originally based on patients with severe (psychotic) mental disorders (studies related to its reliability and validity are published in the manual), the inclusion of patients with non-psychotic disorders in our sample may have affected the reliability of axis V ratings. It was our impression that we found it easier to rate the social dysfunctions of acutely ill patients with psychotic disorders rather than those with non-psychotic disorders, as the former presented with serious or very severe dysfunctions. The findings that axis V discriminated perfectly between the axis I severe and mild groups supports such an impression. It was not, however, at all easy to do such ratings on patients with mild mental disorders, especially when a clinical judgement had to be made about rating categories of 'no dysfunction', 'minimum dysfunction' and 'mild dysfunction'. The misclassified observations indicate that we tend to minimise the severity of psychiatric disorders on axis I since most of the misclassified patients (9 of 14) were rated one grade lower on axis I. The possible reason for such findings is that by admitting patients especially with mild and moderate disorders for complete assessment, amelioration of their distress occurs, as their problems are originally associated with adverse social circumstances. The discrepancy between axis V and axis I ratings is likely to happen as the former is based mainly on the accounts of relatives and the latter on the count and severity of symptoms. As far as the severe psychiatric disorders are concerned, axis V rating is nearly a perfect predictor of axis I rating, and as the severity decreases the predictive power of axis V rating gets weaker. The lack of published material on axis V prevents useful comparison with the results of other studies. Five American studies reviewed by Goldman *et al* (1992) reported predictable diagnostic differences on axis V in diverse patient populations. As ICD-10 is meant to be a comprehensive diagnostic and classification system, we believe that axis V should be thoroughly investigated. Special attention should be paid to the test–retest reliability and concurrent or construct validity of axis V. Work is now underway to compare axis V ratings as measured by DAS-SV and the newly proposed measure of adaptive functioning in the DSM-IV, the modified version of the Global Assessment of Functioning Scale (Goldman *et al*, 1992). We now believe that axis V ratings could be usefully used to validate our grading of severity on axis I in routine clinical practice.

References

AMERICAN PSYCHIATRIC ASSOCIATION (1980) *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn) (DSM-III). Washington, DC: APA.

CICCHETTI, D. V. (1976) Assessing inter-rater reliability for rating scales: resolving basic issues. *British Journal of Psychiatry*, **129**, 452–456.

COHEN, J. (1960) A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, **20**, 37–46.

DARADKEH, K. T. & SAAD, A. (1993) The reliability of the ICD-10 psychiatric diagnoses. *Nordic Journal of Psychiatry*, **47**, 369–372.

GOLDMAN, H. H., SKODOL, E. A. & LAVE, R. T. (1992) Revising axis V for DSM-IV: a review of measures of social functioning. *American Journal of Psychiatry*, **149**, 1148–1156.

MEZZICH, J. E. (1988) On developing a psychiatric multiaxial schema. *British Journal of Psychiatry*, **152** (suppl. 1), 38–42.

WORLD HEALTH ORGANIZATION (1988) *WHO Psychiatric Disability Assessment Schedule*. Geneva: WHO.

—— (1990*a*) *International Classification of Diseases, Tenth Revision* (ICD-10). Draft of Chapter V, *Clinical Descriptions and Diagnostic Guidelines*. Geneva: WHO.

—— (1990*b*) *International Classification of Diseases, Tenth Revision*. Draft of Chapter V, *Mental and Behavioural Disorders, Diagnostic Criteria for Research*. Geneva: WHO.

—— (1992) *The ICD-10 Classification of Mental and Behavioural Disorders*. Geneva: WHO.

Tewfik K. Daradkeh, MRCPsych, Department of Psychiatry and Behavioural Sciences, UAE University, Al Ain, United Arab Emirates; **A. Saad**, FRCPsych, Al Ain Hospital, Al Ain, United Arab Emirates

Correspondence: Prof. T. K. Daradkeh, Department of Psychiatry and Behavioural Sciences, UAE University, PO Box 17666, Al Ain, United Arab Emirates

(First received July 1993, final revision January 1994, accepted February 1994)

Amok

YAN KON

Background. Amok is reviewed from a historical standpoint, tracing how it has changed from the Hindu states of India where it was a war tactic to the sudden incomprehensible violence and mass murder by a single individual associated with the syndrome today.

Method. A typical amok attack is described and the criteria for amok discussed. Amok in Malaysia, New Guinea, Laos, North America and other countries are presented. The possible motives for such violent killings and a possible psychiatric diagnosis in relation to contemporary diagnostic criteria is discussed.

Conclusion. Classification of amok remains unresolved. The reason for its frequency in and around Malaysia remains unknown.

British Journal of Psychiatry (1994) **165**, 685–689

Amok was first described by early European travellers to the Malay Archipelago in the mid-16th century. They described attacks which occurred without warning, although in retrospect, the assailant (or pengamok) was often noted to have been quiet and withdrawn for a few days before. A typical incident might be a middle-aged male Malay farmer who, in the course of his usual daily activities such as sitting with friends, would suddenly leap up, keris (local dagger) in hand, and attack anyone within reach. The attack would last for several hours until he was finally overwhelmed or killed. If alive, he would pass into deep sleep or stupor for several days, followed by total amnesia for the event (Carr, 1978).

Gimlette (1901) identified four characteristics of amok in Malaya, based on a single clinical interview: prodromal depression; sudden impulsive homicide followed by a continuing homicidal drive; absence of personal motive; and subsequent amnesia for the violent event. Burton-Bradley (1987) believed that a resolution of the crisis could have been effected during the prodromal brooding period. He believed that the amnesia was not total, and that the motivation was the restoration of self-esteem or "face".

Historical review

Amok is believed to have originated in the cultural training for warfare which the early Javanese and Malays adopted from the Hindu states of India. A common tactic among the Malay warriors was to charge forward brandishing their daggers shouting "Amok! Amok!" This was intended to reinforce their own courage as well as to terrify their opponents into believing they could expect no mercy and could save themselves only by flight. Epic poems praised legendary warriors who behaved in this way. Warriors were encouraged to emulate their epic heroes through self-sacrificial, fanatical charges, indiscriminate slaughter and refusal to surrender (Shaw, 1972).

With the introduction of Islam into the Malay Archipelago in the 14th century, amok occasionally became an act of religious fanaticism. The faithful were induced to slay indiscriminately all 'infidels' with no concern for their own lives (Shaw, 1972). According to Gullick (1958), amok was also culturally sanctioned as an instrument of social protest by subjects against their ruler if he abused his power. No ruler could afford to ignore this public demonstration of his inability to keep peace. Amok was no longer done *en masse*. The pengamok initiated his act consciously and deliberately. He avoided attacking his friends and relatives. There was an obvious link between some precipitating event and the episode. There was no history of mental illness before the attack or subsequently. However, the original idea of a pengamok as an invincible hero survived.

The syndrome described by early European travellers differs from the above in that the motive was personal instead of social. It was no longer a conscious act, but was attributed to some other factor, be it spirit possession, mental or physical illness. Murphy (1972) suggested that with increasing trade and contact with the Europeans, amok became unnecessary as a form of social control. It was more profitable to collaborate with the Europeans than to pursue traditional methods of warfare. Amok became rejected as unacceptable behaviour. Under these circumstances, the pathological syndrome appeared. The act was dissociated from consciousness and the alleged provocation was quite insufficient by traditional standards. What persisted was the underlying aim of escaping from distress into death while at the same time taking revenge on the society that had permitted this distress.

There are few data on the incidence of amok, but in the 19th century the writings on amok increased. Ellis (1893) reported that amok was very common in Malaya at the beginning of the 19th century. By the end of the century, amok became quite rare in areas where European doctors were practising, although reports from rural areas continued to occur. The number of reports dropped sharply after Britain took over the administration of Malaya, when it was ordered that all amok cases be captured alive and brought to the court. By the 1930s, amok had become rare and has today virtually disappeared from Malaya, Singapore and Java (Murphy, 1972).

Amok in Malaysia

Some authors believe that amok is a reaction specific to the Malays. Carr (1978) suggested that the expectation of such behaviour was greater with the established amok tradition, and that the local religious and social structure favoured this type of tension-reducing device. Malays are taught from childhood that one never confronts another, let alone expresses aggression. Others may interpret such

diffidence as weakness and inferiority and take advantage. Carr (1978) proposed that amok is a loophole option in a society with stringent proprietary rules and sanctions against confrontation and aggression. Under certain conditions (e.g. insult to self-esteem) there is an expectance of amok to restore the person's integrity. As the perceived insults may have accumulated from a variety of individuals, it is not remarkable that the pengamok should vent his anger against society. Yap (1969) argued that amok is a culture-bound syndrome produced by a certain system of implicit values, social structure and shared beliefs indigenous to a certain area. It is not a disease, but a behavioural sequence which could be precipitated by any one of a number of aetiological factors including physical, psychological, and social determinants.

The Malay concept of courage may contribute to amok. They have a more fatalistic concept of courage than found in most Western cultures, as a willingness to face up to a hopeless situation, and take on an adversery when it is beyond one's capacity. Muslims believe that one's fate is in the hands of Allah.

The Malay cultural sanction against confrontation made such violence incomprehensible. Such behaviour could only be explained by spirit possession which they believed led to insanity. Consistent with this was the pengamok's claim of amnesia. Psychiatrists who arrived at the end of the 19th century gave support to the idea that amok was a mental rather than a social disorder. Other suggested causes of amok include febrile delirium, tuberculosis, syphilis, epilepsy and opium intake.

Carr & Tan (1976) only found pengamoks in psychiatric institutions. The local Malay police who originally apprehended the patient would diagnose the condition and, once labelled as such, the culture channelled him to be detained for life in a psychiatric hospital. Only then would he be seen by a psychiatrist, and the commonest diagnosis was schizophrenia. The cultural background of the arresting officer played a crucial role. The majority of pengamoks did not suffer with chronic psychoses, but were still detained indefinitely because of fears of recidivism (Tan & Carr, 1977).

Schmidt *et al* (1977) studied 24 cases of amok in East Malaysia, about half of whom either had a family history or a past history of mental illness. He diagnosed a psychotic illness in the majority of the subjects, although he only interviewed 14. The only female case of amok was described.

Amok in Papua New Guinea

Burton-Bradley (1968) reported seven cases of amok which he collected over eight years. The subjects had no overt mental illness or epilepsy. All were in good physical health, although some had a recent history of brief exposure without food or shelter. All were young adult males with little education.

Amok in Laos

Amok using traditional bladed weapons was reported to have occurred in Laos before the Second World War. In 1959, amok using grenades first appeared near the capital city, most often at temple festivals or 'bouns'. They became so frequent that in 1966 a suspension of all bouns was declared. Grenades were said to be more popular among Lao soldiers because they felt that direct shooting of the enemy was against their Buddhist tenets to preserve all life (unless their own life was threatened) (Westermeyer, 1985).

In a study of 18 cases of grenade amok, Westermeyer (1973*a*) found that the perpetrator was likely to be a young male of little or no education, born in a village but moved to a large town for economic advancement and/or training. Most of the amok attacks were preceded by interpersonal discord, insults or personal loss. Most of the incidents occurred in the context of social drinking, but there was no history of alcohol abuse. Ten of the men killed themselves. Of the eight survivors, four were in prison but only one had psychosis; four escaped apprehension. He implied that these were ambitious young men with fragile egos who ran amok when their self-esteem was threatened. They lacked the traditional support provided by an extended family.

Westermeyer (1972) compared amok attacks with other forms of homicide and found that non-amok homicidal people tended to be older, worked at traditional jobs and lived in their own village. They also went to prison, whereas the pengamoks tended to commit suicide. There were no significant differences in ethnicity, education or premorbid personality.

Historical concomitants may be important. This form of violence in Laos began when the Indochinese war was expanding, and waned when the war levelled off. Zaguirre (1957) noted a similar spread of violence in the Philippines at a time of widespread civil unrest. The availability of weapons during these times probably played a role.

Amok in North America

Arboleda-Florez (1979) described in detail the "Calgary Mall sniper", a 25-year-old student who in 1977, armed with several guns, shot down at least eight people in a shopping mall. The perpetrator was a passive young man who felt left out and rejected by society. His memory of the shooting was hazy.

Psychiatric assessment revealed that he had a personality disorder (schizoid with paranoid features) but no evidence of current mental illness.

Arboleda-Florez also summarised two other North American cases of mass murder, the Madman in the Tower (*Time*, 1966) and the Memorial Day Man (Gallemore & Panton, 1976). Their profiles were very similar to the cases presented by Westermeyer (1972) and Burton-Bradley (1968). Arboleda-Florez (1979) proposed that the ingredients necessary for this profile could come from any culture at any time, depending on three factors: a society in transition, a feeling of alienation, and a need for assertiveness. He contends that amok is not a culture-bound syndrome.

Amok in Britain

In August, 1987, a 27-year-old man dressed in a combat jacket stalked Hungerford killing 15 people, including his mother, and finally shot himself. There was no past psychiatric history. He was said to be a loner with a passion for guns. His much-loved father had died a year ago and his mother indulged him, her only child. There was no known precipitant to this massacre.

Discussion

What is a culture-bound syndrome? No one has established clear criteria for determining whether a disorder is a unique cultural syndrome or a universal phenomenon merely influenced by culture (Gaw & Bernstein, 1992).

Culture does influence presentation and prognosis of psychiatric illness. It influences the distinction between normality and abnormality. Behaviour that is not too socially disruptive may be considered normal in some societies and not in others, but extreme behaviours are generally agreed by all societies to be abnormal. Extremely violent behaviour such as amok, which is beyond comprehension in all present-day societies, is then regarded as a sign of mental illness.

Is amok a culture-bound syndrome? To answer this question, one has to consider whether amok is a primary psychiatric disorder with recognisable features of mental illness, but possessing cultural overlay, or whether the cultural element is primary. Pengamoks who survive and are captured are usually deemed insane and incarcerated in secure mental hospitals for the rest of their lives. Carr & Tan (1976) found that the majority of cases did not have a history of mental illness nor suffer with a chronic psychotic illness after the event. Neither Burton-Bradley (1968) nor Westermeyer (1973*b*) found mental illness to be a primary cause for amok in their subjects. However, Schmidt *et al* (1977) diagnosed mental illness in nearly all their cases. The most common diagnosis given was schizophrenia, but there have been no attempts to assess them using modern diagnostic criteria.

Kline (1963), in his survey of psychiatry in Indonesia, found the incidence of amok in the immigrant Chinese was as high as the local Indonesians (culturally similar to the Malays). The Chinese there have assimilated into the local culture to a greater extent than those in surrounding countries. Cases of amok have occasionally been reported in the Chinese in Singapore (Burton-Bradley, 1968). There have been no reports of amok occurring in the Chinese elsewhere except where they have lived in close proximity with the Malays, although they are scattered all over the world. It seems that a society with a tradition of amok facilitates the further expression of such behaviour.

Cases fulfilling Gimlette's (1901) criteria for amok have occurred all over the world. Amok attacks have been reported from Trinidad, India and Liberia (Masters, 1920), from Africa (Carothers, 1948) and from Siberia and Polynesia (Adams, 1950–1952). The cases reported from North America and England appear very similar to those from south-east Asia, and if the psychopathology and psychodynamics are indeed the same, then amok is not a culture-bound syndrome. However, incidence of amok in the rest of the world is rare compared with Malaysia and its neighbouring countries. This argues for a strong cultural element to amok. Does culture merely amplify universal patterns of violent behaviour?

Not surprisingly, classification of amok remains unresolved. Witthower (1969), who argued it was a culture-bound syndrome, thought it was phenomenologically a dissociation state. Others have attributed it to various physical illnesses, probably via an acute confusional state. Yap (1951) felt that the unique cultural parameters of the condition distinguished it from psychopathic outbursts. The essential feature in antisocial personality disorder is a pattern of irresponsible and antisocial behaviour beginning in childhood and continuing into adulthood. The little that is known about the personality of the pengamok does not reveal them as uncaring and violent, but as ambitious with fragile egos (Westermeyer, 1973*b*).

Gaw & Bernstein (1992) argued that amok best fits the description of 'isolated explosive disorder', a category in DSM–III that was deleted from DSM–III–R (American Psychiatric Association, 1980, 1987). Isolated explosive disorder was defined in DSM–III as follows:

"The essential feature is a single, discrete episode of failure to resist an impulse that led to a single, violent, externally directed act, which had a disastrous impact on others and for which the information does not justify the diagnosis of Schizophrenia, Antisocial Personality Disorder or Conduct Disorder. An example would be an individual who for no apparent reason suddenly began shooting at strangers in a fit of rage and then shot himself".

Contemporary psychiatric diagnostic criteria classify the person and not the act, and concentrate on understanding the person who performs the act. The emphasis of work so far has been to understand the act (amok) in the context of social and cultural factors. In attempting to classify the pengamok using contemporary diagnostic criteria, amok as a syndrome has to take second place.

There has been only one reported case of amok committed by a female. Women tend to internalise their aggression in Malayan society, which does not condone aggression in women but values passivity. It would be interesting to know if the incidence of amok in women has increased now that Western culture and ideas of equality have reached Malaysia.

Definition is the initial problem in attempting to understand amok. If Gimlette's criteria are used, what then can be considered motiveless attacks? Secondly, cases in the developed world are sporadic and rare, giving Western psychiastrists little opportunity to study this syndrome. Research needs to be done using defined criteria for amok as well as any psychiatric disorder found in the pengamok.

References

ADAMS, A. R. D. (1950–1952) Amok. In *British Encyclopedia of Medical Practice, 1950–1952*, vol. 8, 6–10. London: Butterworth.

AMERICAN PSYCHIATRIC ASSOCIATION (1980) *Diagnostic and Statistical Manual of Psychiatric Disorders* (3rd edn) (DSM–III). Washington, DC: APA.

—— (1987) *Diagnostic and Statistical Manual of Psychiatric Disorders* (3rd edn, revised) (DSM–III–R). Washington, DC: APA.

ARBOLEDA-FLOREZ, J. (1979) Amok. In *The Culture-Bound Syndromes: Folk Illness of Psychiatric and Anthropological Interest* (eds R. C. Simons & C. Hughes), pp. 251–262. Dordrecht: Reidel.

BURTON-BRADLEY, B. G. (1968) The amok syndrome in Papua and New Guinea. *Medical Journal of Australia*, **1**, 252–256.

—— (1987) The Hungerford Massacre and its aftermath. *British Journal of Psychiatry*, **151**, 866.

CAROTHERS, J. C. (1948) A study of mental derangement in Africans, and an attempt to explain its peculiarities, more especially in relation to African attitudes and life. *Psychiatry*, **11**, 47–86.

CARR, J. E. (1978) Ethnobehaviorism and the culture-bound syndromes: the case of amok. *Culture, Medicine and Psychiatry*, **2**, 269–293.

—— & TAN, E. K. (1976) In search of true amok: amok as viewed within the Malay culture. *American Journal of Psychiatry*, **133**, 1295–1299.

ELLIS, W. G. (1893) The amoks of the Malays. *Journal of Mental Science*, **39**, 325–338.

GALLEMORE, J. L. & PANTON, J. A. (1976) "Motiveless" public assassins. *The Bulletin of American Academy of Psychiatry and the Law IV*, **1**, 51–57.

GAW, A. C. & BERNSTEIN, R. L. (1992) Classification of amok in DSM–IV. *Hospital and Community Psychiatry*, **43**, 789–793.

GIMLETTE, J. D. (1901) Notes on a case of amok. *Journal of Tropical Medicine and Hygiene*, **4**, 195–199.

GULLICK, J. M. (1958) Indigenous political systems of western Malaya. In *London School of Economics, Monographs on Social Anthropology*, No. 17. London: Humanities Press.

KLINE, N. S. (1963) Psychiatry in Indonesia. *American Journal of Psychiatry*, **119**, 809–815.

MASTERS, W. E. (1920) *Essentials of Tropical Medicine*. London: John Bale & Danielson.

MURPHY, H. B. M. (1972) History and the evolution of syndromes: the striking case of latah and amok. In *Psychopathology: Contributions from the Social, Behavioral & Biological Sciences* (eds M. Hammer, K. Salzinger & S. Sutton), pp. 33–55. New York: Wiley.

SCHMIDT, K., HILL, L. & GUTHRIE, G. (1977) Running amok. *International Journal of Social Psychiatry*, **23**, 264–274.

SHAW, W. (1972) Amuk. *Federation Museums Journal (Malaysia)*, **17**, 1–30.

TAN, E. K. & CARR, J. E. (1977) Psychiatric sequelae of amok. *Culture, Medicine & Psychiatry*, **1**, 59–67.

TIME (1966) The Madman in the Tower. August 12.

WESTERMEYER, J. (1972) A comparison of amok and other homicides in Laos. *American Journal of Psychiatry*, **129**, 703–709.

—— (1973*a*) Grenade amok in Laos: a psychosocial perspective. *International Journal of Psychosocial Psychiatry*, **19**, 1–5.

—— (1973*b*) On the epidemicity of amok violence. *Archives of General Psychiatry*, **28**, 873–876.

—— (1985) Sudden mass assault with grenade: an epidemic amok from Laos. In *Culture-Bound Syndromes: Folk Illness of Psychiatric and Anthropological Interest* (eds R. C. Simons & C. Hughes), pp. 225–235. Dordrecht: Reidel.

WITTHOWER, E. D. (1969) Perspectives of transcultural psychiatry. *International Journal of Psychiatry*, **8**, 811–824.

YAP, P. M. (1951) Mental disease peculiar to certain cultures: a survey of comparative psychiatry. *Journal of Mental Science*, **97**, 313–327.

—— (1969) The culture-bound reactive syndromes. In *Mental Health Research in Asia and the Pacific* (eds W. Caudill & T-Y Lin), pp. 35–55. Honolulu: East-West Centre.

ZAGUIRRE, J. C. (1957) Amuck. *Journal of Philippine Federation of Private Medical Practitioners*, **6**, 1138–1149.

Yan Kon, Division of Psychiatry, United Medical and Dental Schools, Guy's Hospital, London SE1 9RT

(First received August 1993, final revision December 1993, accepted January 1994)