

Relationship Between Juvenile Physical Activity and Hebephrenia in Greece

Papanikolaou F^{1*} and Bebetsos E²

¹Ph.D. Candidate, School of Physical Education and Sport Science, Democritus University of Thrace, Komotini, Hellas, Greece

²Associate Professor, School of Physical Education and Sport Science, Democritus University of Thrace, Komotini, Hellas, Greece

***Corresponding Author:** Papanikolaou Fani, Ph.D. Candidate, School of Physical Education and Sport Science, Democritus University of Thrace, Komotini, Hellas, Greece.

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Abstract

The lifestyle quality and physical health of those with psychic and neuropsychic disorders have not often been in the focus of research. The same applies to the physical activity effect on the bodily and mental health of those with serious mental disorders. This research aimed at a first-internationally-monitoring, of the relationship between physical activity and health of the body of those individuals with Hebephrenia, in view of forming a picture of how they, themselves, perceive exercise in relation to their mental state as well as whether well-being is achieved through physical activity. The sample consisted of 31 patients. The sample was separated in 2 age groups: a) 6 - 12 years of age, and b) 13 - 18 years of age. For data collection the Greek version of GPAQ (Global Physical Activity Questionnaire), was used. The measurement tool included questions of which physical activity was recorded. According to the results, patients of the first group had higher scores on the "sitting-time" variable. Also as the results indicated research mainly the subjects spend minimum of time for their daily physical activity(ies). Conclusion, identifies the need of physical activity as an option for the prevention and treatment of mental disease.

Keywords: *Physical Activity; Mental Health; Hebephrenia*

Introduction

World Health Organization [1] defines that health is a state of full physical mental and social well-being, and not just the absence of disease or disability, as well as mental health being a state of emotional well-being, in which the individual can comfortably live and work within the community feeling satisfaction with their personal characteristics and achievements [2]. Social scientists, with their different approaches, often place special emphasis on the concept of well-being that is directly linked to physical activity. The strategies for the promotion of healthy lifestyle on both national and international level, are developed within the context of community programs in conjunction with other public health units as well as local bearers. The program-range includes sectors such as the prevention of substance abuse, and smoking, the promotion of physical activity, healthy nutrition and the early detection of metal disease [3,4].

Research data available pertaining to the phenomenology of children's schizophrenia are limited. The word "hebephrenia" describes the schizophrenic disorder seen in childhood and young age [5]. However, the results of the few available studies converge impressively. In Kolvin's., *et al.* study [6], the schizophrenic children presented pre-morbid deficits in speech (46%), in kinetic development (49%) and social exchange (87%). Respectively, in the study of NIMH [7] for the children's schizophrenia, pre-morbid deficits reach 77.3% including

speech among others (55.1%), kinetic development 57.1%) and social exchange (55.1%). In addition, in Nicolson., *et al.* study [8] for the children's schizophrenia, 72% of the patients presented serious deficits in speech development and/or the kinetic development before the age of six.

The onset of the disorder can appear in at least three forms [9]:

- 1) Acute onset, without obvious pre-morbid signs of the starting disorder.
- 2) Devious onset, with gradual exacerbation of functionality
- 3) Devious onset with acute exacerbation of the disorder.

The most common form is the devious onset of the disorder, especially in children, for who the percentage of devious onset comes to 75%. In adolescents, the percentage of the cases with acute onset increases significantly, resulting in certain studies showing a prevalence of the devious onset (65%) [10] and up to 80% [11]. In the beginning of the main psychotic symptoms (psychotic disorders) there precede the so called 'precurring' manifestations of the disorder, which include a deterioration of school performance, social isolation, disorganized odd behaviour, deterioration of ability to perform everyday activities, reduction in self catering skills, odd eating and personal hygiene habits, emotion alterations, loss of impulse control, hostility, aggressiveness, apathy and inactiveness.

All the basic factors linked to unfavorable prognosis in adult patients, that is devious onset, pre-morbid manifestation and intense presence of negative and disorganizing symptoms, are, as a rule, present in children's schizophrenia as well, negatively affecting its course. The children with schizophrenia commonly continue presenting the disorder during adolescence and adult life, at percentages varying in different studies from 50%, 67%, 78% and up to 90%. A percentage of patients ranging from 12% up to 27% presents a recession. Psychosocial adaptation was affected in 50 - 60% of the patients and only 33% lived independently [10].

Given, therefore, that pharmaceutical treatment on its own sake cannot be a complete treatment in patients with mental disease, physical exercise intervention programs have been suggested lately as an additional measure for the treatment of psychosis [12-14]. There are numerous psychiatrists in our days who consider physical activity one of the available treatments for psychiatric patients, while studies have been further supporting the importance of the physical activity role which should not be ignored or underestimated [15,16]. According to the review, no studies have been reported that refer to hebephrenia and physical activity.

Therefore, this study comprises a pioneering attempt for monitoring the relationship between children and adolescents with hebephrenia, and physical activity in Greece. Studying this relationship will become the springboard for further participation of the hebephrenic in physical activity. Besides, the effect of physical activity and exercise on our health has been known both for our participation and abstaining. According to past studies, the treatment followed for the mental patients is pharmaceutical treatment. The studies focused on programs of physical activity as complementary treatment are limited [17].

Materials and Methods

Participants

The study sample comprised of 31 individuals. The sample team included subjects who had been psychiatrically diagnosed with Hebephrenia and were in their childhood and adolescence, aged from 6 to 18 yrs. old. The study took place at a private practice (Doctor with Psychiatrist specialty) in the city of Athens. The questionnaire interviews took place before the psychiatric sessions at the presence of the psychiatrist. The research was approved by the "Research and Ethics Committee" of the Democritus University of Thrace.

Instruments

Global Physical Activity Questionnaire

World Health Organisation (WHO) has created a questionnaire, the World Physical Activity (GPAQ, 2006) aiming as an implementing tool, to produce valid and reliable evaluations concerning physical activity of young and adolescents [18]. This questionnaire has also

been used on psychiatric groups such as schizophrenics, focusing on drawing information relative to the physical activity of the participants [19].

In this study, the Greek edition of the tool was used [20]. The measure tool includes questions (N = 16) separated in five parts in which it records the frequency (hours/day and days/week) and the intensity of physical Activity (intense or medium), which are linked to: a) work, b) transportation, c) work at home and, d) recreation and exercise. Finally, in the fifth and last part the time devoted to sedentary activities is recorded. The questionnaire can be answered in the form of a short five-minute interview.

Procedure

The questionnaire filling in was done at the predetermined hour given by the doctor and the procedure took place only after the doctor approved that the patient was able to answer the questionnaire under his supervision. All the patients were given clarifications about the questionnaire before its actual filling in. As bibliography has indicated, individuals aged 6 - 18 should become physically active for at least 60 minutes with medium or intense activity daily. The higher than 60 minutes the physical activity rate is the more benefits for their health [21].

Statistical Analyses

To investigate possible differences between age groups and the variable of "sitting-time", One-Way Anova analysis was conducted. Additionally, crosstabulations (descriptive statistics) were performed.

Results

One-Way Anova analysis

The sample was separated in 2 age groups: a) 6 - 12 years of age (N = 16, 52%) and b) 13 - 18 years of age (N=15, 48%). Proxy of analysis variance (One-Way ANOVA) was performed in order to identify any possible statistical significant differences among the age groups on the variable "Sitting-Time in Minutes". The results showed that there were statistically significant difference $F_{(1,30)} = 8,56, p < .05$. More specifically, the 1st age group had higher scores (M = 232.50, SD = 75.50) than the 2nd (M = 159.33, SD = 62.61).

Metabolic Equivalents 1

According to previous research (Beebe., *et al.* 2009), the major reason of patients with hebephrenia for not getting involved with any kind of physical activity, is lack of motivation, as was also recorded in this research. Table 1 shows the typical average in minutes spent by the subjects on daily sedentary activity(ties) (i.e. watching T.V., reading, knitting, etc.).

Minutes per day	Percentage of the sample
60 Minutes	3,23%
120 Minutes	29,03%
170 Minutes	3,23%
180 Minutes	25,81%
240 Minutes	19,35%
300 Minutes	12,90%
360 Minutes	6,45%

Table 1: Minutes per day spent by participants, in sitting-time activities.

Metabolic Equivalents 2

In the table below the average sample regarding gender participation in medium and intense recreation activities.

Sex	Intense Physical Activity	
	Yes	No
Male	3	20
Female	1	7
Sex	Moderate Physical Activity	
	Yes	No
Male	3	20
Female	2	6

Table 2: Sample physical activity levels.

Discussion

The aim of this study was to carry out a first recording of the relationship between physical activity and health of hebephrenic mental patients, with the aim to acquire knowledge pertaining to the percentage of their physical activity and draw information about whether wellness follows physical activity. Moreover, according to the results of the Analysis, were the 1st age group had the highest scores, was attributed by the researchers to the fact that endurance in younger ages is not so high, combined to the fact that the subjects were on a medication that causes repression, which explains the results. As is previously stated, physical activity during childhood and adolescent is limited were 59% of boys and girls between 15 - 19 lead a sedentary lifestyle while in 12 - 14 the percentage of underactivity is 49% [22,23].

In addition, based on metabolic equivalents, as emerging in the study, the minute average spent by the sample on sedentary activities was 29.03% of the sample spending 120 minutes a day on sedentary activities. A possible explanation would be the lack of opportunity for participating in physical activity that covers the wider interest range of this age group like cycling, swimming and dance [23] as they are not provided by organized programs.

Furthermore, as for the gender, it was found that only 4 subjects participated in intense activity (3 males and 1 female). Similarly, in medium intensity activity as well only 5 subjects took part (3 males and 2 females). It also appears possible that the low activity percentage of men sample subjects accounts for the absence of difference for men. Some possible causes of their low activity level include the limited participation in the care of the household and the family members, combined with their limited participation in organized exercise and physical activity [24]. According to the data of the present study, the whole sample is categorized as limited-minimal physical activity.

The study limitations should not be omitted, and they include:

- 1) The possible effect of medication on (medication is compulsory for the hebephrenic patients).
- 2) The usage of the questionnaire itself.

Conclusions

In the present study, the first world registering of physical activity of hebephrenic individuals was carried out aiming at drawing information pertaining to the relation between physical activity of those individuals. Physical activity comprises a fruitful option for the prevention and treatment of mental disease [25]. Understanding by the health professionals of the physical activity contribution to the promotion of mental patients' health will help them develop and provide more effective interventions aiming at the promotion and preservation of healthy behaviours of these patients, through the development of intervention programs.

Bibliography

1. World Health Organization. "Mental health: new understanding, new hope". World Health Organization (1946).
2. World Health Organization. "Epidemiological and vital statistics report (Volume 3)". World Health Organization (1950).
3. Brassington GS and Hicks RA. "Aerobic exercise and self-reported sleep quality in elderly individuals". *Journal of Aging and Physical Activity* 3.2 (1995): 120-134.
4. McAuley E and Rudolph D. "Physical activity, aging, and psychological well-being". *Journal of Aging and Physical Activity* 3.1 (1995): 67-96.
5. Fenton WS and McGlashan TH. "Natural History of Schizophrenia Subtypes. Longitudinal Study of Paranoid, Hebephrenic, and Undifferentiated Schizophrenia". *Archives of General Psychiatry* 48.11 (1991): 969-977.
6. Kolvin I, et al. "Studies in the childhood psychoses: VI. Cognitive factors in childhood psychoses". *The British Journal of Psychiatry* 118.545 (1971): 415-419.
7. National Institute of Mental Health. Mental health, United States, 1987, ed. R W Manderscheid and SA Barrett (DHHS pub. No. (AM)87-1518). Washington, DC: US Government Printing Office (1987).
8. Nicolson R., et al. "Premorbid speech and language impairments in childhood-onset schizophrenia: association with risk factors". *American Journal of Psychiatry* 157.5 (2000): 794-800.
9. Volkmar FR and Tsatsanis K. "Psychosis and psychotic conditions in childhood and adolescence". In: Marsh D T, Fristad MA. (eds) Handbook of serious emotional disturbance in children and adolescents. Wiley, New York (2002): 266-283.
10. Calderoni D., et al. "Differentiating childhood onset schizophrenia from psychotic mood disorders". *Journal Academic Child Adolescents Psychiatry* 40.10 (2001): 1190-1196.
11. Eggers C., et al. "Schizophrenia with onset before the age of eleven: clinical characteristics of onset and course". *Journal of Autism and Developmental Disorders* 30.1 (2000): 29-38.
12. Crone D., et al. "Physical activity and mental health". In L Dugdill, D Crone and R Murphy (eds) Physical Activity and Health Promotion. London, Wiley-Blackwell (2009).
13. Ellis A and Dryden W. "The practice of rational emotive behavior therapy". Springer Publishing Company (2007).
14. Ussher M., et al. "Physical activity preferences and perceived barriers to activity among persons with severe mental illness in the United Kingdom". *Psychiatric Services* 58.3 (2007): 405-408.
15. Green RA., et al. "An energy-based pore pressure generation model for cohesionless soils". In Proceedings of the John Booker Memorial Symposium – Developments in Theoretical Geomechanics, Balkema, Rotterdam, the Netherlands (2000): 383-390.
16. Trost SG., et al. "Correlates of adults' participation in physical activity: review and update". *Medicine and Science in Sports and Exercise* 34.12 (2002a): 1996-2001.
17. Holley J., et al. "The effects of physical activity on psychological well-being for those with schizophrenia: A systematic review". *British Journal of Clinical Psychology* 50.1 (2011): 84-105.
18. Strauss RS., et al. "Psychosocial correlates of physical activity in healthy children". *Archives of Paediatrics and Adolescent Medicine* 155.8 (2001): 897-902.

19. Pennacchi AC. 'Factors influencing health behaviours in those at risk for developing schizophrenia'. Theses and Dissertations (2017): 2452.
20. Metsios G., *et al.* "Assessing levels of physical activity". (In Greek) (2015).
21. Desloovere K., *et al.* "The effect of different physiotherapy interventions in post-BTX-A treatment of children with cerebral palsy". *European Journal of Paediatric Neurology* 16.1 (2012): 20-28.
22. Craig AD. "How do you feel? Interception: the sense of the physiological condition of the body". *Nature Reviews Neuroscience* 3.8 (2002): 655-666.
23. Cameron D. "The structures of intergovernmental relations". *International Social Science Journal* 53.167 (2001): 121-127.
24. Trost SG., *et al.* "Age and gender differences in objectively measured physical activity in youth". *Medicine and Science in Sports and Exercise* 34.2 (2002b): 350-355.
25. Deslandes A., *et al.* "Exercise and mental health: many reasons to move". *Neuropsychobiology* 59.4 (2009): 191-198.

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