

## Cannabis: Its therapeutic use

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### Summary

This article provides an overview of the issues surrounding the use of cannabis for therapeutic purposes. Examples of some of the ethical issues related to professional practice are discussed. The authors do not advocate legalising cannabis for all, but the therapeutic advantages and disadvantages of using cannabis are highlighted.

**I**N THE UK, cannabis (or marijuana) has been classed as a Schedule I drug under the 1965 Misuse of Drugs Act since 1971. It has been categorised as dangerous and of no therapeutic value. However, on October 23 2001, the home secretary, David Blunkett, announced that cannabis was to be recategorised from a Class B to Class C drug early next year (Box 1).

These classifications are based on the Misuse of Drug (Regulations) Act of 1985, which defines in five schedules the law regarding the prescription, supply and storage of different drugs. This proposed change in the classification and scheduling of cannabis reflects the government's intention to legalise the prescription of cannabis on a named patient basis should clinical trials currently under way prove, as is widely expected, to demonstrate therapeutic effects (Panorama 2001). Mr Blunkett stated that once successful clinical trials have been completed, the government would allow it to be used for medical purposes (Johnston 2001). Use of cannabis will remain illegal, but possession of small quantities for personal use only will no longer be an arrestable offence.

The therapeutic benefits of cannabis were identified hundreds of years ago. The use of cannabis for medicinal purposes is evident in literature from the fifth century BC. Cannabis was reputedly used in the 19th century by Queen Victoria to relieve premenstrual syndrome (Grinspoon and Bakalar 1993). In addition, a synthetic form of cannabis, delta-9-tetrahydrocannabinol (THC), has been isolated and synthesised to produce nabilone (cannabinoid). Nabilone was licensed in the UK in 1985, on a named patient basis, as an antiemetic for people receiving chemotherapy (Tramer *et al* 2001, Voth and Schwartz 1997).

Some people with conditions such as multiple sclerosis (MS), spinal injury and arthritis use cannabis to alleviate their symptoms and improve their quality of life (House of Lords 1998). However, these people use cannabis without knowing

which of the 60 known cannabinoids is effective. Little is known about the actual potency of cannabis, which has increased since the 1960s with improved cultivation methods. This means that people take cannabis of unknown quantity and quality, which could have lasting effects on their future quality of life.

The government has several complex issues to debate when considering changes in the law regarding cannabis use. Perhaps the most challenging relates to the distinction between therapeutic and recreational use of the drug. The ten-year strategy for tackling drug misuse, *Tackling Drugs to Build a Better Britain*, which includes cannabis, was published in 1998 (DoH 1998). A recent statistical bulletin reported cannabis to be the most likely drug to be offered to the estimated 34 per cent of 11-15 year olds who have been offered at least one illegal drug in the past year (DoH 2000). It also stated that 55 per cent of 16-24 year olds have used cannabis in the past year for recreational purposes. Ashton (1999) reports that 30 per cent of a sample of junior doctors in the UK have tried cannabis.

From 1989 to 1998 there was a threefold increase in police seizures for possession or supply of cannabis, from 44,000 to 118,000 (Corkey 2001). Interestingly, in 1999 this figure fell to 100,000 (Corkey 2001).

This article examines the legal and political issues surrounding the use of cannabis for therapeutic purposes. It focuses on several conditions in which cannabis has been used therapeutically. People with MS provide examples of the more widely reported advantages and disadvantages of cannabis use and the dilemmas of making choices based on inadequate information.

### Legal and political issues

According to the Criminal Law Act 1977, it is illegal to supply, produce, cultivate, be in possession of, or allow any premises to be used for cultivation of cannabis. The laws in the rest of Europe vary, for example, in France, Greece, Ireland, Italy, Sweden and Denmark it is illegal, while in the Netherlands, drugs such as cannabis are sold in identified bars and coffee shops. These shops are only allowed to sell 5g per client, which is strictly regulated by the Ministry of Public Affairs Judicial Systems (AC-Company 2001b). Therefore, in many European countries, including the UK, people who use cannabis for therapeutic reasons

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### Key words

- Drug therapy
- Health and quality of life
- Law

These key words are based on subject headings from the British Nursing Index. This article has been subject to double-blind review.

**Box 1. Current drug classifications**

- Class A**  
Cocaine, heroin, methadone, LSD, ecstasy, opium
- Maximum penalties for possession:  
seven years/unlimited fine (Crown Court);  
six months/£5,000 fine (Magistrates Court)
  - Maximum penalties for supplying:  
life/unlimited fine (Crown Court);  
six months/£5,000 fine (Magistrates Court)
- Class B**  
Amphetamines, barbiturates, cannabis
- Maximum penalties for possession:  
five years/unlimited fine (Crown Court); three  
months/£2,500 (Magistrates Court)
  - Maximum penalty for supplying:  
14 years/unlimited fine (Crown Court);  
six months/£5,000 fine (Magistrates Court)
- Class C**  
Tranquillisers, mild amphetamines,  
anabolic steroids
- Maximum penalties for possession:  
two years/unlimited fine (Crown Court); three  
months/£2,000 fine (Magistrates Court)
  - Maximum penalty for supplying:  
five years/unlimited fine (Crown Court);  
three months/£500 fine (Magistrates Court)
- (AC-Company 2001a; Johnston 2001)

are breaking the law. The following case highlights the problems one family experienced.

James (fictitious name) was a healthy young man who travelled abroad on business. He had his own house and enjoyed playing sport and entertaining his friends. In 1987, aged 22, James was diagnosed with MS. By 1989, he had lost his job. His self-esteem was affected as he unsuccessfully tried various jobs. During this time he started to use cannabis, supplied by friends, to relieve his pain, spasms and muscle cramps. James's house was repossessed after he accrued debts, which meant that he had to live with his parents. He maintained his supply of cannabis by setting up a hydroponic system of cultivation in his parent's loft.

Having become 'too dependent on his parents', James moved into a specially adapted bungalow so that he could regain some independence and continue to grow cannabis plants. However, he became too ill to do so and had to revert to an external supply of cannabis, purchased covertly by his parents. According to James's parents, 'cannabis was the only drug that gave him pain relief, despite having morphine elixir, which was prescribed by his GP'. James died from MS aged 34.

Many European countries are currently debating the legalisation of cannabis for therapeutic use. Anecdotally, there are many people who make similar choices to those of James and his family, based on the belief that cannabis has a positive effect on their quality of life by improving symptoms.

**Human rights**

According to the Human Rights Act 1998, people have the right to choose, the right to equity of service, the right not to be discriminated against, the right to freedom of opinion and expression, and the right to freedom of education. The Universal Declaration of Human Rights 1975 states that everyone has the right to a standard of living adequate for health and wellbeing; this includes medical care.

James argued that he was denied a service or treatment that he and his family believed to be beneficial. He was not given balanced, relevant information on the benefits and side effects of cannabis use at a time when he needed to make informed choices. It is possible to suggest that under current legislation this could have been a breach of the Human Rights Act 1998. There is a wealth of anecdotal and small-scale research (Meinck *et al* 1989) on the therapeutic value of cannabis. For people like James, there remains an absence of evidence in the form of randomised controlled trials (RCTs) to offer an objective and systematic evaluation of this drug. Until current RCTs involving almost 700 people are completed and fully analysed, this situation will continue and people like James will use cannabis in an unregulated, unprotected way.

**Epidemiology**

It is estimated that between 3 and 5 per cent of people with MS in the UK use cannabis (House of Lords 1998). The Alliance for Cannabis Therapeutics (ACT), an organisation founded by Clare Hodges in 1992, has had contact with up to 2,500 people who use cannabis to manage symptoms of MS (Hodges 1996). Users, for whatever reason, have access to varying quality and strengths of cannabis, which could be mixed with conventional drugs prescribed by medical staff. In addition, a quantity of cannabis sufficient for one cigarette costs £1.50 to £3, depending on availability and location. A moderate user might smoke or ingest the equivalent of two to five cigarettes a day. This could have financial consequences for users, especially those on low incomes.

**Pharmacology**

There is a large volume of medical literature on cannabis. There are almost 6,000 references investigating cannabinoids on Medline from 1966-2001, but interestingly, only 24 refer to the therapeutic uses of cannabinoids in the management of MS. Much of the medical and scientific work that has been done refers to the exploration of complex and largely unique properties of this plant, which is a stimulant, hypnotic, euphoriant and

**Box 2 Reported advantages of therapeutic cannabis**

- Analgesic (Ashton 1999, BMA 1997)
- Anticancerous (BMA 1997, Gutierrez 1999)
- Anticoagulant (Grinspoon and Bakalar 1993, Gutierrez 1999)
- Antemetetic (Ashton 1999)
- Antihypertensive (Gillies *et al* 1991)
- Anti-inflammatory (BMA 1997)
- Appetite enhancing (Gutierrez 1999)
- Ataxia control (Grinspoon and Bakalar 1993)
- Bronchodilator (BMA 1997)
- Control of neurogenic bladder (Grinspoon and Bakalar 1993)
- Dysphagia reduction (Grinspoon and Bakalar 1993)
- Gut activity reduced (House of Lords 1998)
- Intraocular pressure reduced (Grinspoon and Bakalar 1993, Gutierrez 1999)
- Muscle relaxant (BMA 1997, Gutierrez 1999)
- No known direct deaths (House of Lords 1998)
- Menstrual symptoms reduced (Grinspoon and Bakalar 1993)
- Progression of MS retarded (Grinspoon and Bakalar 1993)
- Relaxation (Gillies *et al* 1991)
- Sedative (Gillies *et al* 1991, House of Lords 1998)
- Social wellbeing and enhanced enjoyment (Beaver *et al* 1997, Gillies *et al* 1991)
- Spasticity reduced (Consroe *et al* 1997, Petro and Ellenberger 1981, Schouten 1999, Voth and Schwartz 1997)
- T-lymphocyte reduction (Gutierrez 1999)

hallucinogenic agent. There is now wide acceptance in the medical literature that some cannabinoids offer benefit for severe pain, neurological disorders, glaucoma, nausea and vomiting (Taylor 1998).

Current management of conditions such as MS offers drugs to control spasticity and pain, which are often described as ineffective and have unpleasant side effects. ACT does not promote the use of cannabis but, along with others, supports it being re-registered as a Schedule II drug, which would give cannabis the same legal status as heroin and cocaine, and allow its use for medical purposes.

**Therapeutic use**

A review of the literature reveals 22 reported advantages and 29 reported disadvantages of using cannabis therapeutically (Boxes 2 and 3).

**Reported advantages** People with MS, and a few small studies on nabilone, are largely positive about the therapeutic value of cannabis in alleviating symptoms (Martyn 1995, Consroe *et*

**Box 3 Reported disadvantages of therapeutic cannabis**

- Anxiety and restlessness (Gillies *et al* 1991)
- Ataxia (Lawrence 1997)
- Auditory hallucinations (Gillies *et al* 1991)
- Bradycardia (House of Lords 1998)
- Carboxyhaemoglobin: five-fold increase if smoked, also causes respiratory distress (Ashton 1999, House of Lords 1998)
- Cognition problems with long-term use (Ashton 1999, House of Lords 1998)
- Consciousness altered: 2-4 hours after smoking cannabis, or 5-12 hours after ingestion (Grinspoon and Bakalar 1993)
- Criminal behaviour/violence might increase (Ashton 1999)
- Driving impairment: physical safety issues (Ashton 1999)
- Euphoria (Ashton 1999, House of Lords 1998)
- Galactorrhoea and gynaecomastia with chronic use (Ashton 1999)
- Hyperaemia (reddening) of conjunctiva (Ashton 1999)
- Immunosuppressive (Ashton 1999, BMA 1997, House of Lords 1998)
- Oropharyngitis and uvular oedema (Ashton 1999)
- Ovulation suppression (BMA 1997)
- Panic attacks and flashbacks (Ashton 1999, Gillies *et al* 1991)
- Postural hypotension (Ashton 1999, Beaver 1997)
- Psychological dependence (Gillies *et al* 1991)
- Psychomotor and cognitive impairment in casual users (Ashton 1999)
- Psychosis (Ashton 1999)
- Respiratory tract: rhinitis, pharyngitis, tracheitis, bronchitis (Gillies *et al* 1991)
- Short-term memory impairment (Ashton 1999, Gillies *et al* 1991)
- Schizophrenic symptoms exacerbated (House of Lords 1998)
- Smoking: increased tar, carcinogenic (Ashton 1999)
- Sperm count and sperm motility reduced (BMA 1997)
- Tachycardia (Gillies *et al* 1991, Gutierrez 1999, House of Lords 1998)
- Temperature of the skin might be reduced (Beaver *et al* 1997)
- Delta-9-tetrahydrocannabinol (THC) binding to plasma protein (Beaver *et al* 1997)
- Chronic use: weight loss (House of Lords 1998)

*et al* 1997). Research on the efficacy of natural cannabis in MS is sparse. A sample of 53 people in the UK and 59 in the US were asked to report in a questionnaire on the benefits of cannabis (Consroe *et al* 1997). They stated that cannabis improved (in descending rank order) spasticity, chronic pain, muscle spasms, tremor, emotional

dysfunction, anorexia, fatigue and several other symptoms. The results indicate that pain relief is one of the main reasons for the therapeutic use of cannabis. However, as cannabis has a psychogenic effect (House of Lords 1998), as well as a sedative effect (Gillies *et al* 1991), this might potentate the analgesic effect.

In addition, as cannabis might cause euphoria, short-term memory and cognitive deficit (Ashton 1999, Gillies *et al* 1991), some of these effects might inhibit pain recall, which could enhance its analgesic effect. The positive stimuli associated with cannabis enhances a feeling of social wellbeing (Beaver *et al* 1997, Gillies *et al* 1991) and could lead the user to believe that he or she is benefiting from its effect. This can cause problems in making sound judgements while under the influence of drugs such as cannabis.

The placebo effect might also be quite profound, as people have experienced a 'high' when taking a placebo. In studies not specifically related to cannabis, 70 per cent improvements have been noted when using placebos (Consroe *et al* 1997, Petro and Ellenberger 1981, Schouten 1999, Voth and Schwartz 1997).

Cannabis is known to have many properties. Research undertaken with differing components of this complex plant has identified it as an antiemetic (Voth and Schwartz 1997), and an anti-inflammatory agent (McPartland and Pruitt 1999), and as having useful properties to relieve complex symptoms in advanced disease stages of conditions such as AIDS, MS and cancer (Grinspoon and Bakalar 1993).

It is clear that many people experience benefits from cannabis use. The authors have, in the course of their roles as nurses, worked with clients who use cannabis for relief of symptoms. The following are examples taken from their experiences with clients.

One said: 'My wife has about 500mg of resin per day in three doses. The effect on spasm, the pain caused by spasm, and tremor was quite dramatic. The GP had said that he noticed how much better the tremor was. It was also noticeable that her eyesight had improved.'

Another reported: 'It stops spasms in the legs, pains in the back and legs, prevents incontinence, makes her head clearer, helps her to enjoy food again, increases wellbeing, improves mouth action and facial numbness, eliminates creepy-crawly feelings and improves balance, walking and sleeping.'

These two examples identify many positive effects of cannabis on symptoms. Some of these benefits are a direct result of cannabis, while others might be attributed to associated side effects or the placebo effect. The reported disadvantages of cannabis use might override some of the reported advantages.

**Reported disadvantages** The disadvantages of using cannabis can be divided into those that have a direct effect on the user and those that indirectly affect the person. The direct short-term effects include perceptual alterations, heightened senses, impaired cognitive function, short-term memory loss, anxiety and panic attacks. Long-term effects have attracted much research. Findings suggest that the health risks are similar to those associated with smoking if cannabis is inhaled (Ashton 1992). Subtle cognitive impairment in long-term use and potential psychological dependency might also occur and trigger psychotic illnesses in vulnerable persons (Hall and Solowij 1998).

The indirect effects can be subdivided into social, psychological and physical. Much research has been undertaken on the potential harmful effects of cannabis, as well as other illegal drugs, on the pregnant woman and the fetus. Much of this work has used animals. However, what emerges from the literature is the poorly understood relationship between cannabis and neurone development in the fetus (Hernandez *et al* 1997, Wynn and Wynn 1981). In his review of the evidence, Ashton (1999) clearly identifies decreased sperm counts, motility and abnormal sperm production in animals and humans. This adds to the complexity of the decision-making process regarding changes in the laws relating cannabis.

The social and psychological issues also need to be considered, especially as they might relate to increases in criminal behaviour, driving impairment and euphoria. Thus, these issues not only have an effect on clients, their family members and significant others, but have implications for the whole community. Some of these disadvantages are probable reasons why cannabis remains illegal.

#### Ethical dilemmas

A number of ethical dilemmas can arise for nurses and other health professionals when dealing with clients taking cannabis for therapeutic use. Professionals should also consider the dilemmas users encounter in terms of ethical principles.

**Ethical principles** The International Council of Nurses (ICN 1973) identifies ethical principles which underpin the *Code of Professional Conduct* (UKCC 1992):

- **Autonomy** – respecting an individual's choices concerning his or her life, providing an environment of privacy and confidentiality (Savulescu *et al* 1998).
- **Beneficence** – to do good for the patient.
- **Non-maleficence** – to avoid actions that will harm the patient.
- **Justice** – to respect the patient's rights and to seek fair treatment.

**Box 4. Action plan**

- Do not criticise a client's behaviour, as this could be perceived as a negative comment on his or her cultural values.
- Give clients and their families information about cannabis, for example, current research, its effects and benefits. It is not illegal to talk about cannabis and share information.
- Be open regarding the legal issues and implications for nursing staff, clients and their families.
- Have a clear policy in your clinical area, which considers possible scenarios and possible action.
- Discuss the implications as a team. Be supportive to each other.
- Relate potential scenarios to ethical principles. Consider privacy in terms of the client and other clients.
- Explore your own values and what constitutes good nursing practice.
- Share your experiences with colleagues at workshops and conferences, as it is often helpful to refer to other professionals' experiences in similar situations.

Does using cannabis impact positively or negatively on the client? To answer this question, nurses need to consider (Tschudin 1994):

- Whether the principle of autonomy can be overridden (at times) to do good to the client.
- That clients might exercise their right to autonomy by claiming that cannabis is beneficial.
- That, although illegal, smoking cannabis is a behaviour that is acceptable in some cultures or age cohorts.

**Case studies** The following case studies highlight some ethical dilemmas professionals might encounter when caring for and supporting clients.

Amy (fictitious name) is 25, does not smoke, but usually eats two or three small cannabis cakes a day when at home for relief of pain and spasticity. These are made and fed to her by her husband, as Amy is unable to do this herself. On admission to the rehabilitation unit, she has a supply of cannabis cakes with her and asks the nursing staff to assist her to eat them. What would you do as a nurse or the manager?

The main issues relate to the consumption of cannabis on the trust's premises and whether nursing staff should feed Amy the cannabis cake.

Savulescu *et al* (1998) consider a similar case study and identify the following points:

- It is illegal for the occupier of a premises (someone with the power to exclude people from the premises, which could include nurses) to knowingly permit the consumption of illegal drugs (Section 8, Misuse of Drugs Act 1971).
- Privacy is an individual's right and the possibil-

ity that a patient might be consuming illegal drugs in hospital should not justify invading his or her privacy.

Amy asks the nurses to give her the cakes. If the nurses do not know that there is cannabis in the cakes then they could give her the cakes in ignorance, which would not go against point one and would also respect Amy's privacy. However, if they know that there is cannabis in the cakes, and they feed them to Amy, they could be performing an illegal act.

One course of action would be to be honest with Amy and her husband, pointing out that nurses cannot give her the cake. It might be possible to explore other ways in which Amy could be fed the cakes, for example, by her husband, family or friends. This would mean that nurses would be going against point one in knowingly allowing Amy to consume cannabis. However, Annas (1998) suggests that the term 'premises' is more likely to apply to parties and other social gatherings, rather than to hospital settings.

Mavis (fictitious name) is a 78-year-old woman with benign MS who is at risk of falling because of her deteriorating mobility. She and her friend smoke cannabis in the evenings and Mavis believes that it is keeping her condition under control, which is important to her. As an outreach nurse visiting Mavis what would your advice to her be?

There is a possibility that the cannabis could be causing deterioration in mobility. All of the side effects of cannabis are not really known or proven. One possible side effect of cannabis is impaired psychomotor ability.

It is important that Mavis and her friend have the correct facts about the use of cannabis, including information on possible side effects. However, ultimately the choice to use cannabis is Mavis's. Respecting the client's autonomy means respecting his or her choices. It is important that health professionals do not inflict their beliefs on the client.

There are no easy answers to this dilemma. Nurses need to consider their responsibility to the patient. Weighing up professional accountability against the recognition of a patient's autonomy, which includes respecting his or her confidentiality and privacy. The action plan outlined in Box 4 might help nurses to consider their position and role.

**Conclusion**

At present, families and friends often support patients in taking cannabis when it is perceived to relieve their pain and discomfort and improve their quality of life, even if this means breaking the law. With the lack of large, multicentre placebo controlled trials on a known quantity and quality of cannabis, many of the reported advantages and disadvantages cannot be quantified. Clients will, therefore, continue to take cannabis that

varies in strength, composition, quality and efficacy, and which could put them at risk. Current laws and the Human Rights Act 1998 do not support the therapeutic use of cannabis.

It will be some time before evidence is available from cannabis trials that are approved by the Home Office. If cannabis is found to be effective, it might be legalised for therapeutic use and prescribed in a safe, controllable form. In the meantime, nurses and other health professionals need to be able to support and educate clients.

Health professionals should also be aware of the possible effects of cannabis on their client group, especially during the reproductive years. They also need to consider the reported advantages and disadvantages of cannabis use.

Health education by well-informed professionals is paramount to maintain optimal health, well-being and quality of life for clients in their care. They should also consider the legal issues they might encounter as professionals and examine the ethical issues that might challenge their professional role.

#### Useful contacts

**Alliance for Cannabis Therapeutics (ACT)**  
PO Box CR14  
Leeds LS7 4S7

**The Multiple Sclerosis (Research) Charitable Trust**  
Spirella Building  
Letchworth, Herts SG6 4ET  
(Excellent library and research service; information on any subject related to MS)

**The Multiple Sclerosis Society**  
372 Edgware Road  
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(Excellent library and research service providing information relating to MS)

**Further information on current multicentre randomised double-blind clinical trials:**  
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#### REFERENCES

- AC-Company (2001a) *The Judicial System in Great Britain*.  
[http://www.ac-company.org/erv/country\\_ervgb\\_law\\_en.html](http://www.ac-company.org/erv/country_ervgb_law_en.html) (Last accessed November 6 2001).
- AC-Company (2001b) *The Judicial System in the Netherlands*.  
[http://www.ac-company.org/erv/country\\_ervnl\\_en/nl\\_law\\_en.html](http://www.ac-company.org/erv/country_ervnl_en/nl_law_en.html) (Last accessed November 6 2001).
- Annas G (1998) Ethical debates: sex, drugs and the invasion of privacy. Commentary: patients should have privacy as long as they do not harm themselves or others. *British Medical Journal*. 316, 21, 924.
- Ashton C (1999) Adverse effects of cannabis and cannabinoids. *British Journal of Anaesthesia*. 83, 4, 637-649.
- Beaver W *et al* (1997) *NIA Releases Panel's Report on the Possible Medical Use of Marijuana*. Philadelphia PA, National Institute of Health.
- British Medical Association (1997) *Therapeutic Uses of Cannabis*. Amsterdam, Harvard Academic.
- Consoe P *et al* (1997) The perceived effects of smoked cannabis on patients with multiple sclerosis. *European Neurology*. 38, 1, 44-48.
- Corkey J (2001) Drug seizure and offender statistics. *United Kingdom Home Office Bulletin*. 5/01, 20.
- Department of Health (2000) Statistics on young people and drug misuse. *Statistical Bulletin 2000/18*. London, DoH.
- Department of Health (1998) *Tackling Drugs to Build a Better Britain*. London, The Stationery Office.
- Gillies H *et al* (1991) *Textbook of Clinical Pharmacology*. Second edition. London, Edward Arnold.
- Grinspoon L, Bakalar B (1993) *Marijuana: The Forbidden Medicine*. New Haven CT, Yale University Press.
- Gutierrez K (1999) *Pharmotherapeutics: Clinical Decision Making in Nursing*. Philadelphia PA, Saunders.
- Hall W, Sokolow N (1998) Adverse effects of cannabis. *Lancet*. 352, 9140, 1565.
- Hernandez M *et al* (1997) Delta 9-tetrahydrocannabinol increases activity of tyrosine hydroxylase in cultured fetal mesencephalic neurons. *Journal of Molecular Neuroscience*. 8, 2, 83-91.
- Hodges C (1996) Should we legalise cannabis on prescription? *MS Matters*. 8, 12-13.
- House of Lords (1998) *Cannabis: The Scientific and Medical Evidence*. London, The Stationery Office.
- International Council of Nurses (1973) *International Council of Nurses' Code*. Geneva, International Council of Nurses.
- Johnston P (2001) Cannabis users free from arrest. *The Daily Telegraph*. October 24, 1 & 6.
- Lawrence D (1997) *Clinical Pharmacology*. London, Churchill Livingstone.
- Martyn C (1995) 'N=1' cross-over trial using nabilone in a patient with MS. *Lancet*. 345, 8949, 579.
- McPartland JM, Pruitt PL (1999) Side effects of pharmaceuticals not elicited by comparable herbal medicines: the case for tetrahydrocannabinol and marijuana. *Alternative Therapies in Health and Medicine*. 5, 4, 57-62.
- Meinck H *et al* (1989) Effects of cannabinoids on spasticity and ataxia in MS. *Journal of Neurology*. 236, 120-122.
- Panorama (2001) Report. November 4. *BBC Television*.
- Petro D, Ellenberger C Jr (1981) Treatment of human spasticity with delta 9-tetrahydrocannabinol. *Journal of Clinical Pharmacology*. 21, 8-9 Suppl, 4135-4165.
- Savulescu J *et al* (1998) Respect for privacy and the case of Mr K. *British Medical Journal*. 316, 7135, 921-924.
- Schouten J (1999) Medical marijuana: legal considerations. *STEP Perspective*. 99, 2, 5.
- Tramer M *et al* (2001) Cannabinoids for control of chemotherapy-induced nausea and vomiting: quantitative systematic review. *BMJ*. 323, 7303, 16.
- Taylor H (1998) Analysis of the medical uses of marijuana and its societal and its social implications. *Journal of the American Pharmaceutical Association*. 38, 2, 220-227.
- Tschudin V (1994) *Ethics: Nursing People with Special Needs*. London, Scutari Press.
- United Kingdom Central Council for Nursing, Midwifery and Health Visiting (1992) *Code of Professional Conduct*. London, UKCC.
- Voth E, Schwartz R (1997) Medicinal applications of delta-9-tetrahydrocannabinol and marijuana. *Annals of Internal Medicine*. 126, 10, 791-798.
- Wynn M, Wynn A (1981) *The Prevention of Handicap of Early Pregnancy Origin*. London, Foundation for Education and Research in Childbirth.