COCHRANE REVIEWS AND EVIDENCE-BASED PRACTICE

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Cochrane reviews provide an authoritative data base in a range of areas of health care. For some years, the tobacco group has examined the effectiveness of interventions for smoking cessation. Recently, a Cochrane group has been established for reviewing clinical issues in the drug and alcohol area. The nature, role and use of Cochrane reviews will be discussed. Consideration will be also given to the processes of dissemination from evidence bases such as Cochrane to practitioners.

The Cochrane Collaboration is an international organisation that helps people make well informed decisions about health care. It does this by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of health care interventions. These reviews have the potential to provide well digested research information that clinical managers will find useful. The Cochrane Collaboration aims to ensure that the systematic reviews available across a broad range of health care topics are of high quality and up to date. It is also a goal of the Collaboration to promote access to these reviews so they are utilised by as many people as possible.

Clinical and workplace decisions concerning treatment are based on different types of inputs. Consideration needs to be given to available resources and expertise of staff. In some situations both may be limited, but there may also be options for modifying resource availability and for training staff to improve expertise in certain areas. Preferences of staff and clients and issues around values and rights also need to be taken into consideration.

However, a frequent driver of change is evidence that arises from research carried out on the particular issue under consideration. New information from research guides us in the use of new drugs (eg buprenorphine as an opioid maintenance drug and in the treatment of opioid withdrawal), in new types of service delivery (eg home based and outpatient withdrawal services), in harm minimisation (eg reducing risk of "ecstasy" overdose) and other areas. The difficulty with using evidence from research is accessing it and putting it into a readily digestible form.

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Research literature is often opaque to those who are not familiar with it and who do not deal with it on a daily basis. This means that the time required to access and process it is often beyond what is available to busy managers. Hence, there is a need to have research findings available in a readily accessible and useable form.

SYSTEMATIC REVIEWS

Systematic reviews are an increasingly important source of evidence about the effects of health care because they help decision makers to cope with the sheer volume of literature by summarising it. They also provide "new" information which may not be apparent from individual studies where the effects under investigation are small.

The reviews prepared under the aegis of the Cochrane Collaboration are somewhat different to reviews commonly available in the clinical and scientific literature. They are very formalised in their approach and include the following elements:

- a clearly stated title and objectives
- a comprehensive strategy to search for studies that address the objectives of the review, including unpublished as well as published studies
- explicit and justified criteria for the inclusion or exclusion of any study
- a comprehensive list of all studies identified
- clear presentation of the characteristics of each study included with an analysis of methodological quality
- clear analysis of the results of the eligible studies using statistical synthesis of data (meta-analysis) if appropriate and possible
- sensitivity analysis of the synthesised data if appropriate and possible.

This information is put together in a structured report that is similar in format for reviews carried out in different areas of health care.

TYPE AND STRENGTH OF EVIDENCE

In examining the evidence for the effectiveness of health care interventions, we need to consider the quality of that evidence. There are several different schema for describing strength of evidence, one of which is as follows:

1. A systematic review of evidence from randomised controlled trials (RCTs)
2. Results from one or more high quality RCTs
3. Results from non-randomised trials
4. Results from non-experimental studies (descriptive, case series, etc)
5. Expert opinion.

Those who utilise research information in clinical and other workplace settings need to be sure of the scientific basis of their initiatives. There are often differing views on what initiatives should be undertaken. While many factors may be considered, the strength of the scientific evidence should be one of the most important. In contrast, it is very common for people outside clinical and scientific circles to fail to differentiate these various levels of evidence. The media and the courts, for example, may not necessarily differentiate between levels 1-5.

It should also be recognised that there are instances where rigorous, quantitative forms of study design are either not possible or inappropriate or even unethical. This may occur because of the nature of the data that have been collected - they may be qualitative in nature and not amenable to quantitative studies. In some situations there may be limited availability of subjects with a

particular condition and hence a randomised controlled trial is not possible. There are also circumstances where there is no real alternative to the intervention being evaluated and, as a consequence, the withholding of treatment from a control group is unethical.

In the kinds of situation described, the strength of evidence we might want in order to make decisions may be unobtainable. Cochrane reviews aim for the strongest available evidence, but also include consideration of the nature of that evidence, describing strengths and weaknesses. Where strong evidence is available it is given more weight in determining conclusions.

COCHRANE REVIEW GROUPS

There are 48 registered Cochrane review groups, each of which focuses on a disease or health problem. Each group publishes reviews on a number of specific topics in the area. There are two groups of most relevance here - the Drugs and Alcohol Group and the Tobacco Addiction Group. Each is international in nature and both have Australian representatives on their editorial boards.

The Drugs and Alcohol Group is a relatively recent review group and consequently has published only a limited number of reviews at present. However, there are a large number of reviews planned for the near future and we can expect increasing numbers of reviews to appear. In contrast, the Tobacco Addiction Group has been active for a number of years and they have completed 23 reviews. Examples from the Drugs and Alcohol Group include:

- buprenorphine for the management of opioid withdrawal
- carbamazepine for cocaine dependence
- opioid antagonists for alcohol dependence.

Examples from the Tobacco Addiction Group include:

- acupuncture for smoking cessation
- nicotine replacement therapy for smoking cessation
- self help interventions for smoking cessation.

COCHRANE REVIEW PRODUCTS

There are three major outcomes from each Cochrane review undertaken. Firstly, there is a consumer synopsis which provides a brief summary of the outcomes from the review in plain language for consumers and non-specialist readers. Secondly, there is an abstract which provides a technical summary for a specialist audience in a succinct form. Thirdly, there is a full review which contains all the details of the review methodology, findings and a list of references. Appendix 1 shows an example of the consumer synopsis and abstract for Opioid Antagonists for Alcohol Dependence.

The Cochrane reviews can be accessed in several ways. The website www.cochrane.org allows access to abstracts, consumer synopses, general information (new reviews, group contact details, help, etc) and the opportunity to register interest in participation. To access full reviews it is necessary to subscribe to either CD-ROM or internet forms. Many health authorities subscribe, allowing large numbers of people to access the reviews in this way.

For many people, the abstracts may provide sufficient information on which to base decision making. The abstract is a structured summary that includes background, objectives of the review, the strategy used to seek out the information used, the criteria for selection of research findings (which will depend on the quality of the evidence available), the method for data collection and analysis, the results of the review (and meta-analysis if carried out) and the conclusions. The

reader thus has information on which to judge whether an intervention has been found effective and the strength of evidence on which this conclusion is based.

COCHRANE PARTICIPATION

There are opportunities to participate in the Cochrane Collaboration in several different ways. Reviewers undertake reviews alone or in collaboration with others. Editors provide support for reviewers and ensure quality in the reviews. Hand searchers assist reviewers by looking through journals for articles to be included in the review. There are other ways in which people can participate and these can be accessed through the Cochrane website. Such participation is essential to the Cochrane Collaboration, as it is a voluntary organisation that relies on the work of many people.

CONCLUSION

The recent development of a Drugs and Alcohol Cochrane group, together with the existing Tobacco Addiction Group, should enhance the accessibility of evidence from the research literature in these areas. The system used in developing Cochrane reviews provides a high level of quality control so that those using the information can be confident about the conclusions. It is hoped that the increasing number of Cochrane reviews, recognition of their quality and their ready accessibility will accelerate the translation of research into practice.

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APPENDIX 1

OPIOID ANTAGONISTS FOR ALCOHOL DEPENDENCE

CONSUMER SYNOPSIS

Alcohol dependence is a problem with devastating health, social and economic consequences. While many individuals are able to stay alcohol free in the long-term, others continue to relapse despite many treatments. Drugs to reduce the reinforcing effects of alcohol consumption have been used together with psychosocial treatments.

The review of trials found limited evidence that the drug naltrexone may be able to decrease alcohol consumption. However, the acceptance of naltrexone by those people with alcohol dependency is low and they may find it difficult to keep to the treatment.

ABSTRACT

Background

The results from animal studies suggest that opioid antagonists may prevent the reinforcing effects of alcohol consumption. Based on the results of those animal studies, some opioid antagonists, such as naltrexone, nalmefene, have been studied for their benefits in treating alcohol dependence.

Objectives

To determine the effectiveness of opioid antagonists in attenuating or preventing the recommencement of alcohol consumption in patients with alcohol dependence in comparison to placebo, other medications and psychosocial treatments. In addition, discontinuation rate, death, patient satisfaction, functioning, health-related quality of life and economic outcomes were also evaluated.

Search Strategy

Electronic searches of Cochrane Controlled Trials Register (Cochrane Library 1999, issue 2), MEDLINE (1966 - May 1999), EMBASE (1980 - April 1999), and CINHAL (1982 - March 1999) were undertaken. Du Pont Pharmaceutical and Ivax Corporation were contacted for information regarding unpublished trials. The reference lists of the obtained papers were also examined.

Selection Criteria

All relevant randomised controlled trials (RCTs) and clinical control trials (CCTs) were included. Participants were people with alcohol dependence. Naltrexone (NTX), nalmefene (NMF) and other opioid antagonists with/without other biological or psychosocial treatments were examined. A variety of clinical outcomes, for example alcohol consumption, duration of abstinence, were considered.

Data Collection and Analysis

Two reviewers evaluated and extracted the data independently. The dichotomous data were extracted on an intention-to-treat basis. The Peto Odds Ratio with the 95% confidence interval was used to assess the dichotomous data. Weighted Mean Difference with 95% confidence interval was used to assess the continuous data.

Main Results

The short-term (<3 months) benefits of NTX were shown in three respects, which were number of patients who return to drinking, percentage or number of drinking days and the number of standard drinks of alcohol. However, six months after the completion of 12-week NTX treatment, the benefit of decreasing the number of patients who return to drinking were lost. From two short-term and small sample-size studies, the benefit of NMF was shown only in the respect of number of patients who return to drinking.

Reviewers' Conclusions

Due to the limited evidence, the following conclusions should be viewed as tentative. NTX has some benefits for patients with alcohol dependence, but patients' adherence to treatment should be of concern. Psychosocial treatments should be concurrently given with NTX. Randomised, double-blind, placebo-controlled trials of NTX treatment in patients with alcohol dependence are still needed.

Citation: Srisurapanont, M., Jarusuraisin, N. (2001). Opioid antagonists for alcohol dependence (Cochrane Review). In: *The Cochrane Library,* 1. Oxford: Update Software.