Psychiatrists' knowledge of drug induced psychosis

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'Drug induced psychosis' is a commonly used clinical label but lacks a universally accepted definition. Psychiatrists' understanding of the term was examined using a specifically designed questionnaire. Knowledge about the effects of drugs of abuse and their relationship with psychosis was also examined. A substantial proportion of clinicians did not have a logical and coherent scheme for understanding 'drug-induced psychosis' and there was no consensus as to which reactions to drug taking should be included within the rubric. Diagnostic errors have potentially serious consequences, so lack of knowledge in this area needs attention and a proposed classification is given.

With the rapid increase in the use of illegal drugs among the general population, the differential diagnosis of psychotic states commonly includes 'drug induced psychosis'. This term is imprecise and vague. While the existence of an amphetamine psychosis (paranoid and schizophreniform symptoms arising in the context of amphetamine intoxication) has been recognised for over 40 years, the role of other substances such as cannabis in the genesis of psychotic symptoms remains controversial (Thornicroft, 1990; Mathers & Ghodse, 1992; Thomas, 1993).

Terms such as 'toxic psychosis', 'induced schizophreniform psychosis' and 'confusional paranoid psychosis' are used with similar but idiosyncratic definitions (Post, 1975; Gough & Cookson, 1984; Deveaugh-Geiss & Pandurangi, 1992). We examined the relationship between psychiatric states and substance abuse, and suggested a classification of drug induced psychosis (Table 1) (Poole & Brabbins, 1996). The major textbooks of psychiatry give scant attention to the subject, and ICD–10 (World Health Organization, 1992) classifies these states in large, ill-defined and confusing sub-categories. In the absence of a widely accepted classification of the relationship between drug intoxication and psychosis, we have attempted to examine clinicians' definitions and understanding of these states as well as their knowledge of the effects of drugs of abuse in general. This study examined whether clinicians' views were internally consistent and logical, and whether consensus beliefs could be identified.

The study

All doctors working in psychiatric services within three urban health districts were contacted by letter. They were asked to complete an anonymous questionnaire about their age, sub-speciality, grade and length of general adult psychiatric experience. They were asked to estimate what proportion of patients currently under their care used illegal drugs, and to indicate their assessment of their own knowledge of drug taking behaviour. An unstructured section asked for a description of their understanding of the nature and definition of 'drug induced psychosis'. This was followed by a structured section giving five definitions of drug-related abnormal mental states; respondents were asked to indicate which they would include within their understanding of 'drug induced psychosis'. The five abnormal mental states were: 1) acute intoxication with delirium or perceptual distortions; 2) withdrawal state with delirium; 3) psychotic disorder due to substance use; 4) acute intoxication resembling psychosis; 5) relapse of pre-existing psychotic illness. The first three were drawn from ICD–10. The fourth was included as a less ambiguous definition than the first. The fifth was included for completeness. Detailed definitions were included for clarity.

There was a further structured section, in the form of a grid, with clinical states 1 to 5, as above, on one axis and a list of drugs on the other. The drugs included were opiates, cannabis, barbiturates, benzodiazepines, ecstasy, LSD, crack/cocaine, amphetamine, butane, alcohol and phencyclidine hydrochloride (PCP). The last was included as its use is virtually unknown in the UK. Respondents were also asked to indicate whether they had clinical experience of patients using each of the substances and whether each type of reaction could occur with each substance.

Findings

Of 118 questionnaires despatched 66 were returned (55%). There was no significant difference in response rate between different grades of doctor. Although 47% of respondents indicated that 'some', 'many' or 'most' of their patients took

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drugs (53% indicated 'few' or 'no' patients), only 29% felt that their knowledge of drug taking behaviour was 'good' or 'extensive' (71% responded 'moderate', 'slight' or 'no' knowledge). There was no significant difference in these responses between different grades of doctor, by date of qualification or length of adult psychiatry experience.

In the unstructured section requiring a definition of drug induced psychosis, 27% of responses were internally logical and narrowly defined so as to exclude other disorders (e.g. pre-existing functional psychosis); 17% were internally logical but overinclusive, explicitly overlapping with other psychotic disorders or embracing non-psychotic disorders; 56% were not internally logical (e.g. tautological responses such as "a drug induced psychosis is a psychosis induced by drugs").

In the structured section, withdrawal states and relapse of an existing functional psychosis caused by drug use were regarded as being self-evidently outside any reasonable definition of a drug induced psychosis. One or both of these was included within the definition by 32%. There was no predominant pattern of responses, and virtually all combinations of different states appeared.

Within the 'clinical state by drug' grid, some responses were regarded as 'certain', at least in terms of the existing literature. Examples included "amphetamines cause psychotic symptoms in the context of intoxication", "intoxication with opiates does not resemble psychosis". Other responses were regarded as 'uncertain', which is to say either absent from the existing literature, or subject to controversy, for example "cannabis can provoke relapse in existing functional psychosis". The numbers of 'certain' responses answered correctly, incorrectly or as not known, were analysed by grade of doctor. Consultants, senior registrars and registrars answered correctly in approximately 75% of 'certain' responses, while senior house officers and non-training grades fared less well. However, there was considerable variation within different responses. Some 'certain' cells were answered correctly by most respondents, for example "acute intoxication with delirium or perceptual distortions occurs with LSD", and "acute intoxication with amphetamines can resemble psychosis". Other 'certain' cells provided a poorer rate of correct responses, for example only 39% of respondents recognised that acute intoxication with butane can resemble psychosis.

A consensus view (arbitrarily defined as more than 60% of respondents giving a particular answer) was identified in only a handful of 'uncertain' cells. These were: an opiate withdrawal state with delirium; cannabis induces relapse of a pre-existing psychotic illness; benzodiazepines do not cause relapse of a pre-existing psychotic illness; acute intoxication with delirium or perceptual distortions occurs with ecstasy; acute intoxication with ecstasy resembles psychosis; LSD causes a psychotic disorder; LSD causes relapse of an existing psychotic illness; alcohol causes psychotic disorder; alcohol causes acute intoxication with delirium or perceptual distortions. With regard to PCP, in three cells, a third of respondents felt confident enough to make a definite response.

The 'no clinical experience' cells showed marked differences between substances, all doctors having clinical experience of benzodiazepine or alcohol abuse, whereas 80% had no clinical experience of PCP abuse.

Comment

The methodology can be criticised. In common with most questionnaire studies, the response rate was relatively low and the degree of thought put into responses probably varied widely. Responses regarding PCP suggested that guess work played a part in a substantial proportion of responses. The instrument was a relatively crude way of examining clinicians' beliefs about a psychiatric syndrome though the inclusion of both structured and unstructured sections to some extent protected the data from instrument artefacts. The design of the study was not suitable for statistical analysis of individual items.

Despite these caveats, the results suggest that a substantial proportion of clinicians did not have a logical and coherent scheme for understanding 'drug induced psychosis' and other adverse psychiatric reactions to drug taking. Furthermore there was no consensus as to which reactions to drug taking should be included in the diagnosis 'drug induced psychosis'. Psychiatrists' knowledge of drug taking behaviour and the effects of drugs was poor by their own estimation. On objective testing, some substances were well understood, others less so. These findings applied equally to experienced and inexperienced clinicians.

Clinical beliefs are known to be illogical in some fundamental areas (Harper, 1994). The use of tautological definitions of 'drug induced psychosis' is worrying as it would tend to lead to a diagnosis of 'drug induced psychosis' in preference to functional psychosis when drug taking and psychosis coincide. We have pointed out elsewhere that a causal link is by no means certain in all circumstances (Poole & Brabbins, 1994). The diagnostic error of mis-attribution easily arises, and may be relatively common. Elsewhere we have described the difficulties in evaluating the scientific evidence in this area and have proposed a classification of these states (Table 1) (Poole & Brabbins, 1996).

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Table 1. Proposed classification of 'psychotic' reactions to drugs

1. Intoxication mimicking psychosis (e.g. with stimulants and cannabis)
2. Pathoplastic reactions in functional psychosis (e.g. drugs causing schizophreniform symptoms in affective disorder)
3. Chronic hallucinosis induced by substance abuse (e.g. alcoholic hallucinosis and LSD flashbacks)
4. Drug induced relapse of functional psychosis (drugs precipitating relapse of an existing illness. They may also exacerbate symptoms in an ongoing illness)
5. Withdrawal states (e.g. delirium tremens with alcohol and a similar state with benzodiazepines and barbiturates)
6. Other reactions:
   a) Intoxications with clouding of consciousness (e.g. barbiturates causing delirium)
   b) Post-intoxication depression (e.g. following stimulants)
   c) Panic attacks (e.g. with hallucinogens and stimulants)

Psychiatric training emphasises the treatment of opiate dependence. It would appear that non-dependent use of drugs is an area of ignorance among many clinicians which needs to be corrected both within training schemes and continuing professional development programmes.

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