Changes in soldiers’ aerobic fitness and muscle endurance during initial basic training of police

Sahebazamani Mansour ¹, PhD & Mohammadi Hossein ², MSc
1 Department of physical education, kerman branch, shahid bahonar university, kerman, iran.
2 Department of physical education, neyshabur branch, Islamic azad university, neyshabur, iran.

ABSTRACT

Objective: Amount of physical activity during basic training period (BTP) should provide a suitable level of physical fitness at the end of this period and also be matched to soldiers’ physical fitness baseline (PFB) in order to decrease the occurrence of musculoskeletal injuries (MSI) during BTP. The aim of this study was to determine the changes in soldiers’ aerobic fitness and muscle endurance during BTP.

Methodology: In this semi-experimental study, 100 soldiers of Iran military randomly selected as sample group. We evaluated them at the beginning and the end of BTP by means of Army Physical Fitness TEST.

Statistical Result: The finding show that at the end of the BTP, physical fitness, aerobic fitness, upper body endurance and abdominal endurance increased significantly (p > 0.05).

Discussion: In accordance with the results, current program of BTP has positive effects on soldiers’ physical fitness, it doesn’t bring about all aspects of physical fitness needed to successful military operations.

Key words: Basic Training Period, Physical Fitness, Army Physical Fitness Test

Introduction

Due to industrialized lifestyle and lack of mobility during the last decades, loss of physical fines is a common event. It is too important to military organizations that have their job to prepare troop for military operations. Because even with numerous advances in technology, any soldier requires a good enough level of physical fitness other than learning military skills. (Billings CE., 2004)

Military training at the beginning of military service has a par posed to prepare soldiers for military environments and increase their physical fitness. (Bilzon J et al., 2001)

Physical fitness of troops has an important role in success or failure of operations. (knapi KJ et al., 1993) To be completely pre pared, they need to have enough physical activities to can do any ac in any environmental or climate situation for any soldier it is required to have a level of physical fitness that can only be earned by physical activities. (knapi KJ et al., 1993)
improving muscles strength, heart and breathing fitness, body waste controlling obesity and reducing risk of vulnerability are some benefits of joining military – training. (Gruhn g et al, 1999; Huang GD et al, 2001)

There is on research at the present time witch has aimed to learn about "How many changes have happened during Iran's military training"

Of course it is not hard to find some researches in different countries, but because of difference in course content. And its duration, physical fitness of troops, race and climates with Iran, the results of those researches cannot be completely generalized to Islamic republic of Iran's police. (Bilzon J et al., 2001)

This research has aimed to investigate changes. In aerobic fitness, muscle endurance physical fitness of troops as the most important factor of physical pre parathion during the training.

**Methods**

This is a semi experimental study on 100 Iran Police trainees which are chooser randomly from trainees who have been trained during Jul and aug 2009, in the "Samen – AL – A'eme" professional scientific training center.

The duration of Islamic republic of Iran's police training is about 8 months. During this time, all training is under some hard physical activities that mostly contains. Running large distance with and without gun, walking along roads with or without taking huge burden and shooting training are other common activities in this training. In some countries, they have extra activities such as: swimming, strength and resistance exercises, special lower and upper – limbs exercises and some team sports such as football and special exercises for their agility. (Huang GD et al, 2001)
To detect changes in physical fitness draining the training all result were atomized by "Army physical fitness test" at the first week and at the end of the second month. This test contains 3 subtests named sit-up. Push-up and 2 mile running witch studies upper body muscle endurance, abdominal muscle endurance and aerobic fitness of trainees. Push up is a test to count number of ground swimming and sit-up is count number of both per 2 minutes. 2 mile running is to record the required time for a troop to run 2 miles. Any single has a minimum of 0 and maximum of 100 scores and minimum of 0 and maximum of 300 scores can be counted for any single soldier as A PFT test. A PFT test tube wildly used in researches and has high reliability and validity.

results

To compare earned scored, this research has used paired pre – test and post – test (P<0.05) Table 1 - Descriptive Table of main variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
<th>range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit score (before training)</td>
<td>29.51</td>
<td>8.77</td>
<td>47</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Swimming score (before training)</td>
<td>14.21</td>
<td>5.44</td>
<td>27</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Running score (before training)</td>
<td>20.34</td>
<td>1.79</td>
<td>27</td>
<td>17.30</td>
<td>9.30</td>
</tr>
<tr>
<td>Sit score (after training)</td>
<td>46.42</td>
<td>9.18</td>
<td>65</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td>Swimming scores (after training)</td>
<td>21.36</td>
<td>5.39</td>
<td>34</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Running score (after training)</td>
<td>14.37</td>
<td>1.24</td>
<td>18</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>

As we see in the table 1, the beginning of the test, sit-up has highest and push-up has lowest scores in the all 3 subtests. And at the end of the test, sit-up has highest and push-up has lowest scores.

Table 2 - Significant changes in variables during the course of training (paired T-test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit</td>
<td>-16.91</td>
<td>-4.47</td>
<td>0/005</td>
</tr>
<tr>
<td>Swim</td>
<td>7.15-</td>
<td>2.17</td>
<td>0/005</td>
</tr>
<tr>
<td>Running</td>
<td>5.96</td>
<td>1.43</td>
<td>0/005</td>
</tr>
</tbody>
</table>

As we see in table 2, paired results show significant increasing of physical fitness and all its 3 factors during the training.
DISCUSSION

This the first research that studies changes in the physical fitness of Islamic republic of Iran's police force. This test's result shows a significance increasing of physical fitness, aerobic fitness, upper muscle resistance and abdominal muscles resistance by A PFT test. Although, there is no inside country same research with studies the effectiveness of weeks of Iran's military training on physical fitness of troops, but this researches goes same way with same researches in the countries. (Clarkson P et al, 1999; Ling W et al, 2004; Blacker SD, et al, 2008; Jones BH, et al, 1993) Alone and his partners, studied about effectiveness of 8 weeks of British military training on physical fitness factors and they have reported similar results related to significant increase. Although, regardless of intensity and duration, has a positive results, but inerter to earn good enough body balance in limited time it is required to have more specific plans and accurate trains. Training activities in Iran mostly contain parade and lessly contain running that lower limbs and the cardio as collar system are mostly involved but the upper limbs are not involved much. (Huang GD, et al, 2001; Knapik JJ, et al, 1980; Although based of result the level of physical fitness Must inercesed , but this will not provide enough fitness. It is recommended, that all student Entering the program are assessed and devided in diffrent groups based on their physical fitness level.

REFERENCES

