treated in a one year period committed violent incidents (10.3%). At the Central Hospital 144 patients were involved, out of a total number of 1220 in-patients over the year (11.8%).

Acknowledgements

We wish to thank Dr A. Fottrell, Professor I. Brockington, Dr R. Whiteley, Dr A. Girling, Miss D. Lees, Mrs J. Curtis and Mrs D. Palmer.

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(*Accepted 4 February 1986*)

British Journal of Psychiatry (1986), **149**, 235–238

The Influence of Psychological Factors on the Opiate Withdrawal Syndrome

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Psychological and drug-related variables and their effect on the severity of withdrawal symptoms were examined in a group of addicts being withdrawn from opiates on an in-patient drug dependence unit. Two psychological factors—neuroticism and the degree of distress expected by the patient—were related to subsequent severity of symptoms. Both are anxiety-related, and may serve to amplify withdrawal symptoms. Surprisingly, drug dose was unrelated to symptom severity.

A principal feature of opiate addiction is the withdrawal syndrome, which is often regarded as one of the defining characteristics of such an addiction. The withdrawal syndrome is recognised and described in general terms in most accounts of addiction, but has not been fully investigated. There are many aspects of it that require further research.

The fact that physiological symptoms such as increased perspiration, lacrimation, abdominal cramps, nausea, and diarrhoea are prominent features of withdrawal led the authors of early formulations to emphasise its 'physical' aspects; this is reflected in the use of the medical term 'syndrome'. However, research has shown that psychological factors may also have a powerful effect on aspects of the withdrawal syndrome.

As early as 1927, Pavlov noted that classical conditioning of morphine-induced responses had been observed by Krylov; subsequently, Wikler (1948) proposed a theory that relapse after detoxification was due in part to conditioned stimuli that elicit aspects of the withdrawal syndrome. Many studies have since confirmed this, and have extended understanding of the role of conditioning in the addictive disorders (O'Brien, 1976; O'Brien *et al*, 1977; Siegel, 1979).

Kleber (1981) stated that other psychological factors such as the patient's personality, his state of

mind at the time of withdrawal, the setting in which withdrawal takes place, and his expectations of the severity of the symptoms may all have a marked effect on the severity of the withdrawal. Indeed, Kleber suggested that their cumulative effect can be as great as that of any pharmacological factors. This observation is in accord with the views of many experienced clinicians, but has not received adequate empirical investigation. The present study looks at Kleber's suggestions as they apply to the withdrawal syndrome experienced by a group of opiate addicts being detoxified from drugs as in-patients on a graduated oral methadone reduction schedule.

Method

All heroin and methadone addicts admitted to the in-patient Drug Dependence Clinical Research and Treatment Unit of the Bethlem Royal Hospital in a five-month period in 1984 were studied. There were 34 such admissions, two of whom were excluded since they were drug-free at the time of admission; 24 were male and 8 female. Their average age was 25.9 years (range 18 38). The length of time for which they had used opiates varied between 1–19 years, with a mean of 5 years. In these respects the subjects are similar to the wider population of addicts attending London Drug Dependence Clinics (Gossop *et al*, 1984; Blumberg, 1981).

On admission, all subjects underwent a three-day assessment period during which their need for opiates was assessed. The initial daily dose level of methadone was established on the basis of clinical examination by a psychiatrist and of nurses' observations. The response to this trial dose was closely monitored during a three-day period, and if there were signs of intoxication or of opiate withdrawal the dose was adjusted as necessary. All subjects were then withdrawn from their drug of dependence over a 21-day period. During the withdrawal programme addicts received oral methadone three times a day on a linear reduction schedule. During the first 50 days they completed a self-report questionnaire designed to measure symptoms of opiate withdrawal. A version of this was used in the study reported by Gossop *et al*, (1984). The questionnaire contained 32 signs and symptoms; subjects were required to rate themselves on each item as it applied during the preceding 24 hours, using a four-point scale (nil, mild, moderate, severe). The 32 items were: feeling sick; vomiting; diarrhoea; poor appetite; dry mouth; stomach cramps; restlessness; eyes sensitive to light; headache; drowsiness; dizziness or giddiness; fainting attacks or lightheadedness; stiffness of arms and legs; spontaneous twitching (contraction) of muscles; trembling hands; feelings of coldness; feeling of unreality; 'gooseflesh'; hot and cold flushes; increased sweating; runny nose; trouble starting urination; passing more than usual quantity of urine; heart pounding; fatigue or tiredness; muscular tension; aches and pains; weakness; yawning; sneezing, runny eyes; and insomnia.

At the time of admission all subjects completed a further brief questionnaire, in which they were asked to state on a four-point scale the severity of the withdrawal symptoms they expected to experience. They also completed the Eysenck Personality Questionnaire(EPQ) (Eysenck & Eysenck, 1975).

Results

A stepwise regression analysis was performed, in which the extraversion, neuroticism, and psychoticism scales of the EPQ, length of opiate use, withdrawal dose of methadone, age, and expected withdrawal distress were regressed against the maximum total withdrawal score obtained for each subject during the measurement period. Two variables were found to be significantly related to intensity of the opiate withdrawal syndrome–neuroticism, and the level of withdrawal distress expected, accounted for 36% (R^2) of the total variance in the withdrawal score. Neuroticism accounted for 24% of this (d.f. = 8.41, $P = 0.007$), and expected distress for 12% (d.f. = 7.0, $P = 0.04$). The main drug-related measures—methadone dose and length of opiate use prior to admission—were not significantly related to intensity of withdrawal. The mean value for methadone dose was 38.4 mg, with a range of 10–60 mg; more than two-thirds of the doses were within the 30–45 mg range. This finding is directly comparable to those of other studies at this clinic (Johns & Gossop, 1985; McCafferty & Gossop, 1981).

In a further analysis, simple correlation coefficients were calculated between the maximum withdrawal score and each of the other measures. The highest correlation was between neuroticism and withdrawal distress ($r = 0.46$), and this was the only significant result ($P = 0.01$). Duration of opiate use ($r = 0.36$) and expected distress ($r = 0.35$) were both slightly above the 5% level of significance ($P = 0.054$ and 0.066 respectively). Methadone dose was not correlated with maximum withdrawal distress ($r = -0.19$).

Discussion

These results confirm Kleber's observation (1981) that psychological factors play a major role in the opiate withdrawal syndrome: in particular, they show that the personality factor of neuroticism and the addict's expectations about withdrawal are strongly related to the maximum level of withdrawal distress subsequently experienced during detoxification.

Both these measures may be seen in broad terms as anxiety-related. Eysenck's neuroticism factor has been described as reflecting the reactivity and lability of the autonomic nervous system (Gossop, 1981); Eysenck & Rachman (1965) suggest that high neuroticism scorers are predisposed to respond more strongly, more lastingly, and more quickly with their autonomic nervous system when presented with stressful stimuli. In this respect, high levels of neuro-

ticism may act to amplify the response to opiate withdrawal. The same sort of process may also underlie the link between the addict's expectations about detoxification and his subsequent response to drug withdrawal. Eiser & Gossop (1979) found that most addicts were extremely frightened of withdrawal, and believed that this was also true of other addicts. The present study shows that the more frightened of withdrawal the addict is, the more discomfort he is likely to report during the actual process of being withdrawn from drugs.

It is interesting that in the regression analysis both the dose of methadone prescribed prior to the withdrawal programme and the length of opiate use were found to be unrelated to maximum levels of withdrawal distress, although there was a positive (but non-significant) correlation between duration of opiate use and withdrawal distress when simple correlation coefficients were calculated. Kleber (1981) suggests that duration of use may be related to withdrawal severity only up to a certain point, and that after two to three months it has little effect. It is more surprising that the dose of methadone was unrelated to severity. Kleber also states that the larger the daily dose of opiates, the more severe the withdrawal syndrome; this has been universally assumed, and seems almost self-evident; However, it is surprisingly difficult to find any empirical research to substantiate the claim. Several other definitive sources make the same link between dose and withdrawal severity, but like Kleber fail to cite any reference to original research (Goodman & Gilman, 1980; Martindale, 1982; Wikler, 1980). The findings of the present study, coupled with the lack of empirical evidence, point to the need for further research to clarify this issue.

The main clinical implication of these results is that attention should be paid to the psychological state of the addict before and during the process of drug withdrawal. Research in other areas of medical psychology has shown that giving patients accurate information about what they may expect after surgical procedures reduces the pain and discomfort they subsequently experience (e.g. Melamed, 1977). Similarly, providing accurate information reduces the distress experienced by subjects undergoing other painful procedures (Johnson, 1973; Leventhal *et al*, 1979). However, the latter found that the way in which the briefing was phrased was an important variable; words such as 'pain' could cancel the discomfort-reducing effect of the information. The response to drug withdrawal is similarly influenced by the extent of the patient's knowledge of and participation in the withdrawal procedure. Stitzer *et al*, (1982) found that knowledge of the dose reduction schedule serves to reduce symptom complaints, and they suggest that much of the withdrawal symptomatology may be a result of anxiety and uncertainty. These findings, together with those of the present study, suggest that when withdrawing addicts from opiates, providing the individual with information about the sort of intensity of symptoms that might occur could reduce withdrawal distress, but that this issue deserves further investigation.

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(Accepted 7 May 1985)

British Journal of Psychiatry (1986), **149**, 238–241

Seasonal Hypomania in a Patient with Cold Urticaria

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The clinical and biochemical disturbances of a patient with seasonal hypomania and cold urticaria are described and discussed with reference to histamine metabolism in mental disorder.

Allergic disorders have often been reported in association with mental disturbance, although interpreting the relationship is more complex than has often been assumed (Rix *et al*, 1984). Shared biochemical features have been suggested in recent work on the behavioural associations of histamine and antihistamines (Hough & Green, 1984). Histamine acts through two classes of receptors, both of which are affected by antidepressants and neuroleptics (Kanof & Greengard, 1978). Antagonism of the type designated H1 causes sedation, whereas unbalanced antagonism of the H2 type, produced by cimetidine, has been linked with psychiatric manifestations, which are often affective in nature (Crowder & Pate, 1980; Hubain *et al*, 1982; Titus, 1983).

This report describes a case of intermittent cold urticaria, occurring in close relation to unipolar affective disturbances over several years. There are no reports in the literature over the past two decades of any similar case, or of any recognised psychiatric morbidity associated with cold urticaria. It is estimated that about 0.4% of the population are affected by cold urticaria at some time in their lives (Champion *et al*, 1969).

Case History

Presentation of cold urticaria

The patient, a caucasian male born in 1961 first became ill in 1972, when he collapsed after swimming. During each subsequent winter he experienced episodes of diffuse