STUDY THE INFLUENCE OF YOGA SPECIALIZED PRACTICES ON THE FORMATION OF CORRECT BODY POSTURE AND CORRECTIONS OF SPINAL DEFORMITIES

Ignatova, Darinka
Chief Assistant, Ph.D., Department of Information and Teacher Training
Sofia University "St. Kliment Ohridski"
https://orcid.org/0000-0002-0564-584X

***Key words**: motor specialized yoga practices, posture, spinal deformities, postural disorders, development dynamics*

INTRODUCTION

The effectiveness of physical education training in general and in particular the kindergarten is determined by the goals of the educational process (Andreeva, 2019; Donev et al., 2019; Chipeva, 2019; Dimitrova, 2020). The achievement of these goals and the formation of certain motor abilities is in accordance with the level of development of children and the characteristics of the psycho-physical characteristics of the children in preschool age (Dobreva, 2018). In this sense, the methods of physical education, used in the educational process in kindergarten with the basic need of use in the educational process in the kindergarten with the basic need for the growing organism (Ignatova, & Iliev, 2022; 2020; Dimitrova, 2019). The main goals and objectives of physical culture are related to health promotion and achievement of physical perfection (Trendafilov et al., 2019). Physical education of children from pre-school education occupies a central place in the system of general education. Unfortunately, the physical education classes are included in the system of pre-school education, which is still with low impact and they cannot satisfy the existing high needs for active movement (Trendafilov, 2020; Dimitrova et al., 2021).

METHODOLOGY

Organization

The study included 60 children aged 5-6 years from the capital's kindergarten. For the purposes of the experiment, they were divided into two target groups - Control Group (CG) and Experimental Group (EG), with 30 children in each group. One of the prerequisites for the study was the comparison of the initial and final results in the experimental and control groups. The children from the Experimental Group practice yoga twice a week. The control group conducted regular classes in the field of physical education in the field of "Physical Culture". For solving the tasks, achieving the goal and proving the hypothesis, a complex method of teaching and learning has been applied, pedagogical observation, discussion and implementation of experimental methods from adapted yoga practices.

On the basis of the set tasks, two sets were prepared, consisting of yoga poses with a corrected character, which should be applied twice a week. The first set was offered in the morning, and the second set in the afternoon. The complexes were conducted with the children from the Experimental group in the range of ten months. The studies were carried out during the 2019/20 school year.

Study stages:

- Constitutive stage - detection at the initial level
- Training stage - organization of the study
- Control stage - analysis of the results

In the final stage, the stand was measured, the ability to concentrate on attention and flexibility, such as a motor quality. Both groups were placed in equal conditions, in one and the same educational group.

RESULTS

For the purposes of the study, the following tests were used, conducted in both target groups:

- Establishment of a step on a broken stand - test on Matthias /sec/
- concentration on attention - test on Burdon /conceptual test /
- establishment of flexibility of lower and upper limbs - test Depth of inclination /cm/
- measurement of coordination and speed-force characteristics (throwing a ball at a target / vertical and horizontal /points/

Training stage - during the month of the month the experimental methodology with children from the Experimental group was applied.

Control stage - verification tests were performed on the step of the violation in the stand of the children of the two groups, with which it is established that in the end of the study the results of the children from the Experimental group will report similarities in the indicators from the Control Group. We compare the results obtained from the beginning and at the end of the study, in order to establish the effectiveness of the applied method of use, expressed in the percentage ratio on both levels.

Methodology - Specifics of the methods of yoga practice

- Test for the study of "Depth of inclination" /cm/

Starting position: Main seat. The legs are tucked together. The back is stretched to 90 degrees, the hands are stretched, parallel to each other facing upwards. Next, lean your body forward until you reach the foot. Measurement: The results are read in centimeters, which are measured to where they reach with the hand in the slope.

- Test of throwing a small solid ball /150 g/ in the target - horizontal and vertical

The test provides information about the coordination and speed-power abilities of the child, as well as about the level of general flexibility.

The final result of the text: it reads, as it records the sum of the number of hits from being thrown into the horizontal and vertical target. Individually for each child the points according to the normative reports for the separate motor indicators are summed up and this is an assessment of the six-point system.

Estimates		Percentage interval	Percentages
Verbal evaluation	Numerical evaluation		
Very low	Up to 3 points	Under 2.27%	2,27
Low	4-7	2,27 - 15,86%	13,59
Below average	8-11	15,86 - 30,85%	14,99
Average	12-14	30,85 - 69,15%	38,30
Above average	15-18	69,15 - 84,14%	14,99
High evaluation	19-22	84,14 - 97,23%	13,59

Very high	23 and more points	Over 97.73%	2,27	

Table 1. *Verbal assessment of motor activity*

- Test for the study of concentration and stability of attention - Conceptual test of Burdon

Based on the recovery characteristics of the children in preschool, adapted figure tests were applied on the basis of - geometric figures according to the design sample (Kunchev, 2017). It examines the stability of attention, memory, the work of the senses, the analytical-synthetic activity of the cerebral cortex, through the determination of a dynamic stereotype. The persistence of attention is investigated through the intensity of the work performed. The children are required to read from the right side of the page only one figure, which is the same as the sample from the left side of the page. Before the study, a preliminary preparation is required in order to create an impulsiveness in the children to play a fun game.

- Matthias test for determining the degree of violations in the stand

The test consists in the study of the functional state of the muscles of the spinal column, by means of additional loading. Instructions were given for the children to occupy a basic position, with the width of the shoulder blade, raised to ninety degrees, stretched forward, with the back straight, the head raised forward, as they try to support the described posture to failure. The measurement was recorded in seconds.

DISCUSSION

Calculation and determination of correlation coefficients

The study also analyzes the correlation between the results of the children from the Control and Experimental Group. Data from the following variables are used:

- X - the values of the results from the measurements of the stand of the children from the Experimental group at the beginning of the experiment.
- Y - the values of the results from the measurements of the stand of the children from the Experimental group at the end of the experiment.

Before the coefficient of compilation is calculated and analyzed, a chart of preparation will be prepared and analyzed, which will show a clear picture. An analysis diagram will be prepared and analyzed, which will clearly show the format and the relationship between the two variables X and У. The format of the dependencies was established through regression analysis. On the dispensational diagram of the case, in which the abcification is reduced in accordance with the values of the independent variable (X), / this is the value of the research at the beginning of the experiment - EG /, on the ordinate the meanings of the dependent variable (Y) are located, this is the value of the studies at the end of the EG experiment. In the field of the graph, points with coordinates of the observations Xi and Yi are plotted for each of the studied children from EG at the beginning and at the end of the experiment.

Table 2. Comparison coefficient scale – Rf

Values	Correlation scale
0 - 0,3	weak correlation

0,3 - 0,5	moderate correlation
0,5 - 0,7	significant correlation
0,7 - 0,9	high correlation
0,9 – 1,0	very high correlation

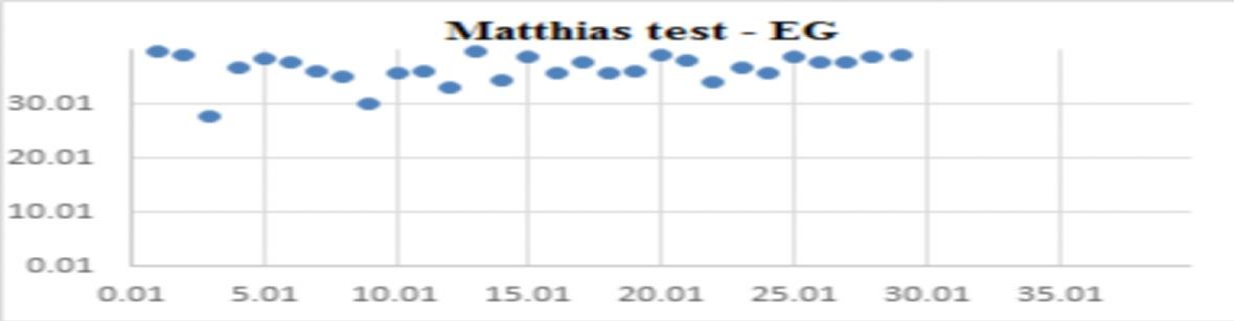

Diagram 1. Dispersion of variables X and Y in Experimental group

From the above-stated dispensation diagram it can be seen that there is a clever correlation between the variables X and Y, Rf = 0.31. The values obtained for the Fechner coefficient show a moderate correlation dependence between the results of the Matthias test at the beginning and at the end the children from the Experimental group.

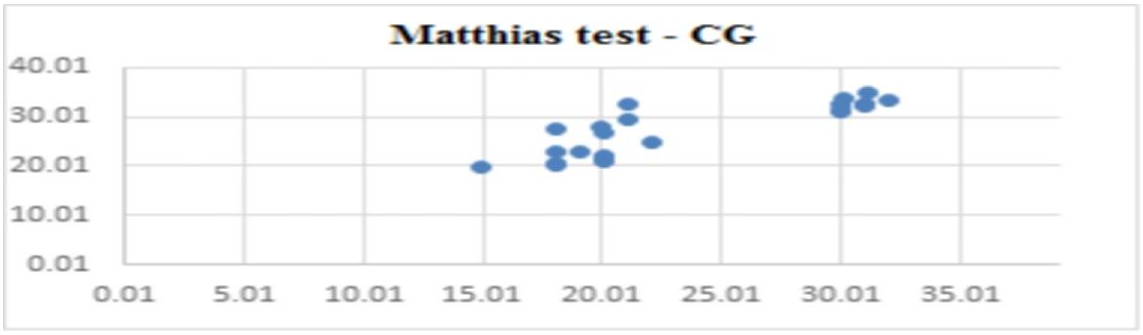

Diagram 2. Dispersion of X and Y in Control group

From the above-stated dispersion diagram it can be seen that there is a weak correlation between the variables X and Y, Rf = 0.24. The values obtained for the Fechner coefficient account for the weak correlation dependence between the results of the Matthias test at the beginning and at the end of the children from the Control group.

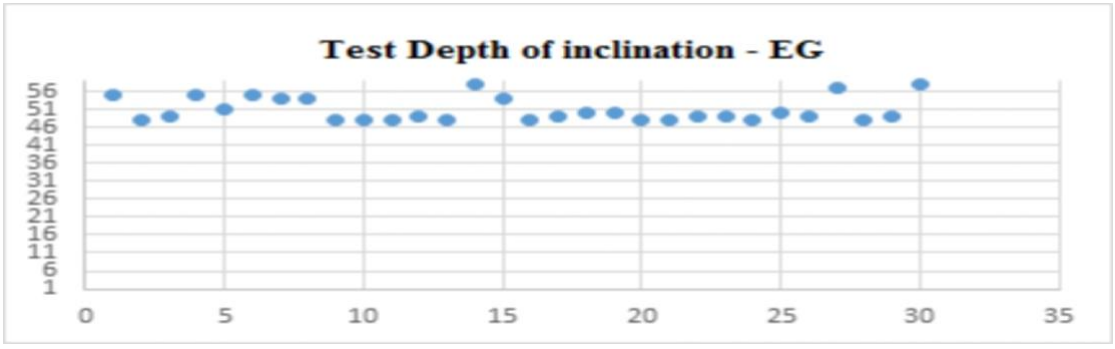

Diagram 3. Dispersion of X and Y in Experimental group

From the above-stated dispersion diagram it can be seen that there is a moderate correlation between the variables X and Y, Rf = 0.37. The obtained values for the coefficient of the Rf on Fechner correlation are considered to be a moderate correlation dependence between the results of the test "Depth of inclination" in the slope at the beginning and at the end of the experiment with the children from the Experimental group.

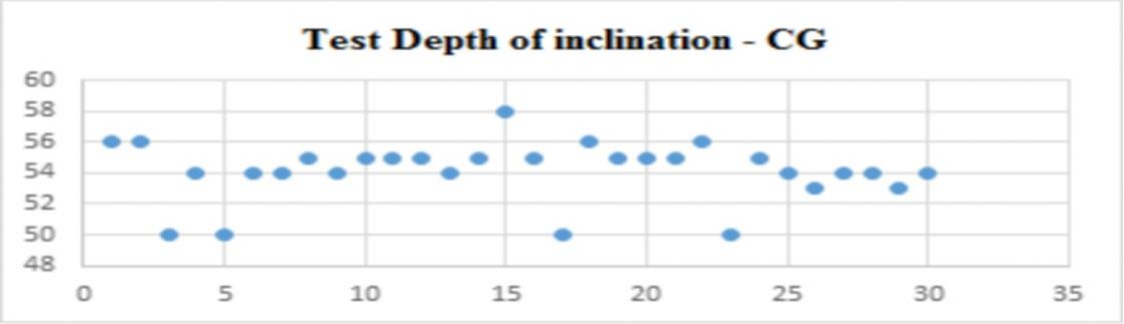

Diagram 4. Dispersion of X and Y at Control group

From the above-stated dispersion diagram, it can be seen that there is a weak correlation between the variables X and Y, Rf = 0.29. The obtained values for the coefficient of the Rf compilation of Fechner are considered to be a weak correlation dependence between the results of the "Depth of inclination" test at the beginning and at the end of the experiment with the children from the Control Group.

CONCLUSIONS

From the studied literature on the problem of hypodynamics and frequent cases of gradual changes and spinal deformities in children of preschool age. The conducted experimental work and the analysis of the results provide a basis to draw the following conclusions for the practice:

- The tested ones and applied yoga complexes in the continuation of one school year, leading to stimulation of interest and improvement of the body posture on the children included in the experimental study.
- Motor exercises are easy to apply, safe and can be recommended as part of the existing modules for motor activity.
- During one school year there were changes in the studied indicators of both groups of children, as significant changes were observed from the Experimental Group, as a consequence of the applied innovative methodology of its practice.
- All parents are convinced of the benefits of applying preventive measures in the conditions of the kindergarten for the improvement of the general body position and the health condition of the children.
- Increased motor activity is one of the ways to fight modern diseases of humanity, namely hypodynamics /movement lack/ and subsequent weight gain / obesity /.

Note:

Conflict of Interest: *No conflict of interest was declared by the author and the institution.*

Financial Disclosure: *The developed analysis is under project BG05M2OP001-1.001-0001 "Building and developing a Centre of Excellence "Heritage BG", funded by the Operational Program" Science and Education for Smart Growth.*

Declarations *of informed consent have been signed regarding the publication of survey data.*

REFERENCES

1. Andreeva, P., (2019). Optimization of the motor activity of children in the kindergarten through tourism and sports in the field *// Professional, 21st of October*.
2. Chipeva, M. (2019). *Kango dzhŭmps Aerobika*. Kniga. Izd. Avangard Prima, S. ISBN 978-619-239-131-7 p.51. *[In Bulgarian].* [Чипева, М. (2019). *Канго джъмпс Аеробика.* Книга. *Изд.* Авангард Прима, София].
3. Dimitrova, B. (2019). Quality assessment about standards for wellness services and certified skills of specialized staff.. *DOI: 10.15547 / tjs.2019.02.007. Trakia Journal of Sciences, Vol. 17, No 2, 2019, pp143-149, ISSN: 1313-3551 (online) / http://tru.uni-sz.bg/tsj/Vol.17*
4. Dimitrova, B. (2019.a). *New smart educational model "Wellness instructor"*. Monograph. Ed. Avangard Prima, Sofia, first edition. ISBN: 978-619-239-150-8
5. Dimitrova, B., (2020). Relationships between education and innovations in the recreational Industry in Bulgaria. DOI: 10.15547 / tjs.2019.02.007. *Trakia Journal of Sciences, Vol. 18, No 2, 2020, pp143-149, ISSN: 1313-3551 (online) / http://tru.uni-sz.bg/tsj/Vol.18*
6. Dimitrova, B., N. Izov i kol. (2021). *Smart kognitiven instrumentarium. Vŭnshna otsenka na profesionalni kompetentsii za kadri v Nishov turizŭm*. Sofiya, Izd. NSA Pres, ISBN: 978-954-718-675-0. [In Bulgarian]. [Димитрова, Б., Н. Изов и кол. (2021). Smart когнитивен инструментариум. Външна оценка на професионални компетенции за кадри в Нишов туризъм. София, Изд. НСА Прес].
7. Dobreva, I. (2018). *Yoga in the kindergarten* / 5-7 years /, from. Arts, ISBN 9789549463392,.
8. Donev J, Andonov S, Djobova S, Donev JJ, Hristov O, Kirilova I, Bahchevanski S, Iossifov R, Aleksandrova V, Angelov B, Stoyanova N., (2019). Comparative study of measuring physical activity among sport students. *Original scientific paper. Conference: International scientific congress "Applied sports sciences.* Balkan scientific congress of physical education, sports and health", 15 - 16 November 2019, Sofia, Bulgaria. Proceeding book, p369-374, NSA press, Sofia. ISBN (Online): 978-954-718-601-9. ISBN (Print): 978-954-718-602-6.
9. Ignatova, Iliev: Ignatova, D. & A. Iliev. Benchmarking of Dynamics to Development of Speed and Power Characteristics, Scientific and methodical magazine: *Strategies for policy in science and education - Research and paradigms*, ISSN 1314–8575 (Online), ISSN 1310–0270 (Print), Volume 30, Number 4, pp. 411-421, 2022. Available at: https://doi.org/10.53656/str2022-4-6-ben URL of Web Page Listing the DOI: https://strategies.azbuki.bg/. (2022).
10. Ignatova, D. & A. Iliev Motor qualities and their influence on children's development. *International Scientific Journal: Smart Innovations in Recreational, Wellness Industry and Niche Tourism*. Vol. 2, Issue 1-2, pp: 16-44. ISSN: 2603-4921 (online). Available at: https://scjournal.globalwaterhealth.org/. (2020).
11. Kunchev, K. (2017) A complete test of Bupdon - a study of the properties of attention (16.05.2021)
12. Trendafilov, D., Dimitrova, B., Aqua Spinning as anti-stress health prevention. *Sport Mont, XI* (37-38-39 (USA) 467-473, 2013).
13. Trendafilov, D. Swimming management in Bulgaria. Theoretical, scientific-applied and practical aspects. Sofia. *NMS "Sports and Science" issues* 3 - 4 (2020).

Ignatova, Darinka
Chief Assistant, Doctor, Sofia University "St. Kliment Ohridski"
Department of Information and Teacher Training
https://orcid.org/0000-0002-0564-584X
Email: darinka.bg@gmail.com