

Relationship Between Kyphosis and Depression Anxiety in Athlete and non Athlete Male Students in Selected Universities of Tehran

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Abstract: The main goal of this study is to determining relationship between kyphosis and depression anxiety in athlete and non athlete male students in selected universities of Tehran. 190 athlete and non athlete students of selected universities of Tehran participated at the study. Subjects were randomly selected from three universities (Tehran, Allameh Tabatabaee, faculty of physical education of Islamic Azad University). 190 students selected, then degree of kyphosis of subjects determined by spinal mouse system. A questionnaire distributed among subjects. Followed by analyzing data, 106 students selected as kyphotic patients. To determining relationship between the degree of kyphosis among athletes and non athletes, Person coefficient correlation was used. We also used Fischer Test, for comparison of two groups. Results showed no significant relationship between evidence of kyphosis, depression and anxiety in athlete and non athlete subjects.

Key word: Spinal mouse • Kyphosis • Depression • Anxiety

INTRODUCTION

In several last decades, psychology and recoverable motions in sport has developed and more than and time, it has been considered. Now a day, these fields have special status in application and research. In our country, investigation about psychology and body abnormalities has been low.

The amendatory motions is the important branches in the body training that it is turn to recover the body state abnormalities and after to recognize the abnormality kind by suggestion of the body activities and special sport motions try to treat it.

Spinal column situation as part of body is following human body rules, this column forms the central axis of trunk body and it has been started from skull base and to continue in all neck and trunk length and by to connect some bones as-called vertebra is formed, that they have connected together by ligaments and fibro-cartilaginous discs. Spinal column has three important roles in body:

- Body weight tolerance.
- To conserve and maintenance from central nervous system (spinal cord).
- Movement and to contribute in different trunk body motions.

Another function of spinal column is the supportive role of thorax. The breast area need to more support because to be inner organs especially heart, that spinal column is role playing in this support [1].

Spinal column abnormalities are often represented by illness symptoms of scoliosis, kyphosis and lordosis. Different deformations of spinal column cause to deviate bones and joints based their setting. For example, to be weak in the interior vertebra's and posterior muscles cause the kyphosis and side curvature of vertebrae led to cause scoliosis. The most common of these abnormalities is scoliosis and kyphosis and the lordosis has set into next [2-4].

Kyphosis is to increase the curvature in upper part of back that cause to round upper back part so-called humpbacked [5]. This subject has been frequently related to the fatigue and not to balance in muscle power of the spinal column to make straight it in 1925 Hogar shoerman, at first by radiography showed that kyphosis deformation is caused by to be triangle of vertebrae forms [6].

One of factors to cause kyphosis, is to be wedge-shaped vertebrae and its cause is to stiff or to clog the veins and circular cartilages between vertebrae body. By clogging vertebrae veins, their developments is stopped and gradually kyphosis progresses. This theory could not to gain success later.

Shmorel, in 1930, stated that in during developmental ages due to hernia between vertebra disc, kyphosis is caused possibly. He belied that variations is starting as disc projection in core central area. During operation and or be tearing due to strike in lobes or bases ends, part of disc between sponge trunk is pressured, at final, height of inter vertebra decrease. Damage in cartilage development cause to kyphosis finally [6].

One of Classify Cations about Kyphosis as Follows

General: Kyphosis involves all of spinal column.

Local: Kyphosis is made in the limited area of spinal column such as back part one (breast).

Kyphosis Is Classified to Two Kinds by Revocability

Revocable or Movable Kyphosis: this kind is treated simply and it has three origins [7]. A) To set body situation badly, B) Muscular weakness, C) Compensable kyphosis.

Irrevocable Kyphosis: in this case, spinal column deformation isn't amendable and need to surgical operation to treat abnormality. The most common of illness causes includes: Shoerman illness, spinal columns ruptures, bone hollow in aged persons and different illness of spinal column [6].

Depression is a mood state that is defined by sense of inefficiency, disappointment, to decrease activity or response, sadness and its related cues. In this concept, depression is completely common, relatively short-time and repeatable [8]. Depression is natural response of human to the life pressures, such as not to be success in studying or to loss the job, to loss the loved and to know that his/ her illness or aging led to weak. These cases are including situations that often cause to depress. Depression is considered abnormal when it isn't appropriate with the stated event or beyond of limit to continue for all people.

Depression is widespread and vague statement that it is associated with sadness, impatience for laymen and many disorders with various branches for medicine.

Bergman stated that depression is one general complaint that not only between people with mental disorder, but also between many people is seen and in lay words, is said to any unpleasant feeling that including sadness and indifference and even anger. He outlines four concepts for depression:

- One normal state with normal or abnormal mood that it is linked to the mental disorder possibly
- A group of symptoms and cues of pathological
- A pathological process for one special group
- It is composed from psychosis requirements [9]

Alizadeh *et al.*, [2] with regard to the relationship and cause and effect principle the body and spirit together, stated that sport and physical exercises on psychical or mental healthy is effective And also said that body ability would be to empower the spirit ability [10]. From other hand, investigation showed that if sport activities were done as incorrect and very high, led to sever physical damages and sport damages them selves are sever depression agent and even suicide in persons. Depression is one of the most common mental disorders that it affects on states and behavior of sport men-women (athletes) [11].

Anxiety is an independent excitation state that it is followed with mental feelings and appreciation. Then, anxiety has biological and mental aspects. And in anxious situations, it is seen objectively [12]. In fact, an anxiety state is determined with tension, fear, unrest, attitude, excitement and automatic nervous system activity [13]. In view of are-me, anxiety includes one state that it is made due to risk one of the basic methods of personal life. He believed that anxiety is same one internal pain that cause to the emotion and non-equilibrium, because human beings try to make interaction always. Then can to say that anxiety is very vigorous motive that it is possible to be zero and this is depend on fear and risk rate toward person. Are-me believed that intermediate rate of anxiety is necessary to develop and personality evolution. In fact, there isn't anyone without anxiety rate. Lout, high rate of anxiety led to make the behavioral disorder [13].

And any times, persons with anxiety about exams; to meet with important ones and cooperate with together they are anxious.

And this anxiety isn't only in mind, but all body is anxious and reaction due to it, is seen in a body. However, body with cues informs that we out of control [14].

In sport fields, anxiety includes the important part of sport psychology subjects. In the physical training relationship between essence and spirit is seen in the sport psychology. Sport psychology has commonly considered in to two areas: these areas includes making better sport function and mental healthy. The former is related to the psychological factors such as anxiety, concentration, mental preparedness and personality

these components have direct relationship with sport functions, For example, sport function or to execute skillfully can to excite anxiety and anxiety can to interact on person's functions [15].

In one investigation by Rezazadeh as-titled: to study the state disorder and male patient depression rate in Tehran-Chamran hospital, was determined that, there is significant relationship between depression and state disorders severity and the later ones increase with increasing of depression severity [16]. Norris *et al.*, [17] were done one investigation on anxious, depressive and anger persons. Studies on 147 persons, between 13-17 years, with anxiety, depression and violent act, determined that, this abnormality has significant relationship with body state disorders. Dheera *et al.* [18] were done one investigation to explain consequences of vertebra rupture or fracture due to pressure, they find that, after these fracture, core pressure reduces and also one of the obvious causes of illness is between old men that led to pain, kyphosis, reduction of mobility and depression investigation importance is related to the psychical and physical aspects that they are complacent together.

MATERIALS AND METHODS

Investigation Method: This investigation was done as descriptive and in this case, inferential statistics has been used. Information and data was obtained by two questionnaires including beck depression scale and self-measuring one (character anxiety). Also to study kyphosis rate was used spinal mouse apparatus. To find the relationship between variables, we used the correlation coefficient, to be significant or not to be.

Researcher had not any intervention over these variables and he not only tried to measure it because, sample size was more than 150 persons, normal standard curve was used to measure to be significant these relationship [19]. Research sample society includes male students from Tehran universities. This sample is including of persons with kyphosis.

Statistic Samples and How to Select Them: Three universities (Tehran university-physical training faculty). Allameh Tabatabaie (psychology and educational science faculty Islamic Azad university-central Tehran unit physical- training faculty) were selected as cluster sampling. From them, 190 were selected

as simple random method and from them, information about 106 persons were selected (49 athletics and 57 non athletics with kyphosis over 40 degree) mean of age, size weight of subjects were 22.59, 175.24, 75.20 for athletics and 32.12, 174.10, 76.36 for non athletes respectively. Also these athletes were physical training students and at least, three sessions exercised in week, systematically.

Measurement Tools: Beck's depression test: this test has been recognized as (culture studying test). In the other hand, this is applicable for different society classes, its validity or reliability has studied directly and indirectly and its correlation range in the retest has obtained from several hours to several months 0.48 to 0.90 the studying of beck's test validity showed that beck's depression question aria scores mean is increasing with general scaling by psychiatrist and it has significantly correlation with clinical expert scaling. (In two distinct studying 0.65 and 0.67) [20].

Spiel Berger character anxiety test. This is applicable for one or groups of persons. It hasn't time-restriction. Test validity has been estimated by inner test coordination, intervention rate of all questions and kronbach alpha coefficient formula. Test reliability is done by basic components analysis test (four factors) based on that method, an number is set into correlation matrix homes that in addition to the common variance is including the special and error variances.

Spinal mouse apparatus: this apparatus has made in swiss country by Dr. Kaylochi with help of IDP institution and with very high validity and reliability to measure angles and curvatures in different body parts and especially in the spinal column.

Data Collection Method: To collect data, at first, subjects as volunteers filled the question tries about depression and anxiety. Subjects were prepared to test and to determine kyphosis rate with spinal mouse apparatus. This apparatus has been formed from one mouse and one antenna connected to the play screen.

Digital mouse has rollers that this role shows spinal column angles and curvatures by pulling on it, in the screen. This apparatus has ability to registry person's specification in the installed programmed. To evaluate the body state of subjects, would be ask them to stand right, then, his cervical vertebra (c7) was marking in next stage, to find kyphosis rate in the sagittal base, mouse pulled quietly on spinal column to the sacrum vertebra. This act was done in flexion and extension also. In continue this

activity was showing in the play screen. If to do error in the pulling of mouse, that error was showed in the computer programme and this act was done again. Because, this software shows kyphosis, lourdosis and pelvis tilt in the sagital axis, even; scoliosis measuring ability has in frotal labe. To find subjects kyphosis severity rate, apparatus analysed these date. And kyphosis rate was showed in T₁ to T₁₂ vertebra. And persons with 40 degree or more kyphosis, were researched then, subjects questionarie score was compared with kyphosis rate score and the analyzed.

Statistical Methods: For this investigation, descriptive and inferential statistics were used. To find relationship rate and cow elation of mental dimensions desired with kyphosis angle, Pearson correlation coefficient was used. To determine numerical significance data obtained from this research, normal standard curve was used.

Also, to compare between persons with kyphosis (depression and anxiety) in athletes and non-athletes, fisher test was applied, to study variance equality. In aention to the calculated (p) 42% there is significant relationship between kyphosis mean with depression in athletes and non-athletes students, but this relationship was not observed about anxiety.

RESULT

After gathering the questions and finding the kyphosis of angle tests 106 person selected. In table are can see person characterctics like hight weight test ages and statistical character related to athletic and nonathletic depression and anxiety depintive characters.

DISCUSSION

The basis purpose of this investigation was to find relationship between kyphosis with depression and anxiety in athletes and non-athletes students. For this reason, spinal mouse apparatus was used to evaluate subject body situation and to defermine kyphosis rate and to determine the mental state were used becks depressin test and special berger anxiety charater test. These vesulty was compared with other investigation resutts. With difference in some investigation results, it assumes that its causes with present research are due to be non objective measuring scale and finally estimate error. But, by exact studying situations and special characteristics we find that the measurement tool was spinal mous

Table 1: Person's characters

Statically	N	Minimum	Max	M	St	S2
Athletic hight	49	171	184	24.175	4.79	11.73
Non athletic hight	57	162	181	174.10	3.42	20.16
Athletic age	49	19	26	22.59	2.44	4.78
Non athletic age	57	19	28	32.12	2.18	5.96
Athletic weight	49	64	93	75.20	7.90	45.12
Non athletic weight	57	52	110	76.36	6.71	62.55

Table 2: Statically athletic and non athletic person's kyphosis ate

Statically	N	Minimum	max	M	St	S2
Kyphosis athletic	49	41	72	49.69	6.49	42.21
Kyphosis nonathletic	57	40	61	48.01	5.53	30.6

Table 3: Statically anxiety depression between athletic and non athletic

Statically	N	Minimum	Max	M	St	S2
Depression rate the athletic	49	0	28	10.84	7.34	53.9
Depression rate the non athletic	57	0	41	12.8	7.61	58
anxiety rate the athletic	49	22	64	39	8.5	72.6
anxiety rate the non athletic	57	23	65	41.24	7.79	60.7

Table 4: Relationship between kyphosis with depression in athletes and non-athletes students

Statically	N	R	P
Athletic depression the kyphosis	49	0.54	0.715
non athletic depression the kyphosis	57	-0.92	0.497

Table 5: Relationship between kyphosis with anxiety in athletes and non-athletes students.

Statically	N	r	P
Athletic anixety the kyphosis	49	-0.22	0.88
non athletic anixety the kyphosis	57	-0.237	0.075

Table 6: Relationship between average kyphosis with depression and anxiety in athletes and non-athletes students

Statically	N	m	st	P
Athletic depression the kyphosis	49	10.22	7.51	0.42
non athletic depression the kyphosis	57	13.35	8.06	
Athletic anxiety the kyphosis	49	38.97	8.74	0.145
non athletic anxiety the kyphosis	57	41.42	8.34	

apparatus with very high validity and reliability. Perhaps, difference to be due to other factors that need to elucidate.

Relationship Between Kyphosis Whit Depression and Anxiety in Athlete's Students:

In the present research, there wasn't significantly relationship between kyphosis with depression and anxiety in athletes students, this result was associated with Yasrobi [12] result in this case. These results could be interpreted that athlete's students have participated in social activities such as group games, with more relation together more than other people and they are exercising more, because necessity of body activity for organisms, mobility led to be active. Non- activity led to make deficiency in that organ. The equilibrium of basic needs in organs is necessary; this situation differs in various ages. Alizadeh *et al.*, [2] by attention to the interaction of body and psyche on together stated that sport and body exercises have effective for mental healthy. Winberg and cold pointed out that there is relationship between systematic body exercises and reducing of depression. Whatever sessions number to be more, led to reduce more depression. For this reason, depression is one of the most common mental disorders that affects on states and behavior of athletes. It can be said that anti depressive feature of group activity in samples has effect on result possibly. From other hand, the present investigation results, noris, Douglas and cochran researched the body abnormality

in anxious persons, there was not association. This not-association is related to difference in age range (13-17). Sample size and number had effect on results. In sport fields, anxiety is the important part of subjects in the sport psychology. In the physical training, there is seen relationship between essence and psyche in the sport psychology, that it is included in two areas. These areas are including: to expand sport function and mental healthy. Investigation have showed that to run, stretching mobility as short-time reduces anxiety and led to be quiet [13]. To be better sport function is related to the psychological factors such as anxiety, concentration mental preparedness and personality. These components in turn have direct relationship with sport function. Then, just as skillfully sport function led to excite anxiety, so anxiety can to interact on person function level [18].

Relationship Between Kyphosis with Depression and Anxiety in Non-athletes Students:

There was not significant relationship between kyphosis with depression and anxiety in non-athlete students. This result has not association with Chiment and Sanchez [6]. Its cause is come back to subjects sample and size also these subjects had acute body abnormalities. While, present investigation samples, was in acute situation. In deera anantakrishnan, on 25-69 years found that after fracture of spinal column, closed pressure reduce and also one of dominant causes of illness in aged persons.

That led to pain, kyphosis, reducing of mobility and depression. It is normal that in this state, person is disturbed temporarily, meanwhile it is possible that this state led to anxiety, angry, depressive, disturbance, non-sleep and non-reliance and anorexia. Depression severity can to deform body such as neck stiffness lumbago, to weak Extensor muscle and etc [22].

But, because, in this research, depression was not sever and it cannot be excluded that depression is vole playing to make illness. Then, can to say that depressed patients under psychoanalyst. Can to have that illness symptom. Also in this research found that more than 90% patients with body de formative dis order have had the major depression dis order one time in throughout life. Nearly 70% had anxiety disorder, 30% had pilolitik disorder and this result is associated with Tes and Bailey [22] results.

CONCLUSION

Generally, can to say that gender, sample, age sample number, sample society, measurement tool of questionnaires has been used.

Inheritance, parent behavior with children, bobby image, residence place, studies and etc can to affect the investigation results. Also, mental factors as variable can to be in treatment process. It can not to be in all life always. One of affective factors in this research and its difference with other investigation, were gender and age of subjects. With the important effect on results. Especially in children end aged persons that they have physical and mental problems. Person's cultural and economic situation can to affect on results. By to do more investigations, ambiguities is removed. Because, kyphosis is one abnormality in spinal column is caused mental, developmental and internal disorder, in and ages occurs.

Kyphosis can to establish illnesses such as infection disorder in ligament tissue omuscle malnutrition, to loss intervertebra disc, infants paralysis and tumor [23]. Then, we can to remove these all nesses by one managerial program and to be familiar persons with these illnesses complications.

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