



Impact of Prolonged Periods Classroom Settings in Intra-abdominal fat area and its Consequence on Posture/Balance Control among Algerian Childhood College Preparatory School.

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Abstract:

The play has been shown to help children adjust to the school setting and to enhance children's learning [1]. Since this theory, the current study was designed to examine the significance of mechanical effects of intra-abdominal on posture/balance control among the Algerian Childhood Primary Schools. Since our teachers emphasise the good classroom settings as a discipline pedagogical aspect of success learning. While High-quality educational programs for children in preschool and kindergarten have played at the centre of the curriculum [2]. Our interventions in this study aimed to examine Impact of Prolonged Periods Classroom Settings in Intra-abdominal fat area and its Consequence on Posture/Balance Control among Algerian Childhood Preparatory Schools. for the purpose, a total of 61 schoolboys of Slimane provinces Naama, Municipality Mecheria, Algeria male gender their average age 5 ± 1.52 years distributed into two homogeneous groups, according to them, school attendance (kindergarten School (29 boys) - preschool (32 boys)). Tested by saving tests (Body Fat Percentage-Abdominal circumference - Modified Bass Test of Dynamic Balance and standing balance).

Based on the analysis statistics, we confirm:

- Prolonged periods classroom settings increase Intra-Abdominal Fat which represents big risk posture/balance control.
- Primary schools posture needs an interactive play method Learning classroom to improve body imbalance as health benefits physical activities.

Based on the differences acquired by the research team, we emphasise that prolonged periods classroom settings Primary Schools increase the intra-abdominal which owing to the weakness of skeletal muscle fatigue and abnormal pathological alignment. While as a recommendation pedagogy practised, we suggested to our teachers, who work with these children to know that the balanced posture requires more energy in the class, Considering that our student seat more than 6 hours a day, 30 per week, and 120 per month 1080 per year in Algerian primary schools.

Keywords: Prolonged Periods Classroom Settings, Intra-abdominal fat, Posture/Balance Control, Algerian Preparatory Schools.

Introduction:

Thus, Poor posture is one of the main causes of back pain [3] as an important issue in the health jobs care, due to the prolonged periods of jobs time, which does not allow to change positions frequently [4]- [5]- [6] the case of our Schoolboy, whom seat more than 6 hours per day, 30 per week, and 120 per month 1080 per year in Preparatory Schools. Given this situation, our aims in this modest study line on the health problem issues, which are reports as a decreased energy after more than 25 minutes of

settings experience, causing neck and back pain [7] due to fixed sitting posture for long period, leading to static muscular efforts, which results in the seat back and headrest carriage, which caused the musculoskeletal disorders related to Prolonged Periods Settings as unhealthy lifestyle according to studies prevalence [8] [9] [10].

Based on the indication which underlines that the human spine was not designed to be sat [11] for the number of hours [12],

seeing that the major back problems are compounded to long hours of sitting [13] the case of Childhood Algerian primary schools. the questions of the actual study upon on time good classroom settings as a qualitative pedagogical procedure for classroom discipline [14] Vs reduced child play time at school [15] and outside [16]. Where these procedures are not in conformity with High-quality educational programs for children in preschool and kindergarten have play at the centre of the curriculum [2], which privilege the benefit of Learning through play method, that has been shown to help children adjust to the school setting and even to enhance their readiness to learn [17].

On its foundations, the current study supports Pedagogical practice which includes activities that allow the school kids to be active and release energy before activities that require children to sit still [18]. While to achieve this goal for future analytical studies, we based on two age schooling difference formations, the College Preparatory School (CPS) as preschool and kindergarten class. Where the contexts and the procedures are consisting in environmental planning learning among the Algerian College Preparatory School.

Methods

Protocol

To achieve the goals of this study Concerning the evaluating, the impact of long settings periods in the Intra-abdominal fat area and its consequence on posture/balance control. Our choice is based on two age schooling difference formations, the kindergarten class five-year schoolboy and girls in Algeria their Subject Request Visual and Performing Arts (dance, drama or theatre, music, or visual art) as well as learn the number and alphabet, while its classes are kindergarten classes, which allows the child to play and learn in the opposite of the preschool class, which request children to commit taking their places.

Subjects

The subjects were 61 schoolboys of the brother Slimane provinces Naama, Municipality Mecheria, their average age 5 ± 1.52 years distributed into two homogeneous groups based on their school attendance (kindergarten School (29 boys) - preschool (32 boys)). To exclude the effect of sex on data, all subjects are male. None of the subjects had historical of inscrutable visual defects, vertigo, motor paresis or sensory deficits. Subjects were recruited through slimming school. Participation in this study was accompanied by their teacher strictly voluntary to attend experience. Informed consent was obtained, and teacher signed a document.

Testing Protocol

Our choice is based on the indication that the children under the age of four generally have good posture and mechanics as elementary school, children develop poor sitting and standing

habits, and abnormal posture becomes apparent. Examine posture in a static position allows an unobstructed view of all postures elements. Where the correct posture minimises stress on muscles, bones, and joints while incorrect posture places abnormal stress on these structures. [19] The case of the current study which refers to the indication; after 4 to 6 years of age balance can be quickly be assessed by asking the child to hop on one foot [20] to 5 to 15 years according to [21]

✓ **Measurements of standing balance**

- Objective

To monitor the development of the pupil's ability to maintain a state of equilibrium (balance) in a static position. See fig 1.

- Required Resources

To undertake this test, you will require:

- Warm dry location - gym
- Stopwatch
- An assistant

- How to conduct the test.

- The pupil stands comfortably on both feet with their hands on their hips
- The pupil lifts the right leg, places the sole of the right foot against the side of the left kneecap and close both eyes
- The assistant gives the command "GO", starts the stopwatch and the pupil raises the heel of the left foot to stand on their toes
- The pupil is to hold this position for as long as possible
- The assistant stops the stopwatch when the pupil's left heel touches the ground or the right foot moves away from the left knee
- The assistance records the time

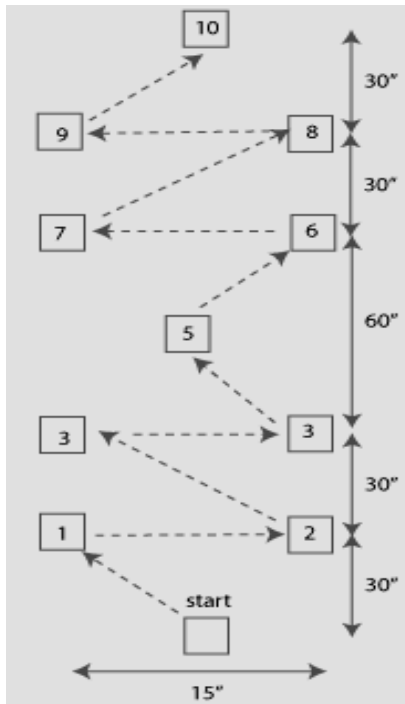


✓ **Modified Bass Test of Dynamic Balance**

- ✓ • **Objective**

- This multiple hop test requires that 1-inch (2.5 cm) tape squares be laid out in a course as shown in figure 1. The subject is required to jump from square to square, in numbered sequence, using only one leg. The hands should remain on the hips. On landing, the subject remains looking facing straight ahead, without moving the support leg, for five seconds before jumping to the next square.

- Scoring: the result is recorded as either a success or fail. A successful performance consists of hopping to each tape mark without touching the floor with the heel or any other part of the body and holding a static position on each tape mark for five seconds without exposing the tape mark.



- As a modification, we remove five seconds before jumping to the next square. Where a child takes his necessary time to jump to the next square.

✓ **Body fat**

- Body fat can be estimated from body mass index (BMI) [22] in the current study we used The formula for children: [23]
- Child body fat % = $(1.51 \times \text{BMI}) - (0.70 \times \text{Age}) - (3.6 \times \text{sex}) + 1.4$ [24] [25]

Statistical analyses

Data obtained from the tests showed a normal distribution and homogeneity of the total sample, were presented as a mean ± standard deviation, Shapiro-Wilk and Levene test. Independent T sample t-test was conducted to combine the results obtained from the two groups see Table 1. Whereas the relationship between the two groups was analysed by Pearson correlations (r).

Results

The homogeneity in tests was calculated based on Levene Statistic, while the normality was counted base on Shapiro-Wilk which showed no significance in all comparisons **Table 1**.

Table 1: shows the Anthropometric characteristics and standing balance variables in Sample

	N	Mean±SD	Shapiro-Wilk	Sig.	Levene's	Sig. T	Sig.
Age	kindergarten	294,36±1,89	0,96	0,680,41	0,520,72	0,44	
	Preschool	325,15±1,55					
	Total	894,61±1,86					
weight	kindergarten	2922,95±3,03	0,95	0,622,48	0,12-1,320,33		
	Preschool	3224,54±2,35					
	Total	8923,77±2,88					
height	kindergarten	29121,88±1,250,97	0,160,27	0,60-1,050,29			
	Preschool	32122,20±1,13					
	Total	89121,69±1,23					
BFP	kindergarten	2925,32±2,47	0,96	0,121,19	0,64-3,240,00		
	Preschool	3229,86±2,17					
	Total	8927,10±2,36					
WC	kindergarten	2942,66±1,42	0,97	0,361,11	0,19-2,730,02		
	Preschool	3249,84±1,37					
	Total	8947,90±1,11					
Dynamic balance	kindergarten	292,02±0,47	0,96	0,421,23	0,222,82	0,02	
	Preschool	322,86±0,17					
	Total	892,60±0,36					

standing balance kindergarten	293,21±0,35	0,98	0,251,03	0,282,87 0,00
Preschool	322,84±0,52			
Total	892,69±0,42			

Through Independent T sample t-test all analysed between Anthropometric variables (Age-Weight- Height) are not significant at $P \leq 0.05$ in the opposite of BFP- WC and both balance tests as string lamb and coordinative posture. Thought

Table 2. all correlation between both balance tests and Anthropometric variables BFP -Weight -WC are a strong negative.

Table 2: shows the correlations between the variables and balance string lamb posture

Pearson correlation	Wight	BFP	WC
Dynamic balance	-0,33**	-0,49**	-0,53**
standing balance	-0,36**	-0,59**	-0,65**
N	61		

**p≤ 0,01 (bilateral).

Through the results in table 1 and 2 we confirm:

Prolonged Periods Classroom Settings increase Intra-abdominal fat the case of Preschool causing postural deformities and spinal problems [26] as abnormal posture, muscle imbalance [27] and imbalance coordination movement [28] report in balance testing [29] [30] in the actual study.

Discussion

The results of the present study showed that the means are for the benefit of Preschool groups followed by kindergarten, confirms by Independent T in overweight BFP and lows balance (dynamic and standing), while our results line with norms body fat Ratings proposed by Dr. Marilyn P, et al [31] which categories our Preparatory School in acceptable weight and the first year schooling in moderately overweight. Given the Algerian statistics, that boys in the age range of 6–10 years had overweight according to David Crawford(2010) [32]and Aaron Benavot et al (2016) In the education system [33], we agree that prolonged periods seating classroom promote the increased of intra-abdominal fat area observed in VC test and BFP due to cholesterol levels, or intra-abdominal fat according to Abdomi Després JP, a land, which records these parameters as risk health factors who need to be considered and studied as an effect of school-based health promotion programs on body composition either [34]. While as a precaution Wener W.K [35] seat that the Childhood needs to improve muscular strength and flexibility and decreasing body fat from the principle that obesity tendency is better facilitated among class children according to Bryan S Turner, et al [36].

Consideration Balance is the ability to keep an upright posture [37] [38], where Intra-abdominal fat can lead to abnormalities in posture, muscle coordination, control of movement, balance, and

awareness of body position [39] the current study agree that Preschool and young elementary school children need daily activities that exercise their large muscles and help develop their fine motor [40] think confirms by Penny Deiner, et al [41] in the benefit of Physical activity which is a key Health and Fitness that toddlers should accumulate at least 30 minutes daily of structured physical activity and preschoolers at least 60 minutes daily and both need at least 60 minutes daily. However, this practice is absent in Algerian Preparatory schools [42] where our scholar children are spending a lot of time seated at an excessive learning activities, or home learning [43] which affect them shape of muscles, deform them skeleton, and cause abnormal development, which prohibit the maintenance of correct posture [44] as excess in joint angle/posture according to Allan Menezes, [45], which require sufficient strength and coordination in their torso to keep their bodies in balance accordance to Marc H. Bornstein, [46]and the level of muscular tension accord to Craig Williamson, [47] and Zerf Mohammed [48].

From the above, our results line with evidence that Being overweight or obese during these period influence Balance movement ability and postural control capacity [49], therefore sitting as quality lifestyle is responsible for many back problems [50], from the moment that this part of spine supports most of the excess of body's weight [51].

Conclusions

Based on obtained data, our findings support our hypothesis, that prolonged periods classroom settings increased Intra-abdominal fat which influences movement ability and postural control capacity. As proofs, we agree that prolonged periods classroom settings increased Intra-abdominal fat, which leads to

fatigue, pain, muscular tension and poor muscle tone [52]. While as a recommendation pedagogy practiced, we suggested to our teachers who work with these children to know that the balanced posture and weight gain requires more energy in the classroom [53], where the Gymnastic as PE activities develop children's strength, balance, speed, suppleness, stamina and core body skills, as well as posture balance and harmony of the body through core muscle, stabilized posture to make the right posture [54] [55] which request more than 15–20 min to performing

body alignment [56] as practice in Preparatory schools [57]. As intervention pedagogic, view our educational system; we subject the Activity breaks in the educational setting which has actually been shown to increase academic performance and positively affect children's attention in the similar studies [58] [59] [60]. Also as teaching method and strategy, we propose the use of Role play as active learning method which provides a high degree of student participation and mobility in classroom [61] [62].

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