ration these studies could not have been accomplished.

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THE USE OF TRANQUILLIZERS IN THE TREATMENT OF HEROIN ADDICTION IN TEENAGERS

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Heroin addiction is at present a serious problem in Thailand and lately, more teenagers are being involved. In our country since the outlawing of opium smoking in 1959, former opium addicts were turning to heroin chiefly, because of the case of consumption. At present, it is estimated that there are about 300,000 heroin addicts in the Kingdom. The techniques used for taking the drug vary from smoking opium, "chasing the dragon" (inhaling the fumes obtained by beating the rather impure heroin), smoking from cigarettes in which some tobacco shreds have been removed and "white powder" (purer heroin) inserted instead, to injections (usually self-administered, both intramuscular and intravenous (the main line). Moreover the percentage of heroin in the drug here in Thailand is about 80–90 p.c. (for the "white powder") and 15–20 p.c. for the purplish granules, whereas in the USA the white powder stuff is only 2–5 p.c. heroin.

Motives for the Study:

There are many approaches to the treatment of heroin addiction, namely – the Cold Turkey treatment, the Methadone Maintenance or the substitution treatment by using derivatives of opium in gradually reduced doses.

Many hospitals have tried various forms of tranquillizers in the treatment of heroin addicts, the major and the minor tranquillizers producing varying results. At present, many hospitals have adapted the technique of Methadone Maintenance because the control and management of patients are easier, and the suffering of the patients during the withdrawal period is not so severe.

We found out that Methadone, also a kind of narcotics, when once used for a period of time, is difficult to do without and the patients have to remain in hospital for a longer duration. In Thailand, the number of heroin addicts is considerable – and we have only three weeks in which to withdraw the drug. Methadone therefore is not suitable for this technique of treatment.

Methadone Maintenance Treatment programme is not so successful in Thailand because of the fact that transportation and communication for the patient are still far form satisfactory. Accordingly the patients could not keep their regular appointments to visit the unit for their dose of methadone.

Tranquillizers are, at the moment, most successful in the treatment programme. At present, it is not yet known which tranquillizer will be most effective. It is not practical to await for research results from the USA or Europe, simply because of the fact that there is a big difference in the

percentage of heroin in the drug used. This results in the big difference in the severity of the withdrawal symptoms. Thai addicts certainly show more severe withdrawal symptoms, the dose of tranquillizers required here will differ from abroad.

METHOD

Since January 1972, the addiction unit of the Psychiatric section of Pra Mongkut Klao Army Hospital has used the following tranquillizers in the treatment of the withdrawal phase of Heroin Addictions:– Trifluoperazine HCL (Stelazine), Diazepam (Valium), Thioridazine (Mellaril) and Medazepam (Nobrium). All the patients are teenagers, varying in age from 16–19 years. All volunteer for treatment. After admission, all are subject to complete physical examination including chest X-Ray and a detail history of the addiction is obtained from the patients and relatives, including their emotional developmental history and problems in the family. It is generally known that the majority of the young addicts are not really determined to receive treatment, therefore an assessment of the motivation is necessary before admission. They are asked to visit the unit on every Monday for four consecutive Mondays. If their attendance in these four Mondays is regular and prompt, they are assumed to have good motivation and accepted for admission and treatment. Right after admission, they will stop their heroin consumption and put on one of the stated tranquillizers – in the Double-blind method – the physician will not know which tranquillizers a patient is taking. Because Thai addicts consumed drugs of high heroin percentage – the following maximum doses are used:–

1. Trifluoperazine HCL	40 mg/day
2. Diazepam	80 mg/day
3. Thioridazine	1000 mg/day
4. Medazepam	80–100 mg/day

The patient will receive a minimum dose of the drug on the first day of admission – and the dose will be increased on the following day when the withdrawal symptoms became more severe. If patients are not able to take some food, supportive intravenous saline drip will be given. In patients who are very disturbed, sodium amytal is used.

RATING

The effect of the drugs used will be studied by the therapist in charge morning and night, paying paritcular attention to:

1. The severity of the withdrawal symptoms
2. Idiosyncracy
3. Subjective feelings of the patient for the used
4. Drop out rate
5. Running away

160 patients were studied, all male, aged 16–19 years. The dose of heroin used on the average is 120 mg/day. Those who cannot tolerate this regime of treatment will drop out – to which we have no objection. It is interesting to note that there are only two p.c. drop-outs.

On account of the high percentage of heroin in the drug consumed, the withdrawal symptoms after 24 hours will be much more severe here than in England and the USA. All the patients treated became delirious after 24–36 hours. They were disorientated, restless and crawling around the room; they were able to answer questions but in a confused manner, not mentioning any craving, refusing food. After 48 hours, these symptoms improved; they sat up and began to eat some food, then came the greatest craving for the drug, it is during this particular moment that they either dropped out of treatment programme or escape from the ward.

1. *The severity of the withdrawal symptoms*

Symptoms	Trifluoperazine HCL	Diazepam	Thioridazine	Medazepam
Yawning				
restlessness	++	++	+	++
goose flesh	++	++	None	+
muscle cramps	++	++	+	++
Insomnia	++	++	+	++
Diarrhea	None	+	None	None
Delirious	++	++	None	+

2. *Idiosyncracy*

Symptoms	Trifluoperazine HCL	Diazepam	Thioridazine	Medazepam
muscular spasm	++	None	+	None
Salivation	++	None	+	None
Oculo-gyric crisis	++	None	None	None
Dizziness	None	++	None	+
Hypotension	None	+	+	None

Those patients who received high doses of 40 mg/day of Trifluoperazine will show signs of extrapyramidal tract involvement. 50 percent showed oculo-gyric crisis. The rest have muscular spasm and salivation. These symptoms are lesser in Trioridazine, but most patients will complain of stuffy nose, unsteady gait difficulty in swallowing. For Medazepam and Diazepam, the patients will complain of dizziness, blurred vision and vertigo on changing positions after the disappearance of withdrawal symptoms.

3. *Subjective Feelings*

Most of the studied patients have once been treated by Methadone Maintenance technique and by questioning. It was noted that they craved for nothing except heroin. From the rating estimated by attendants and nurses, it was found that, with Diazepam there was the least complaint, followed by Medazepam. In the Trioridazine group which was supposed to be most effective for causing such symptoms, many complained of uncomfortable symptoms like stuffy nose and salivation. In almost every patient, Stelazine produced signs of extrapyramidal poisoning in varying degrees.

4. *Drop-out Rate*

As these patients were voluntary, they were free to drop-out when they so desired – posisbly they could not tolerate the symptoms any longer. These patients were teenagers who had already problems at home, so it was surprising to find that only four drop-outs (two from 40 mg/day Trifluoperazine, one from 80 mg/day Diazepam and one from 100 mg/day Medazepam)

5. *Running away*

The patients who could not tolerate even drop-out state, naturally ran away, two from Diazepam and two from Medazepam on the second day of admission.

Summary of the results

1. Trioridazine is the most effective in controlling symptoms of heroin withdrawal, any undesirable side-effects being treated by appropriate doses of muscle relaxants. After one week of hospitalization, the dose was reduced to maintenance level that most patient could tolerate well.
2. Diazepam and Medazepam are the next most effective drug. The symptoms of withdrawal was most severe, 48–72 hours after the last dose of heroin. The side-effects were mild but uncomfortable for the patients, namely dizziness during change of position and unsteady gait.
3. Trifluoperazine is accompanied by considerable side effects and the withdrawal symptoms remained severe in spite of large doses of the drug.
4. The psychiatric section of the Pra Mongkut Klao Army Hospital have tried both Methadone Substitution programme and tranquillizers, and found that there was a higher relapse rate in the Methadone group.

CONCLUSION

During 1972 and the beginning of 1973, we have studied the effectiveness of four tranquillizers in the treatment of heroin addictions. The 160 teenager addicts were stopped from using heroin immediately after admission, and each in turn was given a tranquillizer according to their serial number in doses that could control severe symptoms. The duration of admission for almost every patient was 21 days. They were otherwise fairly healthy and accepted on a voluntary basis. The patients were observed morning and night and their symptoms tabulated. Detection of heroin in their urine was done periodically without their knowledge in order to assure that heroin was not taken during admission. After one year of study we found that Trioridazine was effective in controlling withdrawal symptoms, but side-effects were always present.

Next on the list of effectiveness came Diazepam and Medazepam which are equally useful, but the symptoms were more severe than in Trioridazine

group. Trifluoperazine was accompanied by severe reaction and withdrawal symptoms were greater than the previous three.

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AVERSION THERAPY IN A CASE OF FETISHISM

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Behaviour therapy is based on the premise that abnormal behaviour has been acquired by learning as a conditioned response and as such can be eliminated according to the laws of learning theory.

One of the best known methods of behaviour therapy is aversion therapy in which the aim is to eliminate the unwanted behaviour by associating it with an aversive stimulus. It was used early in the treatment of alcoholism and the aversive stimuli were drugs such as apomorphine and emetine which induced nausea and vomiting. In 1956, Raymond reported the successful treatment of a handbag and perambulator fetishist by apomorphine conditioning. Following this account there was a renewed interest in aversion therapy and several reports of success were made in the treatment of other sexual deviations, such as homosexuality, and transvestism. One important development in aversion techniques was the substitution of drugs with electrical stimuli.

Chemical aversion therapy had several disadvantages. The patient had to be admitted to a hospital to be treated. The drugs had dangerous side-effects which could be fatal and the whole procedure was unpleasant. In addition there was great difficulty in timing the interval between the conditioned stimulus (abnormal behaviour) and the unconditioned response (nausea and vomiting).

To date, most therapists, prefer electrical methods over chemical aversion methods. The electrical stimulus is relatively safe and easy to administer. It affords better control in timing and can be given at a desired intensity and at the precise moment of time. All the available evidence indicates that aversion therapy is effective in the treatment of sexual disorders.

My first experience in the use of electrical aversion therapy began 2 years ago. I have treated 3 cases of alcoholism and 2 homosexuals. The results were encouraging. Of the 3 alcoholics, 2 improved and stopped drinking. One homosexual whose main complaint was recurrent fantasies of homosexual desires on a young boy was helped to rid himself of these fantasies. The other overt homosexual was not helped by the treatment.

There has been very little work done on behaviour therapy in Singapore or in Malaysia. The following study therefore merits a report as being the first case of fetishism treated by aversion therapy in this region.

The patient was a young Malayalee, aged 19 doing National Service. The father had caught him dressed up in his sister's brassieres on a number of occasions at night under his blanket and had punished him without much effect. Soon after enrolment into National Service his fetish acts became more frequent, and he was finally referred by his general practitioner for an opinion.

He was the eldest of six children (two boys and four girls) of an Indian Roman Catholic family. His father was very strict and authoritarian and used to punish him very severely for minor infringements during his early childhood. His father exerted great pressure on him to do well in his studies. However his academic work was poor for which he was punished. He failed the School Certificate examinations twice before passing on his third attempt. He was fearful of his