PHYSICAL EDUCATION AND SURVEY OF PAROPODOMETRIC PLATFORM

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Abstract
The aim of this work is to establish possible correlation between life style exercise, habits and choice of sport and any occurrence of paramorphisms and dysmorphism in children aged 6 to 14 years over a period of 9 months to provide a diagnostic tool for teachers of physical education for 'use for educational purposes. The experimental method is to collect data on static-dynamic through the longitudinal character by baropodometric platform on a sample of five students who attend physiotherapy center. The platform is used to detect incorrect attitudes, measure the deformation generated by the force applied by the foot on the same and any failures during walking with measurements in static and dynamic. The questionnaire will be administered to the sample will allow a first analysis of the data collected on specific parameters. The baropodometric data show that 80% of each student has the body center of gravity in the polygon of support shifted slightly to the right or left, the pressure points of the limbs left and right are not in line with each other, with respect to the body center of gravity of the foot are placed behind for some people or prefixes for other. The load distribution between the forefoot and hind foot indicates an excessive load on the forward foot. Finally the surfaces of the two feet are dissimilar to each other with greater support to the right. After three months we will proceed with a second test baropodometric and a second questionnaire on possible improvements and then compared to the first data collected. After another three months will be checked final and establish the hypothesized correlation.

Key words: *Lifestyle, morphological imbalances, choice of sport*

Introduction

The sport is a key element in the lives of all people, it is the medium that allows us to understand the essential values and more meaningful life. The sport is the set of those assets, physical and mental, made in order to improve and maintain in good condition the entire apparatus psycho-physical human, resulting in the development of physical qualities such as quick reflexes, speed, motor skill, agility and strength, and, equally important, moral qualities such as courage, self-denial, self-control, perseverance, respect for opponents and loyalty (Ambretti et al. 2011)). It takes on different meanings and may have different aim. In fact, to express a clearer picture is good to make the necessary distinctions between exercise and physical activity. Exercise is a planned and purposeful attempt, at least in part, to improve fitness and health. Includes activities such as brisk walking, cycling, aerobic dance, and also the active hobbies such as gardening and competitive sports. Physical activity, starting from encyclopedic definition, consists of any force exerted by skeletal muscles can determine an increase in energy expenditure, in other words the term "physical activity" refers to all the energy that is burned with the movement. So, it can consider the virtual activity such as movement (Di Tore & Raiola 2012). Physical activity also plays a vital role in improving and maintaining health, and is an effective tool to combat certain diseases by performing a program of adapted physical activity. It consists of an activity program useful for improving the painful symptoms associated with osteoporosis, osteoarthritis of the spine, shoulders and knees. Extensive studies have shown that for these conditions the Adapted Physical Activity is more effective than traditional physical therapy that will, hopefully, give only transient improvement. Even more effective is to identify incorrect attitudes at an early stage, so do not yet resulted in diseases to correct and prevent deterioration. In the school it can specifically investigate (Raiola 2011ab) . The goal then will be to ask the guys in development an exercise program tailored to their needs and identify in relation to morphological presenting the sport no longer correct. The aim of this work is to establish possible correlation between life style exercise, habits and choice of sport and any occurrence of paramorphisms and dysmorphism in children aged 6 to 14 years over a period of 9 months to provide a diagnostic tool for teachers of physical education for 'use for educational purposes (Raiola 2012ab). Expected results are as following. Observe and detect the presence of any changes that have occurred and especially if they have made improvements morphological structure. Develop through physical activity adapted musculature as to prevent any alteration or maintain proper body structure. Recommend these guys who come to the sport, an activity that allows him to fully express their potential without altering the body structure.

Methods

The method is experimental, it uses the baropodometric platform performing a monitoring of a sample of five boys in longitudinal character for 9 months.

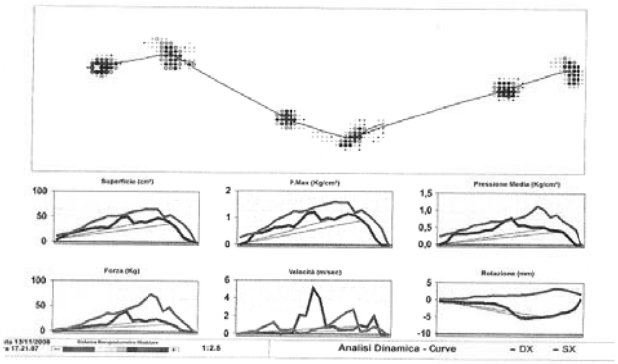

Figure 1 Examination report with baropodometric

Table 1. Before dynamic analysis

	N1	N2	N3	N4	N5
età	6	8	10	13	14
altezza	1,15	1,25	1,25	1,5	1,55
peso kg	20	24	33	48	55
attività fisica scol.:	no	no	no	si	si
attività fisica extrascolastica	si	si	si	si	no
giorni impiegati	3	3	4	0	0
ore settimanali	6	6	10	0	0
appoggio podalico:					
in equilibrio					
fuori equilibrio	x	x	x	x	x
baricentro:					
centrato		x	x		
non centrato	x			x	x
distribuzione del carico:					
nella norma					
uori dalla norma	x	x	x	x	x
superfici dei due piedi:					
simili					
diverse	x	x	x	x	x

The experimental method is to collect data on static-dynamic through the longitudinal character by baropodometric platform on a sample of five students who attend physiotherapy center. The platform is used to detect incorrect attitudes, measure the deformation generated by the force applied by the foot on the same and any failures during walking with measurements in static and dynamic. The questionnaire will be administered to the sample will allow a first analysis of the data collected on specific parameters. The baropodometric platform is used to detect incorrect attitudes, measure the deformation generated by the force applied by the foot on the same and any faults in the process of walking. In fact, tests will be carried out in static and dynamic. The boys aged between 6/14 years, and will be given a questionnaire that will allow a first analysis of the data collected will be a recommended physical activity adapted to the type of problem encountered.

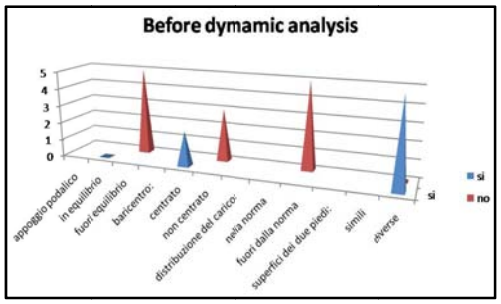

Figure 2 Before dynamic analysis

After three months, we will proceed with a second baropodometric test and a second questionnaire on possible improvements and then compared to the first data collected. After another three months will be carried out in the checkout.

Table 2 Second dynamic analysis

Table 2	N1	N2	N3	N4	N5
miglioramento della postura	si	si	si	si	si
sviluppo della massa. musculare	no	no	si	no	no
appoggio podalico:					
in equilibrio			x		
fuori equilibrio	x	x		x	x
baricentro:					
centrato	x	x	x	x	x
non centrato					
distribuzione del carico:					
nella norma	x		x		
fuori dalla norma		x		x	x
superfici dei due piedi:					
simili					
diverse	x	x	x	x	x

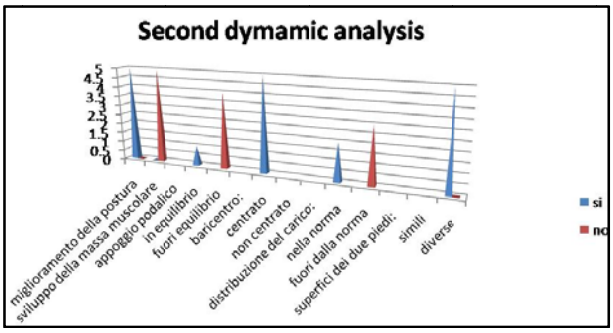

Figure 3 Second dynamic analysis

Results

The baropodometric data show that 80% of each student has the body center of gravity in the polygon of support shifted slightly to the right or left, the pressure points of the limbs left and right are not in line with each other, with respect to the body center of gravity of the foot are placed behind for some people or prefixes for other. The load distribution between the forefoot and hind foot indicates an excessive load on the forward foot. Finally the surfaces of the two feet are dissimilar to each other with greater support to the right. After three months we will proceed with a second test baropodometric and a second questionnaire on possible improvements and then compared to the first data collected. After another three months will be checked final and establish the hypothesized correlation.

Discussion

This work will help the physical education teachers to adapt a motor program personalized for each student (Kernozek et al. 2003). It is desirable to improve posture and imbalances morphological pupils than at the beginning of the work to establish the starter point (Martinez-Nova et al 2010). In the event that the improvements do not arise, the teacher will need to review the teaching strategy that has developed with the help of data collected as it happens in diagnostic situation of center of pressure (Chiu al 2013).

This new type of approach for the creation of new physical education and sport planning according to motor programs customized can also be extended to other rehabilitation centers. The purpose is to provide an analytical tool to support the promotion of physical activity and sport in childhood and monitor the occurrence of some diseases. The realization of the project involves the improvement of the physical condition of the boys examined in order to promote and sports centers health workers and prevention.

Conclusion

The study on Physical education in school have to investigate in specific aspect of the wellness and health. In this way biomechanics has a significant role in gait posture and asyntomatic foot (Hillstrom et al 2012). The school has an important mission that includes the prevention of the diseases and Physical education is the specific subject to work in this way.

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TJELESNI ODGOJ I PREGLED NA PAROPODOMETRIJSKOJ PLATFORMI

Sažetak

Cilj ovog rada je bio utvrditi moguće relacije između životnog stila vježbanja, navika i izbora sporta i bilo kakve pojave paramorfizma i dismorfizma kod djece uzrasta 6 – 14 godina u razdoblju od 9 mjeseci radi pripreme dijagnostičkog alata za učitelje Tjelesne i zdravstvene kulture (TZK) u edukacijske svrhe. Eksperimentalna metoda se sastojala u tome da se prikupe stato-dinamički podaci longitudinalnog karaktera uz pomoć baropodometrijske platforme na uzorku pet polaznika fiziterapijskog centra. Platforma je korištena za detekciju nekorektnih položaja, mjerenje silom generirane deformacije primjenjene na stopalo i bilo kakve deformacije s mjerenjem statički i dinamički. Upitnik je administriran na uzorku i dopušta prvu analizu prikupljenih podataka na specifičnim parametrima. Podaci su pokazali da 80 % svih ispitanika ima projekciju središte gravitacije (težište) unutar poligona koji je lagano pomaknut lijevo ili desno, a točke pritiska lijevog i desnog ekstremiteta nisu na liniji jedni s drugima, razumijevajući da je tjelesno težište stopala postavljeno straga kod nekih a sprijeda kod drugih. Distribucija opterećenja između prednjeg i stražnjeg stopala pokazuje prekomjerno opterećenje prednejg stopala. Konačno, površine stopala su međusobno nesimetrične s velikom potporom desnog stopala. Nqakon tri mjeseca nastavit ćemo s drugim testom i drugim upitnikom radi mogućeg poboljšanja i tada usporediti podatke s inicijalnima. Nakon još tri mjeseca provjerit ćemo finalno rezultate i utvrditi hipotetske korelacije.

Ključne riječi: *životni stil, morfološki disbalans, izbor sporta*

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