Overview

CRA plus vouchers for treating cocaine use

Quality level

Quality level: 3

Executive summary

The aim of this project was to adapt, develop and test a standardised treatment approach based on the combination of the Community reinforcement approach and Vouchers (CRA + Vouchers) for cocaine-dependent patients in five treatment centres.

Type of intervention: treatment
Sub-area: drug free treatment
Setting: outpatient
Type of approach: networking, training for professionals, community involvement (bottom up)
Target group (universal): adults
Age group: adults
Target group (specific):
Annual coverage: 220
Substances addressed: opiates, alcohol, cocaine and derivatives
Evaluation type: outcome evaluation (how far are the specific objectives achieved), process evaluation (how far are the operational objectives achieved)
Country: Netherlands
Start date: 01/01/2005
End date: 01/07/2005
Overall objective

To determine the effectiveness and (piloting) the efficiency of CRA plus vouchers for cocaine dependence in the Netherlands.

Abstract

Background: Voucher-based incentives as a form of Contingency management (CM) in combination with the Community reinforcement approach (CRA) has proven to be effective in the treatment of cocaine dependence (CD) and in CD in co-morbidity with opioid dependence. Aims: to adapt, develop and test a standardised treatment approach based on the combination of the Community reinforcement approach and Vouchers (CRA + Vouchers) for cocaine-dependent patients in five treatment centres. Design: a three-phase procedure was used in this study. The first phase included the adaptation and development of the Dutch CRA + vouchers protocol based on the NIDA protocol (Budney & Higgins, 1998). The second phase focused on the training of professionals in the CRA + vouchers intervention. During the third phase, a multi-centre evaluation of the feasibility of this protocol was done among cocaine-dependent patients with a co-morbid opioid dependence. Participants: for the third phase, 66 cocaine-dependent patients with a co-morbid opioid dependence stabilised with methadone were selected and randomly assigned to the CRA + vouchers group (n = 35) or to the comparison group (n = 31). Intervention: the CRA + vouchers group was treated within the CRA and earned vouchers for submitting negative cocaine urine samples. The comparison group received treatment as usual. Assessment: abstinence of cocaine was measured continuously during the first 24 weeks and follow-up was done nine months after the start of treatment. Secondary outcome measures were: treatment retention, days of cocaine abstinence, days of illicit opioid use, quality of life, etc. The major outcome measure was to investigate whether or not this form of treatment is feasible within the Dutch Addiction Healthcare System. Patient compliance did not differ for both groups. Cocaine abstinence rates are 15.7 higher in the treatment group compared to the control group. This appeared to be especially so for new methadone clients. On average, these outcomes remained equal at three months post-test. The use of other drugs (other than cocaine) remained stable. Quality of life has increased and psychological complaints reduced for both groups. The costs of this comprehensive treatment per abstinent patient is approximately estimated at EUR 14 000-EUR 15 000. Enthusiasm among professionals to introduce this treatment could fairly easily be found in all organisations. Using an electronic patient dossier (if available) during this experiment facilitated the registration and evaluation procedure. A longer introduction period was needed to enter enough patients into treatment. The end conclusion is that favourable effects are most prominent for patients who were rather new in methadone treatment.

Context and theory
Initial situation

There are very few effective interventions for cocaine dependence known. Treatment demand for cocaine dependence has increased some 60% from 1994 to 2000. Groups that are at high-risk for cocaine dependence are: young people in party scenes; low-SES groups; and methadone treatment patients who also use cocaine. Specific interventions for these groups are needed to reduce problems related to cocaine use and polydrug use. In the absence of effective medically-assisted treatments, a potentially effective psychosocial treatment (CRA combined with contingency management) can be tried out among Dutch addicts.

Basic assumptions/theory

At this moment there is no effective pharmacotherapeutical intervention for cocaine dependence (Poling et al., 2007). In the psychosocial field contingency management (CM) based on operant conditioning and cognitive-behavioural strategies based on social learning have the strongest empirical support for effectiveness (Lussier et al., 2006). Voucher-based incentives as a form of CM is frequently used in combination with the Community reinforcement approach (CRA) and has proven to be effective in cocaine dependence (Higgins, 2002) and in co-morbid cocaine and opioid-dependent patients (Rawson, 2002; Opredergast et al. 2006).

Objectives and indicators

Process evaluation

Operational objectives

Testing the appropriateness of standardised (CRA + vouchers-) treatment for cocaine using methadone patients in Dutch addiction care. To investigate supportive and limiting factors for the implementation of CRA + vouchers. To assess the costs of treatment. A three-phase procedure was used in this study. The first phase included the adaptation and development of the Dutch CRA + vouchers protocol based on the NIDA protocol (Budney & Higgins, 1998). The second phase focussed on the training of professionals in the CRA + vouchers intervention. During the third phase, a multi-centre evaluation of the feasibility of this protocol was done among cocaine-dependent patients with a co-morbid opioid dependence.

Process indicators

Development of treatment and research protocols, adaptation of the NIDA treatment protocol, training and supervision of psychologists and nurses.

Evaluation of perceived supportive and limiting factors for implementation of
CRA + vouchers treatment.

Cost estimates.

**Instruments used**

**Type of evaluation carried out**

**Evaluation design**

outcome evaluation (how far are the specific objectives achieved), process evaluation (how far are the operational objectives achieved)

**Specific objectives and outcome indicators**

**Specific objective 1**

To increase treatment compliance.

**Outcome indicator 1**

Treatment compliance.

**Specific objective 2**

To increase abstinence from cocaine and quality of life.

**Outcome indicator 2**

Abstinence from cocaine and secondary outcomes.

**Specific objective 3**

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**Outcome indicator 3**

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**Instruments used**

**Type of quantitative instrument**

**Name of instrument (standardised instrument)**

The European version of the Addiction Severity Index (EuropAsi); the Composite International Diagnostic Interview - Substance Abuse Module
The 90-item Symptom CheckList (SCL-90); Dutch version of Beck's Depression Inventory (BDI-II-NL), and the European version of the Quality of life questionnaire (Euro-Qol).

Type of qualitative instrument

Action

The total treatment duration is 24 weeks. Week 1-12: two individual patient contacts per week of 45 minutes each. Urine tests three times per week. Additional contacts when needed. Week 13-24: one patient contact per week. Urine tests twice per week. Additional contacts when needed. CRA = Community reinforcement approach. The main target is regaining a pleasure in life, a life without drugs. It is an approach including different changing elements, e.g. training in starting and maintaining social contacts, improving self-efficacy, support in finding and continuing daily work, school, support in leisure-time activities, urine tests (relapse prevention and increasing patient compliance) and engaging peers, family members in the therapy. Rewards via vouchers are added to this therapy (incentive-based therapy or contingency management). This is discussed with the patient in advance. Vouchers are applied to enforce cognitive-behavioural changes. The value of these vouchers is increasing. The first one is EUR 2.50. The following ones increase with EUR 1.25 per positive outcome. When three subsequent positive outcomes are met, the patients earns EUR 10. The value lowers to the value at the beginning of treatment with one negative urine test outcome. Five subsequent positive outcomes result in an increase to the value before the negative outcomes. The total value that is possible is EUR 1268.75 (abstinent during the whole treatment period).

Results

Process evaluation

Results

The use of standardised treatment protocols did not appear to be problematic for practitioners and patients, but the comments of national and international experts were crucial for determining the ultimate version of the protocols. Costs for each cocaine-abstinent patient in the CRA + Voucher group is estimated at EUR 14 656. Supportive factors: all organisations were convinced that implementation of this evidence-based treatment was advantageous for treatment practice; professionals that were inclined to introduce this treatment could fairly easily be found in all organisations; inserting this treatment in an electronic patient dossier (if available) facilitated the registration and evaluation procedure. Limiting factors: in three (of the five) organisations, the introduction of new patients lasted longer than foreseen but a longer introduction period solved this problem; one organisation decided not
to participate in this project, resulting in 20 patients less than planned; several other factors delayed the introduction of this new but intensive treatment option (e.g. reorganisations, mergers, rebuilding activities of the methadone clinic, illness of personnel and the lack of a toilet room for urine tests).

References


Contact

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The study was conducted in five treatment addiction care centres in the Netherlands: Iriszorg, Tactus, Novadic-Kentron, VNN and GGZ-Groep Noord en Midden Limburg.

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**Additional information**

Number of staff involved 11 therapists, 15 medical nurses, a research coordinator (PhD) and one supervisor (MD, PhD).

Status/profession of staff involved Psychologist or social workers (with a broad practical experience in addiction care), a research coordinator (psychologist with PhD degree and research experience), a supervisor (PhD, MD, Prof. and with broad research experience).

Type of evaluator External evaluator

Name of external institution(s) Nijmegen Institute for Scientists-Practitioners in Addiction (NISPA)


**Budget**

Annual budget Over 100 000 to 500 000

Sources of funding National government

Percentage from each source National government=100%

**Additional remarks**

The project was affected by a considerable drop-out rate. From the initial 220 (potential) participants, 66 were ready to join the experiment and 37 stayed until the end of the experiment. The end conclusion is that favourable effects are most prominent for patients who were rather new in methadone treatment.