



Analysis of sports team preparation and effect on injuries patterns during East Africa university games

Issah K. Wabuyabo and Elizabeth W. Mse

Masinde Muliro University of Science and Technology, Department of Sports Science , P.O Box 190 Kakamega-Kenya

Corresponding author email: iswabuyabo@yahoo.com

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ABSTRACT

Objectives: Team preparation plays a big role in prevention of injuries in any sport that places extreme demands to a player in terms of strength, power, speed and endurance among other components of fitness. Surveillance of injuries (preventive, treatment and rehabilitation) can be formulated, this study investigated injuries that led to temporary stoppage of the game and or led to substitution of the player. The study also sought to relate the injury occurrence to the process of team preparation for the games.

Methodology and results: A total of 142 injuries were registered, majority of them being soft tissue (33.8%) injuries and sprains (31.0 %). It was also observed that a big fraction of these injuries were caused by opponent (41.5%) and self (41.5%). Athletics (25%), karate (22%) and rugby (11%) respectively registered the highest number of injuries. The injuries observed in this study are characteristic of sports injuries and have been observed by Wekesa (1993) during 7th African female volley ball club championships in Nairobi 1992; Wekesa *et al* (1993) during 5th African hockey cup of nations championships and Wekesa *et al* (1994) during rugby world cup prequalifying tournament in Nairobi 1993; Onywera (2004) during 2004 super league soccer championships in Kenya.

Key words Sports Injuries, Club championships, University games

INTRODUCTION

Thirty seven teams from Kenya, Uganda, Tanzania mainland and Zanzibar attended the 7th edition of East Africa University Games hosted at Kenyatta University in Nairobi Kenya December 2010. The event lasted for five days featuring teams in 16 disciplines. Like in any other sporting events the risk of injury is inevitable in activities involving use of strength, power and endurance (Bond, Miller & Chrisfied, 1988). As noted by Renstrom (1994) some injuries were sport specific hence prevention of injuries in particular sport require sport specific interventions. Factors that predispose players to injuries include but not limited to skill mastery, level of fitness, level and intensity of the competition, condition of the facility in use, lack of protective equipment, inadequate warm up, overtraining,

anxiety and poor enforcement of the rules (Wekesa *et al.*1994; Ekstrand, 1994; Reilly 1994b; Wekesa *et al.*1993; Reilly and Borrie, 1992; Reilly& Stirling, 1990; Bond *et al* 1988; Fox, 1981; Reilly, 1981). Injuries hamper performance in both training and performance during competitions (Reilly, 1981).surveillance of injuries during training and competitions is essential in formulating effective preventive, treatment and rehabilitative measures (Ekstrand, 1994; Wekesa *et al.*1994 ; Renstrom, 1994; Wekesa *et al.*1993; Reilly& Hardiker, 1990;). This study investigated occurrence of injuries during East Africa University Games hosted at Kenyatta University in Nairobi Kenya December 2010. The objective was to establish the type and cause of injuries, anatomical

distribution and relate it with the process of team preparation within context of training requirements

MATERIALS AND METHODS

The games attracted thirty seven universities from entire east African university federation participating in 16 disciplines (170 males and 209 females). During this study only injuries that led to temporary stoppage of the game and or led to substitution of the player were registered. There were four levels (preliminaries, quarterfinals semifinals and finals) during the games. Data was collected from 142 injured athletes using

available.

observation sheet Additional data was collected coaches from various institutions who had presented teams during the games. They gave information on team preparation, availability of training requirement and benefits of participating in the games. Data was analyzed descriptively using Special Package for Social Science.

RESULTS

Majority (90.1%) of the participants from thirty seven universities from entire East African universities participating in the games were aged between 20 - 25 years, 4.1% were aged below 20 years while 4.1 %

were aged 26 -31years. A total of 142 injuries were registered. The injuries were distributed in respective sports disciplines as shown in figure 1 below.

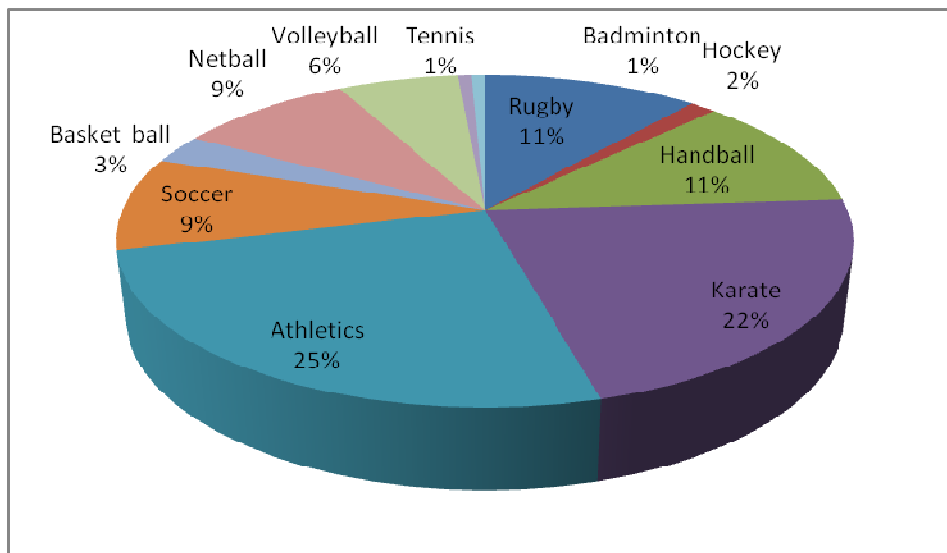


Figure1: Distribution of injuries in various sports disciplines

The Injures were categorized as acute (45.8%) and chronic (54.2%) before being classified by type as soft

tissue (33.8%), sprains (31%) strains (18.3%) and others (16.9%) as shown in figure 2 below.

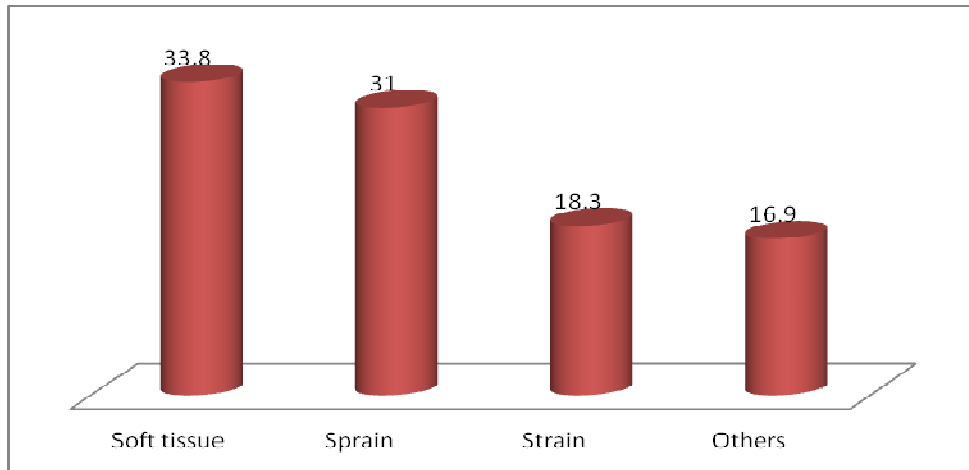


Figure 2: Showing injury categories

Figure 3 shows the summary of the anatomical distribution of the injuries. The ankle and the lower leg had the highest number of injuries (19.7% respectively)

while chest and pelvis had the least number of injuries (1.3% respectively)

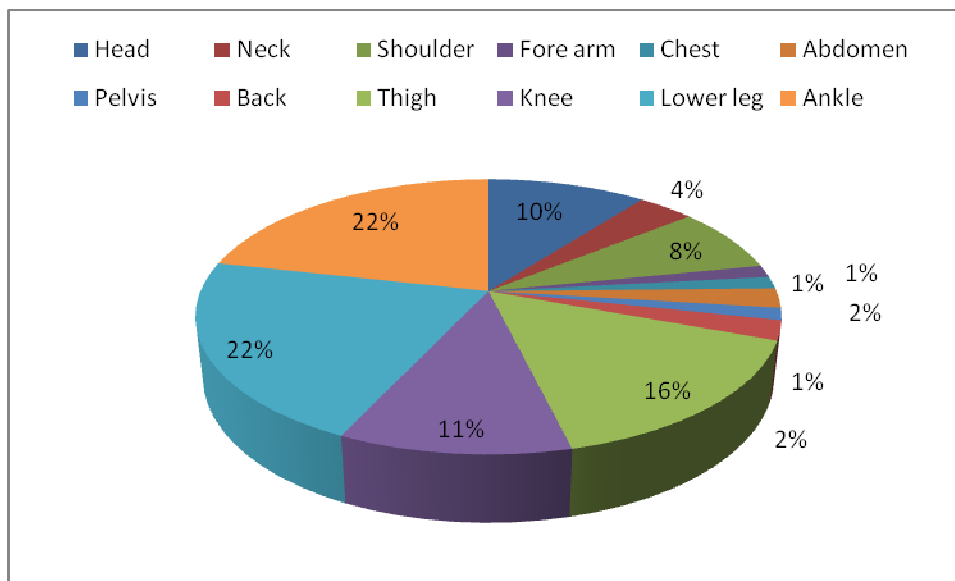


Figure 3: Summary of anatomical distribution of the injuries.

Opponent and self, each contributed to 41.5 % of the total number of injuries, facility and sportswear 4.2%

while other causes accounted for 8.6% as shown in the bar chart below.

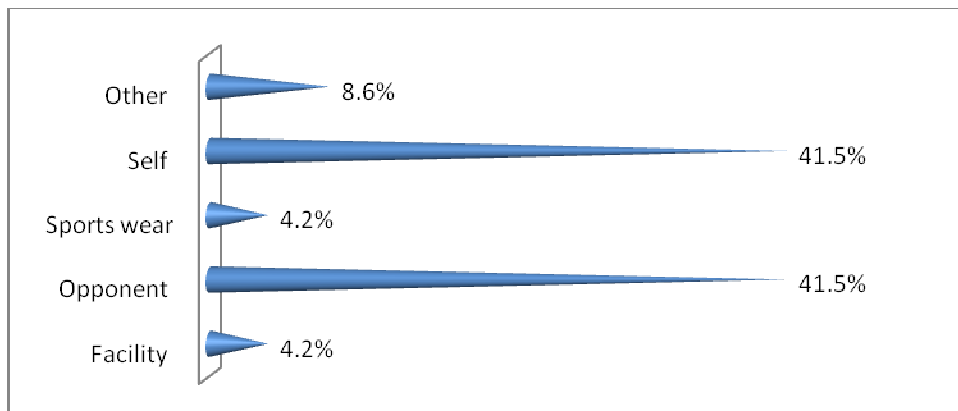


Figure 4: Injuries distribution by Causes

Team preparation for various institutions showed discrepancies in following principles of training. At least all 100% of the teams engaged in skill training , 50% of the teams engaged in fitness training sessions independent of skill training, 47.2 % of the teams agreed they were motivated in various ways, 23.9% of the tams engaged in life skill training as part of training for the games , 21.8% of the teams had either special

diet and or nutritional guidance during training, 9.9% of the team at least had pre-exercise screening while in preparation for the games and only 0.7% had a doping test done because the players belonged to a team whose membership required the test done . This is shown in figure 5 below.

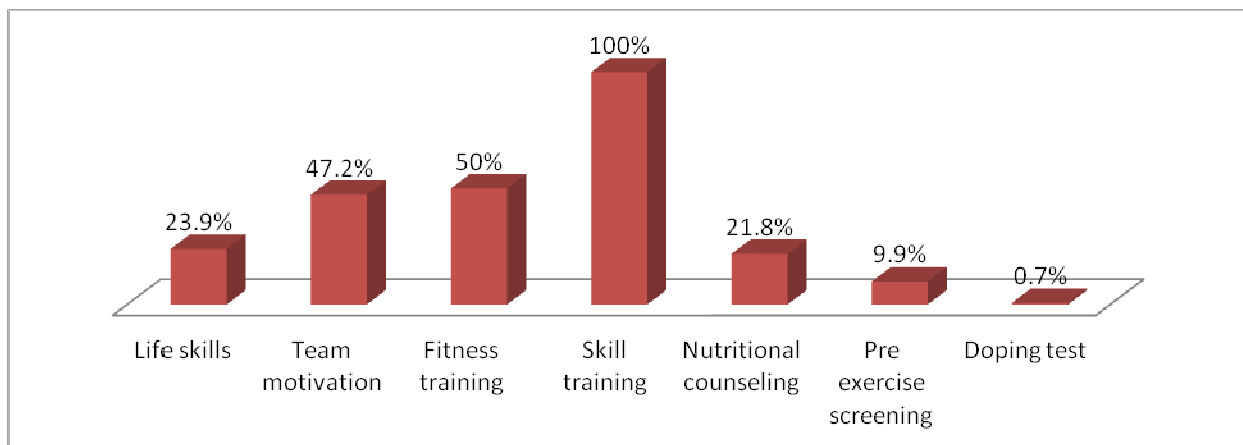


Figure 5: Team differences in preparation for the games

Team differences in preparation can be explained in terms of varying availability of training requirements. The factors included availability of training facilities, equipment, availability of coaches, time for training,

build up matches and motivation. Inadequate also meant insufficient, poor quality or completely lacking. The summary is shown in figure 6 below.

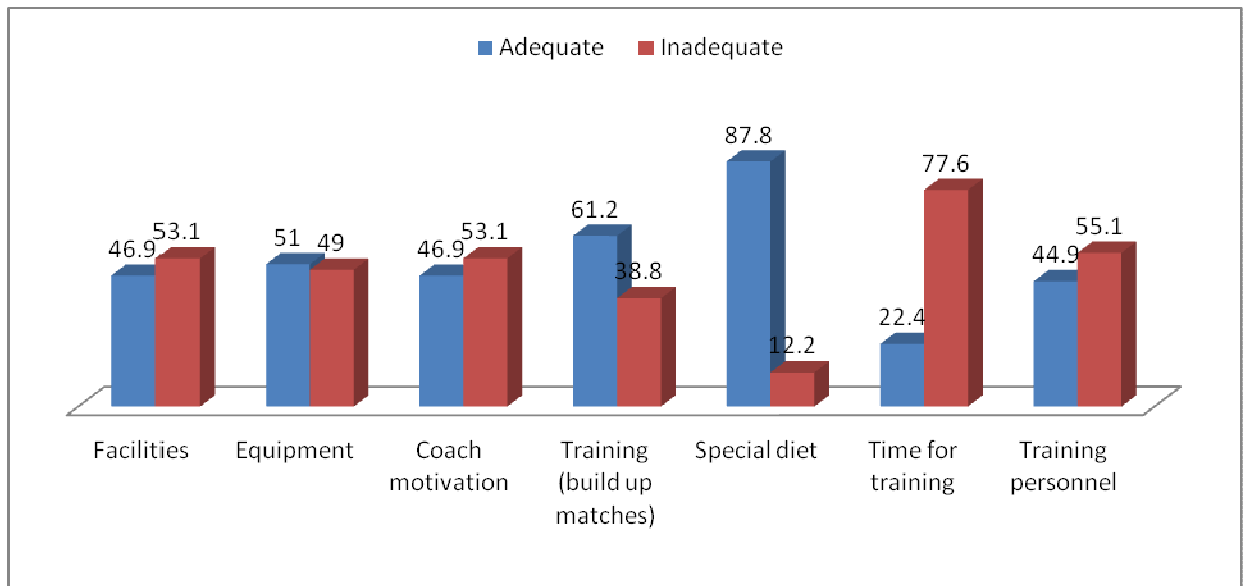


Figure 6: Availability of training requirements

Both athletes and coaches had varying outcomes for participating in the games. Some of the reasons why the athletes and coaches attended the games included touring Kenya (2%), interacting with other student athletes (22.4%), creating links and networks for future (22.4%), getting the exposure(30.6%) and experience

(24.5%) of such level of competition, scouting for players (2%) especially institutions with sports scholarships among others . This is summarised in figure7 below.

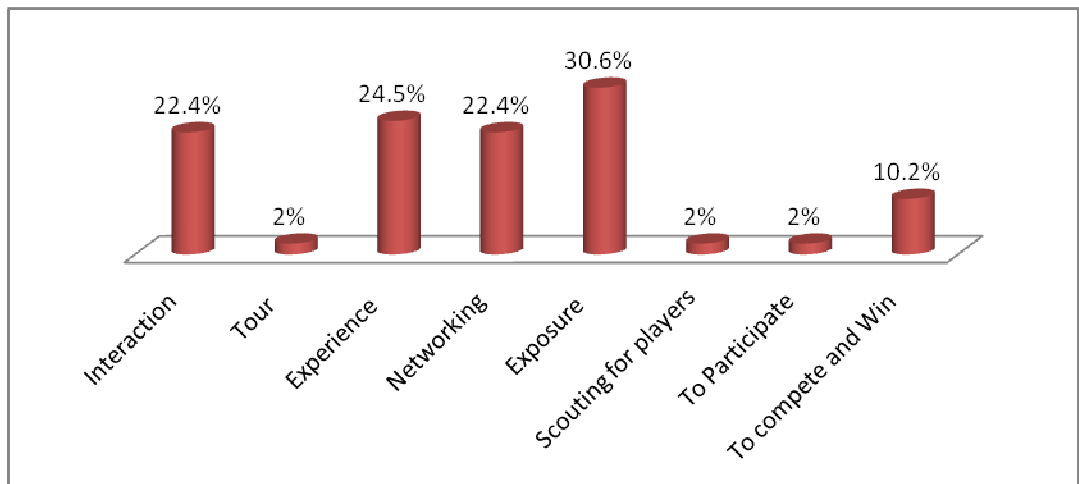


Figure7: Reasons for participation in the East Africa University games

DISCUSSION

According to Kennedy *et al.*, (1977) previous studies highlighted incompleteness of incidences data on sports injuries. This is captured by looking at team preparation process as a factor in injury prevention. The study also sought to find out about the status of training factor and how they influence injury patterns during a competition. Majority (33.8%) of the total injuries affected soft tissue. this findings are consistent

with findings of Asembo (1995) and Wekesa *et.al*, (1994) but contrary to Thelen’s (1982) that recorded 31% fracture, 23% dislocations and 22 % muscle injuries. Other injuries (dislocations, sprains and strains) as observed by Ambeganonker and Dixit (1971); Olive *et al.* (1977) and Thelen (1982) were noted. This was attributed to the intensity and tension associated with fear of losing. This can also be

attributed to the level of officiating in line with Oslon's (1979) findings that showed good officiating reduced rate and severity of injuries in high school soccer. Anatomically 62% of the injuries affected the lower body while 38% affected the upper body. This findings are similar to Asembo's (1995) findings of 60.43% lower body injuries and 39.57% upper body and Wekesa *et al.*(1993) that recorded 60 % lower body injuries and 40% upper body. This confirms Fox's (1981) findings that lower limb are the most common sites of injuries. Observed causes of Injuries were due to self 41.5%, opponent 41.5% sportswear 4.2%, facility 4.2% and others 8.6%. This can be compared to Asembo and Nj ororai (1993) where 70.27 of the injuries were attributed to another person and equipment while 18.02% and 9.10% were blamed on self and playing surface. This can also be compared to Crompton and Tubbs (1977) who found out that 775 of the injuries were caused by equipment and Thelen (1982) who only attributed 48% of the injuries to opponent. Injuries to self or individual 41.5% in the games were attributed to inadequate warm up, poor technique, and poor fitness since 50% of the teams did not have separate fitness training sessions. These findings are supported by (Ekstrand, 1994; Reilly, 1994b; Renstroem, 1994 and Reilly & Sterling, 1990. Injuries due to facility 4.2% can be compared to Reilly & Borrie (1992) who observed 9.01 % of injuries during the 1984 Australian National Hockey Women Championships.

CONCLUSION

Information on Injury statistics is essential for coaches, trainers, managers and physicians. This is because it highlights common sites of injuries, causes, types and distribution in specific sport disciplines. In this study this was related to team preparation process and provision of training requirements. It is important to be systematic

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It is important to note that due to limited time for training as observed by 77.6% teams and inadequate and or poor facilities and equipment (53.1%); 49% respectively, only 23.9% of the teams engaged in life skill training, 21.8% of the teams had special diet and or nutritional guidance 9.9 % of the teams did per-exercise screening and none of the teams did any doping test in preparation for the games which is a potential cause for injury patterns observed. This situation was compounded by having inadequate coaches (55.1%) and lack of motivation (53.1%) as observed by the coaches of the participating institutions. Other observations made included fatigue, dehydration and lack of sleep due to long travel and were required in the field before any rest. This has shown to cause lack of concentration and coordination towards the end of the game (Reilly, 1994a, b; Reilly, 1993; Reilly & Borrie, 1992). Sugden (2006) observes that during sports festivities athletes, officials and spectators from different cultural backgrounds mingle and tend to learn more about each other's culture and values resulting in attitudinal change, which ultimately impinges positively on social behaviour. Athletes develop friendships, on the pitch, off the pitch which many a time become life-long relationships. This was confirmed by 22.4% of the participants agreed that the purpose of their attending games was to interact with other student athletes, 22.4% of the participants agreed that they attended the games to network, 24.5% of the participants agreed that the purpose of their attending games was exposure.

in application of scientific principles of training at all (physical, technical, tactical, psychological and moral) dimensions. This will go a long way in preventing injuries, reducing deviance to meet the objectives of such level of completion.

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