

The effect of school games on quality of life: A case of intellectually disabled 10-14 year old girls

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ABSTRACT

The purpose of the present research was to examine the effect of school games on the quality of life of intellectually disabled 10-14 year old girls. The components of quality of life were physical function, social function, cognitive function, and emotional function. The population of this survey consisted of 100 intellectually disabled 10-14 year old girls of whom 80 were randomly selected and assigned to an experimental group and a control group. Data were collected using TNO-AZL Preschool Quality Of Life (TAPQOL) and were analyzed in SPSS using the Kolmogorov-Smirnov test, independent samples t-test, and dependent samples t-test. The results of the pretest indicated that there were no significant differences between the experimental group and the control group. Significant differences were observed in the pretest and posttest scores of the experimental group in quality of life, the physical function, the social function, the cognitive function, and the emotional function ($P < 0.05$). The results of dependent samples t-test showed the positive effect of school games on the quality of life, physical function, social function, cognitive function, and emotional function of the children. However, no significant differences were observed in the quality of life of the control group in the pretest and the posttest.

Keywords: School games, quality of life, intellectual disability.

INTRODUCTION

Intellectual disabilities of all kinds have been documented throughout history. Society has been often unkind to people with intellectual disability and sentenced them to prison or even death. However, present societies are working toward desegregation and support of intellectually disabled individuals. Intellectual disability is a generalized disorder characterized by impaired cognitive functioning. This disorder is rooted in childhood [1].

Children make up a major part of world population (about 50% of the population in developing countries). Antisocial behaviors are the most common disorders in children and adolescents. Children with intellectual disability may exhibit symptoms such as delayed speech development, deficits in memory skills, difficulty learning social rules, difficulty with problem solving skills, delayed development of adaptive behaviors, and lack of social inhibitors [2].

Adaptation is impossible without physical and mental health. One of the indicators of mental health is health-related quality of life, which is a subjective, multidimensional, and dynamic construct that comprises physical, psychological, and social functioning and that is influenced by the person's experiences, beliefs, expectations, and

emotions. Dissatisfaction with life deteriorates mental health and can lead to negative consequences such as depressions, lack of social relations, and behavioral and personality problems.

Studies in the area of quality of life in children and adolescents have shown that high levels of satisfaction with life or perceived quality of life act as a powerful psychological force. Research has shown a significant relationship between quality of life and a variety of high-risk behaviors and physical and learning disorders [3]. Research has also shown that the intensity of symptoms of mental disorders is an important factor in the health-related quality of life of children and adolescents [4]. For instance, in children and adolescents with cerebral palsy health-related quality of life was significantly related to lower levels of psychopathological symptoms, higher levels of prosocial behavior, and a lower need for social activities [5]. Different aspects of quality of life are threatened in children with mental disorders, with the greatest effect on psychosocial and family-related domains and less effect on physical domains [4].

Regular motor activity has many benefits for mental and physical condition [6]. In the other study sporting practice has shown the greatest effect on the quality of life of autistic children, as it improves sensorimotor skills, communication, socialization, and self-esteem [7]. Play links a child's internal thoughts to the outer world by allowing the child to control or manipulate outer objects. Play allows the child to safely express experiences, thoughts, feelings, and desires that might be more threatening if directly addressed [8]. Play allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive, and emotional strength. It has also been shown to help children adjust to the school setting and even enhance children's learning readiness, learning behaviors, and problem-solving skills [9].

Play is a cherished part of childhood that offers children important developmental benefits and parents the opportunity to fully engage with their children. However, multiple forces are interacting to effectively reduce many children's ability to reap the benefits of play. As we strive to create the optimal developmental milieu for children, it remains imperative that play be included along with academic and social-enrichment opportunities and that safe environments be made available to all children.

Previous study showed that quality of life in adolescents was affected by mental health, socio-economic status, gender, and age differences [2]. Beside this positive effect of group meeting therapy was indicated on both quality of life and family relations of intellectually disabled children [10]. Interestingly, the study confirms the effect of computer games on increasing attention of children with intellectual disability [11].

The relationship between autonomy and quality of life in students with hearing impairment indicated significant differences between students with hearing impairment and normal students in power of choice and independence [12], and also a significant relationship between quality of life and the risk of unintentional injuries in children [13]. Beside this, quality of life and self-report in children strongly influenced adolescents with cognitive disability [14].

The relationship between health-related quality of life and physical activity among adults indicated that these disorders were associated with substantial impairment in health-related quality of life [15]. The highly significant of a week course of systematic and progressive physical conditioning in educationally sub-normal boys was found in the mental tests. [16].

Despite the fact that literature supports the benefits of physical activity and play in the quality of life and mental health of children, little research has been conducted on this important matter in Iran. Thus, a research on a different population and with different instruments can provide deeper insights into the benefits of childhood play. The purpose of the present research is to examine the effect of school games on the quality of life of intellectually disabled 10-14 year old girls.

MATERIALS AND METHODS

The population of this survey consisted of 10-14 year old girls with intellectual disability in Gilan Province, Iran (N = 100). Using Morgan's table, 80 girls with an intellectual quotient of 30-55 were randomly selected as the sample. The participants were divided into an experimental group and a control group. After the participants took the pretest, the experimental group performed selected school games for 12 weeks, with three 1-hour sessions per week. During

this period the control group performed their daily routines. After the intervention both groups took the posttest. The instrument for data collection was the 41-item TNO-AZL Preschool Quality Of Life (TAPQOL). TAPQOL comprises 4 subscales: physical function, social function, cognitive function, and emotional function. Higher scores indicate better quality of life. TAPQOL was developed in 2000 by Fekkes et al. [17]. A sample of 121 parents of preterm children (response rate 88%) as well as 362 parents of children from the general population (response rate 60%) completed the questionnaire. Cronbach's alpha ranged from 0.66 to 0.88 for the preterm children sample and from 0.43 to 0.84 for the general population sample. The items are rated on a 5-point Likert scale. After confirming the validity of the questionnaire, it was distributed among a sample of parents of children with intellectual disability. The mean Cronbach's alpha was 0.90, indicating the high reliability of the questionnaire. Data were analyzed in SPSS using the Kolmogorov-Smirnov test, independent samples t-test, and dependent samples t-test.

RESULTS AND DISCUSSION

Based on these data, the highest frequency of IQ is 40-45, 45-50, and 50-55. Moreover, the highest frequency of age is 10 and 11 years (Table NO.1). T-test for independent samples was used to examine whether there were significant differences between the experimental group and the control group in the pretest. The results indicated the absence of a significant difference between these groups. Paired t-test was used to examine the effect of selected school games on the quality of life of the participants.

Table 1. Description of the personal characteristics of the participants

Index		Percentage
Intellectual Quotient	30-34	10%
	35-40	25%
	40-45	25%
	45-50	25%
	50-55	15%
	10	27.5%
Age	11	27.5%
	12	25%
	13	10%
	14	10%

Table 2. Paired t-test comparisons of quality of life in the pretest and posttest

Variable	Test	N	Mean	t Statistic	df	p-value
Quality of Life	Pretest	40	2.54	-3.4	39	0.002
	Posttest	40	2.72			

Table 3. Paired t-test comparisons of physical function in the pretest and posttest

Variable	Test	N	Mean	t Statistic	df	p-value
Physical Function	Pretest	40	2.58	-2.9	39	0.006
	Posttest	40	2.73			

Table 4. Paired t-test comparisons of social function in the pretest and posttest

Variable	Test	N	Mean	t Statistic	df	p-value
Social Function	Pretest	40	2.59	-3.8	39	0.001
	Posttest	40	2.80			

Table 5. Paired t-test comparisons of cognitive function in the pretest and posttest

Variable	Test	N	Mean	t Statistic	df	p-value
Cognitive Function	Pretest	40	2.39	-3.8	39	0.001
	Posttest	40	2.67			

Table 6. Paired t-test comparisons of emotional function in the pretest and posttest

Variable	Test	N	Mean	t Statistic	df	p-value
Cognitive Function	Pretest	40	2.49	-3.70	39	0.001
	Posttest	40	2.65			

The results of paired t-test indicate that there is a significant difference between the pretest and posttest scores of the experimental group at the 0.05 significance level. The data show a significant increase in the posttest quality of life of the experimental group (Table NO.2). According to the data, significant difference between the pretest and posttest physical function scores of the experimental group regard to physical function, social function, cognitive function and emotional function of the experimental group, respectively (Table NO.3.4.5.6).

The purpose of the present research was to examine the effect of school games on the quality of life of intellectually disabled girls. The results indicated that school games have a significant positive effect on quality of life. Ghamari Givi et al.[10] showed that group therapy meeting has a significant positive effect on family relations of children with intellectual disability. Also Wehmeyer and Schwartz [18] studied the relationship between self-determination and quality of life for adults with mental retardation. They showed that people who reported a higher quality of life were also identified as more self-determined. The present findings are consistent with these studies.

The present findings showed a positive relationship between these variables. Schmitz et al. [15] examined the relationship between health-related quality of life and physical activity among adults with affective, anxiety, and substance dependence disorders. The results indicated that these disorders were associated with substantial impairment in health-related quality of life. Also, higher levels of physical activity were associated with higher health-related quality of life. Physical activity and play are thus beneficial to those suffering from mental disorders. Our findings are consistent with the results of Schmitz et al.[15].

The results also showed a significant positive relationship between school games and social function of the intellectually disabled. Nikazin et al. [2] studied quality of life in adolescents with an emphasis on mental health, socio-economic status, gender, and age differences. The results showed that boys were in a better condition than girls in physical well-being, mental well-being, parent relations and home life, social support and peers, and autonomy. Primary school students outscored high school students in all the dimensions of KIDSCREEN-52 except for social support and peers, social acceptance, and financial resources. Also, significant differences were observed between students with high and low socioeconomic status in physical well-being, family relations and home life, financial resources, and mental well-being. The results of univariate ANOVA showed that the normal group had a higher score than the non-normal group in the moods and emotion, social acceptance, mental well-being, and self-perception. Our finding is consistent with these results.

The results of the present research indicated that school games also have a significant positive effect on the cognitive function of children with intellectual disability. Ikeda [14] investigated the relationship between quality of life and self-report in children and adolescents with autism spectrum disorders or mild intellectual disability. The findings showed that the PedsQL questionnaire was inappropriate for children and adolescents with ASDs or MID. cognitive and language ability and disease-specific symptoms such as impaired social relationships strongly influenced the comprehension and appraisal of the questionnaire. These observations are consistent with the present findings.

Furthermore, the results of the present research indicated the significant positive relationship between school games and emotional function of children with intellectual disability. Hassanpour et al. [12] examined the relationship between autonomy and quality of life in students with hearing impairment. The results indicated significant differences between students with hearing impairment and normal students in power of choice and independence. This is somewhat consistent with our findings.

Physical activity and play are important factors in the development of children. Even though childhood development is to some extent hereditary, an important factor in this process is how the child spends their early childhood, which can significantly influence their physical, social, cognitive, and emotional functioning. Given the significant role of play in improving quality of life, it is recommended to plan for a more systematic and organized approach to playing school games, particularly group games. In this study, social function had the highest increase among the components of quality of life, followed by physical function. It is thus recommended that parents and teachers focus on improving quality of life through play. Family doctors perform regular examinations of general health indicators such as stomach ache, cramps, eczema, pruritus, xeroderma, bronchitis, respiratory problems, dyspnea, nausea, poor sleep, night waking, and night crying. Parents make regular visits to a psychologist to check for certain psychological symptoms such as aggressive behavior, irritability, hyperactivity, and eating and sleeping disorders. Parents and teachers build team spirit in children because it plays a critical role in developing the cognitive function. Parent

provide necessary guidance to children about emotions such as happiness, fear, and anxiety. Teachers and counselors in centers for exceptional children use play therapy to improve the quality of life of children with intellectual disability. Play therapy sessions be incorporated into school curriculum, as the effects of a short period of play therapy may not be very lasting. Future research examines the effect of the play on aggressive behavior in intellectually disabled children.

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