A SURVEY OF SPORTS INJURIES IN BIRMINGHAM

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ABSTRACT

7% of the injuries presenting to the Birmingham Accident Hospital during 1975 occurred during sport. Of those injuries which could be classified 98.3% were due to extrinsic causes. These figures would not seem to justify a sports injury clinic. However we believe that this presents the service available rather than the service required.

INTRODUCTION

The purpose of this study was to determine the incidence and type of sports injuries treated at the Birmingham Accident Hospital in 1975. Before the formation of the Birmingham Accident Hospital Sports Injury Clinic in 1976 there was no sports injury clinic at a hospital in Birmingham (Sports Council). The only previous survey of sports injuries in the Birmingham area was by Morris (1963) who sampled a proportion of injuries presenting to the Birmingham Accident Hospital.

Other studies of sports injuries have produced figures from three different populations. Several studies (Newman, Sperryn, Williams 1973, Sperryn and Williams) quote figures from specialist sports injuries clinics. Two studies (la Cava, Hornof and Napravnik) quote athletes insurance statistics. Two other studies (Weightman and Browne, 1974, 1975) used direct information from sports clubs.

METHOD

A retrospective study was made of all injuries occurring during sport which were seen at the Birmingham Accident Hospital in 1975. Injuries were classified according to aetiology (Williams 1971), type of sport, age and sex. Some difficulty was experienced in classifying according to aetiology. Intrinsic injuries were classified as self-inflicted injuries particular to that sport.

RESULTS

40,169 new patients were seen at the Birmingham Accident Hospital in 1975. 2806 (7%) of these were sports injuries. 678 (24%) could not be classified because of incomplete information e.g. mechanism of injury not stated. The results are shown in Tables I-VII.

DISCUSSION

a) Type of Injury (Tables I & II)

As might be expected the character of the injury varied according to the sport. In contact sports (football, rugby, martial arts) 44% of injuries were due to human contact. Injuries due to equipment in these sports was uncommon (5.9%). These figures are similar to those of la Cava.

TABLE I

Classification by aetiology

AETIOLOGY	NUMBER	%
Extrinsic Human	683	31.1
Extrinsic Implemental	521	24.4
Extrinsic Vehicular	67	3.1
Extrinsic Environmental	822	38.7
Intrinsic Incidental	20	1.1
Intrinsic Overuse	3	
Secondary (all)	12	0.6
	2,128	100

In ball sports (cricket, hockey, basketball, netball) 77% of injuries were implemental and only 3.9% were due to human contact. Vehicular injuries were uncommon. They accounted for 3.1% of injuries in this survey compared with Williams' (1973) figures of 4.5%.

In some other surveys (la Cava, Hornof and Napravnik) intrinsic injuries constituted a small percentage of the total. In this survey 1.1% of all injuries were intrinsic. However in athletics and racquet sports the incidence was higher being 16.3% and 7.7% respectively.

In sports clinic surveys the incidence of injuries occurring in athletics and racquet sports is high (Newman 27%, Williams (1973) 27%). This may have produced the high incidence of intrinsic injuries in these surveys (Newman 28%, Williams (1973) 56.6%). This demonstrates the importance of classifying injuries into type of sport as well as type of injury (Tables III & IV).

b) Age and Sex (Fig. 1)

In this survey the highest incidence of injuries occurred in the under 20 age group. The second highest occurred in the 20-29 age group. These figures are similar to la Cava. Other surveys (Williams 1973, Newman)

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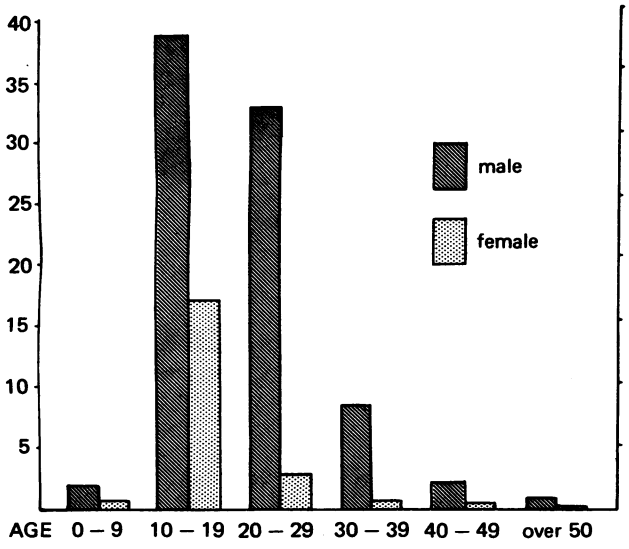

Fig. 1. Classification by age and sex

have found the highest incidence of injuries in the 20-29 age group.

80% of injuries occurred in sportsmen. Only skating had a majority of injuries occurring in sportswomen.

c) Minor Injuries (Table V)

When the trivial injuries are excluded 63% of the extrinsic injuries occur in contact sports, 10.2% in ball sports and 12.2% in winter sports.

Surveys in special clinics tend to omit minor injuries treated in a casualty department. Other surveys also omit minor injuries (la Cava). In this survey 446 out of 2097 extrinsic injuries were relatively serious. There were 1651 (78%) minor injuries which could be adequately treated by any doctor or casualty department. Nearly all of the 446 more serious extrinsic injuries could be treated by an orthopaedic or accident surgeon. Only about 2% of the sports injuries required specialist knowledge of sports medicine. These figures differ considerably from those of Sperryn and Williams who found in a survey of sports injuries clinics that 63.6% could have been treated adequately by an accident, orthopaedic or rheumatology clinic and 36.4% required a sports injury specialist.

d) Presentation (Table VI)

More than half of the sports injuries presented within 24 hours and less than 5% presented more than one week after the injury occurred. This differs from Newman's sports injury clinic figures in which 87% presented more than one week after the injury.

During the last 12 years the number of sports injuries presenting at the Birmingham Accident Hospital has

TABLE II

Classification by Aetiology and Sport

Racquet sports included squash, badminton and tennis
Water sports included swimming, diving, canoeing, sailing, water ski-ing
Martial arts included judo, wrestling, karate, kung fu, aikido and boxing

SPORT	EXTRINSIC				INTRINSIC	SECONDARY	TOTAL
	HUMAN	IMPLEMENTAL	VEHICULAR	ENVIRONMENTAL			
Football	381	71		335	2	7	796
Rugby	175	2		47			224
Martial Arts	85			17		2	104
Cricket		153		15	2	1	171
Hockey	4	39		10		1	54
Basketball	4	17		10	3		34
Netball	3	9		11		1	24
Skating	16	138		233			387
Ski-ing			22				22
Athletics	9	9		18	7		43
Gym	1	5	2	42	1		51
Racquet Sports		46		50	8		104
Water Sports	3	9		26			38
Riding			34				34
Miscellaneous	2	23	9	8			42
	683	521	67	822	23	12	2,128

TABLE III

Classification by sport

SPORT	NUMBER	%
Football	796	37.1
Rugby	224	11.1
Martial arts	104	4.9
Cricket	171	8
Hockey	54	2.5
Basketball	34	1.6
Netball	24	1.1
Skating	387	18
Ski-ing	22	1
Athletics	43	2
Gym	51	2.4
Racquet Sports	104	3.9
Water Sports	38	1.8
Riding	34	1.6
Miscellaneous	42	2
	2,128	100

TABLE V

Classification of extrinsic injuries (excluding cuts, bruises, minor injuries)

SPORT	NUMBER	%
Football	185	41.5
Rugby	69	15.5
Martial Arts	27	6.0
Cricket	31	6.9
Hockey	4	1.0
Basketball	6	1.3
Netball	4	1.0
Skating	32	7.0
Ski-ing	20	5.2
Athletics	12	2.7
Gymnastics	16	3.3
Racquet Sports	15	3.2
Water Sports	7	1.4
Riding	12	2.7
Miscellaneous	6	1.3
	446	100

increased slightly. During this time the number of all injuries has decreased (Tubbs). The yearly incidence of injury in sport has increased from about 4% (Morris), to 7.0% of total casualty attendances.

CONCLUSIONS

The incidence of injuries occurring in sport at the Birmingham Accident Hospital is 7.0% of all casualty attendances. 1.1% of all injuries occurring during sport were intrinsic injuries.

Because of the high number of intrinsic injuries which occur in athletics and racquet sports, a survey which includes a large proportion of sportsmen from these sports will have a high incidence of intrinsic injuries. Therefore we believe it is necessary to classify injuries occurring in sport according to sport and aetiology, because the population surveyed will have a direct effect on the results.

Sperryn and Williams concluded that 21% of injured sportsmen were not receiving satisfactory treatment at local hospitals. Before the Birmingham Accident Hospital sports clinic was set up less than 2% of sportsmen and sportswomen attending Birmingham Accident Hospital required a specialist in sports medicine. Since the setting up of this clinic in 1976 there has been an increase in the number of true sports injuries presenting to the hospital. The fact that previously only a small number of sportsmen and women came to the hospital merely indicates that the specialist service was not available i.e. the demand only becomes apparent once the service is instigated. We therefore believe that there is a need for a specialist sports injury clinic in this area.

TABLE VI

Interval between injury and presentation at hospital

	NUMBER	%
Within 24 hours	1,221	57.7
One day to one week	815	38.4
After one week	92	4.1
	2,128	100

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TABLE IV

Correlation of type of sport with type of injury

Survey	% Of Injuries Contact Sport	Ball Sport	Athletics	Racquet Sport	Intrinsic Injury
Crompton and Tubbs	53	13.2	2.0	4.9	1.1
Newman	48.4	2.0	24.5	8.0	28
Williams	35.0		11.0	16.0	56.6

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