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With thanks and best regards ,

Editorial team **"Arena – Journal of Phisical Activities"**

Contents

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7, pp. 7-20, 2018

The Qualification of Professional Liability as a Form of Legal Liability as Basis for an Approach to the Problem of Malpractice in Physical Education and Sport

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The activity of physical education and sport has become, and needs to continue to be, an object of interest for legal practitioners and for those who wish to include this activity in the context and within the rigors of civilised conduct of the highest morality, but also in a strict legality and liability framework.

The violation of certain rights inherent to human beings regarding their life, health, physical and mental integrity via professional errors (malpractice) manifested in the management, at different levels, of sporting activities, may cause injury to athletes and their dependants. This paper aims to present the liability of all the participants to sporting activities (including managers of sporting activities and organizations involved in these activities) regarding the impact of professional errors occurring in activities of physical education and sport - deeds which may give rise to legal liability, since professional liability, under the conditions of the new Romanian Civil Code and of relevant European Law, has become a form of civil liability.

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About the institution of legal liability. The forms of civil liability

This paper - which may cause / trigger the drafting of a larger study on malpractice in sports (we shall use, in particular, the term sports activity - ***sport*** according to the legal definition contained in the European Union documentation)[1], can contribute to acquiring a legal culture regarding the institution of (legal) liability - referring to infringements on the rules of legal ethics (even Olympic ethics)[2] operational in contemporary society - by legal culture we understand the accumulation of legal knowledge relating to the legal phenomenon, but in close connection with all other knowledge about all fields which form the basis of the existence of human

[1] **The White Paper on Sport**, which entered into force at the same time as the Treaty of Lisbon (01 December 1999) took over the definition of sport included in the **European Sports Charter** (adopted on 24 September 1992, revised on 16 May 2001) - Article 2, Paragraph (1), Letter a). Thus by ***sport*** we understand *"all forms of physical activity which, through casual or organized participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels"*. Law No 69/2000 on physical education and sport, which has undergone many amendments and additions after to the date of its publication in the Official Journal of Romania, Part I, drawn up after the entry into force of the ***European Sports Charter*** contains a definition different from that of the White Paper on Sport: through ***physical education and sport*** it is meant "all forms of physical activity aimed, through an organized or independent participation, to express or to improve the physical condition and spiritual comfort, to establish civilized social relations and to lead to results in competitions of any level" (Article 1, Paragraph 2). Another observation (somewhat contradictory to the meanings assigned to both the term physical education as well as the concept of sport), according to which "physical education and sport shall include the following activities: physical education, sport in schools or universities, sport for all, professional sports, physical exercise with maintenance, prophylactic or therapeutic purpose".

[2] See: Voicu, A. V, *Some Arguments Regarding the Necessity of Changing the Paradigm of Olympic Education in Agreement With an Adequate Juridical Pedagogy*, in International Sports Law Review Pandektis, 2016, Vol. 11 Issue 3/4, p. 388-397 and Voicu, A.V., Voicu, B.I., *Aspects of Moral and Legal Legitimacy of the Ideology of Sport in Contemporary Society,* in International Sports Law Review Pandektis, 2015, Vol. 11 Issue 1/2, p. 457-464;

society, as part of universal culture and civilisation. Any trainer in didactics and education for a given domain must acquire legal knowledge, through which we understand the minimum informational requirements relating to fundamental rights and freedoms, several concepts regarding compliance with the legal norms, certain legal obligations which every citizen must comply with, a few notions about the principles and forms of legal liability, types of penalties applicable for different forms of illegal conduct, and, as the case may be, their consequences.[3]

Therefore, we believe it is necessary, in the context of the object of this study, to make certain observations concerning one of the forms of the institution of legal liability[4], the most important institution of any legal system, namely concerning civil liability. The traditional doctrine, in the Civil Code, "subjects civil liability, at least at a technical level, to different regimes, depending on whether it consists of civil tort liability or civil contractual liability"[5] so that civil law shall encompass two forms of liability: *tort liability* and *contractual liability*, covered by the New Civil Code, in Chapter IV, Civil Liability. We shall motivate in what follows the new legal nature of the institution of professional liability.

Tort liability[6]*,* regarded as being the common law liability in

[3] Rebreanu Veronica, *Câteva reflecţii privind cunoaşterea dreptului [Certain Observations Concerning the Knowledge on Law],* Article UJ Premium, 19 November 2018.

[4] Costin, M. N., *O încercare de definire a noţiunii răspunderii juridice [An Attempt to Define the Concept of Legal Liability]*, in "Revista Română de Drept" [The Romanian Journal on Law], no. 5/1970, p. 83: "Legal liability is the complex of related rights and obligations, which - according to the law - shall arise as a result of an illegal deed and which constitutes the framework for the implementation of the state's coercion through the application of legal sanctions in order to ensure the stability of social relationships and the guidance of the members of society towards compliance with Law and Order" - thus defined, legal liability shall not be reduced and cannot be confused with legal penalty.

[5] Eliescu, M., *Răspunderea civilă delictuală [Civil Tort Liability]*, Publishing House: Editura Academiei, R.S.R., Bucharest, 1972, p. 7.

[6] The new Romanian Civil Code, Article 1,349 Tort Liability - "(1) Each person has the obligation to comply with those rules of conduct imposed by law or by custom and to restrain from causing harm to the rights and the legitimate interests of others by means of actions or omissions. (2) Those that are not incapacitated and infringe this obligation shall be held liable for all damage

civil law[7] - because "once the conditions of civil contractual liability fail to be met in a given situation, if that situation triggers civil liability, this can only be tort liability"[8] - defined as "the obligation of a person to fix either the injury caused to another through an extra-contractual illicit deed, or, as the case may be, or for the injury for which they are required by law to be answerable"[9].

Contractual Liability[10]*,* the special liability in civil law, is regarded as "the obligation of the debtor of an obligation in a contract to remedy the injury caused to his creditor by the non-fulfilment, *lato sensu,* i.e. the delayed performance, unsatisfactory performance, or non-performance in whole or in part. It arises between contracting parties in breach of a concrete and determined obligation[11].

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that has been caused, and shall have to repair all damage. (3) In the situations specifically provided by law, a person is obliged to repair the damage caused by the act of another person, by things or animals in his or her custody, as well as by the ruin of a building. (4) Liability for damage caused by defective products shall be enforced by special law".

7 Voicu, A.V., Răspunderea civilă delictuală cu privire specială la activitatea sportivă [Civil Tort Liability with Special Regard to Sports Activities], Publishing House: Lumina Lex, Bucharest, 1999, p. 41: among traditionalist theories we note the following: the theory of the duality of civil liability and the theory of the uniqueness of civil liability.

8 Pricope, P., *Răspunderea civilă delictuală [Civil Tort Liability]*, Publishing House: Hamangiu, Bucharest, 2013, p. 282, with reference to Eliescu, M., op. cit., p. 62-63, footnote no. 96.

9 Pop, L., Drept civil român. Teoria generală a obligaţiilor [Romanian Civil Law. The General Theory of Obligations], Publishing House Lumina Lex, 2000, Bucharest, p. 177.

10 The new Romanian Civil Code, Article 1,350 Contractual Liability - "(1) Every person shall be obliged to perform the obligations he or she has contracted. (2) When, without justification, a person fails to fulfill his or her obligations, he or she shall be liable for the damage caused to the other party and shall be bound to repair this damage, in accordance with the provisions of the law. (3) Unless otherwise stated by law, neither party may replace the application of the rules concerning contractual liability by reference to other rules that would be more favorable".

11 Pop, L., op. cit., p. 354.

On Professional Liability

Until the entry into force of the New Civil Code (NCC) of Romania, as of 01 October 2011, *civil tort liability* did not coincide with *professional liability in general, including that pertaining to sports activities*. Professional liability was not included in the category of legal liability[12]. At that time, one of the authors of this study, according to the doctrine and legal reality of that period, stated[13]: "However, the liability which may arise out of the pursuit of sports activities is not specially regulated in the Civil Code, nor in the Criminal Code or other special laws[14]... because at the time of drafting of the main codes in Europe sports activities only occurred sporadically, and did not constitute an important social phenomenon[15] - outside Transylvanian civil law, faithful to the Roman law, in particular as regards obligations, which contains an interesting disposition in Article 1,299, Chapter XXX of Part II[16], by which the person practicing a profession and not having the required special knowledge is declared liable"; neither the French Civil Code, nor the current Romanian Civil Code (the Civil Code in force in 1999) do not contain any special provisions relating to professional liability[17]. In this situation, the law and the doctrine have applied the general principles of civil liability and, in the case of the profes-

[12] Voicu, A. V., op. cit. 1999, p. 73.

[13] Ibidem, p. 73-74.

[14] Voicu, A. V., 1999, with reference to Gaşpar, C., *Răspunderea civilă şi asigurarea în accidentele sportive [Civil liability and insurance in sports accidents]*, „Legalitatea populară" [Popular Legality] Journal, no.6/1957, p. 657.

[15] Voicu, A. V., *O privire comparativă asupra răspunderii civile a medicului şi antrenorului* [*A Comparative Approach to the Civil Liability of the Physician and the Coach*], at the National Scientific Symposium organized by the Romanian Council on the Science of Sport and by the Centre of Research for Sport Problems, held in Bucharest, 7-8 Nov. 1996, published in the Conference Volume, p. V3- 1-5.

[16] Gionea, V., Răspunderea civilă a liberului profesionist (medic, avocat, arhitect) [The Civil Liability of the Freelancer (Physician, Lawyer, Architect)], Braşov, 1943, Biblioteca Universităţii din Cluj, p. 18: "Article 1,299 stated that: the professional shall be held liable for the damage caused by the lack of the qualities which, according to their occupation, they must have".

[17] Ibidem, p. 16.

sional, detailing the liability of architects, lawyers and doctors in particular"[18].

Today, the New Civil Code[19], as well as the EU Regulations, in respect of the forms of civil liability, indicate the emergence of the third form of civil liability, namely that of professional liability. Therefore, we shall be able to address the issue of civil liability, stating at the same time the inclusion into common law of civil tort liability, and also referring to the new form of civil liability: professional liability.

Identifying the acts of malpractice in the activity of physical education and sport, we shall achieve not only an overview of the emergence of obligations through the creation of damage to athletes, but also an attempt to particularize the professional liability of those who carry out activities in the field of sports (occupations relating to sport) including that of coach and / or professor of physical education. Because "a professional cannot find himself in other relations with someone to whom he could cause injury, acting as a professional, unless he has a contractual relation, or, excluding this, by an intentional or deceitful deed, the cases of damage, or,

[18] Idem.

[19] The New Civil Code, Article 3 - The general application of the Civil Code "(1) The provisions of this Code shall also apply to relationships between professionals, as well as relationships between them and any other matters of civil law. (2) Every person who operates an undertaking shall be deemed to be a professional. (3) The systematic exercise, by one or more persons, of organized activity which consists of the production, management or alienation of goods, or the provision of services, whether or not it has a lucrative purpose, constitutes the operation of an undertaking". Article 4 - The implementation of international treaties on human rights "(1) In relation to matters covered by this Code, the provisions relating to the rights and freedoms of individuals shall be interpreted and applied in accordance with the Constitution, the Universal Declaration of Human Rights, the covenants and other treaties to which Romania is a party. (2) Should any inconsistencies arise between the covenants and treaties on the fundamental human rights, to which Romania is a party, and this Code, the international regulations shall take precedence, except in the cases where this code provides more favorable provisions". Article 5 - The implementation of the European Union legislation "In matters covered by this Code, the legal rules of the European Union shall apply with precedence, irrespective of the quality or status of the parties".

finally, in accordance with the provisions of the law, when a certain liability is established"[20] - therefore, we shall have the support of proposals for *lex ferenda,* and last but not least, actual attempts to harmonize Romanian Sport Law with its own peculiarities with the European legal structures and the Euro-Atlantic structures which we have joined.

On professionals and undertakings in the field of physical education and sport

The new Civil Code marked a major legal change in the Romanian legislative system. It has modernized not only the provisions of the Civil Code of 1864, but it brought about the inclusion into the body of the Civil Code of rules regarding the family, and it unified civil law with commercial law. Thus, upon the entry into force of this new Civil Code, the Commercial Code has ceased to be applied. The new Civil Code has, however, a series of provisions relating to ***professionals*** and the ***undertaking.***[21]. We believe that it is not yet opportune to make critical considerations on the concept of undertaking as described by the contents of the New Civil Code, the existing meaning being sufficient to discuss the theme chosen by us in this study.[22]

In the current stage of reconfiguration of the Romanian society, in which the occupations have become professionalized - in which the managers of all organizations, including those in the field of sport: specialized public administration, specialized sport structures of public law and / or private law for-profit or not-for-profit - understand to govern their undertaking as their own businesses - the utility of such an approach to the institution of legal liability is unquestionable, as it can pave the path towards knowledge concerning professional liability. The imperatives of *efficiency* and *ef-*

[20] Ibidem, p. 18

[21] Uliescu Marilena, *Noul Cod Civil. Studii şi comentarii* [*The New Civil Code. Studies and Comments*], Vol. I, Book I and Book II (Article 1-534), Academia Română [the Romanian Academy], The Legal Research Institute, "Traian Ionaşcu" Department of Private Law, Publishing House: Universul Juridic, Bucharest, 2012, p. 5 (Foreword).

[22] See Ioan Schiau, *Întreprinderea – un concept distonant* [*The Undertaking - A Distonant Concept*], Articol UJ Premium, 05 June 2018.

ficacy of the professional activities of those involved in sports must be supplemented by the imperative of *legality* (also in accordance with the principles of the Legal Ethics of Sports, and implicitly of the professions related to sports).

We mentioned the concept of "Legal Ethics" [23] – an imperative which must be observed by all professionals involved in sports activities. Thus, "the concept of *Ethics*, and especially the concept of *legal ethics*, is multifaceted. This situation is favoured by the interpenetration between moral (ethics), law and professional practices. Studying legal ethics, as part of applied ethics, becomes an imperative not only for the science of law, but also for moral philosophy. For these reasons, "moral philosophy has been marked, in recent years, by the singular development of its sub-branch known as «Applied Ethics»".[24]

The study of legal ethics, as part of professional ethics, is now just beginning in Romania. This explains the very low interest, perhaps also due to reasons of immorality or amorality, of the professionals, of the press, and of the politicians - for this field[25]. It is true that we are in the presence of possible interpretations which would not hold liable the acts of malpractice of professionals, because they invoke, in the interest of delaying the enforcement of the institution of legal liability, the existence of codes of ethics of certain occupations.

Thus, while ethics is a product of cohabiting in a community, including rules of conduct which are not the product of state bodies and, consequently, their infringement cannot be sanctioned by the state, Law, as an assembly of legal rules, is the direct product of the

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[23] Alexandra Sibana, Despre etica juridică a practicienilor din domeniul dreptului [On the Legal Ethics of Practitioners in the Field of Sports] in Ion Copoeru, Nicoleta Szabo, Coordonatori, Etică şi cultură profesională [Professional Ethics and Culture], Publishing House: Casa Cărţii de Ştiinţă, Cluj-Napoca, 2008, p. 192-197.

[24] Alexandra Sibana, op. cit., p. 192, with reference to Ion Copoeru, Nicoleta Szabo, *Dileme morale şi autonomie în contextul democratizării şi al integrării europene [Moral Dilemmas and Autonomy in the Context of Democratization and European Integration]*, Casa Cărţii de Ştiinţă, 2004, p. 8.

[25] Idem, with reference to Ion Copoeru, Nicoleta Szabo, op. cit., p. 8.

state's will, and whose infringement shall attract the enforcement of sanctions by the state. Starting from the status quo, in which the two concepts are separated completely, it is very difficult to define a *joint* concept, a hybrid, which we shall call *legal ethics*, since ethical and legal matters are, in essence, different. The fact that legal rules must be *just*, fair and, therefore, filled with ethical and moral values, does not mean that they shall not also be ethical rules, as ethical standards, through the important values which they protect and whose breach shall also attract a penalty (moral, this time), are not within the scope of the law[26]. In the analysis of the concept of legal ethics, we shall also have to take into account the notion of "*professional ethics*" (Bentham called the science of morality "professional ethics") and the fact that, as a general rule, by "code of professional ethics" the moral rules of conduct within the framework of an occupation are described[27].

Since law operates with the criteria of just and unjust, i.e. legal and illegal, and ethics operates with the notions of good and evil, i.e. moral and immoral (or non-ethical), we can give a new meaning to the concept of "legal ethics".[28] Although in daily life, the individual action of applying or obeying the law cannot be separated from the abstract, state-wide, and generally binding rule of law, in theory we have the right and the ability to attempt an interpretation of this phenomenon. *Under these circumstances, we shall be able to "define" (theoretically) the* ***legal ethics*** *by the effort of understanding and interpreting legal rules, followed by their implementation with complete good faith.*[29]

The ethical-legal principle which forms the basis of civil liability has been entered into the Civil Code, in Article 1,349 as

[26] Idem, p. 193.

[27] Alexandra Sibana, op. cit., p. 193, with reference to Gh. Mateuț., A. Mihailă, *Logica juridică* [*Legal Logic*], Publishing House: Lumina Lex, 1998, p. 209; Marcu, V., Maroti Șt., Voicu, A. V., *Introducere în deontologia profesiunii didactice [Introduction to the Professional Ethics of Teaching],* Publishing House Inter-Tonic, Cluj-Napoca, 1995.

[28] Idem Alexandra Sibana, p. 197.

[29] Idem.

follows: the breach of the general obligation to ensure compliance with the legal provisions or rules established by custom, if it resulted in trespassing upon the subjective rights and legitimate interests of other persons, binds the guilty party to integral repairs. In contractual matters, this principle is rendered by the provisions of Article 1,350 of the Civil Code. The universality of this rule makes it applicable in all cases, laying down the legal framework in which the victim may make claims and obtain payment of damages. This principle has deep moral connotations, being fair to restore the social balance, destroyed by an illicit deed, which provides for the repairs of the damage suffered by the victim, by the one who is guilty. This facet of civil liability, arising from the fact that, in the exercise of their freedom, man builds his or her own personality, but, at the same time, they must bear the responsibility for their actions. Thus, one who acts consciously is responsible for one's own acts and their consequences, being obliged to restore the social balance should it be distorted. The real responsibility is always associated with the order commutative justice, which tends towards the establishment of a legal reaction designed to eliminate the consequences of the damaging fact. ***The relationship between Ethics, Morality and Law*** is focused on the guilt of the author of the illegal deed. Freedom and responsibility constitute two complementary and indispensable concepts which characterize the human dignity. Civil liability involves conscience and freedom. Only a person who is aware is free, and therefore responsible. On the other hand, freedom without responsibility tends toward anarchy, or, in other words, freedom is conditioned by individual responsibility. So, as soon as one exceeds the limits laid down by the rules of the positive law, injuring by default the rights of third parties, one shall enter in the field of illegal deeds, of offences, and must be held responsible for the consequences of the acts which one commits. The vision of the free and responsible person also involves an objective view of Law which has as finality the idea of justice and safeguarding of essential principles, among which "do not injure or cause damage to another" figures as a priority. Such an approach to Law is normative and dissuasive, because it imposes choices, proposes purposes, and dictates attitude and behaviour.

The ethical and legal meanings of civil liability for professional malpractice[30]

One of the defining components of the ample process of reconstruction of the institution of civil liability is represented by the ***recognition of a new liability, of third type***[31], which groups together the autonomous rules of professional liability. We are talking about the liability of a professional towards the inherent risks of the exercise of their activity, a special liability, aggravated in relation to other hypotheses of legal liability, which mostly affects the special quality of the liable person. Doctrine-related debates[32] on this issue have revealed that we are in a moment of crisis of civil liability, characterized by the distortion of the concept of "civil guilt", as a result of the significant extension of its contents to objective elements. Paradoxically, moral guilt refers to the abnormal behaviour of the perpetrator, who is in breach of the rules of conduct imposed in a civilized society with regard to the pursuit of a profession - and of course that we also relate to sports professions. The need emerges for the recognition of a guilt rendered objective, which has lost its normative role, its moral meaning, being subordinated to the major imperative of repairing the damage suffered by the victim, even in the absence of the consciousness of the perpetrator. Thus, under the pretext of simplification and increasing the efficiency of the process of triggering civil liability, an entire offensive against civil guilt has been launched, at the price of ignoring moral and ethical values imposed by the substantiation of subjective civil liability. However, guilt continues to exercise a dominant influence, but it acquires new meaning, characteristic to this particular form of liability, which always relates to the quality of the perpetrator. The tendency is towards the development and implementation of

[30] Lacrima Bianca Luntraru, *Răspunderea civilă pentru malpraxisul profesional* [*Civil Liability for Professional Negligence*], Publishing House Universul Juridic, Bucharest, 2018.

[31] Idem, p.15, with reference to L.R. Boilă, *Răspunderea civilă delictuală obiectivă [Objective Civil Tort Liability]*, Publishing House C.H. Beck, Bucureşti, 2009, p. 201-204, p. 458-463.

[32] Idem, with reference to P. Jourdain, *Les principes de Ia responsabilite civile*, 3e ed., Dalloz, Paris, 1996, pp. 17-20.

the idea according to which in this field it is required to rethink the contents of civil guilt, within the meaning of renouncing the traditional psychological attitude of the perpetrator, and leaning towards an objective element, the abnormality of the harmful behaviour[33].

The legal relationship between the professional (sports professional) and the recipient of the performance (client, student, professional athlete, spectator, etc.) cannot be wholly subordinated to the rules established by a civil contract, on the one hand, nor to those of an essentially tort liability, on the other hand, that would require a severe interpretation of its operating coordinates. This is the reason why the debates on the conditions and substantiation of the professional's liability propose to reveal its specific elements, which can constitute arguments for the need to harmonize the legal standard with the realities of contemporary society, in front of the increase of the threat of occurrence of damage, and here we are referring to damages produced in physical education and sport activities.

Given the diversity and complexity of the hypotheses of professional civil liability, regarding the legal aspect, it is necessary to establish abstract rules, applicable to all cases of malpractice, such as to ensure more effective protection of the victim, by helping them obtain compensation. Through a manifest concern to show compassion towards those who have suffered injury unjustly caused by a professional in the exercise of his duties, the practice and literature have supported the idea of triggering civil liability even outside of its traditional role, so that the balance of the legal mechanisms specific to this hypothesis could ensure its full legal efficiency[34].

Settlement of civil tort liability and contractual liability in the current Civil Code of Romania[35] aims to establish the rules which,

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[33] Idem, p. 16 with reference to 1J. Ghestin (coordonator), G. Viney, P. Jourdain, *Traite de droit civil. Les conditions de la responsabilite*, LGDJ, Paris, 2006, pp. 400-413

[34] Ph. Le Tourneau, *Responsabilite (en general)* - May 2009 (actualite: avril 2015), Rec. Dalloz, 74-78, 2015.

[35] The Civil Code was adopted by Law no. 287/2009, published in the Official Journal no. 511 of 24 July 2009, republished in the Official Journal no. 505 of 15 July 2011, and it entered into force on 1 October 2011, on the basis of the provisions of Law no. 71/2011, published in the Official Journal no. 409 of 10

in the matter of professional malpractice, are designed to govern the conditions for initiation and success of the action in triggering liability, and respectively to lead to restoring the social balance destroyed by committing a deed which has resulted in damage to another person. In order to ensure full protection of the victim from the deed of malpractice, there is a tendency towards the objectifying of the civil liability of the professional, it being engaged in most cases independently of any guilt. Thus, the analysis shall be transposed into causal plane, the simple occurrence of damage triggering the mechanism of civil liability. ***As special hypothesis of legal liability, civil liability for professional malpractice means the legal relationship which arises by the breach made by certain categories of persons, hereinafter generically referred to as professionals, of the rules of conduct laid down by law or by the professional body to which they belong, causing injury to other persons, with regard to which the obligation to repair this injury arises***[36].

Analysed as legal institution, *malpractice meets the rules governing this obligation of compensating the victim, related to the contractual or extra-contractual deed of the professional, of the person involved, in our case, in sporting activities and / or activities related to these.*[37]

As is clear from the definitions set out above, the structure of the legal relation of liability for the professional malpractice includes the four classic elements of civil liability in general: *the injury, the illicit deed of malpractice, the causal link between these, and the guilt of the perpetrator.*

The analysis of civil liability for professional malpractice brings into discussion the quality of the responsible person, a spe-

June 2011. Among the sources of inspiration envisaged by the writers of the code, we mention: The French Civil Code, as amended on 23 June 2006, the Civil Code of Quebec, the Italian Civil Code, the Swiss Civil Code and the Swiss Code of Obligations. At the same time, a series of provisions from the UNIDROIT principles and the European Contract Law were added.

[36] Cimpoeru D, *Malpraxisul [Malpractice]*, Publishing House C.H. Beck, Bucureşti, 2013, p. 5.

[37] Lacrima Bianca Luntraru, op. cit., p. 17.

cial condition which justifies regulating aggravated liability with the overarching objective of ensuring a more efficient protection of the rights and legitimate interests of the recipient of the performance. We take note that the operation of an undertaking, as specific activity carried out by a professional, involves assuming the risk of occurrence of injury either to contracting parties, or to third persons. This aspect is important from the point of view of substantiating the civil liability of the professional, considered to be an essentially objective liability, having as a basis the risk. The business may involve the pursuit of socially harmful or dangerous, injurious activities, and this constitutes a reason for which the professional is obliged to answer for the occurred consequences, taking into account the fact that he is the one who initiated, organised, supervised and monitored this activity.

As we have shown, sports structures, if operating an enterprise, belong to the category of professionals. We take note that the operation of an undertaking, as specific activity carried out by a professional, involves assuming the risk of occurrence of injury either to contracting parties, or to third persons. This aspect is important from the point of view of substantiating the civil liability of the professional, considered to be an essentially objective liability, having as a basis the risk. The business may involve the pursuit of socially harmful or dangerous, injurious activities, and this constitutes a reason for which the professional is obliged to answer for the occurred consequences, taking into account the fact that he is the one who initiated, organised, supervised and monitored this activity.

In another study which shall follow this one, we shall refer in detail to certain hypotheses on causing injury through professional malpractice in sports activities - in situations of infringements of the rights to life, health, physical and mental integrity. And, last but not least, we shall argue the following: the perception of society with regard to the values of sport should not affect legal security, understood in terms of European Law, of all participants to sports activities.

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Aspects of the relationship between heart rate and precision of throwing in wheelchair basketball. Preliminary study

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Abstract
One of the most practiced disciplines for athletes with disabilities is wheelchair basketball. At the same time, in order to achieve the highest level of competitiveness, the specific training methods are based on experimental research made on the players of wheelchair basketball teams engaged in official competitions.The **purpose** of the study is to evaluate the precision of throwing (PoT) in relation to the player's throwing position (TP), starting from the hypothesis that effort intensity, determined by heart rate (HR), could influence PoT.**Methods.** 5 athletes (My = 30.8 ± 7.5) members of the men's wheelchair basketball team, national champion in 2009, participated in the study. A HOSAND system (Italy, 2005) was used for HR monitoring and, for the determination of the PoT, each player made 10 throws at the edge of the 3sec. quad from: 45^0 left, 45^0 right and from the free throw line for the 120 HR, 140HR, 160HR, and 180HR crossings.**Conclusions.** Within the limits of our study, the data obtained show that, for each player, the PoT depends on PT and is influenced by HR values. These data can be used by the coach to design training sessions that aim to improve basketball and to place players on the field on tactical pitch. However, data must be approached with caution because, in their assessment and capitalization, account must also be taken of each player's competitive classification (IWBF functional classification).

Keywords :adjustedbasketball, effort intensity, performance improvement

Introduction

Lately, wheelchair basketball has become increasingly popular (Croft et.al., 2010); the number of professional teams has increased, the level of competitiveness increased, the studies and researches in this sporting sector have become various. More and more, training sessions harness the data from specialty studies to assist coaches in planning offensive and defensive game strategies during training sessions (Francis, J.M., et al., 2017). With caution, data from studies on normal basketball can also be used (e.g., 3-point shooting accuracy during fatiguing conditions, Freitas TT, et al., 2016) or wheelchair disciplines (e.g., improving training methods in wheelchair tennis, Roy, JLP, et.al., 2006), the latter having in common the fact that athletes use the arms and the upper train for both the movement (seat propulsion) and for making branch-specific skills.

A statistical analysis of Beijing Paralympics 2008 and World Wheelchair Basketball Championship 2010 shows that the percentage of successes in field and free throws are the most important factors in winning (Miguel, A.G., et al., 2014). At the same time, HR (Achten, J., And Jeukendrup, 2003) is the most common variable for monitoring effort intensity during training. On the other hand, the relationship between the precision of the basketball and the intensity of the effort was highlighted only in the usual basketball (Marcolin G., et.al., 2018) It is to be noted that in the official HR matches mean is around 150beat.min. (Coutts, K.D., 1988).

Methods

Subjects

The study was conducted on 5 subjects (30.8 ± 8.4years) members of the national champion team 2009. The participants have over 5 years of activity and the corresponding IWBF functional classification respectively: player1-1.5, player2-2, player3-4, player4-3 and player5-2.5. All participants were informed of the purpose and way of development of the study. This was done with the consent of the players, the coach and the Ethics Committee of AurelVlaicu University in Arad.

Experimental design

Each subject, having a Hosand device (2005, Italy), was determined the heart rate at rest ($HR_{rest} = 94.8 \pm 6.22$). They performed specific heating exercises up to HR = 120 beat.min. At this HR value, they executed 10 throws (TP) from 45^0 left and right of the 3sec. quad, and from the free throw line; if during the throws HR dropped below 120, the subject performed displacements, accelerations with change of direction until HR went up to 120beat.min. To reach each HR crossing, respectively 140, 160 and 180beat.min, the subjects performed a proper workout, consisting of displacements (propulsion), directional changes, all made with ball. The protocol proceeds from the data reported by Coutts, K.D. (1992) that, during the wheelchair basketball game, it was estimated that 64% of the time spent in propulsion and 36% in braking activity and that there are no significant differences between the on-site mobility of the players, whether we talk about the fence, forward or central players (Annemarie MH de Witte et al., 2016). The number of successes (ST) for each HR level has been recorded.

Statistical analysis

For data processing, SPSS version 20.0 was used. The results are shown in Table 1. All variables have a normal distribution. We calculated the correlation between heart rate (HR) and the number of successful throws (ST) and we used One-way ANOVA to determine the differences between the precision of throwing PoT and heart rate HR. The upper limit for statistical significance was set at $p = < 0.05$.

Results

The data obtained from the study are presented in Table 1. The correlation between HR and PoT is negative for all subjects, its value being around the group average ($r_{group} = - 0.683$). In other words, the higher the effort intensity estimated by the HR, the lower the accuracy of the basket throw. This can be seen in Figure 1.

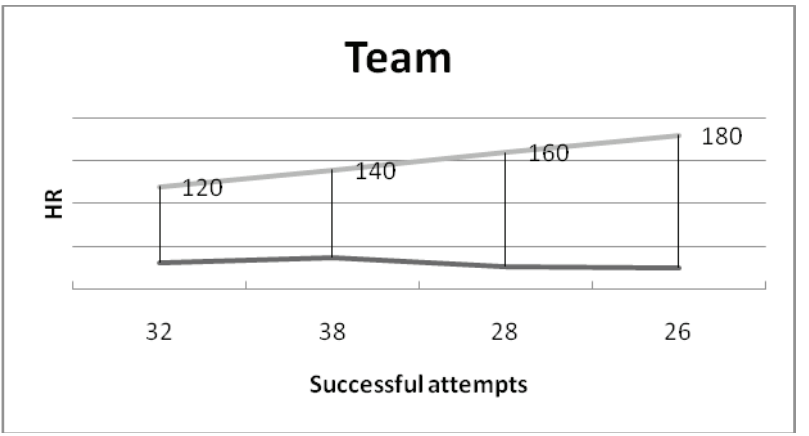

Fig.1 Number of successful team trials for each HR level

Figure 1 shows that the highest number of successes (SA = 38) is around HR = 140. Values are close to those reported by Coutts, K.D. (1988), i.e., 148 ± 6.4 beat.min and Croft, L., et al., (2010), i.e. 163 ± 11 beat.min.

Table 1 The players'number of successful attempts(SA) by heart rate(HR) and throwing position(TP)

	Player 1			Player 2			Player 3			Player 4			Player 5		
Age	42			34			28			31			19		
Heart rate in rest(HR_R)	88			88			99			100			99		
	Successful Attempts (AS) /Throwing Position (TP)														
	L_{eft}	C_{enter}	R_{ight}	L_{eft}	C_{enter}	R_{ight}	L_{eft}	C_{enter}	R_{ight}	L_{eft}	C_{enter}	R_{ight}	L_{eft}	C_{enter}	R_{ight}
120HR	1	3	2	3	3	3	0	0	0	3	2	1	4	3	4
140HR	3	3	2	3	2	4	1	0	1	2	3	3	4	2	5
160HR	1	2	1	3	2	4	1	0	1	3	2	0	1	2	5
180HR	1	2	2	4	1	3	2	0	0	2	1	2	5	1	0

Discussion

If we associate SA with TP and HR, we find that at HR120 the number of successes (PoT: 11,11,10) is not influenced by PT (fig. 2), for HR140 throws are favored from 45^0 right (PoT: 15) (Figure 3), HR160 is similar to HR140 (Figure 4), while HR180 is favored predominantly by 45^0 left throws (PoT: 14) (Fig.5). In other words, PoT is influenced by both HR and TP. One-way ANOVA descriptor analysis (for C.I. 95% and $p < 0.05$) shows that there is a significant difference between the success means at HR140 (SA_{mean} =7.60) and HR160 (SA_{mean} =5.60), suggesting that refinement of basket throws should be in the range of 140-160HR for all throw positions (Figure 6).)

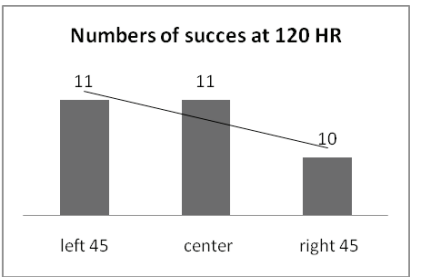

Fig.2. Number of throws at 120 HR.

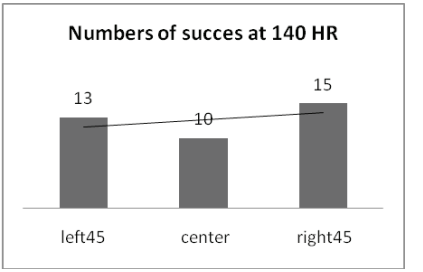

Fig.3. Number of throws at 140 HR.

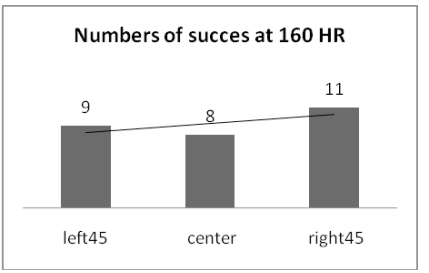

Fig.4. Number of throws at 160 HR.

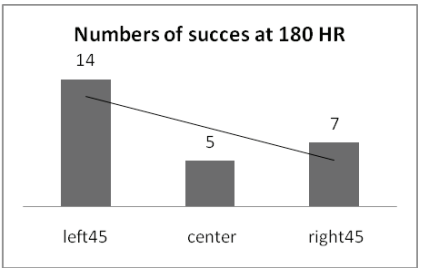

Fig.5. Number of throws at 180 HR.

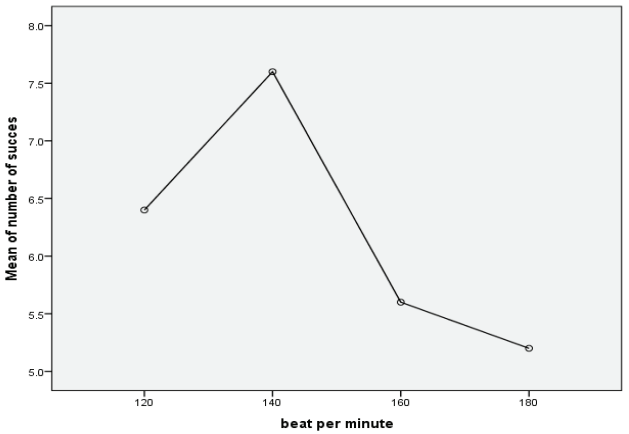

Fig.6 The average of successes for each HR level

Given the preliminary stage of the study, the analysis mainly focused on the relationship between HR, PoT and TP. Fig.7 can suggest the best model with 3 variables, starting from the consideration that PoT is the best at HR140beat.min.

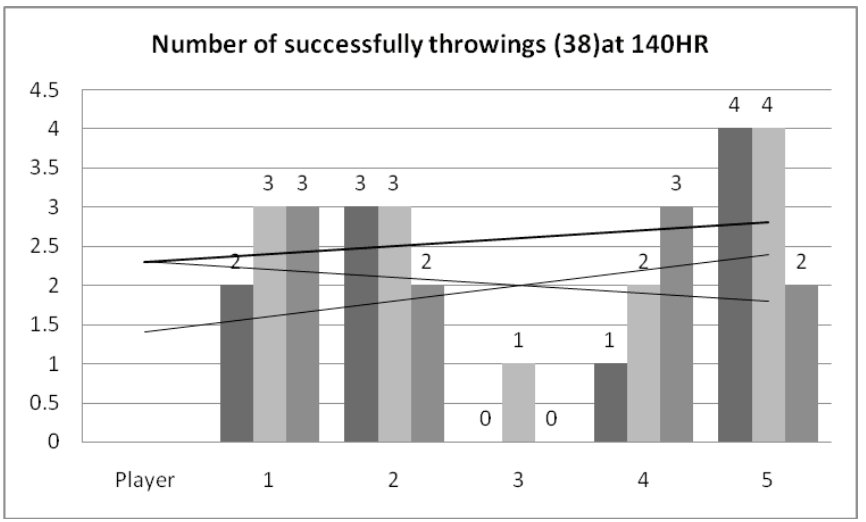

Fig.7 The number of successes to HR140beat.min for each player and the throw position (first column = 45^0 left, second column = center, third column = 45^0 right).

Calculation of the R^2 value shows that the most efficient linear grouping of the 3-variable model is for the 45^0 left throws (R^2 = **0.04** left 45^0, R2 = 0.019 center and R^2 = 0.016 right 45^0) at HR-140beat.min. Basically, this model shows the coach the following: Players 1 and 2 throw with the same efficiency regardless of the throw position but are weaker in relation to the player 5; he has to refine his 45^0 right throws. Player 3 has an almost null return, while player 4 has to refine his left and free throws.

Summary and Perspectives

Given the influences between HR, TP, and PoT, the protocol developed to evaluate these parameters may be a preliminary step for developing a field test to determine performance-related throwing in wheelchair basketball. The test for determining the precision of throwing based on heart rate should also take into account the competitive classification of each player (Sonia De Groot et.al., 2012). At the same time, the classification is not based solely on the same type of injury, but rather on athletes' functional ability to support their trunk and use their upper extremities (Rajat Mathur et al., 2018). It should be noted that physiological responses are not constant during a training session (Yenci, J., et.al., 2014).

Studies have to be continued because data provided to coaches following such tests can guide the content of training sessions, help to establish holders and configure tactics and ultimately improve performance in wheelchair basketball.

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Attitudes of university students towards First Aid and CPR. Pilot study with online questionnaires measuring training and performing First Aid and CPR

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Abstract
According to the Hungarian National Core Curriculum (NAT 2012) learning about First Aid is compulsory in primary school but cardiopulmonary resuscitation (CPR) is neglected. Pupils first learn about accident prevention and emergencies, and later (at the age of 12-15) a bit more about emergency situations and first aid embedded in biology and natural science subjects.
The Hungarian population's accident assistance is very low. In case of road accidents it is only 10% and the results are even worse for resuscitation, in spite of the fact that a successful exam in first aid and CPR is required for obtaining a driving license.
How can this situation improve? Is it about the lack of knowledge or there are problems with attitude? Teachers have a huge responsibility for shaping both.
Purpose: The present pilot study investigated the CPR knowledge and First Aid attitudes of university students (60 female and 41 male, mean age is 21,98 years) studying different majors like physical education, teacher training, coaching, recreation and sports. The main purpose of this research was to find out how the future teachers think about the first aid and resuscitation as a should be taught subject and what knowledge they have in this topic.
Methods: The CPR attitude online questionnaire contained 12 items and answers on a 1-5 Likert scale indicated the students' predicted willingness to

help in sudden death situations (cronbach α:0,85). The second 15 items questionnaire using a 1-5 Likert scale also, provided statements about the importance of First Aid and CPR studies in primary education (cronbach α:0,74). There were also additional questions concerning students' socio-economic backgrounds physical self esteem and sporting habits.
Results: By calculation Pearson Correlation and linear regression with SPSS 22.0 program, significant correlation was found between sporting habits during primary school and first-aid readiness/willingness (p= 0,05). Compared to male students, females tended to be more hesitant in a sudden death situation concerning a homeless man, due to fear of infection and prejudice. Former school studies in First Aid and CPR affected the willingness to help positively and both genders thought, that CPR should be taught in primary school already.
Conclusions: So primary school training in first aid and CPR can be a defining part of a strategy for increasing bystander resuscitation rates and quality. Starting first aid education at early school age cuold be a successful method for training young people and change the attitude of the society

Keywords: First Aid, CPR, school, student

Introduction

First aid means first aid to a person who is injured or suddenly ill. In a broader sense, first aid is a medical intervention that a health care professional or layman performs before the final care is taken to prevent further damage of health and prevent further deterioration. (Deutsch 2012).

First aid is an action which consists of many psychological and physiological elements. With the occurrence of the event, the assistant detects and senses the stimuli of the environment, understands them, and initiates action based on their meanings.

This process is characterized by strong tension and increased emotional state. As a result of the stress situation, the activity of the sympathetic nervous system is increased, which is associated with an increase in heart rate, respiratory rate and blood pressure, as well as increased functioning of the gastrointestinal tract. Whether we are helping in an emergency or not have been explained in many ways by psychology and sociology.

Psychology assumes selfless behavior and altruism in the background of assistance, which is tied to the existing empathic skills of the helper. It follows that a higher level of empathy requires a greater willingness to help. The explanation for this is that the greater the tension in the assistance provider, the greater the level of empathy. Thus, greater tension generates greater will. Studies have shown an interesting relationship between altruistic behavior and self-esteem. They found that aid has self-esteem effect.

There are also noteworthy results of several case studies and experiments which have shown that the more people are present at the scene of an accident, the less chance of assistance. It is also known from social psychological research that, unfortunately, people are waiting for each other in first aid situations. This is called bystander effect (Thornberg 2007, 2010).

Assuring or rejecting assistance is therefore the result of human decisions in a given situation in which personal values, habitus, family and school education, available knowledge and skills, and even the state of mind associated with the current situation and social expectations (Deutsch 2012).

Preventing accidents and providing first aid at a right level in case of accidents should be an important part of the health culture of every country. International and domestic datas show that first aid needed accidents are the third common causes of death after cardiovascular and cancer diseases. Therefore, it is particularly important to perform quick position recognition and primary life saving interventions. These activities fundamentally determine the fate of the distressed individual.

In western European countries, the basic steps of first aid have been taught for a long time, not only as a part of the requirements of getting driving license or health qualifications, but also as an important tool for the development of good health behavior and a supportive attitude (Engeland et al. 2002). The training starts at an early age, thus developing the individual's basic first aid skills and the social attitudes and willingness to help.

Teaching of layperson first aid in school shows excellent results based on international surveys (Plant, Taylor 2013).

Norwegian researchers examined the results of basic first aid education (5x45 minutes) for first-year students (6-7 years). After a half-year retest, it was found that first-aid education for primary school pupils should be started in the first grade (Bollig et al. 2009). Also the results of a Norwegian survey of kindergarten children, supported the importance of early childhood first aid training (Bollig et al. 2011). Thus, the development of attitudes related to assistance can be realized from the age of preschool. An Austrian survey evaluating the outcomes of primary resuscitation training for 9-18 year old students concluded that the youngest members of the sample were able to provide a satisfactory level of resuscitation.

It was found that the quality of implementation, body weight, height and not age, or gender differences are determinative (Fleischhack et al. 2009).

In Hungary, nearly one million emergency calls are received each year. Almost 200 children under the age of fourteen die as a result of accidents. 10% of road accidents have any assistance provided so it is not surprising that less than 1% of the Hungarians can provide first aid effectively. Teaching first aid and promoting assistance are social interests.

The first-aid motivation of Hungarian adults is high, but the level of their knowledge is low (16). This was confirmed by research among parents of preschool children.

Based on the first aid and accident prevention skills, parents were measured by a questionnaire (234 evaluable questionnaires). Results of the evaluation showed that only 4.3% of the parents were able to answer all the questions correctly.

Significant correlations were found between good responses and the economic status of respondents, but at the same time there was also a positive correlation between education and first aid training (Bánfai et al. 2015).

Turkish researchers measured first aid skills among primary school teachers. The result was depressing, as the proportion of the wrong respondents was 65%, 63% and 88%. Although 62.5% of the responding teachers took part in a former first aid training course, they did not do so during their university or college education.

Knowing their weaknesses, 56.4% of teachers would like to receive further first aid training. As a result of the dangers to children, between 7 and 14 years of age, deaths from accidents can be between 20-60%. According to the study, 88% of child-related accidents are directly related to physical activity, while 20% of these accidents occur in school hours. Thus, the results confirmed the importance of training teachers for first aid (Mürüvvet et al. 2007).

In Hungary since 1995 a Government Decree (130/1995.X.26.) on the National Core Curriculum provides for the integration of first aid training into the Primary School 8th grade Biology and Household subjects. In 2003 according to the Decree (243/2003.XII. 17.) on the issue it was also recorded in the curriculum of classes 9-12. Parliamentary Health Committee's Decree (8/2006-2010.2008. IV. 2) contains the following topics: The primary and secondary school education systematically incorporates first aid knowledge. It is also a prerequisite for a driver licence course to acquire first aid skills. Returning to the National Core Curriculum, it can be said that it has been more specific since 2012. In classes 1-4, students should learn about accident prevention, emergency assistance in the framework of environmental awareness and in grade 5-6 it should be first aid for the students. Within the Human and Nature Education Area 7-8. and grades 9-12. In grade one, resuscitation is also emerging among the knowledge to be learned, but we also can find relevant parts in physics and chemistry and physical education (16).

Despite this curriculum background of First Aid education, Hungary has rather poor indicators (16):

- Why do have other countries better results in lay resuscitation or in help willingness?
- Do we have problem with attitude to help?
- Is it only the attitude we do not have or there is also a lack of knowledge and confidence we need?
- Are the Hungarians affraid of giving First Aid or BLS or they are only affraid of doing something wrong?
- Where should we start?

These questions were the basis for this study. So the answer can be probably found in education. The systematic education of first aid and resuscitation within the school framework. That is the reason why I started my research with examining teacher training students because they could do one day something for the changes.

Methods

In this study I interviewed first-year full time students of the Gyula Juhász Faculty of Education at the University of Szeged, Hungary about the present education and future possibilities of first aid and resuscitation trainings at school. Students have not yet received such training during their short period university studies. I was wondering what level of knowledge they have in resuscitation.

Students also completed an imaginary situational questionnaire to test their resuscitation motivation.

My measuring tools are self-edited relying on early literature and the current protocol of the European Resuscitation Society 2015.

This pilot study used the next online questionares:

- BLS knowledge multiple choice questionare (18 items) which is based on the ERC (European Rescucitation Council) protocol 2015. self edited
- BLS education attitude questionare (15 items) with 1-5 Likert Scale, Cronbach α: 0,74
- BLS willingnes questionare (12 items) with 1-5 Likert Scale, Cronbach α: 0,85 based on Petric at al. 2013.
- PSDQ (Physical Self Description Questionare - 46 items) with 1-5 Likert Scale, designed by Marsh 2010.

The research took place in October-November 2017 in Szeged, Hungary by a link sent to the students. The data was processed using the SPSS 22.0 statistical program. In the evaluations, descriptive statistical procedures, Pearson correlation and linear regression calculations were used to find out which variables and correlations

may help for a future development of willingness to aid and the motivation for resuscitation.

Results and Discussions

During the investigation period 101 students completed evaluable questionnaires. Table 1 shows the distribution of students by gender and their study majors. The average age was 21,98 years.

Table 1. Distribution of students in % by gender and majors

Demographic data												
study majors	prim. teacher		sport & recr.		PE and coach		PE		other		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Male	2	2	6	5,9	17	16,8	14	13,9	2	2	41	40,6
Female	13	12,9	23	22,8	13	12,9	7	6,9	4	3,9	60	59,4
Total	15	14,9	29	28,7	30	29,7	21	20,8	6	5,9	101	100
Age (mean±SD)	21,98±3,72											

During their previous studies, students received only a small amount of first aid training. Table 2 shows the forms of education by distribution. These results point to the presumed school situation of first aid and resuscitation.

Table 2. Distribution of the students' former first aid education

in % by forms

First Aid training in Primary School	**%**
did not learn first aid	42,6
learned first aid in biology	37,6
learned first aid in afternoon class	5
learned in environmental lesson	5
learned in sportsdays and other lessons	9,8

Students also answered questions about their family status, habits, and physical activity. Based on the responses I received Pearson's Correlation Calculation attempts to highlight the context of variables that can determine an individual's first aid motivation (table 3).

The analysis of physical self-assessment was made from the consideration that physical activity and self-image may help to solve real or perceived accident situation. The frequency of sport during the primary studies (3 times at least 1 hour physical activity/week) showed correlation with the willingness to help in case of accident.

Of course, previous studies on the subject may also be helpful during an intervention and it is also useful to have sufficient confidence in the need for first aid. Age was also decisive which means by age an individual can be more determined and willing to help (table 3).

Table 3. Significant correlation links between variables

2 tailed Pearson Correlations, p<0,01**,p<0,05*

variables		variables
mother's qualification	,209*	family physical activity
mother's qualification	,221*	physical self esteem
sports frequency in pimary school	,220*	would give fist aid in case of accident
learned BLS before	,256**	would give fist aid in case of accident
learned BLS before	,335**	BLS questionare score
learned first aid	,201*	BLS questionare score
learned BLS before	,259**	willing to give BLS in case of accident
age	,254**	willing to give BLS in case of accident

Existing knowledge, primary school sports habits (at least 3 times 1 hour organized physical activity/week), and physical self-esteem are likely to contribute to more decisive intervention in first aid **(**table 4**).**

Table 4. Based on answeres: student could give first aid in case of accident

by calculation of linear regression of variables, sign. p<0,01, p<0,05

Independent variables	B	Std.error	Beta	sign.
BLS questionare scores	,057	,022	,244	**,010**
physical self esteem	,705	,288	,229	**,016**
sports frequency in primary school	,119	,044	,253	**,008**
age	,024	,014	,170	,079

In a hypothetical resuscitation situation there are other variables which may have a positive effect on the intervention. Primary School sports habits still show a positive correlation to willingness and age is also decesive (table 5).

Table 5. Based on answeres: student would be willing to help an unconscious person

by calculation of linear regression of variables, sign. p<0,01, p<0,05

Indipendent variables	B	Std.error	Beta	t	sign.
BLS qquestionare scores	,009	,019	,044	,452	,652
physical self esteem	,326	,249	,127	1,308	,194
sports frequency in primary school	,087	,038	,221	2,270	**,025**
physical appearance	,053	,097	,054	,541	,590
age	,035	,012	,296	2,986	**,004**

For the situations that require resuscitation, students gave surprising answers. It can be clearly seen that family and other emotional attachments can have a positive influence on a necessary intervention. At the same time prejudices expressed in the students' answeres which is unfortunately characteristic of the present society (table 6).

Table 6. Distribution of willingness to give BLS and CPR

with dichotom variables in %

unconscious situations	**%**
family member is found	96
small kid on a football field	88
neighbor collapses	87
old lady in a shop	81
man with strange outfit	71
drunk man in the street	56

For that debate of the poor results of first aid giving and BLS in the Hungarian society students answered that people probably are affraid of doing something wrong during the aid situation and could make it worse so they are not aware of that the worst way to get first aid and resuscitation if that person who could help at the scene does not even try it (table 7). But there are respondents who would always be willing to help in an accident. 19.2% of respondents who think that they are not trying to give BLS because of their uncertain knowledge. This result may be thought-provoking in terms of teaching the knowledge of resuscitation. It outlines the importance of training and the importance its' regularity (table 7).

Table 7. Distribution of reasons why a student would not try to give BLS and CPR in %

reasons	%
affraid that makes the situation worse	42,6
not sure about the own knowledge	19,8
sick of giving mouth to mouth breath	7,8
affraid of getting infections	5
willing to do it in any case	24,8

It has been proven by international literature that regular first-aid training integrated into school education is most effective (Lukas et al. 2016). Training started at a sufficiently early age provides an opportunity to develop a change of attitude and effective accident assistance.

Despite the responding students would consider regular and early schooling to be important for first aid and resuscitation. They think it would be too early to start this in first class. But at the same time, they consider it important to regularly update their knowledge and consider the inclusion of first aid training in physical education as feasible.

Table 8. Percentage distribution of answeres concerning students' attitude to First Aid and BLS education in primary school

answers/statements	%
should teach both in primary school	92
age determinates help giving	76
many are affraid to help	80
could start teaching both in 5th class	81
should repeat the training in 6 months	88
should teach both from 1st class	37
training should be in PE lesson	64

Conclusions

Although the Hungarian National Core Curriculum (2012) contains first aid as a knowledge to be taught the reality is somewhat different. The results of this pilot study are identical to the contents of the references cited. Complementing them with own experience, it can be concluded in the relation of the sample of this study that:

- willingness to help in case of accident can be positively affected by a physicly active background and regular physical activity in early childhood and also positive physical self esteem.
- pupils receive first aid training but the lessons are not regular, usually held by external organizations, healthcare providers because the primary education system have no trained teachers self and there is also a lack of time for first aid training within a certain lesson.
- It can be assumed that in many cases resuscitation is missed to carry out due to prejudice and the lack of self confidence.

There is sufficient evidence today for resuscitation education programs to be started in primary schools using the own teaching staff. The European Patient Safety Foundation (EUPSF) and other organisations have published a statement entitled „Kids Save Lives" on training schoolchildren in CPR in January 2015. This statement is approved and supported by the World Health Organisation (WHO) to promote the apparatus of CPR training in early education throughout the world (Böttiger, Van Aken 2015). Despite the evidence and the numerous publications available, CPR training in primary schools has still not yet been widely implemented in Europe. Although many countries are starting to develop evidence-based curriculums on CPR training in schools (De Buck et al. 2015) there is still a lack of standardised Europe-wide curriculum.

Training schoolchildren in CPR can be a defining part of a strategy for increasing bystander resuscitation rates and quality. Starting first aid education at early school age is a successful method for training young people and change the attitude of the society. There

is evidence that age-appropriate CPR training can be provided for a wide range of pupils. However it is still unclear which profession is most suitable for teaching them first aid and resuscitation.

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Anthropometric and Physiological Criteria in Selection of Team National Football U17

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Abstract
The purpose of the study to explore the main medical-sport data for the selection of national team players U 17. There are many factors important in determining the success of a soccer player. Soccer players have to adapt to the physical and physiological demands of the soccer game. Players may not need to have an extraordinary capacity within any of the areas of physical performance but must possess a reasonably high level within all areas.
Methods. In this research are included 35 players who did not pass the age of 17 years. The searches were conducted in the sports lab certified in March 2018, the NSC. Footballers do complete blood and urine tests. For the study effect we have evaluated some data: hemoglobin, age, height, weight, percentage fat, aerobic power absolute and relative values. S A was realized using software, IBM SPSS 20.
Results. In this research the height is 175,129 ± 5,679 which indicates that the demand for high stature players continues. Weight, mass index and fat percentage show that players are in regular football body composition. Absolute aerobic power 2,546 ± 0,370 and relative 40,054 ± 5,644 indicates that this physical fitness for age is lowered. The hemoglobin average in our values is 12, 23 ± 0.869, which is below normal sports limits.
Conclusions. Selection of players at the elite level needs some specialist from various fields in sports, where in addition to external visibility, sportsman should be evaluated by functional and psychological side.

Keywords: Soccer Player; Analysis; Hemoglobin; Body Mass; Selection; Elite.

Introduction

In the selection of athletes, there is a rule that must be followed by all the specialists. It is a physically-functional constitution set by the player, compared to the other athletes of other profiles. Furthermore, the player must have top list of other qualities, such as technical, tactical and psychological. So there are special groups that select and confidently give the coach the required team, which at the same time is also selective (Rusi,2013).

Soccer is one of the most widely played and complex sports in the world, where players need technical, tactical, and physical skills to succeed. The game is physically demanding, requiring players to participate in frequent bouts of high intensity activity (e.g. sprinting, physical collisions, and tackles), separated by short bouts of low intensity activity (e.g. walking and jogging) (Shephard, 1999; Reilly, Bangsbo & Franks, 2012; Bunc & Psotta 2011; Reilly & Gilbourne 2013; Gil et al., 2007).

There are many factors important in determining the success of a soccer player. Soccer players have to adapt to the physical and physiological demands of the soccer game. Players may not need to have an extraordinary capacity within any of the areas of physical performance but must possess a reasonably high level within all areas. Some of these physical and physiological factors are easily measurable such as running speed and jump capacities (Reilly, Bangsbo & Franks, 2012; Gil et al., 2007).

In addition, the one of the most discriminating factors among elite and non-elite soccer players were sprint time (Reilly & Williams, 2009). The assessment of the physical capacities of players is widely utilized in an attempt to gain an understanding of the player‘s performance capabilities (Swensson & Drust,2015).

Physiological considerations are increasingly essential to optimal performance, not only in adults, but also in young children. Nowadays, the early participation of children involves intensive training and participation in sport (Diallo, 2011).

Although its popularity compared with other sports at each age level, there is a scarcity of information on the technical, physiologi-

cal and conditioning aspects of pre-pubescent players. The information available for players is much less than that for adults. To date, there were limited study has investigated the physical and physiological characteristics of very young soccer players (Gil, Ruiz at al., 2007; Drust,2007).

The purpose of the study:

To explore the main medical-sport data for the selection of national team players U 17.

Method

In this research are included 35 players who did not pass the age of 17 years. Scientific study controls were carried out in a sports lab certified in March 2018 at the National Sports Center.

Players passed medical examination, according to a protocol ordinary sports medicine, being asked to illness, injury and other problems. Each player made the clinical analysis of complete blood and urine. For the study effect we have only evaluated some data: hemoglobin gr. / dl, age with calendar date, height in cm, weight in kg, fat content measured with Harpner compass and aerobic strength according to Astrand. Aerobic power is evaluated by indirect testing in absolute and relative values. All variables have been valid for judging how the players have been selected from the constitutional and functional side.

The Statistical analysis was done using software, IBM SPSS 20. Statistical techniques used include: general descriptive analysis, assessment of the data distribution and control of search hypotheses through the comparison of the difference techniques.

Results

Table 1. Age and height data for tested players

Age	density	%	Height	density	%
15	3	8,7%	161,5-169,5	4	11,4%
15,5	7	20%	171-174,5	13	37,2%
16	24	68,4%	175-179	11	31,4%
16,5	1	2,9%	180,5-186,5	7	20,0%
Amount	35	100%	Amount	35	100%

Table 2. Weight and fat % data for tested players

Weight	density	%	% fat	density	%
53-60	10	28.6%	7-10 %	30	85.7%
61-69	17	48.5%	10.5-12%	5	14.3%
70-78	8	22.9%			

Table 3. Relative aerobic power and absolute aerobic power data for tested players

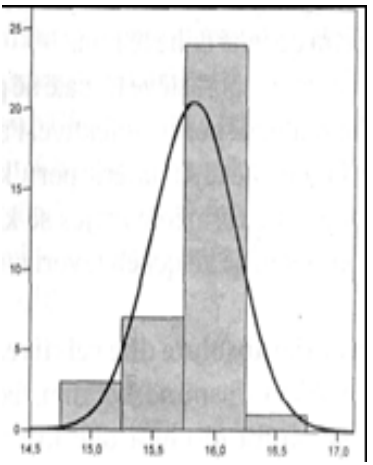
Relative aerobic power	density	%	Absolute aerobic power	density	%
30,4-39,3	20	57.1%	2,0-2,5	16	45.7%
40,6-54,6	15	42.9 %	2,6-3,5	19	54.3%

Table 4. Hemoglobin data for tested players

Hemoglobin	density	%
ll-12	21	60%
12,4-13,8	13	37%
14,7	1	3%

Discussion

In evaluating the parameters taken in the study, we considered the relationship between them and the effectiveness that they have in relation to the goal we have set ourselves in selecting the element for international activities. Age as a necessary obligation requirement, it is important to be calendar and unchanged for sporting purposes.



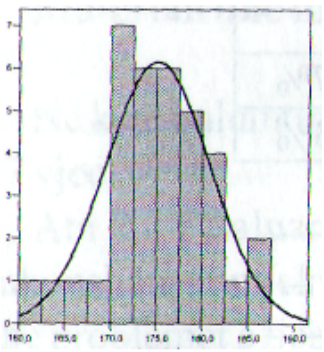
Graph. 1 Age

According to the values it appears that age is one of the data taken into account for the better. The selected footballers are at the age of 15,828 ± 0,3418 who are able to play not only this season (see graph. 1).

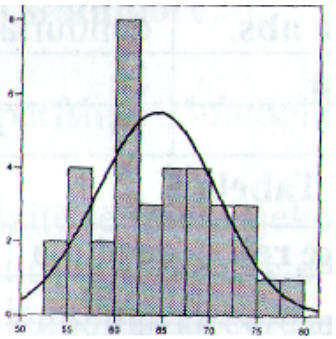
In 2017 according to studies (Ostreni,2017) the national football team average height was 180.11 ± 3.89 and for youngsters U 19 was 175.93 ± 5.04. In this research the height is 175,129 ± 5,679 9 which indicates that the demand for height players continues to be still today.

Weight, mass index and fat percentage show that players are in regular football body composition. Recently, data from the reflection as well as the national teams of Super League teams in Albania has been observed that already being fought to preserve their physical parameters. The footballers have the cheek to be more careful in weight conservation. At the same time, this shows that sports medicine has played an important role in understanding this problem correctly The selection of these variables analysis shows that we're standing in new requirements to adapt the direction and trend of elite football in the world (Kariqi,2005). Of course, the search for height sportsmen in general means more capacity and effective sports-related applications. Despite this, a team cannot dominate

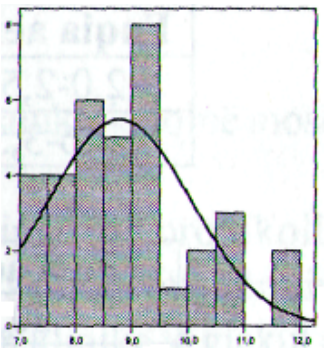
short stature but no team that has no such. Seeing this in the form of increasing the operational capacity, we say that selection has not only been favorable but also important (see graph. 2, 3, 4



Graph. 2 Height



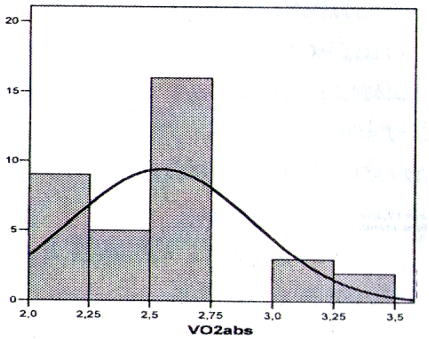
Graph. 3 Weight



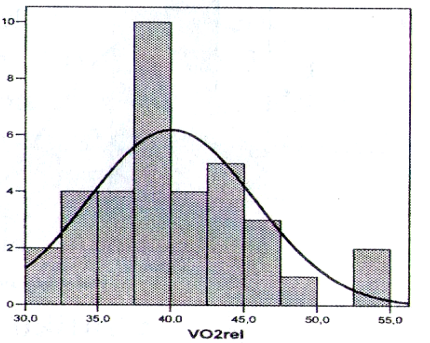
Graph. 4 Fat

In the age of the study, the absolute and relative aerobic power is found in low figures and this shows the wrong method of training the players for the problem in question. This is reinforced by the time of data collection that pertains to a period of activity. Absolute aerobic power 2,546 ± 0,370 and relative 40,054 ± 5,644 indicates that this physical fitness for age is reduced. With all the maximum growth opportunities, but no more than 25%, these players are not able to match the football game with the time requirements. This is

our early finding, not only with the teams but with the Loro Borici football national high school, where the results should be higher (Rusi,2013) (see graph. 5 and 6).

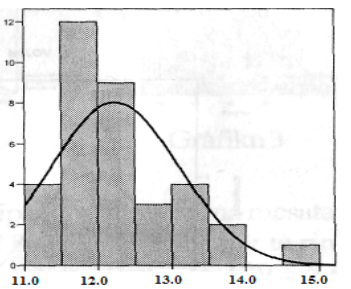


Graph. 5 Vo^2abs.



Graph. 6 Vo^2rel.

So if we have managed to find the type of the player constitutionally, we have not found the appropriate engines of this human machine. Looking at the data, we notice that 20 players have a value below 40 mlO^2kg, which indicates that they are not able to play an intense game. Only 6 players reach their relative values from 45-55 mlO^2kg min. This situation has to do with understanding not just the right of sports training but also the changing motive that each individual must have. Based on the data collected, the hemoglobin value in the player is below normal sports limits, and even only one player has 14.7 percent of the standard. The hemoglobin average in our values is 12.23 ± 0.869 (see graph. 7).



Graph. 7 Hemoglobin

The assessment of health, blood and urine tests for four people with urinary tract infections indicates that football, especially those of the ages, is out of medical examinations. This is a task to find the way to the sport federations because the requirements of the federal statute, where participation may not be permitted without thorough analysis and necessary medico-sports.

Conclusions

By anthropometric terms, players are well chosen and form the appropriate type for the soccer game. Height 175,129 ± 5,679, weight 64, 43 ± 6,326, % fat 8,789 ± 1,274.

The age of the players is appropriate for this activity. The young people selected, if they will continue, will have the chance to play with this age another year. This is very important in their activity.

One of the blood parameters, hemoglobin is at low levels, which significantly affects the aerobic ability of the athlete. 60% of the players have this value close to 12 gr / dl.

Aerobic power is below the sports level and under the civic level, 20 players are controversial for the football game.

The selection of high-level elite players needs a lot of specialists in different sports fields. In addition to the external constitutional appearance, the soccer should be evaluated in a functional way to avoid forgetting the psychological one. Creating the selection groups have importance first hand in achieving the goals. In the selection team the doctor is unquestionable after the physical and physical control of each sport individual.

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The assessment of the time allocated to the physical activity and food behaviour of a lot of adolescents from 2 highschools in Suceava

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Abstract
In the framework of the external factors that influence the growth/development of the students, sports activity and alimentation play an essential role. **Material and method**: The study was conducted on a batch of 98 teenagers from 2 highschools in Suceava. They filled in a questionnaire with questions relating to the time allotted for physical activity and dietary habits. **Results and discussion**: in most cases the students allocated daily physical activity between 15 and 60 minutes (54.08%). The dominant contribution of milk is 2-3 times per week (31.63%) and chicken meat (51.02%). The result is unsatisfactory, which highlight the problems related to the consumption of food products of animal origin. Cooked vegetables are present in the menus especially 4-7 times (36.73%) and bread (72.44%). **Conclusions:** the time allotted for daily activities is pretty modest and the intake of animal origin products is low.

Keywords: physical activity, food behaviour

Introduction

Growth and development are two processes which characterise the first 20 years of the life of a person. They are influenced by the action of domestic factors (genetic) and external (environment). Balanced diet is esential for the harmonious development of a child (Gavat, Albu and Petrariu, 2006).

In the present appear a series of issues related to the appearance of the body pattern and the identification with the current ideal of beauty. Special circumstances appear in female gender, where the identification with the current ideal of beauty requires recourse to release cures sometimes exaggerated. Teenage years has a body weight appropriate to its height, but which does not correspond to the ideal dream, which leads to the appearance of dissatisfaction related to his own body (Hima, Meenu and Priti, 2017). The best solution would be that of achieving a balanced diet, and the increase in consumption by practicing a systematic approach to physical exercise.

Frequent chaotic slimming treatments are used that can cause serious imbalances. Girls have truncated or incorrect information obtained from various sources that have been "successful" in achieving the proposed goal. No specialist sources (nutrition or school hygiene) are used and there is little focus on systematic sports practicing.

Sustained physical activity will increase the body's energy consumption, improve metabolic responses, and balance body weight. It will improve the function of the respiratory and cardiac apparatus, the proper development of the bone and muscular system (Albu, Indrei and Cărauşu, 2018).

One aspect that needs to be carefully discussed is about the development of the bone system and growth in height. The height of the child is genetically determined, so there is a positive correlation between the height of the child and that of the parents, between the heights of the brothers. Physical activity and balanced nutrition will allow the young person to make the most of his genetic potential. A young that have a parent from 1.70 cm height will not reach 1.90 m, no matter how much he does and no matter how well he fits.

Under conditions where physical activity is poorly represented, rapid weight loss may be achieved, followed by an increase in weight as fast as the least change in diet.

Study Objectives: Evaluating the time spent by students on exercise; gender differentiation because girls tend to move less than boys; knowing the eating habits of young people in the study group; appreciating the differences that occur between the eating habits of girls and boys.

Material and methods

The study was conducted on a group of 98 students from two high schools in the city of Suceava. There are 48 pupils from the "Al.I.Cuza" Technical College and 50 students from the "Dimitrie Cantemir" Economic College. Students are in the 9th grade and are between the ages of 14 and 16. The results will be presented by gender and not by community. 58 young males (59.18%) and 40 females (40.81%) were examined. These youngsters were asked a questionnaire on time spent on physical activity and weekly consumption of some foods. Food habits are studied with a weekly frequency questionnaire of food consumption.

- During a day while doing sports or other physical activities (in minutes) ?: Under 15 minutes; between 15 and 60 minutes; over 60 min.

- How many times a week you consume milk, chicken, other vegetables - cooked or bread: zero - once - 2/3 times - 4/7 times. The results were processed using the Pearson test.

Results

The study is oriented on two principal directions of physical activity and nutrition.

The daily exercise time for most students is between 15 and 60 minutes (54.08%) (Table I).

Table I. Daily time allocated for sports by the students

	Under 15 min.	15-60 min.	Over 60 min.
Girls	10	27	3
Boys	5	26	27
Total	15	53	30
%	15.31	54.08	30.61

Draw attention 25% female and 8.62% male subjects who exercise less than 15 minutes daily. The calculated differences are statistically significant at a $p < 0.001$ ($f = 2$, $\chi^2 = 18.007$) and highlight a modest concern for girls for this way of controlling their own body weight. Girls are more interested in slimming belts with "spectacular" results than systematic exercise that would help maintain health.

Feed evaluation is done for products of animal origin (milk, chicken) and vegetable.

Milk is a aliment that has a special nutritional value (rich in protein and animal fat, carbohydrates, vitamins and mineral salts), but a modest calorie (50 kcal / 100 ml). Moderate caloric intake makes it advisable for regimens aimed at maintaining body weight constantly.

Balanced consumption (4-7 times) occurs only in 17.34% of cases, which is an alarm signal for the specialists in the field. There are many situations where he is not consumed (21.42%) or is present in menus only once a week (29.59%). In fact, in 50% of cases milk is missing or is present in menus in almost insignificant amounts (Table II).

Table II - Weekly milk intake

Per week	Zero	Once	2-3 times	4-7 times
Girls	11	10	12	7
Boys	10	19	19	10
Total	21	29	31	17
%	21.42	29.59	31.63	17.34

The results obtained on sex are worrying because the calculated differences are statistically insignificant ($p > 0.05$, $f = 3$, χ^2

= 1.946). Students in the study group have the same wrong eating habits, which is a health risk factor.

The need for animal protein can also be ensured by proper meat consumption. Chicken meat is preferred because it is rich in protein (21.4 g / 100 g product), low in lipids (6.8 g / 100 g of product) and offers a modest caloric intake (151 kcal / 100 g of product) (Pop, Stef and Pop , 2009).

Dominant input is 2-3 times a week (51.02%) worrying as pork is more and more rarely present in menus. Consumption balanced (4-7 times) is asserted by only 32.65% of students (Table III).

Table III - Frequency with which chicken meat appears in menus

Per week	Zero	Once	2-3 times	4-7 times
Girls	1	8	20	11
Boys	1	6	30	21
Total	2	14	50	32
%	2.04	14.28	51.02	32.65

Differences calculated by gender are statistically insignificant ($p > 0.05$, $f = 3$, $\chi^2 = 2.229$) and highlight the existence of similar eating habits in the families of the students questioned. Zero (2.04%) and one-time responses (14.28%) are worrying because there is a risk of triggering some protein imbalances.

Cooked vegetables are present in menus especially 4-7 times (36.73%) or 2-3 times (31.63%) per week. We need to insist on vegetables and especially on cooked foods because they contain little vitamin C, which is destroyed by boiling. Their nutritional value is given by the appreciable content of carbohydrates, vitamins and minerals (Table IV).

Table IV - The presence of cooked vegetables in the menus of the students questioned

Per week	Zero	Once	2-3 times	4-7 times
Girls	6	9	10	15
Boys	7	9	21	21
Total	13	18	31	36
%	13.26	18.36	31.63	36.73

It is not possible to ensure the daily needs of proteins, lipids or calories just by eating vegetables. It is a situation that must be carefully watched because there are various "successful" menus on the internet, such as eating a whole day only cabbage. Differences calculated by gender are statistically insignificant ($p > 0.05$, $f = 3$, $\chi^2 = 1.802$), a worrying situation because they also focus on the preoccupation of men with different diet regimes. In the male sex, the situation is also complicated by the increased sporting time, which increases the energy needs of the body.

Vegetable food also includes bread alongside grain derivatives. The discussion about these products has to be carefully done because the simplest action to control body weight is to remove the bread from the menus. It is a totally wrong nutritional gesture because cereals are an important source of protein, even if of plant origin. Cereals contain between 8 and 11 g of protein per 100 g of product. They reach the human body up to 40-45% of the daily protein requirement. Removing them from food, associated with reduced dairy and meat consumption, is the ideal recipe for proteocaloric malnutrition, in which the body weight reduction initially occurs but subsequently associated with serious health problems.

In the study group the situation is not serious because the bread is consumed by 4-7 times per week by 72.44% of students. I only attract the attention of 10% young people who do not consume (1.02%) or consume only once a week (8.16%) (Table V).

Table V - Bread consumption of pupils questioned

Per week	Zero	Once	2-3 times	4-7 times
Girls	1	4	10	25
Boys	0	4	8	46
Total	1	8	18	71
%	1.02	8.16	18.36	72.44

A 2-3 times (18.36%) bread intake per week can be accepted because one day a larger quantity can be consumed followed by removal from food the next day. However, statistically insignificant differences ($p > 0.05$, $f = 3$, $\chi^2 = 4.328$) are strange for females who have a great concern for controlling their own body weight.

Discussion

The first aspect to be carefully studied is that of sporting activity. Systematic studies conducted on adolescents in France highlight the diminishing interest in physical activity with age, which is much lower in girls than boys. The results of the survey conducted in 2000 in this country highlight the existence of 44.0% boys and 27.4% girls practicing daily sports alone or with friends (Guilbert, Gautier, Baudier and Trugeon, 2004). A comparative study was conducted in 2002 and 2006 insisting on practicing physical activity for at least 1 hour / day. In boys, there was an improvement in the result from 26.8% in 2002 to 41.8% in 2006. In girls, the evolution is from 12.1% in 2002 to 25.1% in 2006. French specialists are the result of educational actions taken (Godeau, Arnaud and Navarro, 2008).

Evaluations done on Mexican adolescents reveal differences in sex depending on the type of preferred sports activity. Boys prefer practicing athletics, tennis or basketball as girls turn to gymnastics and dance (Galvan, Monroy-Campos, Lopez-Rodriguez, Unzaga, Olivo, Hernandez-Cabrera, Guzman - Saladana, and Amigo, 2017)

In our country, in a survey conducted in 2014, only 15.8% of young people practicing daily sports over 60 minutes (Albu, Onose, Negrea, Crăcană and Hodorcă, 2016) are also present in the Moldovan area. Such responses appear in 32.4% boys and 9.4% girls, the calculated differences being statistically significant. In the current study, the outcome is much better reaching 30.61% of young people exercising over 60 minutes daily. However, the situation is different for sex because it reaches 46.55% boys and 7.50% girls. Boys are more interested in physical exercise than girls do. There is a need for coherent educational programs in which girls are oriented towards practicing physical exercise as a healthy way to control body weight.

The second aspect studied is the eating habits of the students surveyed. Deficient milk intake is a problem because it is a food that has a special nutritional value. Milk is present in girls only once a week in 25.0% of cases and boys in 32.75% of cases. In a

study conducted on adolescents in Bucharest, once-a-week intake is present at 10.66% girls and 8.12% boys (Milici and Neagu, 2014). The results obtained in the study group are worrying and focus on the need for coherent educational programs.

Chicken is present in menus especially 2-3 times or 4-7 times. It has a modest caloric value being recommended in slimming cure and in weight-oriented diets.

Vegetables are the favorite vegetable products for slimming belts. They provide the daily needs of minerals and vitamins, but are poor in protein and lipids. Modest protein content (1-2 g / 100 g product) and lipid (less than 1 g / 100 g product) is a problem. These products are constantly present in the menus due to their modest caloric intake (up to 50 kcal / 100 g of product). Consumption needs to be carefully studied because of the risk of proteocaloric malnutrition (Martin and Tarcea, 2015).

Bread is constantly present in the menus of the students questioned. It is a positive result because it also provides considerable protein intake. In a teenage study in Alexandria, three times a day the consumption of bread was found in 36.5% of cases twice in 40.2% of cases and once or less per day in only 23.3% of youngsters (Emara, Mehanna, Ashour, Koura and Shatat, 2018). Eating bread is what is a positive element. Many "special" nutritional programs that deliver "special" results guide young people to reduce consumption and even to remove these products from menus.

Conclusions

Young people and especially young women are less concerned about the systematic exercise of physical exercise.

They frequently resort to "special" diets that can become a risk factor for their health. The study group finds the drastic reduction in the intake of products of animal origin and the orientation towards those of vegetal origin.

It is necessary to develop nutritional education programs, but to be made correctly based on the actual knowledge of the alimen-

tary habits of the population. Programs such as fruit-delivery and school-based fruit do not educate anything as our populations get plenty of fruit and vegetables.

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The Relationship, Motor Ability and Social Behavior in Children of Age 4-6 Years

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Abstract

The purpose of the study is to understand the relationship between the motor and social ability after the gymnastic program intervention in preschool children.*The children have their needs to move and to do exercises. They should exercise everyday to coordinate limbs and body muscles to move in the best way their body. This is one of the reasons why physical activity represent an essential part of the children education program.***Methods.**For the realization of our study, have selected 60 children from four Tirana's preschools city, age 4 to 6. The children are separated in two equal groups.Collected data begin, middle and in the end of tests and questionnaires were under a statistical processing by IBM SPSS package, version number 22. T-test is used to see if there are significant changes between control and experiment group skills along the tests phases.Pearson's Product-Moment coefficients is used to evaluate all the relations between dependent variables.**Results.**Dynamic balance skills has a negative direction correlation with social action. ($r= -.36^{**}$, p=.00); social independence ($r= -.48^{**}$, p=.00), and general social behavior evaluation ($r= -.37^{**}$, p=.00). Static balance skill has a positive direction correlation with social interaction ($r=.41^{**}$,p=.00); social action($r=.37^{**}$, p=.00); social independence ($r=.39^{**}$, p=.00) and general social behavior evaluation ($r=.11^{**}$, $p<0.01$).**Conclusions.**Study results shows that gymnastic program

has an impact in motor abilities education and development, but this impact in not the same in all abilities.

Keywords: Motor ability; Gymnastic; Preschool Children; Social Action; Balance.

Introduction

The childhood years represent one of the most important stages in the human development (Cooper et al., 1989). The thesis in which human development is compared with a 10 floors building is already accepted by many scholars, in which eighth first floors represent the age till 6 years old(Berk,2002). To have a normal child development needs for sure the stimulation of external environment factors. Children with disabilities or those with social problems, as the normal child, have physical and psychological needs to live and develop their best potential(Schmidt& Wrisberg,2008).

The children have their needs to move and to do exercises. They should exercise everyday to coordinate limbs and body muscles to move in the best way their body. This is one of the reasons why physical activity represent an essential part of the children education program. Through this activity, children have all the possibilities to discover and recognize themselves, to develop constantly moving skills which are inseparably connected with their child world and which creating their personality are valid for the present and future(Harrell et al., 2003).

The children learn from their life experience and curious nature, so they appear in school with a very considerable training and experience formed in theirs families or friends. All type of children have to learn their special methods (Johnston&Williams, 2009). An effective learning process have to be adapted individual characteristics and to be built over what the children knows and need to learn. Is also important to understand the way how the child learns.

Children learn through the fields moving interaction with the other fields which are: knowledge, social and emotional. In this way, physical education through moving experience focused in

moving skills contributes in children full development(Gallahue& Ozmun,2006).

Pedagogical sciences that handle the movement, consider it as a very important education tool. In this point of view, education and in particular the movement at preschool ages draws attention of many specialists and scholars, based on the pedagogical masterpiece to build and develop learning process in a creative way(Zachopoulouet al., 2010).

Preschool age, without doubt, is one of the most important periods that needs a special attention. The curiosity of the child in this age is a really treasure, which allows to discover in few years all the world around him. The child pay attention in details, in which adults do not recognize them. He join looking, hearing and touching things(La Freniere et al., 2002).

In this period children needs more than ever to move and play, because his mental development is directly connected with "his motor development". When his "motor development" is not normal, there can't be an intellectual development, affective and social. In this point of view, we think to explore in actual motor abilities and social level of the children in the age 4-6 years old(Bredekamp& Copple,1997).

To improve the movement field in the preschool children, considering that the education and "motor skills" as a very important factor in movement development to create opportunities to practice social skills connected with childhood world, talent and their entertainment potential, which are valid to build their personalities in the present and future(Sigelman&Rider,2009).

Combination of theoretical with practical character serve the teachers of physical education which works with preschool ages (Hay, Payne & Chadwick, 2004).

Purpose of study

The purpose of the study is to understand the relationship betweenthe motor and social ability after the gymnastic program intervention in preschool children.

Method

For the realization of our study, have selected 60 children from four Tirana's preschools city. The children are separated in two equal groups.In the experiment group will be implemented the education program with basic gymnastics elements, which will last twelve weeks, twice a week for an hour.

Gymnastic program build in a specific way to adjust from age 4 to 6. Children which will be part of this program will have the possibilities to practice with different gymnastics elements, games and social skills. They will have always the same leader and the same persons which will keep their data bases.For any change, in the end of twelve weeks program, data will recollect.

Control group, will follow a free program by using preschool infrastructure under educators supervision.

Based on methodological criteria for test selection, we have select a group of motor tests from contemporary literature as below. Reaction time test, coordination test (eye-hand), body test, agility test, static and dynamic balance test,muscular endurance test, explosive power test, muscular strength test and flexibility test(Duncan, McLeod& Phillips, 2005). Social skills and behavioral problems will be evaluated by evaluation questionnaire for preschool and pre-primary childrenPKBS adapted.In this study dependent variables are motor and social skills while the independent variables are the participation in the gymnastic program and gender.

Collected data begin, middle and in the end of tests and questionnaires were under a statistical processing by IBM SPSS package, version number 22. T-test is used to see if there are significant changes between control and experiment group skills along the tests phases. This test is used also to see the differences between dependent and independent variables. F criteria is used to tell the importance of dependent and independent variables relation. Pearson's Product-Moment coefficients is used to evaluate all the relations between dependent variables.

Results

Table 01:Correlation between social skills and motor ability

Motor Ability	Social skills							
	Social cooperative		Social interaction		Social independence		Total	
	r	**p**	**r**	**p**	**r**	**p**	**r**	**p**
Reaction time	-.05	.73	.08	.54	.14	.29	.06	.65
Hand action cube positioning(sec)	-	.00	-.51	.00	-.43	.00	-.49**	.37**
Hand action, postcards distribution (sec)	.06	.68	.15	.26	.12	.38	.12	.35
Kicking ball (m)	.00	.99	-.11	.40	-.27	.04	-.13	.34
Hand-eye action, push the needle thread	-.04	.74	-.09	.50	-.16	.22	-.10	.43
Static balance	.41**	.00	.37**	.00	.39**	.00	.11**	.01
Dynamic balance 6 cm	-.18	.17	-.36**	.00	-.48**	.00	-.37**	.00
Dynamic balance 4.5 cm	-.24	.07	-.34**	.01	-.42**	.00	-.37**	.00
Jumping right-left 15 s	-.12	.38	.29*	.02	.27*	.04	. 58*	.05
Flexibility	.01	.95	-.04	.74	-.04	.79	-.03	.84
Long standing jump	0.11	.40	.29*	.03	.39**	.00	.28*	.03
Muscular endurance	-.08	.55	-.10	.44	-.09	.49	-.10	.43

Table 02: Correlation between externalizing problem and motor ability

Motor Ability	Externalizing problem							
	Self-centered/ explosive		Attention problems/ overactive		Antisocial/ aggressive		Total	
	r	**p**	**r**	**p**	**r**	**p**	**r**	**p**
Reaction time	-.1	.43	-.07	.62	-.06	.66	-.08	.55
Hand action cube positioning(sec)	.58	.45	.51	.50	.40	.62	52	.00
Hand action, postcards distribution (sec)	.06	.67	.03	.80	.30	.98	.03	0.82
Kicking ball (m)	.23	.08	.12	.35	.24	.07	.21	.10
Hand-eye action, push the needle thread	.10	.45	.07	.58	.05	.70	.08	.56
Static balance	-.25	.05	-.20	.12	-.17	.19	-.22	.09
Dynamic balance 6 cm	.21	.10	.12	.37	.02	.89	.24	.07
Dynamic balance 4.5 cm	.04	.78	.08	.52	.20	.14	.39	.51
Jumping right-left 15 s	.38	-.21	.12	-.24	.06	-.21	.29	.45
Flexibility	.05	.73	.01	.97	.03	.85	.03	.84
Long standing jump	-.49	.60	-.39	.81	.23	.08	-.44	.51
Muscular endurance	.23	.08	.16	.22	.20	.13	.21	.11

Table 03: Correlation between internalizing problem and motor ability

Motor Ability	Internalizing problem					
	Social withdrawall		Anxiety/ somatic		Total	
	r	**p**	**r**	**p**	**r**	**p**
Reaction time	-.06	.67	-.07	.59	-.06	.63
Hand action cube positioning(sec)	.43	.80	.34	.61	.39	.70
Hand action, postcards distribution (sec)	.01	.97	.03	.80	.02	.89
Kicking ball (m)	.13	.31	.09	.48	.12	.37
Hand-eye action, push the needle thread	.08	.53	.08	.53	.08	.53
Static balance	-.10	.43	-.08	.54	-.09	.47
Dynamic balance 6 cm	.12	.41	.34	.61	.03	0.82
Dynamic balance 4.5 cm	.22	.10	.17	.21	.20	.14
Jumping right-left 15 s	.15	.27	.11	.40	.13	.32
Flexibility	-.04	.74	.01	.97	-.02	.87
Long standing jump	.24	.06	.21	.11	.23	.08
Muscular endurance	.10	.47	.06	.63	.08	.53

Discussion

Achieved results from informative statistical processing (IBM SPSS , 22 -th version) for measured data in each subject, we confirm again the hypothesis at the beginning of this study that movement activity modeling in this age in function of education and movement develope skills is in the right way.

In case of the achieved results from subjects in which gymnastic program with simple elements was applied for 12 weeks, the changes are significant.

To define the relationship between social and motor abilities we used the correlation coefficient Pearson. Results from statisti-

cal processing shows that only in 6 cases is a significant relation between variables of both sets.

Best performance in motor abilities had the subjects with good skills in social behavior, while lower performance in some of motor tests had the subjects with high evaluation in problem behavior indicators.

Dynamic balance skills has a negative direction correlation with social action. (r= -.36**, p=.00); social independence (r= -.48**, p=.00), and general social behavior evaluation (r= -.37**, p=.00).

Static balance skill has a positive direction correlation with social interaction (r=.41**,p=.00); social action(r=.37**, p=.00); social independence (r=.39**, p=.00) and general social behavior evaluation (r=.11**,p<0.01);

Agility has positive correlation with social action (r=.29**, p<0.02); social independence (r=.27**, p<0.04) and general social behavior evaluation (r=.58**, p<0.05).

Power has a positive correlation with social action (r=.29**, p<0.03); social independence (r=.39**, p=.00); and general social behavior evaluation (r=.28**, p<0.03).

Hand action, cubes position has e negative direction correlation with social interaction (r=-.37**, p=.00);social action (r=--.51p=.00), social independence (r-.43, p=.00) and the total of social behavior evaluation (r=-.49**p=.00).

Children with focus problem have not good results with coordination skill. Children with good results in social competence have show a good performance in equilibration skill(Malina, Bouchard& Bar-Or, 2004).

Conclusions

Study results shows that gymnastic program has an impact in motor abilities education and development, but this impact in not the same in all abilities.

Results shows statistical changes in both genders in all performed tests in first and second phase.

Results evidenced significant statistical improvements of experiment groups in social skills indicators and in reducing problematic behaviors.

Results of statistical processing showed that there was a significant decrease in evaluation of social problems indicators of subjects in risk. Also in these subjects were evidenced good evaluations on social behavior indicators(Skinner & Piek, 2001).

Achieved results from statistical processing, shows that in some indications is a significant relation between social and motor skills.

Children who showed good skills in social behavior had a good performance in motor skills.

Children with high rating in social problems indicators had a lower performance in some of motor tests (Pruitt, 1998).

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Overweight and Obesity in Portugal Higher Education Students

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Abstract

Purpose. Overweight and obesity arise, essentially, as a consequence of the adoption of poor eating habits and sedentary lifestyles. Being the teenager a "microworld" in transformation, is intend to characterize and compare (gender) body composition parameters in Higher Education students. **Methods.** The characterization was performed through univariate analysis and the comparison using Mann-Whitney test, for a statistical significance level of 5% (p<0.05). **Results.** Female students presented less satisfactory results in Waist Circumference (WC) and Waist-Hip Ratio (WHiR), male students in Body Mass Index (BMI) and Waist-Height Ratio (WHeR), and there are statistically significant differences in 3 of the 4 parameters (WC, WHiR and WHeR). **Conclusions.** These results may be useful to define strategies to combat overweight and obesity, considering the characteristics of this specific population.

Keywords: obesity, students, sedentary lifestyle,

Introduction

Overweight and obesity can be defined by an excessive and/or not proportional accumulation of body fat. Their prevalence is mainly due to poor and unbalanced eating habits (Pereira, 2006; Souza, Barbosa, & Martins, 2016) and sedentary lifestyles, with high rates of sport and physical inactivity (Berlese, Berlese, Costa, Renner, & Sanfelice, 2016; Cardoso, D'Abreu, Ribeiro, & Bouzas, 2010). Both are risk factors, associated with a bigger possibility of having muscular and skeleton diseases, diabetes, cardiovascular diseases and/or even some types of cancer (World Health Organization, 2016; Strasser, 2013). Globally, obesity cases have more than doubled since the 1980s (World Health Organization, 2016). In Portugal, and according to the National Institute of Statistics, in 2014, more than half of the population over 18 years of age have overweight or obesity, with a higher prevalence in the male gender (Instituto Nacional de Estatística, 2016).

Over the last few years there has been an increasing awareness (social and political) of this problem. In Portugal, an example of that is the recently implemented programs by the Directorate-General of Health, which proves that this issue is increasingly treated in a public health perspective. The national program for the healthy food promotion (Direção-geral da Saúde, 2014), since 2012, and the national program for the physical activity, health and welfare promotion (2016) (Direção-geral da Saúde, 2016) are specific examples of concrete strategies adopted to reduce overweight and obesity, physical inactivity and poor/unbalanced eating habits.

Recently, were made some studies about the overweight and obesity prevalence in higher education students (Amani, Fathi, Farzaneh, Kahnamouei-Aghdam, & Goudarzin, 2016, Carvalho, & Tamasia, 2016, Fontes, Bridges, & Vianna, 2012; Price, Whitt-Glover, Kraus, & McKenzie, 2016). Most of the higher education students can be considered teenager, based on the chronological limits defined by the World Health Organization (10-19 years) and the United Nations Organization (15-24 years) (Eisenstein, 2005). The studies of Amani et al. (2016), Carvalho and Tamasia (2016),

Fontes et al. (2012) and Price et al. (2016) report the issues of overweight and obesity, an increasingly unbalanced/poor diet and a sedentariness lifestyle in this age group, both in general terms and comparatively between male and female teenagers, with no consensus about the higher prevalence's of overweight/obesity according to their gender.

Bouzas (2011) considers the teenager as a "microworld" in transformation. As a higher education student, this "microworld" is still more specific. The consequences of not appropriated and poor habits (unbalanced diet and physical inactivity) during the period as a student, may result in serious problems for the rest of their life, for the negative impact in the increasement of overweight/obesity, risk factor related with the development of some diseases (eg., diabetes, cardiovascular diseases) (World Health Organization, 2016).

By the importance that body composition (overweight and obesity) can have in the public health domain, the main objective of this research is: to characterize and compare (by gender) the body composition of Portugal Higher Education students, considering: Body Mass Index (BMI); Waist Circumference (WC); Waist-Hip Ratio (WHiR); and Waist-Height Ratio (WHeR). The importance of this study is reflected in these indexes' diagnosis, that allow to classify and compare the body composition (overweight and obesity) of this specific population and examine the statistically significant differences possibility according to the variable under comparison (gender).

Materials and methods

Participants

Participated 168 students from a Higher Education Polytechnic School of Portugal, aged between 18 and 24 years old [Mean (M) ± Standard Deviation (SD) = 20.50 ± 1.39), 100 (59.52%) female and 68 (40.48%) male.

Materials

A specific tape-measure for the circumferences (waist and hip), a scale (weight) and stadiometer (height) were used. The applied

anthropometric assessment protocols are the recommended by the American College of Sports Medicine (2014). To collect data, two evaluators was recruited. They were trained, considering the phases that should be respected and their particularities (eg, use of light clothing and preferably barefoot to collect body weight value), so that the data collection can be standardized and statistically valid.

Procedurs

First, the president of the school was contacted. Was explained the scope and purpose of the investigation and requested formal authorization for data collection. After this prior contact, and due authorization, professors were also contacted to schedule the dates. On the collection day, all participants were strictly informed about the scope/purpose of the study and the confidentiality of the results dissemination.

Data analysis

In addition to the BMI, according to Carnero and García (2015), regarding other possible anthropometry analyzes for body composition assessment, was presented and analyzed the values of WC, WHiR and WHeR. For characterization and comparison was considered the indexes and classifications, associated with normative reference values, as recommended by the American College of Sports Medicine (2014):

1) BMI [underweight (<18.50), normal weight ([18.50; 25.00[), overweight ([25.00; 30.00[), obesity (≥30.00)];

(2) WC [normal risk (<94), increased risk ([94;102]), greatly increased risk (>102) for male; normal risk (<80), increased risk ([80; 88]), greatly increased risk (>88) for female];

(3) WHiR [low risk (<0.83), moderate risk ([0.83; 0.88]), high risk ([0.89; 0.94]), very high risk (>0.94) for male and low risk (<0.71), moderate risk ([0.71; 0.77]), high risk ([0.78; 0.82]), very high risk (>0.82) for female];

(4) WHeR [low risk (<0.50) and high risk (≥0.50), for male and female].

The characterization of the dependent variable (gender) was performed through the univariate statistic and the comparison through the Mann-Whitney test. The effect size was obtained by

$r = | z | / \sqrt{n}$, where n is the total sample and z is the value obtained after the Mann-Whitney test (Pallant, 2011). The classification was performed according to the criteria (Pallant, 2011): very small ($r<0.10$), small ($0.10 \leq r<0.30$), moderate ($0.30 \leq r<0.50$), large ($r \geq 0.50$). Statistical analysis was performed using IBM Statistical Package for Social Sciences (version 23.0), for a significance level of 5% ($p<0.05$).

Results

Figure 1 shows the frequencies and percent values according to each one of the categories of the variables under study (BMI, WC, WHiR, WHeR). In addition to these indexes, which allow us to characterize the Higher Education students, the *p* values of the Mann-Whitney test are presented, to compare and confirm the statistically significant differences existence between the male and female gender.

Figure 1. Characterization and comparison according to the students' gender.

n=168	Male (*n*=68)		Female (*n*=100)					
	n	%	*n*	%	*n*	%	*p*	*r*
BMI								
Underweight	12	7.14	2	2.94	10	10.00		
Normal weight	135	80.36	56	82.35	79	79.00		
Overweight	20	11.90	10	14.71	10	10.00		
Obesity (level I)	1	0.60	0	0.00	1	1.00	0.133	0.116
Obesity (level II)	0	0.00	0	0.00	0	0.00		
Obesity (level III)	0	0.00	0	0.00	0	0.00		

WC								
Normal risk	151	89.88	65	95.59	86	86.00	0.041*	0.486
Increased risk	14	8.33	3	4.41	11	11.00		
Greatly increased risk	3	1.79	0	0.00	3	3.00		
WHiR								
Low risk	46	27.37	38	55.89	8	8.00	0.001*	0.534
Moderate risk	64	38.10	22	32.35	42	42.00		
High risk	43	25.60	7	10.29	36	36.00		
Very high risk	15	8.93	1	1.47	14	14.00		
WHeR								
Low risk	140	83.33	46	67.65	94	94.00	0.001*	0.346
High risk	28	16.67	22	32.35	6	6.00		

By the analysis of all the evaluated students (n=168), through the BMI it is possible to verify that 12 have underweight (7.14%), 135 normal weight (80.36%), 20 overweight (11.90%) and 1 obesity (0.60%). By the WC, relating the obtained indexes with the risk of cardiovascular diseases prevalence, it is possible to verify that 151 are classified as having normal risk (89.88%), 14 increased risk (8.33%) and 3 greatly increased risk (1.79%). By the WHiR, 46 are classified as having low risk (27.37%), 64 moderate risk (38.10%), 43 high risk (25.60%) and 15 very high risk (8.93%). Finally, through the WHeR, is possible to verify that 140 are classified as having low risk (83.33%) and 28 high risk (16.67%).

Considering the gender, by the BMI it is possible to verify that, in male Higher Education students, there are 2 classified as having underweight (2.94%), 56 normal weight (82.35%) and 10 as overweight (14.71 %). In female students, 10 have underweight (10.00%), 79 normal weight (79.00%), 10 overweight (10.00%) and only 1 obesity (1.00%). There were no students classified with the levels II or III of obesity. After applying Mann-Whitney test it was found that there were no statistically significant differences between the gender, at the BMI (p=0.133, r=0.116, small effect size). Although not statistically significant, it is possible to verify that

the male Higher Education students present higher values of overweight and obesity (14.71%) than females (11.00%).

Through the WC, in the male gender, there are 65 students classified as having normal risk (95.59%) and 3 as increased risk (4.41%). On the other hand, in the female gender, there were 86 students classified as having normal risk (86.00%), 11 as increased risk (11.00%) and 3 as greatly increased risk (3.00%). After applying the Mann-Whitney test, was verified that there are statistically significant differences between the gender at the WC level (p=0.041, r=0.486, moderate effect size). Based on the results, and their association with the cardiovascular diseases prevalence risk, it is possible to confirm that female students have increased and greatly increased risk (14.00%) higher than male students (4.41%).

Regarding to the WHiR, was verified that in the male students there are 38 classified as having low risk (55.89%), 22 as moderate risk (32.35%), 7 as high risk (10.29%) and only 1 as very high risk (1.47%). In female gender, there were 8 students with low risk (8.00%), 42 with moderate risk (42.00%), 36 with high risk (36.00%) and 14 with very high risk (14.00%). Was also confirmed the existence of statistically significant differences, by the Mann-Whitney test (p=0.001, r=0.534, large effect size). By the association of the obtained results with the cardiovascular diseases prevalence risk, it is possible to verify that the female students present moderate, high and very high risk (92.00%), when compared with the male gender (44.11%).

Finally, through the WHeR, in the male students there are 46 classified as having low risk (67.65%) and 22 as high risk (32.35%). In the female gender there are 94 students with low risk (94.00%) and 2 with high risk (6.00%). After Mann-Whitney test application, is possible to verify that were statistically significant differences between the gender at the WHeR classification (p=0.001, r=0.346, mean effect size). Like the previous analysis, based on the obtained values and their association with the cardiovascular diseases' prevalence risk, it is possible to confirm that the male gender presents superior high risk (32.35%) than female (6.00%).

Conclusions

Considering the defined objective, for the BMI, WC, WHiR and WHeR, the results are not consensual. Gender-comparative analysis has shown that there are no statistically significant differences in BMI. Comparing the gender students through the WC, WHiR and WHeR, shows statistically significant differences between both groups (male and female).

Such significant differences do not tend to be always associated with the same gender. The female has an increased and a greatly increased risk (14.00%) higher than the male (4.41%) for the WC. The same was verified by the WHiR analysis, with the moderate to high risk in female Higher Education students (92.00%) being much higher than the obtained values for the male students (44.11%). On the other hand, trough the WHeR, the male gender has a high risk (32.35%) much higher than the female (6.00%). This incongruence of results confirms the studies analyzed, which sometimes refer to a higher prevalence of overweight/obesity in male students (Fontes et al., 2012), while others refer to a higher prevalence of overweight/obesity in female (Amani et al., 2016).

By the analysis of the variables that integrate the mathematical formulas for BMI, WC, WHiR and WHeR calculation, it is possible to verify that female Higher Education students present less satisfactory results in the parameters that consider the waist circumference (WC, WHiR). On the other hand, Higher Education students of the male gender have worse results in parameters that consider the height (BMI, WHeR).

The young-adult years represent a critical transition period, where people leave home and establish more independent lifestyles than they have had up until that moment. This transition may involve other striking events, which somehow contribute to a gradual increase in overweight and obesity (Price et al., 2016). The same authors report that, despite the importance of this phase, strategies to prevent weight increase are limited and the few that exist have favorable short-term effects on body composition improving and,

as a consequence, improving overall health. Body composition, beyond the fact that could be regularly used to assess overweight/obesity levels, can and should be considered in the determination and adoption of some community strategies for overweight and obesity prevention (Souza et al., 2016, Cardoso et al., 2016, Lindsay, Hongu, Spears, Idris, Dyrek, & Manore, 2014).

As a preventive measure, any person, student or with any other professional occupation, should choose an adequate and balanced diet (Souza et al., 2016) and engage in regular practice of physical/sport activity (Cardoso et al., 2016, World Health Organization, 2016). There are clear evidences of the physical activity effectiveness in primary and secondary prevention of chronic diseases and in life quality improvement, whereas physically active persons are considerably less likely to have overweight/obesity (American College of Sports Medicine, 2014).

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The role of dietary supplements in physical activity and physical fitness for physically active people: methodological aspects of evaluation

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Abstract
Purpose. Physical activity and physical fitness are complex entities comprising numerous diverse components that present a challenge in terms of accurate, reliable measurement. Physical activity can be classified by its mechanical (static or dynamic) or metabolic (aerobic or anaerobic) characteristics and its intensity (absolute or relative to the person's capacity). Habitual physical activity can be assessed by using a variety of questionnaires, diaries, or logs and by monitoring body movement or physiologic responses. **Methods.** Selection of a measurement method depends on the purpose of the evaluation, the nature of the study population, and the resources available. The various components of physical fitness can be assessed accurately in the laboratory and, in many cases, in the field by using a composite of performance tests. **Results.** Most coaches and high-level athletes would accept as very beneficial a dietary supplement that would increase performance in a competitive event by even 3%. To establish that such small changes are caused by the dietary supplement requires carefully conducted research that involves randomized, placebo-controlled, double-blind studies designed to maximize statistical power. **Conclusion.** Statistical power can be increased by enlarging sample size, selecting tests with high reliability, selecting a potent but safe supplement, and maximizing adherence. Failure to design studies with adequate statistical power will produce results that are unreliable and will increase the likelihood that a true effect will be missed.

Key words: Nutritional supplements, physical activity, exercise, exercise training, physical fitness

Introduction

Dietary supplements can be used by physically active people to increase their physical performance (physical fitness), improve their health, or reduce the potentially negative consequences of physical activity (injury, chronic fatigue, or suppressed immune function). To appropriately assess these effects, reliable and accurate measures of physical activity, physical fitness, and health-related outcomes must be made. All of these outcomes are complex entities consisting of several different characteristics or components that must be considered individually, depending on the specific scientific or clinical questions being addressed. Presented in this article are some of the key issues that need to be considered in measuring physical activity and physical fitness in physically active people who are using dietary supplements. To define more accurately the outcomes of physical fitness programs for improving health rather than maintaining or enhancing physical or athletic performance, the concept of performance-related fitness compared with health-related fitness evolved (5). However, although a clear separation between the health- and performance-related components of physical fitness has been proposed (1), such a separation is not always possible. For example, cardiorespiratory endurance and muscle strength are highly important components of both kinds of fitness. Most components of physical fitness contribute to both performance and health status. The magnitude of the contribution of any one component depends on the specific objective. For a gymnast, balance, agility, and power are extremely important, whereas cardiorespiratory endurance, skeletal muscle endurance, and body composition are vital for a distance runner. Moreover, an increase in muscle strength has little health benefit for healthy young women, but may be critical for a frail elderly woman who is at risk of falling and suffering an osteoporotic fracture

Measurement of physical activity and physical fitness

The measurement of physical activity and physical fitness in studies designed to determine their relation to health status and

performance developed throughout the 20th century (2). Major reviews covering the issues involved in obtaining accurate and reliable measurements have been published (4,5). When designing studies to evaluate the effects of dietary supplements on physical performance and health or the interaction of supplements with exercise training, it is important to understand the strengths and weakness of each of the various methods (7).

Physical activity

Physical activity is a complex and not easily measured set of behaviors. Numerous approaches have been used to assess physical activity or change in activity in studies in which health status or performance is the primary outcome. Self-reported surveys are used most frequently; other approaches have included job classification, behavioral observation, motion sensors, physiologic markers (eg, heart rate, doubly labeled water), and indirect and direct calorimetry.

Self-reported surveys

To determine the relation between physical activity and health, researchers must use instruments that reliably assess habitual physical activity in the target population. Most of the scientifically sound data relating physical activity to morbidity and mortality were derived from prospective observational studies that used self-reported surveys such as diaries, logs, recall questionnaires, global self-reports, and quantitative histories (5, 8,9). Surveys are frequently used because they are practical for assessing physical activity in large populations and have relatively low study and respondent costs (1, 10, 11).

Diaries

Diaries generally provide a detailed accounting of virtually all physical activity performed, normally within a single day. Unfortunately, diaries tend to be used for time frames of 1–3 d, raising questions about how well they represent an individual's long-term physical activity pattern (10). In addition, diaries require intensive

effort by subjects and may even influence them to change their physical activities while being monitored (8, 10). In addition, diaries produce vast amounts of data, especially when multiple days are monitored, thereby requiring additional costs for data processing.

Retrospective quantitative history

This is the most comprehensive form of physical activity survey and generally requires specific detail for time frames of up to 1 y (10). If the time frame is long enough, the quantitative history can adequately represent seasonal physical activity. Unfortunately, obtaining the data collected by the quantitative history places a large burden on respondents to remember all the details and also generates expenses for administering the survey, training the interviewers, ensuring quality control, and processing data (10).

Motion sensors and physiologic monitoring

Directly measuring physical activity by physiologic monitoring or motion sensors offers a potential advantage over self-reported data by reducing bias from poor memory and overreporting or underreporting. Limitations include the cost of high-quality monitors and the burden placed on subject and staff. Both the monitoring of physiologic processes related to physical activity, particularly heart rate, and mechanical or electronic sensors (pedometers, movement counters, and accelerometers) have been used in small-scale studies but not in large observational trials with clinical events as outcomes. In addition, these monitors have been used to validate various self-reported surveys.

Heart rate

Monitoring heart rate can provide a continuous recording of a physiologic process that potentially reflects both the duration and the intensity of physical activity. Heart rate is typically used to estimate physical activity as energy expenditure (oxygen uptake), based on the assumption of a linear association between heart rate and energy expenditure. Heart rate measured during daily activities

is thus used to establish energy expenditure that other factors such as psychological stress or changes in body temperature can significantly influence heart rate throughout the day.

Motion sensors

Pedometers, the original motion sensor for measuring physical activity, were designed to count steps and thus provide a potentially useful measure of distance walked or run. However, the high variability among pedometers and the lack of a stable calibration mechanism make them unsuitable for estimating physical activity in either laboratory or field research (12,13).

Physical fitness

Measurements of the various health-related components of physical fitness have been developed and, in some cases, standardized, with good to excellent accuracy and reliability.

Cardiorespiratory endurance

One of the major reasons for measuring cardiovascular fitness in studies of the relation between physical activity and health is that habitual physical activity status is one of the major determinants of cardiovascular fitness. The gold standard, or criterion measure, of cardiorespiratory fitness is maximal oxygen uptake or power (VO_2 max). Measured in healthy persons during large-muscle, dynamic activity such as walking, running, or cycling, it is primarily limited by the oxygen transport capacity of the cardiovascular system (14). The most accurate assessment of VO_2 max is made by measuring expired air composition and respiratory volume during maximal exertion. This procedure requires relatively expensive equipment, highly trained technicians, and time and cooperation from the subject, all of which make the procedure difficult for large-scale studies. Another approach for assessing cardiorespiratory fitness has been field testing, where the performance of subjects who usually walk, jog, or run a specified time or distance is converted to an estimate of VO_2max or aerobic power (15).

Muscle strength

Muscle strength can be measured during performance of either static or dynamic muscle contraction (16). Like muscle endurance, strength is specific to the muscle group, and therefore the testing of one muscle group does not provide accurate information about the strength of other muscle groups (17). Thus, to be effective, strength testing must involve at least several major muscle groups, including the upper body, trunk, and lower body. Standard tests have included the bench press, leg extension, and biceps curl with free weights. The heaviest weight a person can lift one time through the full range of motion is considered the person's maximum strength.

Flexibility

Flexibility is a difficult component to measure accurately and reliably because it is specific to the joint being tested; no one measure provides a satisfactory index of an individual's overall flexibility (18).

Balance, agility, and coordination

Balance, agility, and coordination are especially important in older persons, who are more prone to fall and as a result suffer fractures because of their reduced bone mineral density. More test development is needed to establish norms for older persons on standardized tests for measuring balance, agility, and coordination.

Considerations in designing studies to evaluate the effects of dietary supplements on physical performance

To accurately determine whether a particular dietary supplement significantly benefits physical performance, a scientific evaluation should be performed that includes specific design elements. Many of the claims made for various supplements are based on less-than-rigorous science and thus are not accepted by many in the scientific, medical, nutrition, and exercise communities. At the same time, because the potential benefits of dietary supplements

are enticing, supplement providers, coaches, and athletes would like the claims to be true. Becoming more familiar with the design elements that researchers consider essential for a scientifically sound study will ensure that future studies examining the effects of a specific supplement on performance are scientifically rigorous, accurate, reliable, and unbiased.

Placebo control group, blind assignment, and random assignment

Studies examining the effects of dietary supplements on performance must also randomly assign athletes to either the treatment or placebo control group. Random assignment distributes any characteristics of the athletes that might influence their performance into the treatment and placebo control groups in approximately the same manner and thus cannot differentially influence the athletes' performance. For instance, in a particular sport, younger athletes may be faster. If all the younger athletes were put in the treatment group, one might mistakenly conclude that the dietary supplement rather than the age of the athletes was responsible for the improvement in performance. Random assignment increases the probability that the younger athletes will be equally distributed between the 2 groups. To use another example, if athletes (or coaches) are allowed to choose whether they want to take the dietary supplement or inert placebo, athletes who believe supplements improve performance may be more likely to select the treatment group, thus biasing the results. It is important to remember that random assignment is designed not only to distribute factors known to influence performance equally between the treatment and placebo control groups but also, and even more important, to equally distribute factors not measured or whose effects on performance are unknown.

Importance of statistical power

To successfully move research about the effects of dietary supplements on the performance of elite athletes from controlled testing in the clinic or laboratory to performance in actual competitions requires studies with adequate statistical power to detect a clinically

meaningful (and statistically significant) treatment effect. Statistical power is the probability that the study can detect a statistically significant treatment effect; that is, that it can detect a difference in performance between athletes randomly assigned to receive a dietary supplement and those assigned to receive a placebo, if indeed a treatment effect exists (20). The greater the statistical power, the more likely the study can detect a true treatment effect. The most common way to achieve sufficient statistical power is to have a large sample size. Unfortunately, designing a study to detect a performance difference of only 2–3% with adequate statistical power is difficult because the sample size needed may be prohibitively large.

Increasing the statistical power of a study without increasing the sample size

Although the statistical power of a trial can be increased by increasing the sample size, this strategy can be expensive and can create logistical problems by making staff spend too much time and resources on recruiting and assessing subjects. Alternatively, because dropout greatly decreases the statistical power of the trial, extensive efforts can focus on limiting the number of athletes who drop out of the trial once they are randomly assigned to a group (19).As noted above, statistical power can also be influenced by the effect size and the type of statistical test used to analyze the data. By improving these factors, the hypothetical clinical trial can achieve sufficient statistical power with a smaller sample size (21). The easiest way to increase the effect size is either to increase the numerator (ie, the difference between the mean change of the treatment and control groups) or to decrease the denominator (ie, the pooled SD of the change, or the variability of the athletes' performance within the groups). For example, administering the most potent dose of the dietary supplement that is still safe to the treatment group will increase the difference between the 2 groups, increase the numerator, and thus increase the effect size (20). Because statistical power can be influenced by increasing the effect size, the hypothetical clinical trial can be conducted with sufficient statistical power with

a smaller sample size. For example, by determining the effect of increasing the potency of the dose of dietary supplement, using an inert placebo control group, and employing a variety of strategies to decrease the variability within the groups in the pilot study, the resulting estimated effect size could be increased from 0.28 to 0.66. Thus, the sample size needed to achieve a level of statistical power of 80% in the hypothetical clinical trial would decrease from >200 athletes per group to 37 athletes per group.

Summary and recommendations

Accurate and reliable measurement of physical activity and physical fitness is critical in conducting research designed to evaluate how physical activity influences dietary requirements and whether supplements can enhance physical performance. Methodology for the measurement of physical activity by questionnaires is well developed, and new technologies are being developed and evaluated for assessing body movement or correlates of activity, including accelerometers and doubly labeled water. Laboratory and field methods are available for measuring the various components of physical fitness, with many having the accuracy and reliability to measure many small changes in fitness because of exercise training or dietary supplements. Major limitations of existing research evaluating the effects of dietary supplements on physical or athletic performance have included failure to use a randomized, placebo-controlled double-blind design and inadequate power to establish that differences that are meaningful to coaches and athletes are statistically significant. Research methods need to be adopted that increase the statistical power of dietary supplement studies, including increasing sample size, maximizing treatment effectiveness, selecting appropriate testing procedures (accurate, reliable, and sensitive to change), and enhancing retention of subjects assigned to groups treatment. Future research should continue to develop measurement methodology for more accurately assessing a person's physical activity profile throughout the day, including a profile of activ-

ity intensity and total energy expenditure. Methods are needed that keep subject and investigator burden to a minimum through the use of automated recording and analysis procedures. These methods need to be designed for persons at the high end of the physical activity continuum (such as elite athletes) and those at the low end (such as patients and the very old), because both may benefit by an enhanced understanding of the interactions between dietary supplement use, activity, and physical performance capacity. The emphasis of future research on methods to measure physical fitness should be on procedures to accurately measure changes in performance among persons with a low performance capacity (patients, obese persons, and the elderly) and on those components of fitness, such as endurance capacity, muscle endurance, and balance, for which standardized testing procedures are not readily available. Efforts should be made to ensure that future research evaluating the effects of dietary supplements on physical performance is appropriately designed, with the statistical power to detect meaningful results.

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Children and autism

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Abstract
Introduction. The development of children with autism involves the sphere of their activities and interests. They often have a limited range of activities and interests, express repeated behavior as well as various counteractions in the premises and everyday surroundings. Children with autism do not play the same way children with development normal. Their play lack imagination, they play by reproducing what they have seen or what they remember and do not add to their play parts from themselves, from their feelings and interpretation. Many children with autism express preferences for a definite object, a toy, a color, a certain shape, etc. **Methodology** The qualitative method was used in the study. Semi-structured interview with open-ended questions was the instrument for data collection. Data collections were made possible by interviewing of parents (10 parents) of children with ASD who were outpatients and inpatients at Centre Regional for Growth, Development and Rehabilitation Berat city. **Results**. Through data analyses it came out that: -- Children with autism are limited in their activities, they play by copying and without imagination, show strong memory for what they want and express interest for certain definite objects, for toys musical, television, etc. -- Children with autism are not focused in their daily activities and show behavior and actions that are stereotype and repetitive as for movement frequent of the hands, rotation of objects, etc. **Conclusion**. The development of children with autism involves the sphere of their activities and interests by limiting them.

Key words: Children, autism, activities, interests.

Introduction

Development of children with autism affects the scope of activities and interests. They often have a limited range of activities and interests, repetitive behaviors, and different responses to the environment and daily circumstances (Aarons & Gittens, 1999). Children with autism do not play in a way that kids play with their normal development. Half lack imagination, they play reproducing those who have seen or remember, and do not add to gaming part of myself, feelings, emotions and interpretations (Powers, 2000).

Sensory or motor game is the earliest game of autistic children. It has to do with actions or physical manipulation of the environment that surrounds them. In its earliest stage, these children put everything in their mouths. Many children with autism exhibit a preference for a particular item, a toy, a color, a particular shape, etc. These items or items may be sensory characteristics such that these children may find very attractive. They are regarded by them as something that can be supported in their activity (Trevarthen & Aitken, 1996)

Another characteristic of children with autism who exhibit difficulty in establishing relationships with others. Child with autism show a lack of interest to others. He lives in his world and words, mimics, behaviors and emotions do not adapt to the situation. Sometimes, the child allows himself to be guided by an adult, without taking part in activities themselves opposing them. Also, children with autism do not feel the need for social reinforcement, and have little or no need for others liked you .Children with autism do not understand the types of communications that are placed between the children when they play and thus their efforts to game (Harris & Glasberg, 2003).

Often the lack of people close or peer is a distinctive sign that something is not good. They do not see other children as subjects interesting and have difficulty in considering someone as a friend or close friend (Jordan & Powell, 1995).

Children with autism find it difficult to establish a close distance with others. They define as so threatening. There are children who want friends, they want to stay with other children and trying to interact with them. In these cases, they interact as much younger

children, using simplified versions of social rules. Children with autism have characteristic ways of expressing physical affection to others (Harris & Glasberg, 2003).

They can be very affectionate physically, but in ways that can be very different from other children. They want to hug just when you want and it lasts much they want to extend. Also, can exhibit unusual and express emotions such as laughing or crying for no reason. Studies have found that children with autism are more likely to express negative emotions compared to children with normal development (Notbohm, 2005).

In kindergarten, school and social interactions, children with autism can be accused of failing to attention and interest you have to pay something. They often look they do not hear, can ignore clear noises and large that may disturb other children and, on the other hand can hear well enough petty and small noise. Others are more attentive to visual stimuli showing particular interest to them (Siegel, 2009).

Language difficulties cause lack of interest in verbal exchange with other persons. Also, they have difficulty in understanding the information and its interpretation. Studies have shown that about 50% of them do not develop a functional language and communication in their lives, or say words and sounds that only understood by their families[5]. Establish eye contact with them is very difficult and often not realized. The research conducted shows that in our country studies on this subject are lacking. Thus, this study tries to fill this space and give you answers to some of the issues raised in connection with the activities and interests of children with autism (Notbohm, 2005).

Methodology

The aim of this study was the identification of the activities and interests of children with autism (6-9 years).The method used for this study was that quality. For data collection using semi-structured interviews with questions open-ended. The selection of the method and instrument for data collection was carried out in view of the purpose and objectives of the study.

Data for this study were collected through the process of interviewing 10 parents of children with autism (6-9 years), who attended daily services and staying in Regional Development and Rehabilitation Centre for Children, Berat city. Their selection in this interview was conducted on the basis of representation criteria and age of the child.

Interview questions were developed based on the literature of the field, and in view of the purpose and objectives of the study. Information groupings of the study, interviews consisted of three sections, which included the variables that were interested. Use descriptive interview questions was very important element of encouraging qualitative data collection. Also, you create more space things participants in their responses, questions have character builder and reflective. The process of interviewing was conducted face to face and each lasted about an hour. During the interview participants were encouraged to speak freely and openly. Interviews were held note to be analyzed later. Interviews with participants took place in a convenient and comfortable environment near Berat R.D.C. Consideration of ethical issues and the preservation of the identity of the participants of their children has been a priority of the study. The following table recognizes the data of children with autism included in the study. The process of collecting and processing data of the study was conducted in the period 15/02/2018 to 15/05/2018.

Table 1. Data of children taken in study.

	Age of child	**Sex**	**Location**
1	8 years	Male	Berat
2	7.5 years	Male	Lushnje
3	7 years	Female	Kuçovë
4	6.5 years	Male	Skrapar
5	7 years	Male	Vlorë
6	7 years	Female	Berat
7	6.5 years	Female	Përmet
8	6 years	Male	Berat
9	9 years	Male	Fier
10	8 years	Male	Elbasan

Results

The process of analysis that the interviews gave us a clear picture about the activities and interests of children with autism. Criteria for the validity of these results were a very important element study. Value consisted results in a cooperative relationship between the data and interview method.

To support the interpretation of the data are given and examples of transcripts of interviews. Although individual experiences of children involved in the study were unique, had many things in common between them. Descriptions of parents constitute an important information to analyze themes, similarities and differences between children.

The analysis of data obtained through the process of interviewing 10 parents of children with autism (6-9 years), who attended daily services and staying in the Regional Development Centre and Children's Rehabilitation, Berat, we found that:

1. Children with autism are limited in their activities and interests. Their activity has mainly to do with a more limited range of activities within the premises of the house than outside. People often house activities are of interest to them. The game has no imagination and concentration is low. They play reproducing those who have seen or used, without adding to the game part of myself. Also, as parents, children show an interest rate for one or more items and specialty items such as musical toys, television, or round objects items etc., which consume a significant portion of the time, dealing with them.

A distinctive feature of these is a strong reminder for what they want to remember, such as the location of toys, home facilities, roads, etc. Generally, parents say that their children have an admirable reminder of what they have an interest.

Here says the mother of a child 7.5 years:

"It is activity is limited to a few things. My child carries games just like the same action. I like most music and sound toys, watch TV, especially when the songs. Fixing water bottle at all, not separating by hand".

Another parent said:

"Toys my child wants to have as property and not to play. There are fun too TV, music, musical toys. Fastening p.sh clothes one wants to wear a pair of socks consecutive week, will not change with the other''

2. The survey data showed that in their daily activities children with autism are oblivious. According to the parents, their concentration takes very little. Also, they do not prove to be alert to situations or different circumstances. In most cases, children with autism find it difficult to understand and therefore not carry out the instructions of the parents. Another characteristic of children with autism was the manifestation of behaviors and stereotyped repetitive actions such as frequent hand movement, rotation of objects, rotational movement in the environment, stand in front of the mirror, endless movement, cry, when they see people dancing want etc.

Here's how a 6-year-old boy's father says on this issue:

"My son is not very attentive. Loves to swing things, moving his hands up and down, spinning on the ground for some time''.

As another parent said his child:

"It was oblivious, move the hands, endless walks around, not sitting, crying. Neither receives nor enforce orders''

3. With regard to activities and social interests, the data showed that children with autism do not like to get involved and active in relation to children and other people. They show no interest in verbal communication. Also, they prefer not to draw and play with other children peers, and when they do, are included only for a very short moment. According to the parents, there are times when others they can display and signs affiliation or aggressiveness example fondle or push them

Another feature of these is the isolation or the desire to stay alone at home, and so they often do. Meanwhile, you can prefer and exits or external environments walks.

Here's how a mother responds to this issue:

"With the other children not to play approaching. I look for a short moment and then leave. It is isolated, closed in itself. When other kids come home fled to another room without realizing it''

Another parent says:

"Play few peers and then sit alone. There is a bad thing that pushes other children, and therefore they are trying to remove. Five minutes does not sit in one place, focus on just two seconds'.

Discussion

Discussion of the results of the study takes into account many factors. It is important to understand that each child has his individuality and that every child is different. Of course, the differences between them are not only the individual but also the result of the work of parents, children access to therapies for socialization, environment, culture, resources etc. Influence of these factors affects a better sense of the issues related to the activities and interests of children with autism.

The above results reveal that studies in this area suggest that the development of children with autism affects the scope of activities and interests by restricting it.

Children with autism do not interact and play the way they can play children with normal development. Their game lacks imagination, they play reproducing those who have seen or remember, and do not add to the gaming part of itself, feelings, emotions and interpretations.

Also, children with autism show an interest rate for one or more items and specialty items such as musical toys, television, or round objects etc. items. Strong memory for what they want, such as the location of toys, home facilities, roads, etc., is another distinctive feature.

Results also comply with the attention and concentration, emphasizing the lack of them. The survey data confirmed a characteristic of children with autism as well as the emergence of behaviors and stereotyped repetitive actions such as frequent hand movement, rotation of objects, rotational movement in the environment, stand in front of the mirror, movement without end, weeping, dancing when they see people who love etc..

In terms of social interests and activities, the results are in line with what the literature emphasizes that children with autism do not like to get involved and active in the relationship and activities with other children, prefer not to play with them, and show no interest in communication verbal. Isolation or the desire to stay alone was another characteristic.

At the conclusion of this discussion, we can say that this study confirmed and another time, but in a new context, and Albanian, those scientific studies in this field point out, that the development of children with autism affects the scope of activities and interests restricting it.

Conclusion

At the conclusion of this study we can say that:

Children with autism are limited in their activities and interests. They play by play and unimaginative, show strong memory for what they want, and show interest for certain items or special items such as musical toys, television, etc.;

In their daily activities children with autism are inattentive and behaviors and stereotyped repetitive actions such as frequent hand movement, rotation of objects, etc.

Children with autism do not like to get involved and active in relationship with other children. In many cases they want to stand alone.

This study is only a modest attempt to answer the issues raised in connection with the activities and interests of children with autism, so it is necessary to be followed by studies other. For this is necessary work, dedication and greater collaboration of professionals who carry out their activity in this field.

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