



The Christian Doctor speaks on...

Drugs



Dr. Barry Earp

Parent...
Teacher...
Teenager...
Minister...
Health Care Professional...

It is vital that you are aware of the latest information regarding this ever-growing problem.

Based on the latest Australian research, this booklet combines up-to-date scientific information with serious Christian reflection in examining the many issues involved in drug abuse.

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Dr Barry Earp is a general medical practitioner. He graduated from Sydney University in 1975, did post graduate training in paediatrics, and obstetrics and gynaecology obtaining the Diploma of Obstetrics and Gynaecology and gaining the Fellowship of the Royal Australian College of General Practitioners. He has taken a special interest in drug related problems and has been chairman of the management committee of Lydia House (now Kamira Farm), a long term rehabilitation centre for women with drug related problems. He is a board member and referral officer for Life Line Central Coast N.S.W.

He has been an active member of the Christian Medical Fellowship N.S.W. for many years and a committee member for 4 years including carrying out the onerous job of secretary with the help of his wife, Lesley, who is also a medical graduate. They have three sons and are keenly concerned for the youth of Australia. They have observed so much of the pressure on youth to use marijuana, and on government to legalise it, that they have circularised all members of parliament with scientific information.

Dr Earp is also an elder of the Uniting Church.

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**A CHRISTIAN DOCTOR
SPEAKS ON
DRUGS**

by
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BOOKS

3-5 Richmond Road
Homebush West, NSW 2140, Australia

ISBN 0 85892 230 4

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Typeset and printed in Singapore by
Singapore National Printers Pte Ltd.

GENERAL INTRODUCTION

In this series of booklets, under the general title "A Christian Doctor Speaks", the Christian Medical Fellowship of Australia aims to provide basic medical information combined with Christian insights on topics of concern in today's world. Every effort has been made to ensure that the information is reliable and supported scientifically. However, opinions expressed are not necessarily the official view of the Christian Medical Fellowship of Australia.

The booklets are, of course, not exhaustive treatises, nor is the information in them highly technical. The hope is simply that they will be helpful and relevant to thoughtful and perhaps troubled people. If, through them, men and women of our day are enabled to see the place of the divine order in the world and in a balanced approach to current problems, something will have been achieved. This is God's world, and we cannot expect to understand it all. However, the more we learn about ourselves the better we appreciate the relevance of God's laws to the everyday lives of men and women.

RONALD WINTON
CLAIR ISBISTER

Publications Subcommittee of
Christian Medical Fellowship
of Australia.

DRUGS

In everyday language the word 'drug' means either a narcotic or a substance prescribed for medical reasons.

However, a drug is any substance which alters the way the body functions. Any drug used wrongly or in excess is dangerous. Some drugs are extracted from plants, but most are produced synthetically in laboratories.

The average person has some wrong ideas about drugs and lacks education concerning their benefits and harmful effects.

Some people think that pain killers and other medicines which can be bought over the counter are perfectly safe. They are swayed by the manufacturer's advertising campaigns and do not realise there are any health risks.

Many who condemn young people for using the illegal drugs marijuana, heroin and cocaine, smoke tobacco and drink heavily themselves ignoring the fact that these are the most abused drugs of addiction. The Commonwealth Department of Health in a submission to the Industries Commission in 1982 stated: 'Smoking is recognised as the largest preventable cause of death in Australia. Department of Health estimates indicate that the number of smoking related deaths is of the order of ten to fifteen thousand per annum'. The Presidents of the eight medical Royal Colleges in the United Kingdom issued a statement in 1982 that 'cigarette smoking is the single most important cause of death and disability in the United Kingdom'. On the subject of alcohol the Australian Medical Society

on Alcohol and Drug Related Problems stated: 'Alcoholism in Australia accounts for one in five admissions to general hospitals, in psychiatric hospitals one in two admissions are related to alcohol or drug abuse In this country alcohol or drug abuse is involved in 2 in 6 divorces or judicial separations, one in two serious crimes and one in two road fatalities'.

Others again are reluctant to take medicines prescribed by doctors yet are eager to try herbal remedies and multi-vitamins to solve their health problems. They do not realise that herbal substances must be taken with caution — the substances may be impure, the exact dosage is hard to control, and the remedy may have harmful side effects (for instance, comfrey tea can cause liver damage).

Television and radio programmes on drug use can give a distorted impression. Often a pro-drug pressure group presents its views, but no scientific information is supplied and groups holding opposing views are not given air time. News reports show the sensational — as happened in Sydney, publicity was given to a rally of the Marijuana party and a much larger gathering of antidrug, profamily campaigners was ignored.

Drugs have been used since the beginnings of history. Narcotics were known to Stone Age man and were used medicinally in the ancient civilised world. The Assyrians were using cannabis in the seventh or eighth century BC.

Misuse and abuse of drugs, common problems today, have occurred all through history. Every culture seems to have used one or more drugs for social rather than therapeutic reasons.

Today high drug usage is an international phenomenon. Drugs previously confined to certain areas are now used all over the world. The number, variety and sophistication of drugs available have increased, and many scientists are engaged fulltime in finding and developing new drugs.

Young Drug Users

Young people are particularly vulnerable to drug abuse. They are impressionable, adventurous and often ill-informed and are easy victims of exploitative drug pushers.

In 1979, the International Year of the Child, the United Nations issued a dossier on children and drugs. It stated:

Never before have there been so many children flirting with drugs and their associated hazards. Never before have their numbers been growing so rapidly. Drug abuse is depriving today's children, our children, of the right to enter the coming century with dignity, good health and the chance to make a substantial contribution to the future of their countries and the world.

The dossier pointed out that over half a million children in the Golden Triangle of South East Asia are involved in cultivating narcotics, surviving on subsistence diets, while countless young people around the world are becoming addicted to the drugs produced.

When a petition advocating liberalised marijuana laws was passed around at a New Year's Eve concert at the Sydney Opera House, thousands of signatures were collected. Many of the people who signed would have been ignorant of marijuana's effects on health and would not have been in a

sober, clear thinking state at the time. Yet the petition got widespread media coverage and was used effectively by pro-marijuana activists. Events such as these show the need for more public education about drugs.

Actors, celebrities, academics and others sometimes feature in the media advocating the legalisation of certain drugs. It is hard for the public to assess whether there is a real need for relaxing the laws or whether the person pushing a particular drug has some ulterior motive such as personal use. Used wisely, drugs can greatly benefit mankind. But when promoted solely for financial gain, with users exploited and forced into drug dependence, they do great harm to individuals and society.

People use drugs, both legal and illegal, to excess for a variety of reasons — for stimulation, for sedation, for pain relief, for escapist hallucinations, or in a vain attempt to cure illness. When they prescribe drugs to treat illnesses, medical practitioners must balance therapeutic benefits against side effects and risks to patients' health. Doctors have a particular responsibility when prescribing addictive drugs that are so valuable for relief of pain in accidents or after surgery. If they are used for more than a short time they may lead to addiction. Doctors, social workers, psychologists, counsellors, ministers and others are often called upon to care for people who have used drugs to excess.

Humanists have openly stated that each person 'has a right to go to hell in his own way'. Christians, on the other hand, feel a responsibility to foster the best interests of individuals and society. They are

concerned to prevent drug abuse and to promote healthy living. This booklet has been produced with the aim of providing up to date scientific information on drug usage in Australia. It has been checked for accuracy by the Professor of Clinical Pharmacology at Newcastle University, Professor Tony Smith. Parents, teachers, teenagers, clergy, health care professionals and all others interested in drug use, health and welfare should find the booklet helpful.

There are many statistics to show that drug use by young people in western countries is increasing. One example: a 1977 survey in the USA found a sharp rise in cannabis use among adolescents.

Preventing Drug Abuse

In 1978 the World Health Organisation set up a Committee on Drug Dependence. The committee advised the UN of substances which should be controlled under the Convention on Psychotropic Substances. The aim is to reduce abuse of psycho-tropic substances, to cut down on the illicit traffic in them, and to make them available only for medical and scientific purposes.

The drugs concerned are those that produce a state of dependence and those stimulants and depressants which produce hallucinations or disturbances in thinking, motor function, behaviour, perception or mood. They fall into three groups:

1. hallucinogens of the lysergide, STP and tetra hydro cannabinol type, e.g. LSD, marijuana
2. central nervous system stimulants of the amphetamine type ("speed")
3. central nervous system depressants — narcotics, tranquillizers and sedatives

The Committee has collected a vast amount of information on drugs. Research has determined various drugs' effects on growth, blood, body chemistry, cell structure, behaviour and fertility. Withdrawal symptoms, toxicity, the results of single vs multiple doses, the reversibility of effects, effects when administered with other drugs, potential for physical and psychological dependence, and risks to the individual and society, are all being investigated.

Results of Drug Abuse

Drug abuse seriously affects the individual's health and social functioning. It also hurts the user's family, friends and colleagues, and society as a whole.

The WHO dossier lists five main consequences of drug abuse:

1. economic losses affecting the user, his social circle and his society
2. deteriorating family relationships, failure in user's role as parent/marriage partner
3. increasing likelihood of involvement in criminal behaviour (to finance the addiction), road accidents, mishaps at work, drug trafficking and offences committed while under the influence of drugs
4. increased demand for social service, health care, legal aid
5. friends and contacts influenced to take drugs also

The health problems that arise among drug users include:

1. injuries incurred while driving etc. under the influence of drugs

2. infections such as serum hepatitis and septicaemia from use of syringes
3. death (accidental or intentional) from overdosing or using a mixture of drugs
4. sickness resulting from neglect of personal hygiene
5. malnutrition, nutritional deficiencies
6. toxic psychoses (may be precipitated by a single dose)
7. tissue damage (also occurs in foetus if pregnant woman overuses alcohol, tobacco etc).

Emotional/psychological problems manifest themselves in both the user and his family and friends, who often blame themselves for his addiction.

The Social Cost

An estimated one million Australians have to cope with the tension, violence, isolation and divisiveness of having an alcoholic in the family. In 1977 the Senate Standing Committee on Social Welfare reported that more Australian homes are affected by alcohol abuse than by all the other types of drug abuse put together.

At least 7 per cent of men and 5 per cent of women are addicted to alcohol and/or other drugs. In 1977, 40 per cent of adolescents were found to be smoking tobacco at least once a week. The figure for adolescent alcohol consumption is much the same. At least 8 per cent of adolescents use marijuana once a week or more; in 1979 it was found that one fifth of adolescents had tried marijuana at least once. An increasing number of teenagers are getting drunk at least once a month.

The female death rate from lung cancer is rising: from 3 deaths per 100,000 women a decade ago to more than 7 per 100,000 today. More and more women, especially schoolgirls, are smoking tobacco.

Drug abuse is a major factor in hospital bed occupancy, marital breakdowns, road accidents, industrial accidents, absenteeism and criminal offences.

What Causes Drug Abuse?

If we look at drug use patterns, we find many light users, some moderate users and a few heavy users. Almost everyone takes a drug occasionally. Alcohol, tobacco, pain killers and antibiotics are common, socially acceptable drugs. But what causes the transition in some people to moderate or heavy intake? There is no single, simple answer. The individual, his environment and the nature of the drug involved must all be considered.

The Personality Factor

Are all drug-dependent people alike in personality? Is there a personality-type which is predisposed to addictive behaviour? There are no clearcut answers.

People from all social classes can become drug dependent. The non-medical use of drugs is often a sign of difficulties affecting the user. One factor common in heavy users is a low tolerance for distress, pain, anxiety and frustration. There is often some form of emotional instability or immaturity, but it must be stressed that not all people who use drugs or are emotionally immature

become drug dependent. The desire to escape, experiment or just have fun is often important in continuing drug use.

The Social Environment

Drugs are more readily available than in the past. Peer group pressure, stresses at home, school or work, unemployment, boredom, parental example, ill health, feelings of alienation all can be powerful factors in the progress towards dependence.

The hippies of the 1960s smoked 'pot' as a statement of protest against their materialistic society. Frequently parents fail to see that their children turn to marijuana for the same reasons that they have taken up the more 'acceptable' alternatives, tobacco and alcohol. Adults condemn the use of illegal substances while themselves using equally harmful ones; in this environment drug education achieves little.

Consider the experience of Cecil and Maria Gidley, who discovered their son was addicted to narcotics. They studied the problem worldwide and wrote a book, *Drugs: You and Your Family*. They say:

In the matter of prevention, parents must learn all they can about drugs and about understanding the developing child. They must moderate their own drug taking in the form of alcohol and nicotine and set a good example to their children in disciplined living. They must be prepared to devote time to their children, to listen to their children's hopes and dreams, to help solve their children's problems, at all times to communicate and to encourage the family group to learn

together and from each other what is happening to people, young and old, in our society.

A child from a home where alcohol is used is seven times more likely to become an alcoholic than a child from a non-drinking home. Logic and research suggest that if fewer people use a drug fewer will end up addicted to it.

Powerful business and political interests are involved in maintaining the supply of both legal and illegal drugs, and drug use is promoted as an attractive form of escapism.

Drug Dependence

Commonly used drugs are listed on following pages. All are taken initially to give desired effects. After a while the user may have to increase the dose and frequency to maintain the effect — this is called drug seeking behaviour. Tolerance develops with time, necessitating the increased dosage.

Psychological dependence means that the user needs to continue taking the drug to feel reasonably normal. At this stage there are usually some physical symptoms if the user stops his intake; these are called withdrawal symptoms. If there is physical dependence, the withdrawal symptoms cannot be tolerated.

The drugs are listed in order of their frequency of use in Australia. All can lead to psychological dependence. Most can cause physical dependence. The use of two or more together increases the effects of each.

Reactions to Drugs

The body's reactions depend upon several factors.

1. the size of the dose *(continued on page 20)*

TABLE OF DRUGS AND EFFECTS

Drug	Short Term Effects	Long Term Effects
Alcohol	Depresses central nervous system, causing relaxation & feeling of well-being or depression and melancholia. Higher doses can cause unconsciousness and a withdrawal effect ('hangover'). A single binge in pregnancy or continued medium drinking can cause mental retardation and other changes in baby.	Regular drinking of six or more standard serves of beer, wine, spirits or liqueur per day gives a high risk of damage to the brain (with fits, blackouts, memory loss), the heart (heart weakness, hypertension), the liver, stomach (ulcers) and other areas. Frequently problems occur at home & work. Cancer in digestive tract and breast.
Tobacco	Frequently used as a relaxant. Actually causes stimulation of heart and narrowing of blood vessels, producing hypertension, headache, loss of appetite and nausea. Retards growth of the foetus.	Causes or aggravates sinusitis, bronchitis and cancer anywhere from lips to lungs. Breathing problems and blocked arteries (strokes, angina, heart attack, gangrene in bowel or limb).

*Drug**Short Term Effects**Long Term Effects*

Mild pain-killers,
aspirin,
paracetamol,
phenacetin,
caffeine,
codeine

Relief of pain. Aspirin and paracetamol reduce fever. Caffeine can cause stimulation. Codeine can cause constipation. It suppresses coughing. Aspirin helps to settle inflammation.

When taken in combination are more likely to cause stomach bleeding, anaemia and kidney damage. Australia has the highest incidence of any country in the world of kidney damage from pain killers. Aspirin causes bleeding.

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Tranquillisers
Valium
Serepax
Mogadon

Relief of anxiety and tension. Drowsiness or sleepiness, and sometimes muscular incoordination, blurred vision, excitability.

Prolonged use can cause dependence, depression and sometimes excitability.

Barbiturates,
'downers',
'sleepers',
'Goofballs',
'barbs'

Relaxation, feeling of well-being, sedation, sleep. Large doses can cause death. Often a means of suicide.

Regular usage adversely affects liver function. On withdrawal, hangover and convulsions, possibly death.

*Drug**Short Term Effects**Long Term Effects*

Marijuana,
'grass',
'weed',
'pot'
hashish

Relaxation, intoxication, altered coordination and sense of time. Dry mouth, dizziness, blood shot eyes, rapid heart beat, occasionally panic reactions.

Frequently causes cough and bronchitis and probably lung cancer. Affects brain structure and functions. Retained in body fat, difficult to excrete. Alters male hormones and affects sexuality response. Aggravates existing psychological problems.

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Stimulants,
cocaine,
* caffeine,
amphetamines,
'coke', 'snort',
'speed', 'drixies',
Bennies
'pep pills'

Cocaine — local anaesthetic — exaggerated self confidence, reduction in fatigue and appetite.
Caffeine — increased alertness, even inability to sleep.
Amphetamines — very stimulating, excitation, increased activity, reduced appetite and ability to sleep, palpitations, even death.

Damages lining of nose. Sleeplessness, psychiatric complications. Restlessness, palpitations, Heavy users can get headaches on withdrawal. Chronic excitation and inability to sleep. Skin complaints, malnutrition, psychiatric problems including paranoia and hallucinations.

<i>Drug</i>	<i>Short Term Effects</i>	<i>Long Term Effects</i>
Narcotics, heroin, morphine, pethidine, * methadone, codeine, 'dope', 'horse', 'monkey'	Relief of pain or anxiety, decreased awareness of outside world, constipation & cough suppression. Sometimes vomiting, drowsiness and sleep. High doses cause unconsciousness and death. Risk of contamination or varied dosage in street supply.	Highly likely to cause dependence. On withdrawal; tremors, stomach cramps, vomiting, insomnia, pain, weight loss. Injections often cause abscesses, hepatitis and infections in blood, joints, heart and lungs. Considerable chance of overdose and death.
Hallucinogens, LSD, Mescaline, STP, DMT, PCP, 'white lightning' 'angel dust', 'acid', 'instant Zen'	Hallucinations — disordered sensations of colours, shapes, designs. Sometimes affects sensation, smell, taste and hearing. Loss of control can produce anxiety, panic & destructive behaviour.	Chromosome damage possible but not proven. Frequently causes flashbacks, sometimes psychiatric trouble e.g. depression, attempted suicide.

<i>Drug</i>	<i>Short Term Effects</i>	<i>Long Term Effects</i>
Inhalants and solvents (some glues and sprays)	Happiness, relaxation and drowsiness. Large amounts can cause illness, occasionally sudden death.	Regular usage may cause liver, kidney and brain damage.

* The use of methadone to counteract the withdrawal symptoms of heroin is very controversial as it is itself a drug of addiction. Caffeine is the stimulant in tea, coffee and 'coke' with the highest concentration in coffee; so more than three cups a day can produce some degree of dependence.

2. the method of intake — whether drug is swallowed, smoked or injected
3. the rate of intake e.g. three middies of beer or three nips of spirits drunk within an hour will take the blood alcohol reading to 0.05
4. previous drug usage e.g. for a 'dry' alcoholic one drink may be enough to send him on a bender
5. other drugs used at the same time. Multi-drug use makes complications more frequent and treatment more complicated. For example, alcohol hastens the absorption of other drugs, and death often follows the use of alcohol and barbiturates together
6. the user's personality and his attitude to the drug — these factors may increase the likelihood of misuse
7. the surroundings and company at the time the drug is used e.g. peer group pressure. These can enhance the drug's effects

Signs of Drug Abuse

Certain types of behaviour may indicate a drug problem, but no particular behaviour is conclusive proof that a person is taking drugs, and there can be other causes of similar behaviour.

The following symptoms are suggestive of drug abuse.

The drug user may:

1. lose interest in life
2. achieve less at school, at work, in sports
3. show less interest in personal appearance
4. be absent from school, work
5. drop old friends and keep company with a new group

6. be secretive about his friends and activities
7. take cash and saleable goods from the home
8. take medicines, e.g. tranquillisers, from the home
9. tell lies, be evasive
10. enjoy long periods of time alone
11. show physical signs of drug use (see table)

Signs of Cannabis Use

The cannabis user may show the following signs:

1. pale complexion
2. reddened eyes and more colour in the face when intoxicated
3. face becomes expressionless, no blushing
4. coughing persists
5. stain between thumb and first finger (from holding 'joint' while smoking)

Signs of Heroin Use

1. wears long sleeves (to cover injection marks) and dark glasses
2. has items such as syringes and spoons or aluminium foil coated with soot. Candle wax and blood spots may be seen on clothing etc.

Helping the Drug User

Parents who suspect their child/teenager is using drugs should come to terms with their own reactions before staging a confrontation. Naturally they will feel shock, anger, confusion and concern. Too often the initial reaction is to accuse and reject the drug user; this widens any gap which already exists between parents and child. Rejection usually reinforces drug-taking behaviour. Parents should

be very careful about confronting a suspected drug user with items discovered such as syringes or accusing him of undesirable behaviour.

Usually, until a user admits he has a problem, those close can do very little to help. The user has a better chance of recovery if his family sticks by him through a withdrawal programme, even though there may be times of failure and deception.

It is wise to seek outside help. There are usually deeper problems underlying drug use, and the people involved will benefit from impartial counselling. It is best to turn first to a competent professional who already has the trust of the user — maybe a doctor, teacher or clergyman. The counsellor needs to be sympathetic and to understand the user's background and religion or philosophy. The family doctor should be able to refer a user to a suitable expert. In major cities there are drug referral centres and drug and alcohol counselling services, some run by the government, others by welfare organisations and churches.

Drugs & the Unborn Child

Since the thalidomide tragedy, much attention has been paid to the effects of medicinal and non-medicinal drugs on the user's reproductive cells and on the unborn children of users.

Damage to the ovum or sperm before conception can lead to abnormalities in the child. Some studies suggest that marijuana produces changes in the user's chromosomes, and as with nicotine and alcohol may damage sperm, reducing fertility and affecting the developing foetus. A defective ovum which is fertilised is likely to produce an early

miscarriage. Chronic cannabis use causes decreased levels of male hormone testosterone, testicular degeneration and arrested or abnormal sperm production. THC, tetra hydro cannabinol, a constituent of marijuana, affects the hypothalamus in the brain, disturbing hormone production and suppressing ovulation. THC has not been shown to damage the ovum, but other constituents of marijuana can cause mutations. When one generation of laboratory animals is exposed to cannabis, defects may appear two generations later.

The unborn child is particularly vulnerable in the first eight weeks, when the cells are dividing rapidly and organs are forming. German measles and thalidomide do their damage in this stage of pregnancy. The critical period for the development of the nervous system is 15-25 days after conception; for the eyes, 24-50 days into the pregnancy; and for the heart, 20-40 days.

Damage can also occur in mid and late pregnancy. The foetus's enzyme system is too immature to cope with some drugs crossing the placental barrier; it cannot metabolise and excrete as efficiently as an adult's body can.

Newborn children of drug-dependent mothers often have withdrawal symptoms. The baby affected by nicotine, for example, cries frequently, is restless, has a rapid heart rate and does not sleep well.

If the foetus is exposed to alcohol in the mother's blood in the early weeks, it may be born with foetal alcohol syndrome (FAS). Affected infants show mental and physical retardation, with small head and facial abnormalities (wide set eyes, flattened nose, thin upper lip) and impaired

growth. Researchers at The Royal Alexandra Hospital for Children, Sydney, tell us a single large intake of alcohol at the critical stage can cause FAS, while frequent small amounts of alcohol can lower the offspring's intelligence and learning potential. Studies show that the children of mothers who drank or smoked heavily during pregnancy do about 10 per cent less well at school when compared with children of mothers who did not smoke or drink. Animal studies show that the offspring of females which took in alcohol and nicotine during pregnancy have fewer brain cells.

Marijuana's most active ingredient, THC, can cross the placental barrier and enter the foetus's systems. So can several other ingredients which have been shown to cause mutations. Animal studies associate marijuana use with reduced numbers in litters, increased numbers of still births, and more perinatal deaths. THC produces behaviour changes in animal foetuses. In the early stages of pregnancy the foetus's enzyme systems are not mature enough to metabolise the drugs, and so toxic substances can build up in the bloodstream. There is no conclusive proof yet that marijuana harms the human foetus; however, the Canadian Addiction Research Foundation quotes Kalent, a world authority, as saying:

'There is enough suspicion of possible harmful effect of cannabis to warrant caution over its use, particularly during pregnancy.' Recent studies indicate that the effects appear to be similar to smoking tobacco in pregnancy.

Problems facing researchers in this area include:

1. the fact that marijuana users tend to use other drugs as well and

2. dosages are difficult to measure as THC (inhaled or ingested) is stored in the fat tissues and gradually released over a long period.

Nicotine constricts the blood vessels in the placenta, disturbing the nutrition of the foetus. Consequently, at birth the baby has a lower than normal weight and its head and brain are smaller. This has been found to be the case with babies of women who smoke more than 10 cigarettes a day during pregnancy. When they reach primary school, these children are behind in mathematics and reading and general achievement level compared with non-smokers' children.

Caffeine in very large doses causes deformities in laboratory animals. No problems have been found in human foetuses, possibly because caffeine is rapidly excreted from the mother's body.

Heroin-dependent women are three times more likely to abort than non-users, and as many as 50 per cent may abort. Their babies have low birth weights and may be mentally retarded. There is a high perinatal death rate. Infants suffer withdrawal symptoms, and these interfere with normal mother-child bonding e.g. the baby cries continually and will not suck. There is a tendency to jaundice. Similar problems occur with methadone users.

Amphetamines affect the nutrition of the foetus and are associated with problems in pregnancy. Congenital abnormalities occur in experimental animals. Babies of human users may experience withdrawal symptoms, agitation, listlessness, and lack of responsiveness. Their variable behaviour disturbs the mother-child relationship.

Cocaine is different chemically from the amphetamines but produces similar problems.

LSD — *lysergic acid diethylamide* — causes abnormalities in experimental animals. It damages the central nervous system in early pregnancy. Human users studied showed an increased incidence of spontaneous abortion and foetal abnormalities.

Study of the unborn child is becoming more sophisticated. Techniques such as amniocentesis (where fluid is removed from the uterus), ultrasound, foetoscopy and genetic investigation of potential parents give us more knowledge of human development. Such knowledge brings increased awareness of the unborn child's vulnerability and the parents' responsibility to protect him or her.

MARIJUANA

Marijuana has been singled out for further consideration here because:

1. it is the most widely used illegal drug in Australia
2. it is being used more and more, especially by secondary school students
3. it is our society's third most popular leisure-time drug (after alcohol and tobacco)
4. many people think marijuana is harmless and would like it to be freely available. They are unaware of its harmful effects.
5. several pressure groups are campaigning for marijuana to be legalised and the drug gets a lot of media coverage
6. research findings on marijuana use are not clearcut.

Marijuana is obtained from the cannabis plant, which is cultivated for its fibre, oil and resin. The plant has hundreds of chemical constituents, many of them psychoactive cannabinoids. The most active is delta-9-tetra hydro cannabinol, or THC. A cannabis plant's leaves contain 1-2 per cent THC, the plant's top 4-6 per cent and its oil 60-80 per cent. Most marijuana cigarettes ('reefers') smoked in Australia contain about 2 per cent THC. Reefers with higher concentrations of THC are being used more and more often.

Some of the chemicals extracted from the cannabis plant have possible therapeutic value, but the World Health Organization's Committee on Drugs has recommended that cannabis extracts be controlled because they are potential hallucinogens and can produce psychological dependence.

The *physical* effects of marijuana use are:

- * increased heart rate
- * reddening of the eyes
- * dry mouth and throat
- * stimulation of appetite
- * urinary frequency
- * nausea and vomiting
- * diarrhoea and constipation

The *psychological* effects are:

- * the 'high'—a feeling of wellbeing & relaxation, thinking that all is well
- * altered sense of identity
- * exaggerated laughter
- * altered perception of space and time
- * lessening of inhibitions, especially sexual
- * impaired short term memory

- * feeling of improved interpersonal relations and creativity (related to being out of touch with reality)
- * fear, anxiety, depression, irritability, confusion, lethargy (tiredness)
- * fully developed acute psychotic reaction with mental derangement, unreal fears, disorientation loss of control (this may last hours or several days)

The long term effects are:

- * *Body accumulation.* Cannabis is fat soluble and therefore tends to accumulate in the brain, liver, lungs, ovaries or testes, and bone marrow. It is hard for the body to get rid of it, and a person who smokes one joint a week is never free of the drug. This has sinister implications for the heavy user, and it can take months or even years to return to normal functioning after stopping heavy use. It is interesting to observe that DDT, which also accumulates in fat but with no apparent ill effects, has been banned, and malaria is now on the increase.
- * *Lung damage.* Chronic bronchitis and other respiratory ailments are quite common with heavy marijuana smoking. In this respect it appears worse than tobacco. Because of the higher tar content in a cannabis cigarette, and the practice of deep and prolonged inspiration, two or three cannabis cigarettes a day may well carry the same risk of lung damage as a pack of 20 tobacco cigarettes. A heavy tobacco smoker usually takes 10 to 20 years to develop chronic bronchitis, but a heavy marijuana smoker can develop it in

6-15 months. Several studies have found precancerous changes in the lining of the airways, but no lung cancer link has been detected yet. Less than one cannabis cigarette a day decreases vital capacity (the amount of air the lung can expel following a deep breath) by the same amount as smoking 16 tobacco cigarettes a day.

- * *Heart Trouble.* Almost invariably, each cannabis cigarette causes a racing heart. Most users and experimental volunteers are healthy young males and therefore usually have no trouble from this. However, increasing numbers of teenagers are suffering from persistent chest pains owing to cannabis; the pains disappear when smoking stops. Cannabis is dangerous for anyone who has heart trouble, however mild. Many people do not realise they have heart problems (nearly a quarter of people dying suddenly from coronary artery disease have had no warning symptoms) and they do not realise the added risks involved when they smoke marijuana.
- * *Brain Damage.* One early study of 10 heavy users showed brain atrophy (shrinkage), but a later study on 31 heavy users showed no brain changes. More research is needed. Several studies on animals have shown definite atrophy throughout the brain after prolonged cannabis intake and an abnormal electroencephalogram (brain wave tracings).
- * *Amotivational Syndrome.* Chronic tiredness, loss of previously held values or goals, and decreased ability to perform set tasks are

often seen in heavy cannabis users. There are conflicting opinions about whether cannabis use causes this syndrome or is just a symptom of it. The syndrome occurs worldwide in every society where cannabis is used. Many workers in the field claim that, if a user can be persuaded to stop taking marijuana for a period, he improves dramatically and can look back and see how affected he was; if he continues to use marijuana, he retains his altered set of values and cannot appreciate the difference.

- * *Sexual Problems.* Many users report a greater enjoyment of sexual activity when they first use cannabis. But continued use frequently causes a loss of sexual appetite and poorer performance.
- * *Flashbacks.* The return of distorted experiences (mainly visual) months or even years after taking cannabis occurs occasionally.
- * *Hormone Changes.* There is a reduction in output of the male hormone, testosterone. This has been linked with infertility and gynaecomastia (breast development). There is a possible effect on sexual development in teenage boys, and on the development of a male foetus whose mother is smoking heavily during pregnancy.
- * *Genetic Changes.* Mutations have been seen in animals given equivalent doses of cannabis, but adverse genetic effects have not yet been proven in man.
- * *Immune Responses.* Changes in the body's defence mechanism, associated with increased susceptibility to infections, are

suspected. A definite link has yet to be proven.

Several drugs previously sold freely over the counter have been withdrawn from sale because of doubts raised about their effects on hormone function, genetics and immune responses. On this basis alone it would be illogical to encourage cannabis use, especially when so many users are teenage males.

Those who use cannabis on an infrequent, experimental basis, usually suffer no permanent damage. But a significant percentage, perhaps as many as 25 per cent, go on to chronic heavy use or progress to other illegal drugs.

Evidence collected over many years has established that alcohol and tobacco are serious health and social hazards. Yet about 60 per cent of the community are regular drinkers and some 35 per cent smoke regularly. Cannabis is at least as damaging as alcohol and tobacco, and at present an estimated 5 per cent of the community use it regularly. If cannabis is legalised and becomes as widely used as alcohol and tobacco, our society's health and social problems are bound to increase.

Road safety is a major area of concern. Many marijuana users say they drive when stoned. Numerous studies with laboratory tests, simulated and actual driving conditions and accident figures show that driving ability is reduced when high, and to some extent for hours or days afterwards. Users feel more capable than they really are because of their altered sense of reality and timing, difficulty in tracking moving lights at night, and the long time THC stays in the body. Users have a significantly higher accident rate than both drinkers and non-users.

Early studies, often quoted by pro-cannabis campaigners, did not find evidence that marijuana is harmful. But these studies involved small numbers of users and were from other societies, and sometimes the research techniques were faulty. A chromosomal study in Costa Rica, for instance, found no significant differences between 'users' and 'non-users', but the 'non-users' had all used cannabis previously, making comparison invalid. It was claimed that in Jamaica cannabis use did not impair work performance, and users said that when faced with a heavy job they would often smoke cannabis beforehand; however, when users were filmed working under the influence of cannabis it was found that they took longer and needed more body movements to complete tasks.

To the question 'Is marijuana safe?' Robert DuPont, Director of the National Institute of Drug Abuse (USA), replied:

We can offer a simplistic but unequivocal answer — NO. There is good evidence that being 'high', intoxicated by marijuana, impairs responses ranging from driving to intellectual and interpersonal functioning and marijuana's persistence in the body may make even episodic use risky.

This statement is particularly significant in light of the fact that DuPont had previously considered marijuana harmless and even advocated its use.

United Nations drug experts say that marijuana laws should not be relaxed. Delegates from countries where cannabis has been used for centuries are critical of liberalisation moves in nations with very little experience of what drug abuse can do to a society.

Do not be misled by vested interest groups claiming marijuana is relatively safe and not addictive in order that they can sell and use more of it. Do not wait until, with increasing usage, marijuana becomes another 'acceptable', entrenched social drug causing major health and community problems. Work towards restricting its use and encouraging drug-free lifestyles.

COCAINE

Fashion and peer pressure have a great deal to do with drug taking and the fashionable drug in U.S.A. in the entertainment world has become cocaine. Deaths of well known media personalities have been associated with its use, and it is becoming more in demand in Australia as the law clamps down more firmly on the distributors of heroin and marijuana and more closely controls medicinal drugs that have been abused.

Like the amphetamine — containing diet pills used for obesity, cocaine gives a pleasurable sensation as it is a stimulant of the sympathetic nervous system. It is usually inhaled or sniffed and is quickly absorbed, but it can also be injected. It tends to be used as a party drug. It is expensive, so it is most often used in the sophisticated more affluent circles and appears to be quite easily obtained in Australia.

The history of its use is interesting and contains a lesson for all who wish to retain their liberty and right to self determination. When the Spaniards arrived in the Andes they found an advanced, disciplined society ruled by the Incas. They used the leaves of the coca plant to produce a stimulant drug used as a ritual drug only by the Inca elite, not

the workers or those corresponding to our public service. The Spaniards seeing the stimulant effect that kept people awake and alert and able to work long hours and eat less, so producing more goods for the Spaniards, made the drug available to all and encouraged its use. In 50 years the native population was reduced from ten million to one. There are in existence documents that prove that the use of drugs was encouraged very successfully as a weapon against American troops in Asia.

Cocaine was used medicinally by early psychiatrists as a mood lifter and also for getting addicts off morphine and was very useful as a local anaesthetic for the eye and nose until it was largely replaced by safer synthetic drugs. Pharmacologically cocaine is an ester of benzoic acid similar in effect to the amphetamines (speed). It can result in violent behaviour and hallucinations and lead to compulsive use. In an article in the Journal of the American Medical Association in 1979 300 drug associated deaths were studied for cocaine use; it was found to be the cause of death in 24 and contributory in 68. The fatal dose was found to be very variable, and the writers concluded that there was an increase in deaths paralleling the increase in popularity of cocaine and that it cannot be regarded as a safe recreational drug.

TAKING ACTION

What can we do to beat the drug problem? There is no one answer; various strategies are needed:

- * Parents must recognise that they are a major influence on their children and help to determine their children's behaviour patterns. If parents live a consistently drug-free life

style, their children are more likely to do the same. If you do not start using a drug, you will never become addicted to it.

- * Community pressure on governments is needed to ensure that harmful drugs remain illegal and their availability is restricted. When a drug is legalised more people begin using it — this happened in Oregon, USA, when marijuana was declared legal. While certain drugs remain illegal, the criminal element's involvement remains too — this fact must be faced honestly. However, a recently published British review (*Lancet*, March 19, 1983) concluded, after 15 years of legal prescribing of heroin or methadone to registered addicts, that it was impossible to undercut the black market. Those concerned to prevent drug abuse must not cut themselves off from society — they need to maintain an active interest in what is happening in government, the law, education, social services, the media and public opinion.
- * There must be more education about the dangers of drugs. Education campaigns must also encourage healthy life styles.
- * We must be concerned about others' welfare. The Christian must care about the total individual — not only his spiritual condition, but his physical, emotional, intellectual and social wellbeing. Out of love for an individual, the Christian should try to prevent him using harmful drugs or try to help him stop using them. Jesus said:
I have come that you might have life — life in all its fullness.

John, chapter 10.

A full life means fulfilling one's potential, not destroying it by becoming drug dependent.

- * We need to set up and support organisations where drug users and potential users can be helped and led into faith. Alcoholics Anonymous and Narcotics Anonymous have very successful rehabilitation programmes, and their affiliate groups help the families of drug users. A US government study found that, of all the drug rehabilitation organisations in the country, a Christian one — Teen Challenge — was the most successful. Eighty per cent of those who completed the Teen Challenge programme were still abstaining from drugs (including alcohol and tobacco) five years later. Teen Challenge operates in major Australian cities.
- * When helping a drug-dependent person we must treat him as an individual. We need to explore the reasons why he became addicted and why he is still addicted. We must offer genuine satisfying alternatives to drug dependence. A solely spiritual answer is rarely sufficient. The addict needs a rehabilitation programme tailored to his needs, one which he can endorse and participate in wholeheartedly. It must constantly affirm his worth and reinforce healthy ways of coping. Some users find outdoor activities — sports, walking, the Outward Bound programme — helpful. Others prefer reading, crafts, trades or meditation. Group support helps, and there is often benefit in living in a therapeutic community. Involvement in the

arts or some social or political cause can give purpose and direction to life. Many ex-users become counsellors in drug rehabilitation centres. They can offer insights which the uninvolved professional can never have. A Christian counsellor may be able to lead an addict to faith in Christ, but turning one's life over to Him does not usually mean immediate freedom from the craving for drugs. The user must still progress slowly, step by step, often with numerous relapses.

- * Every individual needs to live a healthy lifestyle and set a good example. Christians especially have a responsibility here. The Bible discourages unhealthy living:

Let us conduct ourselves properly, as people who live in the light of day — no orgies or drunkenness, no immorality or indecency, no fighting or jealousy. But take up the weapons of the Lord Jesus Christ and stop paying attention to your sinful nature and satisfying its desires.

Romans, chapter 13.

The Christian is reminded to obey the laws of the land — so use of illegal drugs is out. He is to live a clean life:

So then let us purify ourselves from everything that makes body and soul unclean, and let us be completely holy by living in awe of God.

11 Corinthians, chapter 7.

Christians have difficult decisions to make in relation to their own ways of living and use of legal drugs such as alcohol. God created the world and all that is in it, and He found it good. He gave man

control over these creations and authority to use them. But to what extent can man use all of God's creations? At what point should we stop? As a general guideline, we are not to do anything which would harm someone else or put temptation in their way, causing them to stumble. 'But take heed lest by any means this liberty of yours become a stumbling block to them that are weak' (1 Cor. 8 v. 9.) Many Christians feel obliged to become total abstainers. We are to promote positive enjoyment of God's world and oppose misuse and abuse of it.

The effects of parental example are exemplified in an article in the American Journal of the Diseases of Childhood. The article, called 'Visiting the Iniquity of the Fathers upon the Children', starts with these words from Exodus:

And the Lord will by no means clear the guilty, visiting the iniquity of the fathers upon the children and upon the children's children unto the third and fourth generation.

The writer describes the effects of 'passive smoking' (breathing in smoke from cigarettes smoked by others) on the children of smokers. The children suffered respiratory illnesses. When the parents stopped smoking, then their health and that of their children improved. The article ends with God's words from Deuteronomy:

I have set before you life and death, blessing and cursing; therefore choose life, that both you and your seed may live.

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