diagnoses according to DIP-Q criteria are presented. Inclusion in a cluster is based on the number of diagnoses met in the cluster and there of many belong to more than one cluster.

Table 25. DSM-IV: *Personality clusters according to DIP-Q for criteria met for a personality disorder with a cut-off (n=43), Percentages in brackets.*

Cluster according to DIP-Q	**Number**
Cluster A/ "Odd"	17 (39,5%)
Cluster B/ "Dramatic"	19 (44,2%)
Cluster C/ "Sensitive"	13 (30,2%)

The dramatic cluster is the largest for all except three persons who indicate DIP-Q on a diagnosis within this cluster (44%). Possibly the cluster "odd" is highly ranked in DIP-Q in comparison with the comparison group where the cluster usually makes up for 10% amongst narcotic addicts.

As most of the group that have met the criteria in DIP-Q for some kind of personality disorder received more than one diagnose, has a division of first (see figure 4), second and respectively third diagnose been carried out, and the principal cluster inclusion (see figure 6). The first and subsequent diag-noses are based on the number of criteria met in percent.

Figure 2 illustrates first diagnosis according to DIP-Q self evaluation questionnaire, based on the highest number of criteria in percent with cut-off.

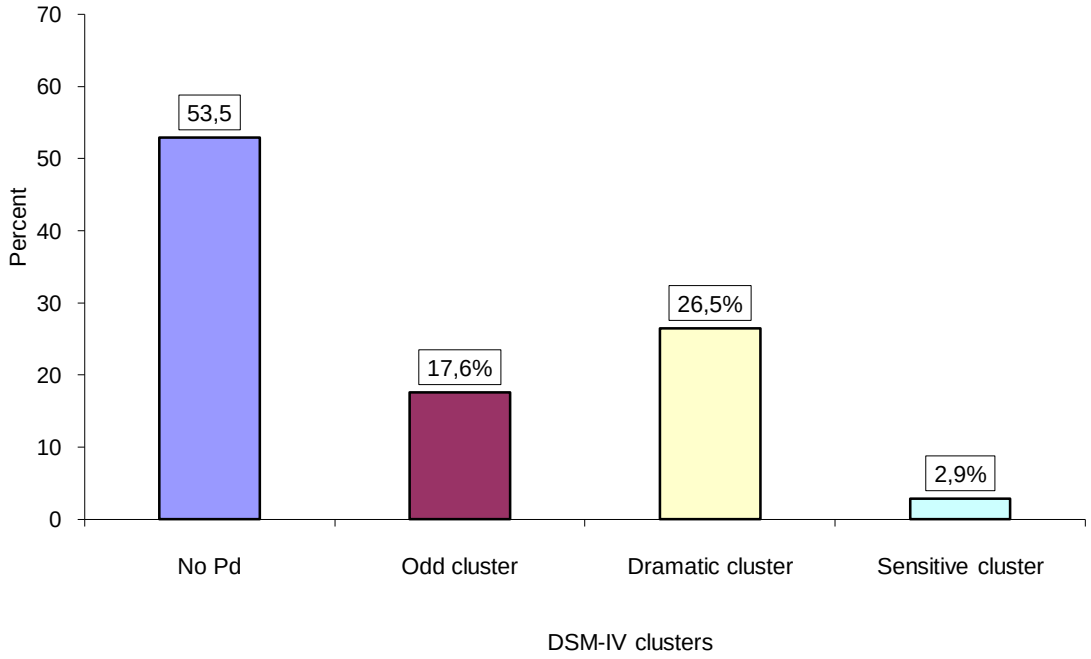


*Figure 2: F*irst diagnosis according to DIP-Q self evaluation questionnaire, based on the highest number of criteria in percent with cut-off. The X-axis indicates personality disorder (DSM-IV-system).

In the Dramatic cluster, personality disorders of dramatic type are as expected the most common with borderline as the second common diagnose followed by schizotype personality disorder.

Global Assessment of Functioning (GAF) – self evaluation

In the DIP-Q questionnaire a self evaluation of the persons social and mental functioning level is included; partly about how one thinks one functions and partly over the past few weeks and over the past year. The

persons interviewed have on average evaluated their level of functioning over the past year to 71. The average GAF-value for the past weeks lies at 78, a somewhat higher level, yet within the same interval. A level between 70 and 80 expresses that one has had mild, passing symptoms and problems that have been simple to understand from the point of external event, for example concentration difficulties after an argument with family members.

Differences within the group that has been followed up for those who have met the criteria for a personality disorder in DIP-Q and that have not been abstinent at the time of the interview/been drug for less than 30 days. These persons evaluated their level of functioning somewhat lower than those without personality disorder respectively those that have been drug free more than 30 days. The GAF-value for the different groups is presented in table 26 and table 27. There are 16 persons (37,4%) that have a GAF-value that indicates problems and most of these have a high problem level.

Table 26. *GAF-value on average for the group that meets the criteria for a personality disorder in DIP-Q (n023) and the group that does not (n=20).*

Group	**M GAF-value for the latest weeks**	**M GAF-value over the past year**
No personality disorder (DIP-Q)	81	79
Personality disorder (DIP-Q)	76	62

Table 27. *GAF-value on average for the group that had been drug free for more than 30 days (n=22) respectively the group that has not been drug free/drug free shorter than 30 days (n=12).*

Group	**M GAF-value for the latest weeks**	**M GAF-value over the past year**
Drug free > 30 days	82	73
Not drug free/drug free < 30 days	72	67

A value between 80 and 90, for the group "no personality disorder" and the group "drug free for more than 30 days" give an average GAF-evalu-

ation implicating that the person has been completely symptom free or had very mild symptoms because of daily difficulties.

A comparison with another group of narcotic addicts from the five-year follow-up (n=105) showed no significant differences in the GAF-evaluation for the past year, calculated with Mann-Whitney U-test. The Dianova group (n=43) evaluated themselves as more well functioning. The average GAF-value for the five-year follow up was 67 and for Dianovas group 71.

Personality test- Fundamental character traits- BCT

Table 28 shows that the interviewed group has on average a lower value on the oral optimistic character traits, whilst the results for the three other personality variable lies over the average for the Swedish norm group. This profile corresponds with the studies of other groups of addicts where the OOC usually gets low points at the same time as the remaining three variables have values in the higher than the norm group. This signifies that the interviewed persons at a group level have character traits that are distinguished by brooding, magical thinking, obstinacy, impatience, melancholy, independence and control of emotions. However they have fewer traits such as trust, openness and optimism. None of the variables have however a stanine-value over (St >7) or under (St < 3) which signifies that the results lie within the limit for "normal values" for the group as a whole.

Table 28. *Results for BCT, the sub scales groups average (M) and standard deviation (SD) in stanine-points (n=43).*

Variable	M	SD
OOC (Oral Optimism)	4,03	2,07
OPC (Oral Pessimism)	5,97	1,81
ARC (Anal reactive)	6,56	2,21
OCC (Obsessive compulsive)	6,22	2,12

The group has personality pattern of drug abusers with low value on OOC and high values on the remaining variables.

Sense of Coherence (SOC) and Social Network (ISSI-SR)

Sense of Coherence (SOC)

Table 29 shows that the interviewed groups total average value on SOC is 131,27 which is within the normal value and indicates that the individual on a group level appreciate their existence as meaningful.

Table 29. *Average value (M) and standard deviation (SD) for SOC. Sub scales and SOC total points (n=43).*

Variable	M	SD
Comprehension	4,00	0,75
Manageability	4,65	0,85
Meaningfulness	4,73	0,94
Sense of Coherence	128,1	20,62

A Mann Whitney U-test shows no significant differences (U=128,00, n.s.) between the group that has been drug free for more than 30 days (n=23) (M=128,73) and those who have not been free from drugs at all (n=10) or have been free from drugs for less than 30 days (M=130,95, n=10).

The group with a personality disorder according to DIP-Q (n=23) has an average result of the total SOC-scale that is 121,88 raw points. The persons that do not have such a diagnose (n=20) have a higher group average value: 140,12 raw points. A statistical trial with Mann-Whitney U shows that the group with a personality disorder have a significantly lower SOC-total than the group without a personality disorder (U=53,00, p=.003).

A comparison between the five-year follow up and the group that has been followed from Dianova shows that Dianova on average receive similar results on the sub-scales in SOC. The total points for the SOC-scale differs only with slightly more than one raw point between the groups.

Family and relations

Social support and a circle of friends without ramifications from the addiction scene is an important factor to attain a life free from drugs during and after treatment (Skårner, 2001). The results form the ASI-follow up and the ISSI-questionnaire is shown below to give an idea of the interviewed groups current social situation.

The following table (Table 30) shows that the majority (49%) among the interviewed group live alone. Nine persons (21%) live together with family or relatives, which is almost as many as those who have lived together with a partner the past six months.

No stable living conditions are in this case the situation for the persons who to an considerable extent have been homeless for the last six months. Together with the persons that have lived in an institution or an equivalent this group constitutes seven persons (20%), (Table 30).

Table 30. *The most common living conditions for the past six months (n=43). Percentages in brackets.*

Living conditions	**Number**
With a partner	7 (16,3)
With parents	4 (9,36)
With family	2 (4,7)
Alone	21 (48,8)
At an Institution/ equivalent	3 (7,0)
No stable living conditions	4 (9,3)

Two persons (6%) are cohabitating with a partner that abuses both alcohol and narcotics. Eleven persons (31%) in the interview group have children of their own. Nine of these persons (82%) have regular contact with their child-ren. None of those interviewed however live together with their children.

Table 31. *The persons in the interviewed group that primarily spend their free time together these persons listed below at the time of the interview (n=43). Percentages in brackets.*

	Number
Family/relatives without current addiction problems	10 (22,5)
Family/relatives with current addiction problems	2 (5,0)
Friends without current addiction problems	7 (20,0)
Friends without current addiction problems	6 (17,1)
Alone	14 (40,0)

As is shown in table 31 the majority (83%) spend their free time alone or with persons who do not have an addiction problem.

ISSI-SR

Due to the fact that the test has not been standardised for a Swedish population is it possible to interpret a value that is below 20 points on the ISSI-SR-scales total points as an indication of low social support. Table 32 shows that the interviewed groups total value on the ISSI-scale is 17,88, which points to a social integration below the normal limit. It is especially the subscale AVSI (accessibility of social integration) that receives a low average value, whilst most of the persons however are satisfied with the number of relations.

A Mann Whitney U-test shows no significant differences (U=138,50, p=.959) on the scale ISSI total between the group that has been drug free for

more than six months (n=14, M=18,07 raw points) and those that have not been drug free or have been for a shorter period of time (n=20) (M=17,75 raw points).

Table 32. *The results for ISSI-SR given in average value (M) and standard deviation (SD) for the interviewed group.*

Variable ISSI-SR	**M**	**SD**
Access to social integration (AVSI)	2,09	1,49
Access to profound emotions (AVAT)	4,44	1,6
Experienced satisfaction with social integration (ASDI)	5,59	2,15
Experienced satisfaction with access to profound emotional relations (ADAT)	5.76	2,83
ISSI total	17,88	5,44

The difference is not significant (U=98,00, p=.117) between those that have a personality disorder according to DIP-Q (n=16)(M=16,31 raw points) and those 18 persons who do not have such a diagnosis(M=19,28 raw points).

A comparison between the interviewed group and another group of heavy narcotics addicts, show that two different groups average value for ISSI-variables are relatively similar. A variance analysis with ANOVA shows that there are no significant differences.

Criminality

Seven (7) persons have over the past 30 days supported themselves economically through illegal activities (16,4%). One person has been prosecuted for a crime the past six months (2%) and 5 persons (12%) have had a conviction during the same period, 2 persons (5%) have been convicted for aggravating behaviour or a serious traffic offence (2%). Five persons (12%) are waiting for prosecution and 3 are prosecuted for violent offence (7%). No one has been sentenced to prison during this period of time. However three persons (7%) have been institutionalised in criminal justice facilities at some time after treatment at Dianova.

To use the number of convictions as a measurement of the group´s current criminal status is however not especially correct, as the time for the follow up for many was relatively short. This entails that the crime can sometimes have been committed before or during the persons stay at Dianova.

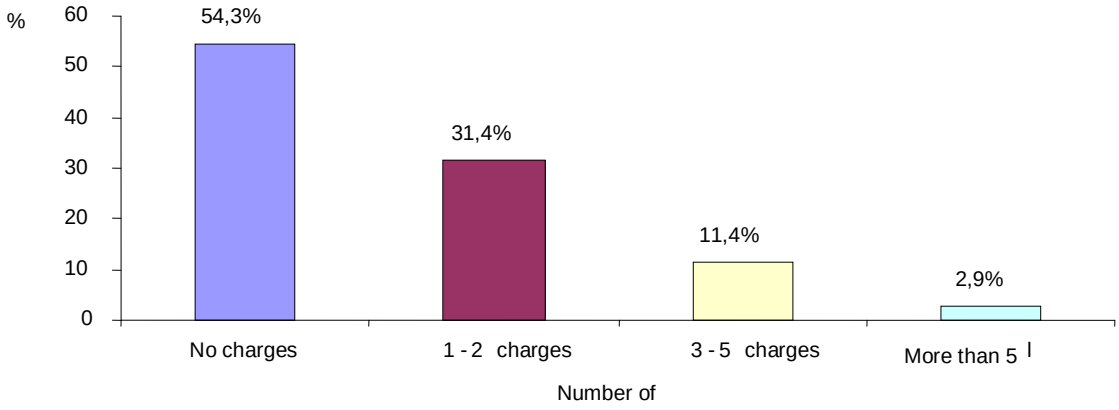


Figure 3. The number of charges for criminal offences in the group (n=43) since discharge form Dianova.

Figure 3 shows how great a number of the interviewed group that have been convicted for a crime, and prosecution since the treatment at Dianova. In the interviewed group were there eleven persons (31%) that were on conditional probation or had probation sanction.

Table 33 shows that it was a relatively small part of the group, three per-sons (7%), who experienced themselves to have moderately, evidently or great judicial problems. Of these was there only one person (3%) that considered them self to have a moderate need for help whilst the rest considered that they did not need any or perhaps a limited amount of help.

Table 33. *The interviewed groups evaluation of their judicial problems and need for help. (Percentages in parenthesis, n=43).*

Evaluation	**Number with problems**	**Number in need of help**
Nothing/little	32 (91,4)	34 (97,1)
Moderately	2 (5,7)	1 (2,9)
Evidently/great	1 (2,9)	0 (0)

Quality study

With the help of the results form from Rusmiddeletaten in Oslo - GFI (ave-rage satisfaction index) and GVI (average importance index) for the different factors were evaluated. The value 2,5 is considered to be the minimal acceptable value for GFI, which is also the limit value for GVI. All the items in the study received an average GVI value over 2,5, and all the individual questions were hence considered to contain important quality aspects for the clients. When it comes to how satisfied the clients had been with the individual statements, a third falls below the limit value for GFI, see table 34.

Table 34. *Averages for the interview group on items that fall below the limit value for GFI and the average value for the group (n=43).*

Item	Average	Sd
Did You experience your treatment program as successful	2,95	1,05
The activities that You were offered to participate in	2,90	1,02
The help You received to stop using drugs	2,76	1,07
The personnel's availability	2,61	1,046
Dianovas ability to prevent drug use during the stay	2,54	1,16
Dianovas collaboration with social services	2,54	0,97
Value under that which is seen as acceptable in GFI		
Personnel's competence	2,49	1,17
Information You received from Dianova at registration	2,45	0,96
Lodging at Dianova (foe example food and room)	2,41	1,07
Employees ability to help You when most important	2,39	1,07
The help You received to solve social-and family probl.	2,25	1,01
Your possibility to influence the content of the treatment	2,05	1,11
Personnel's way to handle complaints	2,00	1,040

The remaining item meets the requirements for acceptable quality for the dimensions that the interviewed clients considered as important. Table 35 illustrates the item where the interviewed group evaluated their highest level of satisfaction.

In general the patients evaluate that which they actually received considerably lower (GFI) than that which they thought was important (GVI). It is the special need of effective help, activities, access to personnel and ability to compensate for the intake of drugs and cooperate with other authorities that are evaluated highly by the patients.

Table 35. *Item where the interviewed persons evaluated the importance of Dianova* ***organisation (n=43).***

Quality aspect	Average value
The importance of the help you received for your drug problems	3,85
How important was it that your treatment program was successful	3,76
Importance of access to Dianovas personnel	3,62
Importance of Dianovas controls to counteract abuse in treatment	3,59
Importance of the methods that the personnel chose for you	3,54
Importance of social solidarity	3,49
Importance of the employees understanding of your situation	3,49

Continued	3,46
Importance of treatment You received when you arrived at Dianova	
Importance of ability to express how You experienced the situation	3,46
Importance of employees ability to communicate Dianovas message	3,45
Importance of the information about Dianovas rules and regulations	3,45
Importance of Dianovas personnel's ability to help You	3,44
Importance of Dianovas collaboration with social services	3,32
Practical design such as food and lodging	3,32
Importance of the activities You participated in	3,28
Importance of being able to influence Your treatment program at Dianova	3,26
Importance of the help You received to stop taking drugs	3,25

The importance is indicated here for the patients who attach great meaning to different parts of the operation that which one received did not measure up to the expectations, hence a critique.

The questions in the quality questionnaire are arranged in overall quality domains and the average value for the item within the different areas are presented in table 36.

Table 36. *Average value for the overall areas in the quality questionnaire (n=43).*

Quality domain	**Average value**
Information and organisation (4 item)	2,62
Content and individual adjustment (5 item)	2,47
"Collaboration" (8 item)	2,60
Service and comfort (3 item)	2,68

The only area that does not reach a level of satisfaction according to the quality demands is thus Content and Individual adjustment. This area is about individual adjustment and method content, about the relationship between client and treatment content and how their own resources are used in the best way.

When it comes to differences between those who complete and those who drop out, GFI lies below the limit value for 13 out of 21 item amongst those who have interrupted their treatment prematurely (n=13). Amongst the group of 20 persons that have completed the treatment lie three item below the limit for acceptable according to GFI. The items that the group who

completed treatment generally are dissatisfied with are: information at registration, the personnel's way of handling complaints and your possibilities to influence the content in the treatment programme.

Table 37 presents the average values for the item where the differences are significantly higher between the groups (Calculations performed with ANOVA and Mann-Whitney U-test). Below are shown the items in the quality questionnaire where the variance analysis points to significant differences between those who have completed treatment and respectively those who have dropped out of treatment before time.

On the open question in the quality questionnaire is that a large number of view points and comments ranged from very positive to very negative. Many of those who had been dissatisfied yet anyhow managed to keep themselves free from drugs after the treatment mean that it depended on the treatments length and distance to Sweden. It seems very much that large proportions of the criticism entail the stay at Dianova residential treatment settings, not so much the after care in Sweden.

It seems also that it has been more important than the relationship to the treatment staff. It seems especially to be the treatment collective that does not function well here and where serious unsatisfactory conditions have been reported, such as for example the occurrence of drugs and maltreatment from members of the staff.

Table 37. *The average value for the "dropout" group (n=13) and the group of those who have "completed" (n=20).*

Item	**Dropouts**	**Completed**
Importance of help for drug problems	4,00	3,68
Importance of information at registration	3,85	3,11
Importance of information about Dianovas rules and regulations	3,77	3,32
The success your treatment program had	2,08	3,63
The help you received for your drug problem	2,08	3,00
The help you received to solve social-and family problems	1,50	2,70
Your possibility to influence the treatment programs content	1,33	2,25
The employees ability to help you with that which was important for you	1,92	2,80

The relationship to the fellow clients also seems to have been more impor-tant than the relationship to the treatment personnel. This is in

agreement with the other results from the questionnaire where the clients have been more satisfied with their social agency than with the treatment staff and their methods at the same time as one emphasises the importance of that which is actually being done in treatment.

One person had both negative and positive experiences regarding how the treatment personnel themselves have been treated for addiction, that it implies a greater understanding yet that old "addiction behaviour" was still present. Some persons have commented on their therapist and that they have felt that the treatment contact worked well. Some have also commented on a better relationship to the staff in Sweden and a positive experience from the support from the continued with the aftercare and contact with Dianova.

A number of clients reported problems with not being able to make themselves understood and that no one spoken English at the treatment collective, whilst some highlighted the positive aspect of learning a new language. Finally it was emphasised that their own motivation and the individual conviction was central in order to succeed with the treatment, despite the fact that the prevailing circumstances was not perceived as ideal.

In a comparison with Dianova and a group of Norwegian addicts that had been treated at three different institutions for addiction care, there are some different quality aspects that are accentuated. Table 38 illustrates the average values for the different quality domains for Dianova and the comparison material from the May- respectively the October measurements. All of the items were considered to be important in all of the groups with an average value of 2,5.

Table 38: *The overall quality domains average value for the group from Dianova (n=43), the comparison materials May measurement (n=46) and the comparisons groups October measurement (n=42).*

Quality domain	**Dianova**	**May Rating**	**October Rating**
Information/organisation (4 item)	2,62	2,98	3,04
Content & individual adjustment (5 item)	2,47	3,10	3,16
Collaboration (8 item)	2,60	2,88	2,99
Service & comfort (3 item)	2,68	3,16	3,12

As is made evident in table 38 the clients have in the comparison material generally a higher level of satisfaction on most items in comparison with Dianova. One exception was the social agency where Dianova´s clients were more satisfied.

DISCUSSION

This is an outcome study that aims to describe what the life situation looks like for a cohort consisting of all of the persons that were treated at Dianova between 01-09-2002 and 30-06-2004. At the time of registration the group consisted of heavy narcotics abusers where almost all were economically supported through social subsidies or illegal activities, and no one had earnings from employment as their main source of income. Few had their own accommodation and over half of the members of the group were home-less. The average time spent in addiction was 13 years, and no one had a shorter length of addiction problems than three years. Heroine and Amphetamine was the most common primary drugs in the cohort. The overwhelming majority used more than one drug and can therefore be characterised as polydrug addicts. When it comes to criminality prior to treatment at DIANOVA, the only existing information contains convictions, and here there is a certain amount of missing data. However almost half of the members of the group have at some point of their drug career been convicted of a crime.

One motive for using a relatively comprehensive psychological inventory of instruments was to be able to decipher whether Dianovas group of patients, in some regard, could be considered to constitute a less problematic group of narcotic addicts or not. This was however not the case. Nonetheless the group from Dianova does not appear to be a quite as mentally problematic group as the patients in the five-year follow up that was used as a comparison (Fridell et al, 1998). This can be due to the fact that Dianova does not accept clients with documented mental disorders of a more severe form, whilst the five-year follow up originated from an unselected group of patients at a detoxification- and short term readjustments ward within psychiatry.

If one compares the number of persons who have completed treatment at Dianova International during 2003 and the current cohort, then considerably more persons completed the treatment form Dianova Sweden, both in the whole cohort and to an even greater extent amongst those interviewed, than from the larger comparison group from Dianova of almost 1000 patients (Carrón, 2004). The number of months spent in treatment is on average 14 months for the interviewed, which can be compared to 4,5 months for the cohort from Dianova International 2003. It seems, consequently, as if the clients from Dianova Sweden has long treatment periods from an international perspective. When it comes to baseline information regarding characteristics of clients, the information from Dianova Sweden's cohort resembles the clients in Dianova International on base-line data (Dianova

International's client base). An exception is the internationally recruited group which had a more extensive Cocaine addiction. Nothing contradicts that Dianova Sweden's patient group is at least as problematic as those from Dianova International.

Outcome

At the follow up about half have been free from drugs for one year or more and the same number have been free from drugs during more than two years even when including the time of treatment in the calculation. One can argue that two years is a relatively long time of abstinence from drugs, yet there is at the same time a risk for relapse when the person returns to their usual habitat. Fridell, 1996; Johnsson Fridell et al (1996) chose to define two years abstinence from drugs as *stable abstinence* in a five-year follow up of heavy drug abuse and found that about half of the former patients were abstinent for one year at follow-up and of these, 39% for the past two years. Research shows that the relapse risk is at its greatest the first six to twelve months after treatment (De Leon, 1990-91 in Fridell, 1996a). In a long term follow up of heroin addicted men it was found that an abstinence from drugs for five years reduced the risk for a later relapse (Hser et al, 2001). However the same study showed that not even abstinence from drugs for fifteen years eliminated relapse into addiction (Fridell, Hesse & Johnsson 2006). This confirmed the view of addiction as a chronic condition, where one cannot expect a person to remain abstinent continuously for the rest of their life after treatment.

It was a fairly small group of 23% that abused drugs actively at the time of the follow up. If one allows mortality from drug related causes to be included, the failure rate increases to 31%. There existed a small group which had not become abstinent. But several of these persons had also started a new treat-ment for their addiction, which in itself might increase a positive out-come (Davidsson & Magoulias 1982). In this follow-up fewer persons abuse drugs actively at the time of the follow up than is the case in most follow-up studies of residential treatment. However, the time of the follow up is short for many of the participants in the present study.

Regarding the use of some form of drug, alcohol not included, 29% of the group were continously abstinent since the treatment, whilst 23% had had an occasional relapse that did not cause a relapse to drug use. This means that it is barely half of the group that have, after registration at Dianova, returned to substance use of some form. The majority of those which had, during six months, been treated for their addiction, had been in treatment at Dianova. Eleven percent were however in Subutex treatment at the time of

the follow up. Here it appears that the comparison material of heavy drug dependent persons from S.t Lars had to some extent higher numbers of stable drug absti-nence (39%) with two years or longer without drugs and 45% abstinent for the last year (Fridell et al, 1996a). In that follow-up 17% were continuously abstinent over all five years after discharge.

Information about the extent of narcotics- and alcohol use before the treatment at Dianova cannot be reliably checked. Seventy-seven percent have however injected at some point in their lives, a small number only on a few occasions according to information in the follow up interview. In a comparison with the registration information the number of persons who had used heroine decreased from 37% to 9%. There are however 34% of these who had used heroine after discharge from treatment and one person who had taken occasional relapses. In an American review of therapeutic societies (Simpson et al, 1997) heroine use decreased from 19% to 7% from registration up to one year after treatment. In BAK/SWEDATE it was found that the outcome was barely affected by which drug that was abused, except for the persons with heroin addiction where the prognosis was to some extent worse. (Bergmark et al, 1994).

In the present study the results from AUDIT were used as an indication of possible risky drinking behaviour rather than dependence as there does not exist any fixed criteria for what characterises harmful alcohol consumption in the ASI-interview. The results for AUDIT showed however that the group does not differ from the population at large, yet that 20% had values that, according to AUDIT, indicated harmful alcohol consumption. Six percent had nevertheless alcohol habits that, according to the interviewers, was evaluated as a dependence and categorised therefore as "not drug free at the time of the interview". This also differentiates the group from the above mentioned five-year follow up of narcotics abusers where alcohol problems were extensive, and resembles more the outcome that was found in another five-year follow up of Lundens compulsory institutional care facilities for women where alcohol problems were unusual (Fridell, Billsten, Jansson & Amylon 2009).

Since the discharge from Dianova hardly half of the persons interviewed had been prosecuted for a crime. This is as many as before the treatment that had received a conviction in the same group. Other one-year follow up of therapeutic societies have shown results for the number of arrests at 28% (Moos et al, 1999) and 31% (Simpson et al, 1997) after treatment. With a relatively short time of follow up as in the present study, the criminality variable creates problems because there often exists a tendency that a person is sentenced a long time after the crime has been committed. Despite

that the outcome criteria differ here, and one can consequently neither compare a conviction nor arrest with the number of prosecuted, thus it seems as there has existed a continued criminality in the group since discharge. A to some extent smaller number: 17% has been prosecuted during the six months preceding the follow up. This results indicates that the criminality was related to drug use patterns.

Improvements for the group can be read for both the accommodation- and economical provision situation. It was about as many who had their own accommodation at the time of the follow up as at the time of registration, yet the number of homeless had decreased markedly, from 60% to 11%. The most common form of own accommodation was with no a first hand contract, which is not especially uncommon since most of the interviewed lived in the regions of larger cities. The level of homelessness is comparable to the level in other follow-ups.

Over on third of the patients had employment or studies as their primary occupation at FU, whilst the number that provided for themselves through social subsidies had decreased from 71% to 40%. The largest difference is that a fourth of the group at the time of the follow up primarily supported them-selves from their employment, which nobody did at the time of registration for Dianova. Studies of other therapeutic societies show similar results were employment had increased with 25% (Moos et al, 1999) and with 15% (Simpson et al, 1997) one year after treatment. Furthermore seventeen percent supported themselves on student loans and subsidies or allowance grants. After care and active work from the organisations side to create an occupation and stable accommodation can have improved the situation. Perhaps can the relatively high level of occupation in comparison with the registration data partly be explained by the Rainbow support system and other user organisations where one has, during the past year, invested very actively on creating for example work collectives and occupation. Work and occupation continued however to be an area that in composite values form ASI indicate the greatest problem for the interviewed group (Andréasson et al, 1999).

Research has confirmed that drugs cause and aggravate psychiatric and psychological problems (Swedish National Board of Health and Welfare, 1996). It is common with non substance induced mental disorders in form of states of anxiety and depression (Grant et al, 2004). According to outcome data based on ASI, 23% in the interviewed group evaluated mental problems as a minor or a great problem. The most common problem irrespective of the level of problem evaluation was difficulties to understand, remember, and concentrate or anxiety. Relatively few persons had had mental treatment

contacts in outpatient- or institutionalised care. The number of persons who feel psychiatrically ill seems to be lower than in other studies, which is confirmed by symptoms measured with SCL-90. Confirmed by SCL-90-data the followed groups levels of mental symptoms do not deviate from the norm group and the group resembles in this respect the 12-step treatment programme as it is described by Oiumette, Finney and Moos (1999).

Furthermore the five-year follow up cohort lies significantly higher on in principal all the variables than do the DIANOVA-sample. If one adjusts for the variable drug freedom, the difference is however not as great between the persons from Dianova and the five-year follow up who had not abused during the past six months. Instead it is amongst the persons who are still in an active addiction that the symptom levels differ markedly between both groups.

Personality disorders are a common occurrence in groups of narcotics abusers and has a negative effect on treatment results (Fridell, 1996b; Ravndal et al, 2005). In the screening that was carried out with DIP-Q indicated the presence of at least one personality disorders for 53% of the interviewed group. This is considerably higher than the number of personality disorders in the population at large, yet significantly lower in a comparison with the five-year follow up of narcotic addicts and the numbers that are usually shown in Scandinavian studies (Fridell, 1996b; Fridell, Johnsson Fridell et al, 1996). Rather it resembles the epidemiological material in the NESARC-study where 49% where drug use disorder had at least on personality disorder (Grant et al, 2004).

The most common diagnoses was Borderline and Schizotypal personality disorder with Anti-social,Pd as a concomitant disorder. The Dramatic cluster was the most common in the group from the classification of first diagnose according to DIP-Q (27%), and the number with some form of diagnose in this cluster was 38%. This can be compared with the five-year follow up where the number of persons with a personality disorder of dramatic type, from first diagnose, was 37% (Fridell, Johnsson Fridell et al, 1996).

Antisocial personality disorder is the most commonly occurring mental disorder amongst drug dependent persons, and at for example the five-year follow up 25% received this diagnose. Antisocial personality disorder has in numerous studies been placed in relation to negative prognosis for treatment compliance and outcome (Fridell, Hesse et al, 2006; Ravndal & Vaglum, 1995). A small part of the group from Dianova (9%) had antisocial personality disorder as their first diagnose, whilst the number that

met the criteria for a diagnose at all was a little higher, 24%. From the first diagnose the pattern for the group from Dianova that was followed therefore differs.

One result that deviates from other studies is the higher number of points on Schizotypal personality disorder. As Ottosson et al (1998) certify is how-ever DIP-Q especially oversensitive regarding the "Odd" cluster.

All in all the results of the DIP-Q indicate a slightly lower number of perso-nality disorders in the group than what is usually in occurrence amongst narcotic addicts. The dramatic cluster is in resemblance with other studies the most common. Personality disorders can be seen as an intervening variable that receives importance for the interplay with other persons in a treatment situation, and is for these groups more important with a distinct structure in the treatment and that the staff has the competence to deal with possible difficulties that arise (Fridell, 2003). There is no evaluation of a personality disorder diagnose at registration to Dianova, and that the number of perso-nality disorders decreases at the follow up has been observed in other studies (Groot et al, 2003; Fridell, Johnsson Fridell et al, 1996).

There are advantages with using categorical models like DSM-IV:s diagnose system, especially in this type of study, where one wants to compare different outcome of treatment with each other. Personality disorders shall however rather be seen as a continuum, where there is a more fluid limits where personality traits become maladaptive for a person and their social context, rather than a clear distinction between that which is considered as "pathological" or "normal". Personality disorders are not a mental illnesses. The results from DIP-Q should, as has been mentioned, be seen as hypothesis generating for the existence of personality disorders on a group level and to be able to draw attention to that which can be a problem for the individual. Then a more thorough clinical evaluation is needed.

The group with personality disorders has elevated scores than the group without when it comes to the self evaluation of mental symptoms (SCL-90), especially regarding split or confused thinking, thoughts of being followed or threatened and that one is exaggeratedly attentive to others behaviour and feels inferior in contact with others. They also have more symptoms than those without personality disorders. Yet neither the group with personality disorders reaches symptom level of SCL-90 and one can ima-gine that there are persons with both a lot of and persons with very few symptoms within the group where DIP-Q indicates personality disorder.

The group's average value on the SOC-scale lies within the norm value. This means that the interviewed group, regardless of their current addiction status, cannot be considered especially exposed when it comes to strain related physical and mental illness. However there exists a difference between the interviewed persons that have received a personality disorder diagnose according to DIP-Q and those who do not, where the former group seem to experience their existence as less meaningful, understandable and manageable. Still the indication is that the patients lie within the normal level on KASAM.

The interviewed persons profile on the personality test BCT shows a pattern that resembles that for other groups with drug addiction (Fridell, Cesarec et al, 1996). Traits of obstinacy, pessimism, perfectionism, magical thinking, brooding and control through following rigid rules are more frequent here than within an average norm group. This could mean that drug users one on a group level can be difficult to treat. Another trait that is connected to this group's profile is however also rigidness, thrift and the need to oppose to norms. It is important to keep in mind that these results only should be interpreted on a group level and that a clinical evaluation must be done with complementing measures. The group average values lie furthermore within the framework for normal values, even if the variables that indicate the occurrence of more "pathological" traits are enhanced.

In line with other groups of persons with an addiction problematic (Skårner, 2001), have the interviewed persons with small social network. The test results in this study confirms her observations that the interviewed group primarily lack persons who can provide support and self-esteem and with relations where one shares the same interests. No significant differences are found in this case between those that are free from drugs and those who abuse. This signifies that also many who are drug free at the time of the interview have limited social relations. A small part of the group live with one partner and many spend most of their free time alone at the same time as they are relatively few that primarily spent time with persons who have an addiction. The interviewed persons social situation resembles at large that which is described by Skårner (2001). That several persons without a current addiction have a limited social network can be explained with that it take time to build new social relationships which in itself becomes vital in staying drug free (DeLeon 1990-91, in Fridell, 1996a).

According to the interviewed persons own evaluations there were no significant problems with their physical health, yet a smaller group stated a large need of help for their physical health problems. A couple of persons also had the need for extensive hospital care. Sixty percent of the group stated

that they had Hepatitis, which lies in line with the high number of earlier injection abuse.

What did the clients think about the treatment?

The organisational factors are important to examine in relation to different organisations and treatment units results. Large variations in the treatment results between different divisions which use the same methods and ideologies are due to organisational differences (Fridell, 1996). Due to the clients in the interviewed group where many have stayed at different treatment divisions, it is likely that there have existed differences in organisational factors that have affected the treatment situation for the individual. The interplay has however been so small and the persons have even been treated at different points in time, which has lead to it becoming difficult to examine how this has affected the outcome or the experience of quality in the treatment. It has even made it hard for the interview persons to give un-ambiguous answers to the questions in the quality questionnaire, in the cases where they have been in treatment in numerous different treatment communities, and in aftercare at Dianova in Stockholm. A difference in relation to Rusmiddeletatens instructions is that those who are a part of our study in all cases except one, have completed their treatment. It is here important with a follow up of how the quality has been experienced.

In the results from quality questionnaire were the interviewed showed most satisfaction was in the realms of social solidarity during the treatment period, that is central for the treatment model where the social context was an important part of the readjustment. It is even within this area that Dianovas clients are more satisfied than the clients in the Norwegian comparison material. Otherwise the interviewed from Dianova were generally less satisfied within all the remaining quality domains.

That the clients at the Norwegian institutions appear to be more satisfied can be because of many reasons, for example differences in organisation and treatment content. To be able to draw conclusions about what the differences are due to, more knowledge is needed on which types of institutions they were treated. Clients in both the Norwegian comparison material are older than the clients from Dianova, with 21-23% under 33 years of age in the comparison material and 66% in the same age group at Dianova. The Norwegian institutions have also a higher number of alcohol addicts. One difference between the groups is longer treatment times at the Norwegian institutes, and that some of the clients in the Norwegian material have been treated also in outpatient care.

The results for the quality questionnaire point to a dissatisfaction with many aspects regarding to the staff and the methods that are used in the treatment institutions, yet there is only one out of four overall quality domains that does not reach a satisfactory quality level: regarding information and organisation, quality of relations and materialistic conditions at the treatment collective were the interviewed satisfied enough.

Dianova is a client run organisation with many former addicts amongst the treatment staff. These can function as role models for the clients in treatment, yet similarities between clients and the personnel group can also lead to problems. When personality disorder are a common occurrence in groups with narcotic addictions the relationships can be problematic to staff as well as to other clients (Bergmark et al, 1994). If the treatment personnel lack the therapeutic competence to deal with relational difficulties and maybe have not matured out of their own personality problems can this have fatal consequences on the outcome (Fridell 1996a). That there exist both advantages and disadvantages with treatment personnel with their own experience of addiction was made evident in the answers of the quality questionnaire.

Most dissatisfied are the interviewed persons with aspects that had to do with individual adjustment and the content in the treatment. Dianovas treatment in the institutional setting involves a relatively strong structure with little room for individually adapted treatment. This type of treatment does not work with everyone and most of those who interrupted treatment are much more dissatisfied than those who completed with how the personal resources have been disregarded in the treatment. According to Ball et al (2005) lost motivation and lost hope for the future are important reasons to dropout and even a to begin with motivated client can interrupt treatment when the organisational conditions do not meet the clients needs (Fridell, 1996a).

There were a couple of other significant differences between those who have interrupted and those who have completed treatment on the aspect of satisfaction. Those who have dropped out were overall more dissatisfied and were not surprisingly considerably less satisfied with the help they had received for their drug problems. Those who dropped out consider that the lack of information at registration and the lack of information about routines and rules were more important than those who completed the treatment. In addition the dropout group are also more dissatisfied with the aspects that the "completers" were dissatisfied with, for example the employees ability to assist with that which one thought was most important and the lack of help to solve social- and family problems. Regarding the social problems this was

maybe partly caused by the fact that those who dropped out did not assimilate the last phase of the treatment where focus is on readjustment.

The combined result of the quality questionnaires implies that to obtain more satisfied clients the organization must take use of the clients own resources for the treatment, to make use of them, become more sensitive to the individuals needs and invest more in educating the staff. The results show however that the interviewed, on a group level, were satisfied with the majority of the quality aspects. The results regarding the quality questionnaire refer to the *stay at the treatment collective* and not the readjustments phase and after care in Sweden. Several persons commented on a better relationship to the staff in Sweden and the continued support from the organisation, among other things in the aftercare programme. Regular aftercare also affects, according to research, the outcome in a positive direction (Moos et al, 1999; Bergmark et al, 1994; Fiorentine, 1999; Holloway, Bennett, & Farrington, 2006).) and it would have been interesting to thoroughly investigate whether completed aftercare affects the outcome of the cohort from Dianova.

Assetts and limitations

The dropout in the study is fairly large and only 54% of the cohort has participated in the follow-up study. The outcome for drug usage is known for 67%, where four persons from the cohort died from drug related causes. The primary reason for the relatively large percentage of nonresponders is due to the difficulties of contacting the persons who were part of the cohort. Twenty-eight percent of the cohort has not been possible to contact during the time of the study, which to a certain extent depended on the limited time to do the study. Yet with the representativity analysis didn´t show any systematic differences in the background variables in regard to the remaining cohort or to the nonresponders in the sample. We feel that the persons interviewed were representative for the patients treated in Dianova Sweden. The outcome is thus representative for the whole cohort.

Duration of time in treatment is an important factor for the outcome according to a large number of studies (see for example Fridell, 1996a; Bergmark et al 1994; Simpson et al 1997; Moos et al, 1999; Ravndal et al, 2005). The number of persons who have completed treatment including the readjustment phase in the whole cohort resembles what is known from other studies of residential treatments (Fridell (1996a). There are however clearly more subjects in the interviewed group that have completed treatment and the treatment duration is considerably longer for the interviewed group than for those who were not interviewed. The number of persons who have interrupted treatment within the first three months for the whole cohort is

similar to addiction treatment in general. However 41% of those that have not been interviewed have interrupted treatment within three months, which, according to research results, is too short a time to gain any results when it comes to treatment of drug abuse (Berglund et al, 2003; SBU, 2001). In the interviewed group half as many compared to those not interviewed, 20% interrupted within the first three months. This per se give a better prognoses regarding outcome.

A strength with this study is that standardised instruments have been used, which has made it possible to compare results with other comparable studies. Another strength is that the study emanates from a cohort design. Further-more the interviews have been carried out by the same persons who have processed and interpreted the material, which increases the studies reliability.

One way to validate self-reporting data is to use either data form registers or so called "collaterals"; information via social services or other persons who have good knowledge about clients, for example friends and family. From an ethical perspective is has not however been possible to do this, as one according to current legislation about ethics in research should have the clients approval to give the information outside the treatment agency (Fridell, Al-Obaidy et al, 2002). We were reluctant to ask for this type of information du-ring the field work, since it might raise suspicion about the interviewers thrust in the answers from the clients themselves. It could create a barrier in building a respectful and trusting relationship. Information from ASI and according to the TLFB-method have however shown to have a good validity, especially when information has been collected from an independent person, and where the person interviewed does not have any gains from leaving incorrect information (Sobell & Sobell, 1992; Bergmark et al, 1994).

Another strength with study is the inclusion of all the persons that have been registered for treatment, regardless of how short a time they have stayed at Dianova. This is in line with the intent-to-treat approach. One disadvantage was however that the follow up time for some persons became very short.

One difficulty in completing the study has been has been the lack of test- and ASI-data to compare with the outcome for Dianovas clients. To systematically collect information about ones client group is hence an important part in the organisations quality work, which even client run organisations such as Rainbow, including Dianova, have observed and begun to adopt after the period of time that the cohort extends.

Concluding comments and recommendations

What can be learned from this study? It is important to understand that this question to some extent has most relevance for DIANOVA Sweden. A single group design as the one in this study give a picture of how well the organisation succeeds with their clients/ patients. The lack of control group is a limitation which was only partly solved by using quasi-experimental controls from other follow-up studies.

The design used here had several aims: Was it possible to show that the results could be representative to DIANOVA Sweden at large? The answer is yes. The use of standardised tests and instruments give us the opportunity to say something about the type of clients DIANOVA Sweden has. Do they resemble other groups of heavy drug dependent individuals or not? The answer is yes. The clients treated at DIANOVA Sweden have the same types of psychological problems as drug dependent individuals in other clinical settings. The group is thus not "easier" to treat than are drug addicts in other treatment forms. This said with one exception. DIANOVA Sweden has decided not to include patients with difficult chronic psychiatric disorders. That decision is wise and could have been harmful to include this more fragile group of persons in a rather intensive treatment strategy like DIANOVAs.

The next point is what are the levels of success and what is defined as suc-cess? It is self evident that abstinence is crucial. It was 77% of those interviewed or 49% of the whole cohort who were abstinent at follow-up and the majority of those interviewed had been abstinent for one year or more. This is a good result along which could be expected from well functioning therapeutic communities (Fridell 1996). As in many other treatment organizations time in treatment is positively associated with success in many other aspects of the person´s life. First, it seems very important that Dianova International pay more attention to the early dropouts in this respect. They probably indicate structural problems and must be dealt with. They might also be due to failures in recruitment policies or strategies. In that case these must be changed. Earlier efforts to evaluate become rather meaningless if the patients going into treatment are not properly evaluated and taken care of. In such a case, we do not know, to whom the organisation is detrimental or supportive. In contrast we know this about DIANOVA Sweden just because we have adopted this specific scientific design. But there is ample need to understand if the patients are what was once called "hard core addicts" or not. We must know: who are the persons we treat?

The problem of early dropouts is definitely not specific to Dianova, it is the major problem in most types of treatment (Fridell 1996). But better strategies might save unecessary suffering for the individual as well as money for the organisation and for the social agencies. It is particularily problematic that the clients do not feel well treated during the phases of detoxification and residential treatment. This must be dealt with. Quality assurance perspectives must be applied and used for creating more individually adapted programs.

In substance abuse treatment, success often implies more than abstinence. What we can see from the Dianova study is that it goes hand in hand with improvement in social functioning, work ability, lower levels of financial support from the society and a generally healthier life style. But still there is 60% being supported by society.

Other problems that remain is continued societal financing, a small and may-be fragile social network, which implies that the contact with the treatment organisation is of major importance, and maybe a complement to a weak network, at least for some time. The long term treatment chain perspective is very relevant with all drug users, also DIANOVAs.

This study is an outcome study with multiple criteria, which has the consequence that a more in depth analysis has been put aside for breadth in hypotheses and results. DIANOVA Sweden is a newly established organisation and no evaluation has previously been made. It was timely to do the first evaluation of what Dianova stands for right now and also to lay the foundation for further data collection and follow up routines that can be repeated and give a more firm foundation for conclusions about the organization in the next decade. The present status is that DIANOVA Sweden has applied the ASI systematically and that is an important step into a competitive field.

We hope the Dianova Sweden staff felt that our mission was accomplished.

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References

American Psychiatric Association(1995). *MINI-D IV:Diagnostiska kriterier enligt DSM-IV*. Danderyd: Pilgrim Press

Andréasson, S., Lindström, U., Armelius, B.-Å., Larsson, H., Berglund, M., Frank, A., Bergman, H., Rydberg, U., Zingmark, D., & Tengvald, K. (1999). *ASI – en strukturerad intervjumetod för bedömning av alkohol- och narkotikarelaterade problem.* Stockholm; Socialstyrelsen

Ball, S. A., Carroll, K. M., Canning-Ball, M., & Rounsaville, B. J. (2006). Reasons for dropout from drug abuse treatment: symptoms, personality and motivation. *Addictive Behaviors*, 31, 320-330.

Berglund, M., Thelander, S., & Jonsson, E. (2003). *Treating Alcohol and Drug Abuse – An Evidence Based Review.* Weinheim; Cambridge: Wiley-VCH.

Bergman, H., & Källmén, H. (2001). Alcohol use among Swedes and a psychometric evaluation of the alcohol use disorders identification test. *Alcohol & Alcoholism*, 37(3), 245-251.

Bergmark, A., Björling, B., Grönbladh, L., Olsson, B., Oscarsson, L., & Segraeus, V. (1994). *Klienter i institutionell narkomanvård.* Stockholm: Socialhögskolan, Stockholms universitet

Blomqvist, J. (2002). *Att sluta med narkotika: med och utan behandling*. Stockholm: Forsknings- och utvecklingsenheten, Socialtjänstförvaltningen 2002:2.

Byqvist, S. (1997). *Svenska narkotikamissbrukande kvinnor och män – Missbruksförlopp och kriminalitet*. Akademisk avhandling, Stockholm: Socialhögskolan, Stockholms universitet.

Carrón, J. (2004). *Characteristics and Evolution of Admissions for Treatment: Executive summary.* Dianova International Network. Internt dokument.

Cesarec & Fridell (2010). Basic Character Trait test (BCT). MANUAL: Normerings-, standardiserings- och valideringsdata. Institutionen för Psykologi, Lunds Universitet**.**Centralförbundet för alkohol- och narkotikaupp-lysning

[CAN]. (2005). Drogutvecklingen i Sverige 2005. *CAN rapportserie; 91*.

Daughters, S. B., Lejuez, C. W., Bornovalova, M. A., Kahler, C. W., Strong, D. R., & Brown, R. A. (2005). Distress tolerance as a predictor of early treatment dropout in a residential substance abuse treatment facility. *Journal of Abnormal Psychology*, 114 (4), 729-734.

Davidsson, V., & Magoulias, E. (1992). *Efter Narkomanvård - Vad hände sedan? En tvåårs- och en femårsuppföljning som startade 1981 vid narkomanvårdsenheten, Huddinge Sjukhus.* Lic.-avhandling, Stockholm: Psykiatriska kliniken, Huddinge Sjukhus.

De Allegri, M. (2001). *Primo Follow-up.* Le Patriarche Italia Online.

DeLeon, G. (1984) *The Therapeutic Community - Study of Effectiveness.* NIDA Research Report no 37, Rockville, Maryland.

De Groot, M.H., Franken, I.H.A., van der Meer, C.W., & Hendriks, V.M. (2003). Stability and change in dimensional ratings of personality disorders in drug abuse patients during treatment. *Journal of substance abuse treatment*. 24, 115-120

De Wilde, J., Soyez, V., Broekaart, E., Rossel, Y, Kaplan, C., & Larsson, J. (2004). Problem severity profiles of substance abusing women in European therapeutic Communities: Influence of psychiatric problems. *Journal of substance abuse treatment*, 26, 243-251

Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky´s sense of coherence scale: a systematic review. *Journal of Epidemiology and community health*, 59, 460-466

Fals-Stewart, W., O´Farrell, T.J, Freitas, T.T, McFarlin, S.K., & Rutigliano, P. (2000) The Timeline follow back reports and psychoactive substance use by drug-abusing patients: psychometric properties. *Journal of consulting and clinical psychology*, 68, 134-144

Fridell, M. (1990). *Quality Management in Psychiatric Drug Addiction treatment-Effects on Staff and on Patients.* (Kvalitetsstyrning i Psykiatrisk narkomanvård - Effekter på personal och Patienter.) Academic Dissertation, Lund University, Stockholm: Almqvist & Wiksell International.

Fridell, M. (1991). *Personality and Drug Abuse - (Personlighet och drogmissbruk)*. Stockholm: CAN

Fridell, M (1996a). *Institutional Treatment of addictions: Organization, Ideology and Results. (*Institutionella behandlingsformer vid missbruk: organisation, ideo-logi och resultat). Stockholm: Bokförlaget Natur och kultur.

Fridell, M. (1996b). Psychiatric Disorders and Drug Addiction *(*Psykisk störning och narkotikamissbruk). I *Psykiskt störda missbrukare*. Sos-rapport 1996:14. Stockholm: Socialstyrelsen

Fridell, M. (2002). Women in Treatment (Kvinnor i behandling) I Leissner, T., & Hedin, U-C. (red) *Könsperspektiv på missbruk: antologi.* Bjurner och Bruno.

Fridell, M. (2004). Cormorbidity and Drug Abuse. *Annual Report from EMCDDA, on Psychiatric disorders among drug abusers in the European Union*, Chapter 16. Nätpubl.

Fridell, M. Al-Obaidy, S., Brefelt Lövdén, S., Conradsen, M., Hellström, I, Rehn, A-C., & Skoogh, E-L. (2002). *Nämdemansgården´s patients two to four years after treatment (Nämndemansgårdens patienter två till fyra år efter behandling)*. Lund: Institutionen för Psykologi, Lunds universitet

Fridell, M., Cesarec, Z, Malling Andersen, S., & Johansson, M. (2002). *SCL-90: Swedish standardization and validation of the Symptom scale SCL-90 (Svensk normering, standardisering och validering av symptomskalan).* Lund: Institution: Institutionen för psykologi, Lunds universitet & Statens Institutionsstyrelse.

Fridell, M., Billsten, J., Hesse, M;. Jansson, I. (2006). 15-year follow-up of patients with drug dependence (15-årsuppföljning av drogberoende personer). In Beijer, U.,

Fridell, M., Rödner, S., Storbjörk, J., Tengström, A., Thiblin, I., & Goldberg, T. *Vad vet vi om narkotikaanvändarna i Sverige? Rapport 14, 2006.* Stockholm: Mobilisering mot Narkotika.

Fridell, M., Billsten, J., Jansson, I., & Amylon, R., (2009). *Five-year Follow-up of women in compulsory Care.* (Femårsuppföljning av kvinnor vårdade vid Lundens - och LVM-hem). Stockholm, SiS Research Report 1/09.

Fridell, M., & Hesse, M. (2006a). Clinical Diagnosis and SCID-II Assessment of DSM-III_R Personality Disorders. *European Journal of Psychological Assessment 22(2), 2006.*

Fridell, M., & Hesse, M. (2006b). Psychiatric severity and mortality in substance abusers. A 15-year follow-up of drug users. *Addictive behaviours*. 31, 559-565.

Fridell, M, & Hesse, M. (2005). Personality Disorders in Substance Abusers. I M-U. Pedersen & V. Segraeus (Eds.). *Evidence based practices? Challenges in Substance Abuse Treatment.* NAD-publikation 47, Helsingfors (pp 65-80**).**

Fridell, M., Hesse, M. & Billsten, J (2007). Criminal Behavior in Antisocial Substance abusers between 5 years follow-up and 15 years follow-up. *The American Journal on Addictions 16*:1-5.

Fridell, M., Hesse, M., Jaeger-Mayer, M., & Kuhlhorn E., (2008). Antisocial personality disorder as a predictor of criminal behaviour in drug abusers, Addictive Behaviors 2008:33, 799-811.

Fridell, M., Hesse, M., & Johnson, E. (2006c). High Prognostic Specificity of Antisocial Personality Disorder in Patients with Drug Dependence: Results from a Five-Year Follow-up. *The American Journal on Addictions,* 15, 227-232.

Fiorentine, R. (1999). After Drug Treatment: Are 12-Step Programs Effective in Maintaining Abstinence? *American Journal of Drug and Alcohol Abuse*, 25 (1), 93-116

Gerlich, W., & Gerlich, A., (1995). *Estimation of the therapeutic experience of drug addicts and parents of drug addicts being treated in the Patriarche.* Bonn: Regional clinic - Substance Abuse Service

Grant, B. F., Stinson, F.S., Dawson, D.A, Chou, P., Dufour, M.C, Compton, W, Pickering, R.P., & Kaplan, K. (2004a). Prevalence and co-occurence of substance use disorders and independent mood and anxiety disorders: results from the national epidemiologic survey on alcohol and related conditions). *Archives of General Psychiatry*, 61, 807-816

Grant, B. F., Stinson, F.S., Dawson, D.A., Chou, P., Ruan, J., & Pickering, R.P. (2004a).Co-occurence of 12-month alcohol and drug use disorders and personality disorders in the united states: results from the national epide-miologic survey on alcohol and related conditions). *Archives of General Psychiatry*, 61, 361-368.

Hansson, J-H., & Wijkström, F. (2001). *Civilt samhälle, social ekonomi eller nonprofit? Fallet Basta Arbetskooperativ: Slutrapport från ett forskningsprojekt.* Stockholm: Sköndals-institutet forskningsavdelning.

Holloway, kR, Bennett, TH, & Farrington, DD (2006). The effectiveness of Drug Treatment programs in reducing criminal behavior – A meta-analysis. Psycothema 18(3), 620-629.

Hser, Y-I., Hoffman, V., Grella, C. E., & Anglin, M. D. (2001). A 33-year follow-up of narcotics addicts. *Archives of General Psychiatry*, 58, 503-508.

Jenner, H., & Segraeus, V. (2005). The Swedish DOC System – An Attempt to Combine Documentation and Self-Evaluation. *Eur Addict Res* 2005;11:186–192

Johnsson, E., & Fridell, M. (1997). Suicide attempts in a cohort of drug abusers: A 5-year follow-up study. *Acta Psychiatrica Scand 96, 362-366*

Kaplan, C., & Broekaert, E. (2003). An introduction to research on the social impact of the therapeuthic community for addiction. *International Social Welfare,* 12, 204-210

McKellar, J., Kelly, J., Harris, A., & Moos, R. (2006). Pretreatment and during treatment risk factors for dropout among patients with substance use disorder. *Addictive Behaviors*, 31, 450-460.

McLellan, A.T., Kuscher, H., Metzger, D., Peters, R., Smith, I., Grissom, G., Pettinatti, H., & Argeriou, M. (1992). The fifth edition of Addiction Severity Index. *Journal of substance abuse treatment,* 9, 199-213.

McLellan, T., McKay, J.R, Forman, R., Cacciola, J., & Kemp, J. (2004). Reconsidering the evaluation of addiction treatment from retrospective follow-up to concurrent recovery monitoring. *Addiction*, 100, 447-458

McLellan, A. T., Woody, G. E., Metzger, D., McKay. J., Durell, J., Alterman, A. I., & O'Brien, C. P. (1996). Evaluating the effectiveness of addiction treatments: reasonable expectations, appropriate comparisons. *The Milbank Quarterly*, 74 (1), 51-85.

Melin, A.-G., & Näsholm, C. (1998). *Behandlingsplanering vid missbruk*. Lund: Student-litteratur.

Moos, R. H., Moos, B. S., & Andrassy, J. M. (1999). Outcomes of four treatment approaches in community residential programs för patients with substance use disorders. *Psychiatric Services*, 50, 1577-1583.

Personer med tungt missbruk- stimulans till bättre vård och behandling (SOU 2005:82) Regeringsbetänkande. Nätpublikation.

Ottosson, H. (1999). *Validation of a self-report questionnaire for personality disorders in DSM-IV and ICD-10.* Akademisk avhandling, Umeå: Umeå universitet

Ottosson, H., Bodlund, O., Ekselius, L., Grann, M., von Knorring, L., Kullgren, G., Lindström, E., & Söderberg, S. (1998). DSM-IV and ICD-10 personality disorders: a comparison of a self-report questionnaire (DIP-Q) with a structured interview. *European Psychiatry*, 13, 246-53

Prendergast, M. L., Podus, D., & Chang, E. (2000). Program factors and treatment out-comes in drug dependence treatment: An examination using meta-analysis. *Substance Use & Misuse*, 35 (12-14), 1931-1965.

Prendergast, M. L., Podus, D., Chang, E., & Urada, D. (2002). The effectivness of drug abuse treatment: a meta-analysis of comparison group studies. *Drug and Alcohol Dependence*. 67, 53-72.

Rao, S.R, Broome, K.M., & Simpson, D.D. (2004). Depression and hostility as predictors of long-term outcomes among opiat users. *Addiction*, 99, 579-589

Ravndal, E. (1993). *Virker behandling – En oversikt over behandlingsresultater for stoffmissbrukare I Norden og internasjonalt*. Stockholm: Nordiska kontaktmannorganet för narkotikafrågor.

Ravndal, E. & Vaglum, P. (1994) Why do drug abusers leave the therapeutic community? : Problems with attachment and identification in a hierarchical therapeutic community. *Nordic journal of Psychiatry*, Supplement 33.

Ravndal, E., & Vaglum, P. (1999). Overdoses and suicide attempts: Different relations to psychopathology and substance abuse ? A five year prospective study of drug abusers. *Addiction and mental health,* 5, 63-70

Ravndal, E, Vaglum, P., & Lauritzen, G. (2005).Completion of Long-term Inpatient Treatment of Drug Abusers: A Prospective Study from 13 Different Units. *European Addiction Research*. 11, 180-185

Rusmiddeletaten (2005). *Veileder for kvalitetsmålinger.* Oslo: Oslo kommune

Saunders, J. B., Aasland, O. G., Babor, T. F., De La Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorder identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption – II. *Addiction*, 88, 791-804.

Simpson, D.D, Joe, G.W., & Brown, B. (1997). Treatment retention and follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive behaviors*, 4, 294-307

Schaar, I., & Öjehagen, A. (2001). Severely mentally ill substance abusers: an 18-month follow-up study. *Social Psychiatry and Psychiatic Epidemiology*, 36, 70-78

Sobell, L.S., & Sobell, M.B. (1992). Timeline Follow-Back – A Technique for Assessing Self-Reported Alcohol Consumption. In Litten, R., & Allen, J. (red.). *Measuring Alcohol Consumption*. New York: The Human Press Inc.

Skårner, A. (2001). *Skilda världar ?: en studie av narkotikamissbrukares sociala relationer och sociala nätverk*. Göteborg: Institutionen för socialt arbete, Göteborgs universitet.

Socialstyrelsen. (1996). Psykiskt störda missbrukare. *Sos-rapport 1996:14*, 7-33

Socialstyrelsen (2006) *Faktaunderlag till Nationella riktlinjer för missbruks- och beroende-vård.* Nätpublikation.

SBU (2001). *Behandling av alkohol- och narkotikaproblem: En evidensbaserad kunskaps-sa-manställning. Volym I och II*. Stockholm: Statens beredning för medicinsk utvärdering.

Sörensen, H. J., Jepsen, P. W., Haastrup, S., & Juel, K. (2005). Drug-use pattern, comorbid psychosis and mortality in people with a history of opioid addiction. *Acta Psychiatrica Scandinavica*, 111, 244-249.

Zack, M. , Toneatto, T.,& Streiner, D.L. (1998) The SCL-90 factor structure in comorbid substance abusers. *Journal of Substance abuse*, 10 (1), 85-101.

Undén, A.-L., & Orth-Gomer, K. (1989). Development of a social support instrument for use in populations surveys. *Social Science and Medicine*, 29 (12), 1387-1392.

Woody, G.,E., McLellan, A.T., Luborsky, L., & O´Brien, C.P (1987). Twelve-month Follow-up of Psychotherapy for Opiate Dependence. *American Journal of Psychiatry*, 144 (5), 590-596,

Öjehagen., A. (1998). Samtidigt beroende och psykisk störning – en aktuell forknings-översikt. I Gerdner, A., & Sundin, Ö. (red). *Dubbeltrubbel: nya rön och erfarenheter i diagnos och behandling av samtidigt beroende och psykisk störning*. Örebro: Behandlingshemmet Runnagården