

within two days, but his parkinsonian symptoms worsened. Levodopa (Sinemet-Plus, one tablet three times daily) was introduced. After one month he reported occasional episodes of impotence. The dose of bromocriptine was reduced further to 5 mg daily, and he reported dramatic improvement in sexual function. Unwilling to continue treatment with bromocriptine, he remained free of further sexual problems while taking levodopa alone.

Case 3—A 43 year old man who was receiving slow incremental doses of bromocriptine reported complete impotence on reaching a total daily dose of 60 mg daily 13 months after starting treatment. On reduction of the dose to 40 mg daily morning erections and sexual function returned to normal, but parkinsonian symptoms were worse. At 50 mg daily impotence returned and again resolved when the dose was reduced. Partial substitution with levodopa (Sinemet-Plus, one tablet three times daily; bromocriptine 15 mg daily) resulted in good control of parkinsonian symptoms and normal erectile function over a year.

Case 4—A 55 year old man had been taking levodopa (Madopar 750 mg daily, and selegiline 10 mg daily for one year before bromocriptine 15 mg daily was introduced. Ten months later he reported impotence (transient erections and inability to sustain intercourse) since starting treatment with bromocriptine. Withdrawal of bromocriptine resulted in a complete return to normal sexual function within two weeks. Erectile function was unaffected by subsequent increases in the dose of levodopa to control parkinsonian symptoms (Madopar 1 g daily).

Comment

Contrary to the expected effects of dopaminergic drugs, four patients complained of impotence correlating with the dose of bromocriptine. This seems to be specific to bromocriptine as partial substitution with levodopa did not induce further impotence. Neither the fairly selective effect of bromocriptine on the D-2 dopaminergic receptor⁴ nor current understanding of dopamine function⁵ offers clues to this phenomenon.

As the information was spontaneously volunteered impotence, hitherto unrecognised as a side effect of bromocriptine treatment, should be monitored specifically in patients with Parkinson's disease. Formal prospective studies are required to ascertain the true incidence of bromocriptine induced impotence in patients with Parkinson's disease.

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Parasuicide, Scotland, and the World Cup

The pinnacle of international football competition is the World Cup, the finals of which are held quadriennially for about a month in the summer. With separate representation for the home countries and a passion for the game in Scotland, the event generates considerable interest and excitement north of the border, but are individual lives and health affected? We report the effect on parasuicide.

Methods and results

Scotland has qualified for the final stages of the last four World Cup competitions—1974 (West Germany), 1978 (Argentina), 1982 (Spain), and 1986 (Mexico); it has never progressed beyond the opening round, so its participation from first match to elimination has averaged 10 days (range 9-11 days) and the tournament has continued for a further 16 days (range 14-19 days).

Information on parasuicide in the Edinburgh area has been methodically collected since 1968 and is a tried and trusted source of data.¹ All cases of deliberate self poisoning presenting to hospital are admitted to the Lothian

Regional Poisoning Treatment Centre. In 1985, the most recent year for which figures are available, 1422 psychiatric assessments were made, providing data on 90% of admissions. Numbers have been declining since 1976 (1938 assessments) but the proportion of cases not assessed has remained around 10% throughout. Parasuicide managed by family doctors without hospital contact accounts for 30% of events in Edinburgh.²

The number of parasuicides, by sex of the subjects, was obtained for (a) the four World Cup tournaments, beginning on the day of Scotland's opening match (range 24-28 days); (b) the preceding four week period; (c) three successive four week periods after the final match; and (d) between corresponding dates in the two years before and after each tournament (control years). Statistical significances were examined by Wilcoxon's signed ranks test.

Compared with the previous four weeks the average daily number of parasuicides fell in both sexes during all tournaments. In males the reductions in successive competitions were -9%, -31%, -23%, and -46%, whereas in control years there was a median change of -3% (range +36% to -40%), a significant difference ($z=2.23$; $p=0.013$). In females the falls were -14%, -4%, -21%, and -29% compared with a median change of +0.5% (range +30% to -15%) in control years, also significantly different ($z=2.44$; $p=0.007$).

This finding may represent the frequency of parasuicide having been either raised before or lowered during the competitions or it may be due to a combination of these possibilities. The table confirms the pronounced fall associated with the onset of the World Cup ($z=2.68$; $p=0.004$), with no other consecutive comparison reaching statistical significance. The period before the World Cup also differed significantly from that immediately after its completion ($z=2.57$; $p=0.005$) but not from subsequent months. The World Cup period was similar to the ensuing four weeks but thereafter differed with increasing significance (v 4-8 weeks $z=1.73$, $p=0.04$; v 8-12 weeks $z=2.05$, $p=0.02$). These results and the median scores show that the observed reductions were principally explained by low frequencies of parasuicide during World Cup competitions.

Percentage change in frequency of parasuicide by sex in each World Cup year compared with mean of its control years before, during, and after each tournament

World Cup year	Time in relation to World Cup				
	4-0 Weeks before	During World Cup	0-4 Weeks after	4-8 Weeks after	8-12 Weeks after
<i>Males</i>					
1974	+22	+2	-14	-18	-11
1978	+3	-22	-40	-5	+4
1982	+7	-8	-20	+34	+11
1986	+7	-44	+5	+7	-14
<i>Females</i>					
1974	+23	+4	-8	-21	-3
1978	-19	-26	+2	-10	+7
1982	+2	-17	-12	+10	+18
1986	+6	-22	-32	-8	-21
Median change	+6.5	-19.5	-13	-6.5	+0.5

Comment

Fewer parasuicides might be anticipated among males during the World Cup; interest in the sport, distraction from personal problems, and possibly the generation of a sense of patriotism as during war (the "tartan army") are plausible explanations. Reports in the media, however, highlighting the disruption to family life and the detrimental effect on personal relationships that "football widows" experienced during the 1986 competition led us to expect an increase in parasuicides among women. A convincing explanation for the opposite finding is not readily apparent, but the answer may still lie in changes within personal relationships—for example, less contact between couples resulting in fewer disputes. That the reduced frequency of parasuicide is sustained for a month after the tournament is over and fervour has abated in the wake of disappointing performances supports the proposition of an indirect effect operating in both sexes rather than a simple, immediate reaction to football matches.

So despite football failure Scotland's participation in the World Cup finals exercises a stabilising influence on this aspect of people's behaviour.

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