SUMMARY AND CONCLUSIONS

The aim of this work was to study the ecology of volleyball injuries among national Egyptian players of both sex and advice the preventive measures.

This study was carried out on 420 volleyball players. The were 300 males (71.4%) and 120 females (28.6%). Their ages ranged from 16 to 30 years. They were the Egyptian volleyball national teams that competed during the 1993-1994 season.

All players were carefully interviewed and those reporting injuries were subjected to the following :

1- A detailed history taking.

2- A thorough clinical examination.

3- Radiological confirmation by both antero-posterior and lateral views for the injured part.

The results of this study were as follow :

- A total of 97 injuries were reported; 84 injuries were in the male tournament (86.6%) and 13 injuries were in the female tournament (13.4%).
- The ankle, knee, hand and wrist were the most frequently affected regions in the whole body; each one of these regions accounted respectively for 24.7%, 19.6% and 16.5%
* There was no significant difference ($p > 0.05$) between male and female volleyball players as regards to the anatomical site of injury.

*** As regards the type of injuries :**

- Thirty-six patients presented with strains (37.1%); thirty patients in the male tournament. (30.9%) and 6 patients in the female tournament (6.2%).
- Twenty-eight patients presented with sprains (28.9%); 23 patients in the male tournaments (23.7%) and 5 patients in the female tournament (5.2%).
- Twenty-four patients presented with inflammation and overuse injuries (24.7%); 22 patients in the male tournaments (22.7%) and 2 patients in the female tournament (2%)
- Four males presented with contusions (4.1%).
- Three males presented with dislocations (3.1%).
- Two males presented with fractures (2.1%).

* There was no significant difference ($p > 0.05$) between male and female volleyball players as regards to the type of injury.

*** A breakdown of the injuries showed that :**

- Soft tissue injuries accounted for 94.8%.
- Bone injuries accounted for 2.1%.
- Joint injuries accounted for 3.1%.

*** As regards the position of players :**

- Position (1) accounted for 7.1% of injuries (4.7% in males and 2.4% in females).
- Position (2) accounted for 14.2% of injuries (13% in males and 1.2% in females).
- Position (3) accounted for 44.1% of injuries (37% in males and 7.1% in females).

- Position (4) accounted for 23.8% of injuries (20.2% in males and 3.6% in females).
- position (5) accounted for 3.6% of injuries (100% in males).
- Position (6) accounted for 7.2% of injuries (6% in males and 1.2% in females).

* There was no significant difference ($P > 0.05$) between male and female volleyball players according to injuries related to position.

*** As regards to the maneuvers :**

- Blocking accounted for 54.5% of injuries (46.6% in males and 7.9% in females).
- Hitting accounted for 25% of injuries (21.6% in males and 3.4% in females).
- Defense accounted for 14.8% of injuries (12.5% in males and 2.3% in females).
- Serve accounted for 5.7% of injuries (4.6% in males and 1.1% in females)

* There was no significant difference ($p > 0.05$) between male and female volleyball players according to injuries related to maneuvers.

*** As regards to the injury rate :**

- The injury rate for males was 0.28 / hour compared to 0.36 / hour for females

Conclusions :

This study suggests that a wide variety of injuries may be encountered at competitive volleyball tournaments.

The most common injuries in our study were ankle sprains. Since the rules allow for the hitter or blocker's foot to touch the center line as long as it does not completely cross it, the common mechanism of injury is landing on another player's foot after a block or hit. Aside from other measures such as prophylactic ankle taping, a change of one of the international volleyball rules would represent a suitable method of preventing such injuries.

We advise a more accurate preparation of players, as regards physical fitness and muscle integrity especially muscles of the lower limbs, which are commonly neglected during the preparation of those players.

Those responsible for tournament medical coverage should have access to a complete training kit, including suture sets, tape, and splints. Equally important is access to adequate quantities of ice.

At last, we advise that the injury must be recognized early and appropriately managed and the player should not return to sport until the involved extremity has regained full strength, full motion, and return of muscle bulk or loss of atrophy.