

ملخص البحث باللغة الأجنبية

Introduction and problem of the research :

championship, competition, high levels, all these definitions are not mentioned unless mentioned with their development, and development has bases and rules we all need to know them, and the last championships have seen fast development, and the most thing distinguished these championships is the connecting and succession of skills which have different difficulties in all devices specially on horizontal bar device, and this denotes how much technology that the world using in training programs generally and gymnastic training especially.

And in the field of succession of total movements on the horizontal bar without stopping, these skills differ considering type and difficulty from successive releases and re-grasping skills to successes free flying (46-26).

And we find that the national team in the world championship 1999 in tangent has recorded marks on horizontal bar of about 8.625 differing from the Chinese team 1.33 marks of which has achieved the first degree in the world championship, the Chinese team has recovered 9.95 marks on the horizontal bar and this is considered a clear indicator to show where is the position of the national team on the horizontal bar device on the map of world championships.

And from here was the importance of presence of flying movements connection in total movements on the horizontal bar device, and the releasing and re-grasping skills and different are skills done near from the cycling bar.

And the researcher has chosen connecting or succession of talkative open legs skills and their difficulties (C) with ginger and its difficulty (C) and that if it is to recognize the biomechanical characters of divest connection between group of flying movements on the horizontal bar, where the researcher has found (according to his knowledge) how scarce are the researchers and the scientific references which have written about connecting the releasing and re-grasping skills.

And according to this importance of connecting between releasing and re-grasping skills, and because the information to connect these skills are deficient

,the researchers scientifically tried to recognize the practical minorities to connect the skills of takacheve open legs with ginger and this is by kinetic analysis and through the recognition of muscles working during the connection or succession operation, also the workers in the field of gymnastic training.

* Tools of gathering information :

The researcher used the following to gather the information of this research:

- Analysis of scientific references and researches .
- Personal interview
- Video recording .

* Results :

In the spot light of biochemical analysis of the two skills connection the researcher has found the following :

- The most height achieved by the masscenter of the palyer's body in the releasing stage of takacheved skill (first skill under research) was abov the horizontal bar which was 1.21 meters.
- The horizontal distance for the mass center of the player's in the releasing stage (from the moment of release to gvasping) of takacheve skill was 1.66 meters .
- The angel of thigh joint at the moment og re-gvasping on horizomtal bar of the takacheve skill and which is the beginning of connection stage of Gienger skill it self was 15.31o degrees.
- The vebcity of mass centre of phayer's body at the moment of re-gvasping on the horizontal bar of takacheve skill was 4.84o degrees .
- The horizontal distance of mass centre of player's body at the moment of re-gvasping of takacheve skill and which is the beginning of connection stage of Gievger skill was 0.85 meter.
- The re-gvasping stage of takacheve skill and which is the connection stage of Gievger skill it self has taken a time of about 0.88 second.

* The aim of the research :

- The research aims to recognize.

- The biomechanical determinants of connecting takecheve openlegs with Gienger on the horizontal bar device as a basis to put the aiming trainings and this is through the following inquiries:

* The research inquiries :-

- What are the biomechanical determinants of the re-grasping stage for the skill of takecheve openlegs with the stage of connection for Gienger skill?
- What are the aiming trainings to connect the skills of takecheve openlegs with Gienger considering the biomechanical determinants of connection between the 2 skills of the research .

* Method of the research :

The researcher has used the descriptive method using the case study and this because of the nature of the research and because it is suitable.

* Society the research:

players of Gymnastic national team of Egypt.

* The research specimen:

The specimen has been chosen according to the vertical way where the best player has been chosen is the one which performs the skill of connection or succession of the 2 research skills, and he is the champion of Egypt on the horizontal bar 2004 and 2005.

The player performs 15 trials the best 3 trials are chosen according the vertical way, and these trials are judged by 3 referees from Gymnastic Egyptian , and the researcher has accepted the trials of 9.5 marks and more.

The force of inertia of mass centre of the player's body at the moment of releasing from the horizontal bar for takecheve skill is 7.994 kg.m^2 the force of inertia of mass centre of player's body at the moment of regrasping on the horizontal bar for take chive skill and which is the beginning of inertia of mass centre of pleyer's body at the moment of release from horizontal bar of gienger skill is 5.031 kg.m^2 .

The opening and closing movements performed by shoulder and thigh joints during the stage of connection for gienger are considered the main movements in performing the direct connection between the 2 skills of the research .

The diameter of cycling and the angular velocity of the player's body mass center during the angular velocity of the player's body mass center during the stages of the 2 skills under research are considered axial variables in performing the direct connection of the two skills , and they controlled through opening and two skills , and they controlled through opening and closing movements of the shoulder and thigh joints .

- Recommendations:

In the spot light of the research results , the researcher recommends the bio mechanical results of the research in the teach in the teaching of direct connection between the two skills of the research .

The researcher recommends the Egyptian Gymnastic federation to use the suggested aiming trainings for direct connection between the two skills of the research.

- The reseavcher recommends the Egyptian Gymnastic federation to tryusing the imporoving gradels on the horizontal bar device and that is by using the direct connection of the flyong skills.
- The researcher recommends the Egyptain Gymnastic Federation to perform a biomechanical analysis for all global levels in the Gymnastic sport in general and that is by co-operation with the kinetic analysis units in the faculties of physical education.
- The reseatcher recommeds the Egyption Gymnastic federation to provide the largest number of helping devices of horizontal bardevice, and providing all other devices in general .
- The researcher recommends people who want to write about Gymnastic to write about the high tevel skills on all devices in general and especially on the horizontal bar device.

