Feasibility of precompetition medical assessment at FIFA World Cups for female youth players

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ABSTRACT

Background Although most experts agree that preparticipation screening is important to prevent sudden cardiac death in sport, only a few reports have been published on the feasibility of its practical implementation.

Methods The football associations participating in the U-17 and U-20 Women’s World Cups 2010 were asked to perform a standardised precompetition medical assessment (PCMA) of their players (in total 672).

Results Compliance with the requirement for performing the PCMA was high among all teams, particularly from African, Asian and Central/South American countries. No relevant abnormal findings in personal history and clinical cardiological examination were reported. Athletic ECG patterns were frequent, but very few findings were considered to require further investigation. All players were declared as eligible to play.

Conclusions Based on the demonstrated feasibility of performing a comprehensive PCMA in elite female youth players, the Fédération Internationale de Football Association (FIFA) Executive Committee decided to make the PCMA a compulsory requirement for all FIFA competitions.

INTRODUCTION

Although most experts agree that preparticipation screening is important,1–3 especially to prevent sudden cardiac death (SCD) in sport,4–6 only a few reports on its implementation have been published.7–11 The Fédération Internationale de Football Association (FIFA) developed a standardised precompetition medical assessment (PCMA) and implemented it at the Men’s 2006 FIFA World Cup9,10 and at the FIFA Women’s World Cup 2007. In his editorial pro memoria of Marc-Vivien Foé who suffered SCD during the Confederations Cup 2003, Dvorak12 stated that “a particular focus must be on youth competitors, who are often not sufficiently medically assessed prior to a major sporting event”. For example, at the Confederation of African Football U-17 Cup 2009,11 in only three teams all their players had been examined before, while in other teams several players had never seen a physician before. Consequently, FIFA intended to introduce a mandatory PCMA for all players participating in its events. However, considering the financial and logistic problems that national football associations (FAs) might face with such requirements, it was decided to first evaluate the implementation of the PCMA at the arguably ‘lowest’ international level of play, the female youth World Cups.

The aim of this study was to assess the feasibility and compliance with performing a comprehensive PCMA in participating teams at the FIFA U-17 and U-20 Women’s World Cups 2010.

RESULTS

All U-20 teams (100%) confirmed to have performed the PCMA in their players prior to the competition and seven FAs (43.8%) submitted the forms to FIFA Medical Office. For 14 U-17 teams (87.5%), the completed PCMA forms were submitted to the FIFA Medical Office. The PCMAs of one U-17 team were missing since the team physician claimed to have not received the respective information. One African FA had performed the PCMA of their U-20 players and stated thereafter not to have the financial means to perform PCMA in their U-17 team. All (except one) teams who submitted the forms used the FIFA PCMA form. In total, 147 PCMA forms of U-20 and 294 of U-17 players were received and analysed.

For African, Asian and Central/South American FAs, the team physician usually completed all sections, supervised and coordinated examinations by consultants (eg, cardiologists) and confirmed the eligibility to play themselves. Data were complete and presented in separate organised files per player and original data and reports (ECG and echocardiography) were provided with resulting excellent quality of data (particularly for U-17 teams). European and North American teams usually had several physicians from different institutions completing parts of the forms and signing the summary assessment. This resulted in highly variable completeness, presentation and quality of data. One European FA did not submit the FIFA PCMA.

METHODS

As there was no regulatory base for a mandatory requirement, the PCMA was ‘highly recommended’ to FAs participating in the respective World Cups by the FIFA Medical Committee. The FAs were asked to confirm in writing that the PCMA was performed in their players, and the submission of completed forms to FIFA was voluntary. No funding was provided by FIFA, but at the U-20 Women’s World Cup, performance of echocardiography by a cardiologist was offered at the venues at no cost.

The standardised FIFA PCMA comprises personal and family history, general physical examination, laboratory blood analysis, and orthopaedic and cardiac examination (physical examination, 12-lead resting ECG and transthoracic echocardiography).9 Minor adaptations for female players included additional questions on menstrual history and calcium and ferritin levels.

In both the U-17 and the U-20 World Cup 2010, 16 teams with 21 players each (in total 672 players) from all six FIFA Confederations participated.
were mild-to-moderate regurgitation of the mitral, tricuspidal measurements were omitted. The majority of abnormal findings indicated in five U-17 players. The offer by FIFA to perform an echocardiography in all U-20 players but only where indicated by abnormal findings was considered to require further investigation. Eight of the 12 players requiring cardiological follow-up came from one team, probably presenting an examiner-dependent bias. All players were declared as eligible to play. The proven feasibility of performing comprehensive examination in all players at the 2006 FIFA World Cup, the FIFA Women’s World Cup 2007 and especially at the two female youth World Cups led to the decision of the FIFA Executive Committee to make the PCMA a compulsory requirement at all FIFA competitions.

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Competing interests None.

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REFERENCES
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