

Effect of Play Therapy on Social development: a randomized controlled trial

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Authors' contributions

This work was carried out in collaboration among all authors. Author MM designed the study, wrote the protocol and wrote the first draft of the manuscript. Author ZM performed the statistical analysis. Author AB managed the analyses of the study and performed sampling. Author AD managed the literature searches, performed sampling. Author KK managed of the study, edited the manuscript wrote the manuscript. Author ZM and MM wrote, submitting and editing manuscript. All authors read and approved the final manuscript.

Abstract

Background: The early years of life are vital and sensitive for the growth and development of a child. This aimed to examine the effect of play therapy on the social development and maturity of infants aged from 12 to 24 months.

Methods: This study was a randomized controlled trial conducted on 76 eligible infants aged from 12 to 24 months referred to comprehensive health centers in Kashan city during 2017-2018. Infants who had inclusion criteria were included in the study and then randomly assigned to the two groups of intervention and control. Before the intervention and the end of the counseling sessions, Vineland Social Maturity Test Toolkit for Children in the both groups was completed and the data were analyzed using SPSS software.

Results: There was no significant differences between the two groups regarding the social development score before the intervention ($p > 0.001$). There was a significant difference between the mean score of social development in the two groups after the intervention, in which the mean of the total score and each area of social development increased significantly ($P < 0.001$).

Conclusion: Considering the importance of the early years of life in the development of infants and findings of the present study, it can be said that the advisory of play therapy for improving the development of a infants can be very helpful.

Keyword: Play therapy, Social development, Play, Randomized controlled trial

Introduction

Children's health is very crucial matter for the health system, not only because today's children are the next generation, but also because the health of each child at an early age is based on the health of puberty. Therefore, investing in children's health has beneficial effects, particularly on the future health of a country and the future of the citizen's function in the country (1). The effects of the first months and years of the child's life can continue throughout life (2). The evolution and growth of humans during childhood in terms of social, emotional, cognitive and physical development has some characteristics making the child vulnerable to mental health (3). Social development implies the individual's sophistication in social relations, so that he can be consistent with other people. In other words, they call a social person while it may not only be with others, but also contribute them (4).

There are several ways to strengthen and enhance the development and growth of children including providing educational environments and behavioral interventions by skilled and expert people, but these are very expensive and require specialized clinics that may not be available to everyone. However, interventions that often focus on parent-child interaction and collaboration, including play therapy can be very effective and cost-beneficial (5).

Play is the natural world for a baby. In 1989, the Office of the United Nations High Commissioner for Human Rights recognized the playing as a right for all children to achieve the desired advancement everywhere. In 2007, the American Academy of Pediatrics published an article on the importance of playing for growth of healthy children (6). There is a mediator effect between the parents and children to help the growth of the Childs' social dimension. Playing has been described as the basis for the personal and social differences of the children (5). Numerous researches have identified parent's education as the first intervention and the most effective way to provide basic services (7). The appropriate relationship between mother and child can substantially pave the way for future maternal contributions in evolution and bring satisfactory effects on other aspects and functions of the child even in adulthood and his/her relationship with others (8).

Meanwhile, health care providers and advisers have a wide range of roles such as counseling, education, care, support, treatment, and research. Most of these roles are conceptualized in relation to the mother and the child. Considering the mentioned issues, the importance of attention to the social health and social development of children is an important and effective factor in the development of children. This study aimed to investigate the effect of therapeutic counseling on the growth and development of 12-24 months' children referred to the selected centers of comprehensive health services in Kashan city.

Methods

Design

This study was a randomized controlled trial carried out on children aged from 12 to 24 months referred to the selected comprehensive health centers in Kashan city in 2017-2018.

Sample size

The sample size based on the formula was obtained using the G power software by the following parameters:

α : 0.05 and β : 80% in each group, 34 people calculated by given an attrition of 10%, 38 people calculated in each group .

Inclusion criteria were having at least reading and writing skills of Iranian parents; children aged from 12 to 24 months whose social ages were less than the 2nd year of their calendar age according to the Vineland social maturity scale and their age (grade 8 and Lower), lack of known physical, psychological disorder, child and parental disorders, parental consent to participate in the study.

Exclusion criteria were mothers who were not satisfied with continuation in the study and who would not participate in the two sessions of the play therapy counseling sessions.

Data and measures

The data were collected using Vineland social maturity scale in the two stages before and after the intervention.

The Vineland social maturity scale is one of the evolutionary scales measuring the ability of an individual to meet his/her practical needs and being responsible. Although, this scale includes the age range of birth up to 25 years old, and there is a separate question up to 12 years old for each year. However, about age range of 12-15, 15-18, 18-20, 20-25, and from 25 to older, it has been shown that effectiveness of this scale is low. In each area, required information obtained through interviews with the parents of the children. The basis of the scale is what a person can do every day. This scale has been divided into eight domains of self-help General, self-help in eating, self-help in dressing, self-management, occupation, linguistic communication, loco-motion and socialization (9). Validity and reliability of this questionnaire in Iran have been reviewed and verified by researchers (10). In the present study, the reliability of this scale was re-evaluated by Cronbach's alpha test and the result was 0.99. To get the social growth score, all scores from each question summed up (Yes=1 score, Sometimes=0.5 score, and No=0 score) (10).

Procedure

After obtaining necessary licenses from University and approval by ethic committee (Rec: 1396.136), registration in the Iran registry clinical trials (IRCT20160503027728N7), the present study began. First, the researcher referred to the selected center of Kashan city. The goals of the study were expressed to the participants. Then, participants according to block randomization were divided into the two groups. Allocating subjects to the study groups (intervention and control) was done using six blocks. This was done with WinPepi11.0 software (<http://www.brixtonhealth.com/pepi4windows.html>). This software generates random groups. In the course of the study, 318 children aged from 12 to 24 months were enrolled in the study. Only 80 of them were eligible according to the scale of the Vineland questionnaire. The objectives of the study were stated for parents, if they wished to participate in the study, they received written consent. The score obtained from the Vineland questionnaire before the intervention was considered as the base score for comparison. In the control group, routine child care was done.

In the control group, a training package containing all the materials presented in the intervention group, in addition to routine child care was considered. Also, 6 sessions of 30 minutes and a weekly bipartite, group therapy counseling session were presented in accordance with the treatment protocol of the Ministry of Health (11). Consultations were conducted on the two separate days. During the study, 4 people due to losing one or two sessions, the failure of participating in playing games, or unwilling to use a training package were excluded from the study and eventually from both groups, information of 38 patients were included (Figure 1).

The topics discussed in each consultation are as follows: First session: introduction, reinforcing mothers' communication skills. Second session: strengthening child's general self-help, strengthening child language. Third session: strengthening, self-help in eating, strengthening, self-help in dressing. Fourth session: strengthening, self-direction, strengthening and occupation. Fifth session: strengthening the baby's movement and locomotion. Sixth session: selective games to strengthen scope of development

The checklist and the booklet were prepared to ensure that the games were performed and played by mother. At the beginning of the counseling sessions and after completing the counseling sessions, the Vineland social maturity scale for the intervention and control groups were completed. The data analysis in this study was done by SPSS using independent t-test with normal distribution. If the distribution was not normal, Mann-Whitney and Wilcoxon were done. In this study, independent variable of game therapy counseling, its effect on the dependent variable of social evolution was investigated.

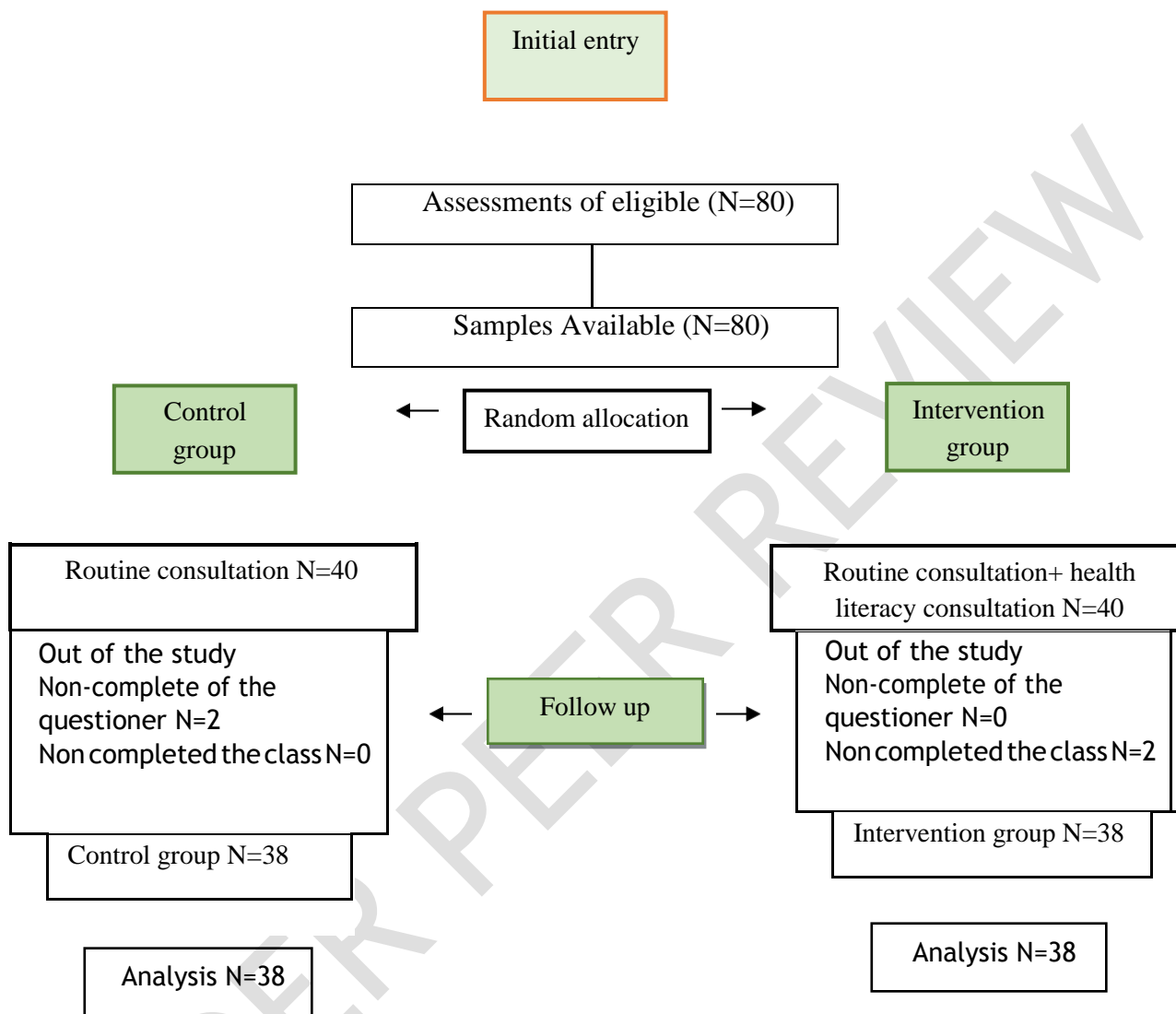


Figure 1: Consort flow chart

Results

Intention to treat analysis (ITT) considered **dealing with** noncompliance and missing.

Outcomes in our RCT

In this study, the results of study on 76 children aged from 12 to 24 months who remained until the end of the study were examined in the two groups. After checking the normality distribution, the variables were analyzed by Wilcoxon, Fisher exact and Chi-square tests. Quantitative and categorical variables of children in the two groups did not show any significant difference. In other words, the two groups were homogenous in terms of variables, but there was a significant difference in terms of the variable of height at birth and head circumference while there was a significant difference between the two groups in terms of the mean height at birth and the mean duration of the study period in the control group (Table 1).

According to the Chi-square and Fisher's exact tests, the participants' demographic variables were not significantly different in the two groups, that is, the two groups were homogeneous (Table 2).

In this study, the mean scores of social development of the children before the intervention was not significantly different in the two groups ($p = 0.911$). In other words, the two groups were homogeneous in terms of social development scores before the intervention. Comparison of the mean score of social development after intervention was significant in the two groups ($p = 0.001$), so that the mean social development score after intervention in the control group ranged from 8.06 to 12.06 indicating the effect of the delivered training package, but in the intervention group ranged from 8.09 to 15.15 and occupation ($p = 0.01$) and self-help eating ($p = 0.001$) after the intervention were significantly different (Table 3).

Table1: Frequency distribution of demographic characteristics of participants

Variables		Control	Intervention	P value
Child's gender N (%)	Male	27(71.1)	21(55.3)	0.234
	Female	11(28.9)	17(44.7)	
Breast feeding N (%)	<6 month	1(20)	4(80)	0.070
	6-12 month	0	3(100)	
	12-24 month	37(54.4)	31(45.6)	
Age (month) (Mean± SD)		12.84±1.40	12.15±0.43	0.15
Weight at birth (gr) (Mean± SD)		3283±344	3125±436	0.102
Length at birth (cm) (Mean± SD)		50.60±2.35	49.4±2.36	0.027
Head circumference at birth (cm) (Mean± SD)		34.63±1.08	34.30±1.20	0.180
Weight at the first of study (gr) (Mean± SD)		9788±1375	9456±1019	0.146
Length at study (cm) (Mean± SD)		76.5±3.79	75.77±2.30	0.273
Head circumference at the first of study (cm) (Mean± SD)		49.00±1.90	45.32±1.53	0.022

Table 2: Frequency distribution of demographic characteristics of participants

Variables		Control	Intervention	P value
		N (%)	N (%)	
Mother's education	<Diploma	11(57.9)	8(42.1)	0.668
	Diploma	12(44.4)	15(55.6)	
	Collage	15(50)	15(50)	
Father's education	<Diploma	10(50)	10(50)	0.722
	Diploma	17(44.7)	14(36.8)	
	Collage	11(44)	14(56)	
Household job	Unemployed	1(2.6)	1(2.6)	0.872
	Employee	7(18.4)	6(15.8)	
	Self-employed	21(55.3)	19(50.0)	
	Worker	8(21.1)	9(23.7)	
	Others	1(2.6)	3(7.9)	
Income	Satisfied	14(36.8)	13(34.2)	0.914
	Very satisfied	21(55.3)	21(55.3)	
	Dissatisfied	3(7.9)	4(10.5)	
History of development disorder in the family's children	No	37(97.4)	38(100)	0.314
	Yes	1(2.6)	0	

Table 3: Comparison of social development score before and after the intervention in the two groups

Variables		Control	Intervention	P value
		Mean ± SD	Mean ± SD	
Loco-motion	Before intervention	1.71±1.06	1.72±0.95	0.728
	After intervention	2.67±0.67	2.81±0.39	0.814
Occupation	Before intervention	2.01±0.78	3.00±1.71	0.465
	After intervention	2.03±0.82	3.22±1.63	0.011
Self-help in Eating	Before intervention	1.77±0.99	2.01±2.02	0.923
	After intervention	3.28±0.89	4.78±1.82	0.001
Self-help in Dressing	Before intervention	0.19±0.39	0.18±0.35	0.233
	After intervention	0.46±0.49	0.77±0.36	0.224
Self-help in General	Before intervention	1.35±0.49	1.15±0.55	0.200
	After intervention	1.93±0.20	1.93±0.23	0.656
Socialization	Before intervention	0.86±0.32	0.81±0.37	0.579
	After intervention	0.98±0.08	1.00±0	0.317
Communication	Before intervention	0.14±0.32	0.15±0.42	0.788
	After intervention	0.46±0.53	0.61±0.64	0.842
Total score social development	Before intervention	8.06±1.29	8.09±1.89	0.959
	After intervention	12.8±2.06	15.15±2.39	0.001

Discussion

The early years of life are crucial and critical years for the growth and development of a child. The elementary **experience received in these years** will be used as the basis for future learning (12).

According to studies, children without social development and skills are not able to perform their social interaction with others. The lack of social skills is a decisive factor for increasing the mental and emotional issues of children. These skills are acquired through the process of socialization (13). Early intervention will have more positive impact on the development of the child's brain and the ability to learn. The process of evolving children can be sped up with appropriate, timely and high quality programs that provide positive experiences for children and support for their parents (14).

According to the findings, there was no significant difference between the social development score of children before intervention in the control and intervention groups. In other words, the two groups at the same level of social development were included in the study and this is the strength of the study. However, after the intervention there was a significant increase in the mean of total score in the intervention group compared to the control group. This increase was seen highly in occupation variable and self-help, indicating the role training package.

Many experiences have shown that childhood play is critical to achieve the full abilities of a person (15). Panksepp believes that the desired level of active social games is needed every day. Like deprivation of sleep, deprivation of game also has unpleasant consequences. Without play, optimal learning, normal social function, self-control, and other cognitive functions may not fully mature (16). Baggerly and Parker stated that play therapy is effective in learning, self-control, responsibility, expressing feelings, respecting, accepting oneself and others, and improving social skills, self-esteem, and reducing the effects of depression and anxiety. The results of this study showed the effect of child-centered play therapy on the preoperative developmental stages and objective operations of children in the experimental group. Play therapy has a positive effect on behavior and emotions, and can act as counseling for children and treatment for adults (17).

In 2010, Cordier et al., in a study entitled "The impact of various games on the social behavior of 18-30-month-old children in ICUs in Israel," suggests that children's social behavior is affected by games, and offers may be the title of a strategy to increase the positive social interaction between peers (18). Richard Salmon et al., in a random controlled trial of the home-based therapy counseling program for children with autism spectrum disorders, showed that play therapy intervention significantly changed the interaction of parents and children without increasing stress/depression of the parents (5). Solomon et al., in a study showed that the play therapy counseling model has a potential value for the evolutionary development of these children (7).

In 2013, Li WH et al in their research found that play is an important part of children's life (19). Nijhof et al. in 2018 in their study showed that play- related interventions are very important for the healthy development of children (20).

Emarati et al., also in 2011 in their study entitled "Effects of elementary school plays on perceptual-motion and social development of girls aged 8-9 years as a random clinical trial", showed that primary school games can be a good program for development of perceptual-motion skills in the children. However, promoting children's social skills require structured and planned group activities (21, 22).

Chinekesh et al., in a study entitled "The effect of play therapy on emotional-social skills in preschool students in a district of Tehran" showed that play therapy significantly increased the socio-emotional skills of the participants (23).

Conclusion

The results of study indicate the effectiveness of counseling for play therapy on social interaction of children and the role of counselors in terms of social development of children in all aspects and areas, especially socialization. Meanwhile, health advisers have a wide range of roles such as counseling, education, care, support, treatment, and research, and most often these concepts relate to motherhood and childhood period. Accordingly, advice by an expert advisor such as a child care obstetrician can help in the development of child.

Limitation

In the present study, we tried to homogenize the participants, but there were a few possible educational materials, as well as the role of children's' age in its evolutionary development which can be from the limits of study.

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