

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

Abstract

Background: The early years of life are vital and sensitive for the growth and development of a child. The purpose of this study was examining the effect of play therapy on the social development (social maturity) for children aged between 12- 24 months.

Methods: This study is a randomized controlled trial, conducted in community and in parallel on 76 eligible children aged 12-24 months, who referred to comprehensive health centers in Kashan during 2017-18. Individuals who had inclusion criteria were included in the study and then randomly assigned to two intervention and control groups. Before the intervention and the end of the counseling sessions, Vineland Social Maturity Test Toolkit for Children in both groups was completed and the data was analyzed using SPSS software.

Results: According to the findings, there were no significant differences between the two groups in the social development score of the children ($p < 0.001$) or in the intervention and control groups before intervention. According to the findings, there was a significant difference between the mean score of social development in the two groups after the intervention, which according to comparison of averages in the intervention group, 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 child and findings of the present study, it can be said that the advisory of play therapy in improving the development of a child can be very helpful.

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

Introduction

Children's health is very important for the future of a country's health, not only because today's children are the next generation for that country, 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 functioning in that country(1). The effects of what happens during the first months and years of the child's life, even during the pre-birth period, 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 that some of them can make the child vulnerable to mental health(3).Social development means the individual's sophistication in social relations so that he can be consistent with people of his community. In other words, they call a person sociable while it may not only be with others, but also contribute with them (4).

There are several ways and means 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. Children learn about themselves and others and know their world by playing. 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 between the parents and child to help the growth of the Childs' social dimension. In Green-Span, Study, playing has been described as the basis for the individual and social differences of the child (5). Numerous research has 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 and the therapeutic role in this regard. We aimed to investigate the effect of therapeutic counseling on the growth and development of 12-24 months' children referring to the selected centers of comprehensive health services in Kashan.

Methods

Design

This study was a randomized controlled trial that was carried out in parallel to 12- 24 months old children referred to the selected comprehensive health centers in Kashan in 2017-2018.

Sample size

The sample volume based on the formula was obtained using the G power software as follows:

With alpha: 0.05 and beta: 80% in each group, 34 people including a drop of 10%, were considered about 38 in each group.

The inclusion criteria were: having at least reading and writing skills of Iranian parents; children from 12 to 24 months old 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 illness, child and parental disorders, parental consent to participate in the study.

And exclusion criteria: Mothers who were reluctant to continue participating in the study and who would not participate in the two sessions of the play therapy counseling sessions.

Data and measures

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

The Vineland social maturity scale is one of the evolutionary scales that measure the ability of an individual to meet his or her practical needs and accepting responsibility. Although this scale extends beyond the age of 25 to the age of birth, the age range of birth is up to 25 years of age, and there is a separate question up to 12 years old for each year. However, between the ages of, 12 and 15, 15 to 18, 18 to 20, 20 to 25, and from 25 to older, it has been shown that its effectiveness is low, especially in one-year groups. In each area of required information, it is obtained through interviews with the parents of the subject or individual, not through testing situations. The basis of the scale is what a person can do in everyday life. 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, locomotion, socialization (9). Justifiability and stability of this questionnaire in Iran have been reviewed and verified by researchers (10). In the present study, the stability of this test was re-evaluated by Cronbach's alpha test and the result was 0.99.

Procedure

After obtaining necessary licenses from University, we began our study on the ethics committee dated October 23/12/2017 with the code Rec: 1396.136, the trial with IRCT20160503027728N7 trial code and our inquiries. First, the researcher referred to the selected center of Kashan and after identified the participants who had the criteria for entering the study and were available to the study. The goals of the study were expressed to them, if they were willing to participate in the study, they gave their satisfaction. Then participants according to four groups of random blocks were divided into two intervention and control groups.

In the course of the study, 318 children aged 12-24 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. Then Subjects were assigned according to four random blocks in intervention and control. In the control group, routine child care

counseling was provided by the Ministry of Health, along with a training package containing all the materials presented in the intervention group, and in the intervention group, in addition to routine child care training, 6 sessions of 30 minutes and a weekly bipartite, group therapy counseling session was presented in accordance with the treatment protocol of the Ministry of Health (11). Consultations were conducted on two separate days, during the study 4 people due to attending one or two sessions, the failure of participating in playing games, or the unwillingness to use a training package were excluded from the study and eventually from both groups, information of 38 patients were included (figure1).

The matters provided 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, 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 group and Control were completed. Information sessions were gathered and regulated according to the actual interpretation and justification. Data analysis in this study was done by computer software SPSS using t-test, independent t-test in 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.

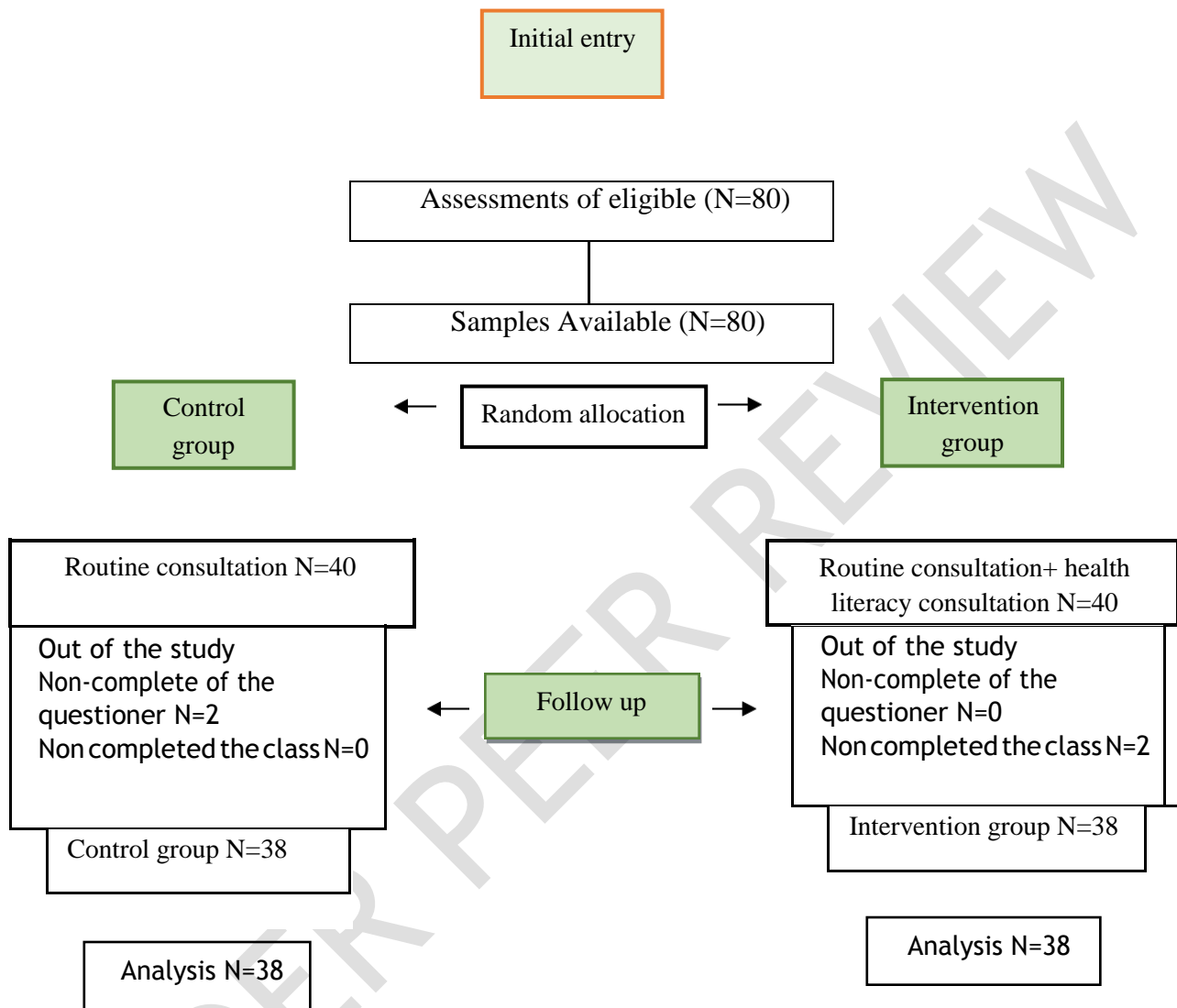


Figure 1: Consort flow chart

Results

Intention to treat analysis (ITT) will be considered to deal with noncompliance and missing.

Outcomes in our RCT

In this study, the results of study on 76 child health aged 12 to 24 months who remained until the end of the study were examined in two groups. After checking the normality, the variables were analyzed by Wilcoxon test, Fisher exact test and Chi-square test, variables Quantitative and qualitative characteristics of children in the two groups did not show any significant difference. In other words, the two groups were similar in terms of variables, but there was a significant difference in terms of the variable of height at birth and head circumference while reading there was a significant difference between 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 test between the participants' demographic variables were not significantly different in the two groups, that is, the two groups were homogeneous (Table 2).

In this study, mean scores of social development of the child before the intervention was not significantly different in the two groups ($p = 0.9$). In other words, the two groups were similar 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, which indicates the effect of the delivered training package, but in the intervention group from 8.09 to 15.15 and this significant is seen in occupation ($p = 0.01$) and self-help eat ($p = 0.001$) of after intervention (Table 3).

Table1. Distribution of demographic characteristics of children

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

Table 2: Distribution of demographic characteristics of participants

Variables		Control	Intervention	P-value
		F (%)	F (%)	
Mother's education	Sub -Diploma	11(57.9)	8(42.1)	P=0.668
	Diploma	12(44.4)	15(55.6)	
	Academic	15(50)	15(50)	
Father's education	Sub -Diploma	10(50)	10(50)	P=0.722
	Diploma	17(44.7)	14(36.8)	
	Academic	11(44)	14(56)	
household job	Unemployed	1(2.6)	1(2.6)	P=0.872
	Employee	7(18.4)	6(15.8)	
	Free job	21(55.3)	19(50.0)	
	worker	8(21.1)	9(23.7)	
	others	1(2.6)	3(7.9)	
Income	Appropriate	14(36.8)	13(34.2)	P=0.914
	So appropriate	21(55.3)	21(55.3)	
	Inappropriate	3(7.9)	4(10.5)	
History of development disorder in the family's children	no	37(97.4)	38(100)	P=0.314
	yes	1(2.6)	0	

Table3: Comparison of social development score (social maturity) before and after intervention in the two groups

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

Discussion

The early years of life are crucial and critical years for the growth and development of a child. The elementary experience that a child will receive 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 in 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 greatest 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 more in Occupation and Self Help, indicating the role and counselor presence of the only training package.

Many experiences have shown that childhood play is critical to achieve the full abilities of a person (15). Pankseb 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). Bagreli 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. Dorothy examines the play therapy on different stages of childhood development. 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. Landrace and et.al stated that play therapy has a positive effect on behavior and emotions. Play therapy can act as counseling for children and treatment for adults (17).

In 2010, Schouet 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 2014 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 Parents (5). Richard Solomon et al., in a 2007 study entitled The PPHC Project Home Consultation PLAY, showed 68 parents with a child aged 18 months to 6 years with Autism spectrum disorders in the American city of Ann Arbor, USA. 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 that play is an important part of children's lives,(19) . Nijhof et al2018 in their study showed that play- related interventions are vital importance for the healthy development of children (20).

Amarati et al., also in 2011 in their study titled "Effects of Elementary School plays" on perceptual-motion and social development of girls aged 8-9 years in a random clinical trial, showed that primary school games can be a good program for development of perceptual-motion skills in children. However, promoting children's social skills requires structured and planned group activities (21).Chinekeshet al., in a 2013 study entitled "The Effect of Group 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 samples (22).

Conclusion

The results of study indicate the effectiveness of counseling for play therapy on social interaction of children and the role of counselors in teaching in terms of social development of children in all aspects and areas, especially social being. 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. Accordingly, advice by an expert advisor such as a child care obstetrician can help in the development of child.

Limitation

In the present study, counseling was conducted with mothers who had a higher level of enrollment as with fathers who were involved simultaneously. It also attempts to homogenize the participants, but there are a number of possible educational materials, as well as the role of increasing age of a child in its evolutionary development which can be from the limits of study.

References

1. Anderson LM, Shinn C, Fullilove MT, Scrimshaw SC, Fielding JE, Normand J, et al. The effectiveness of early childhood development programs: A systematic review. *American journal of preventive medicine*. 2003;24(3):32-46. . PMID:12668197
2. Dolatian M, Mahmoodi Z, Alavi-Majd H, Moafi F, Ghorbani M, Mirabzadeh A. Psychosocial factors in pregnancy and birthweight: Path analysis. *Journal of Obstetrics and Gynaecology Research*. 2016;42(7):822-30. DOI: 10.1111/jog.12991

3. Dolatian M, Mirabzadeh A, Forouzan AS, Sajjadi H, Alavimajd H, Mahmoodi Z, et al. Relationship between structural and intermediary determinants of health and preterm delivery. *Journal of reproduction & infertility*. 2014;15(2):78. PMID:PMC4032973
4. Fussell JJ, Macias MM, Saylor CF. Social skills and behavior problems in children with disabilities with and without siblings. *Child psychiatry and human development*. 2005;36(2):227-41. DOI:10.1007/s10578-005-4185-6
5. Solomon R, Van Egeren LA, Mahoney G, Huber MSQ, Zimmerman P. PLAY Project Home Consultation intervention program for young children with autism spectrum disorders: a randomized controlled trial. *Journal of Developmental and Behavioral Pediatrics*. 2014;35(8):475. DOI: 10.1097/DBP.0000000000000096
6. Ginsburg KR. The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics*. 2007;119(1):182-91. DOI:10.1542/peds.2006- 2697
7. Solomon R, Necheles J, Ferch C, Bruckman D. Pilot study of a parent training program for young children with autism: The PLAY Project Home Consultation program. *Autism*. 2007;11(3):205-24. DOI:10.1177/1362361307076842
8. Barnard WM. Parent involvement in elementary school and educational attainment. *Children and youth services review*. 2004;26(1):39-2./doi.org/10.1016/j.chilyouth.2003.11.002
9. Caplan B, Kreutzer JS, DeLuca J. *Encyclopedia of Clinical Neuropsychology; With 199 Figures and 139 Tables*: Springer; 2011. DOI 10.1007/978-0-387-79948-3
10. Zadshir F, Stoki M, Emamipour S. Comparison of students moral judgment and social development in student: Inveniing the role of teaching the holy Quran by memorization in independent schools in Tehran. 2009.
11. CsHO. DMOH. *Recommendations for child development-entertainment and social-emotional activities.*: . Ministry of Health and Medical Education; 2016.
12. Ghorbanpoor Z, Hosseini sA, Vameghi R, Rassafiani M, Dalvand H, Rezasoltani P. The effect of " handling training" for caregivers at home and home adaptation on gross motor function of 15-72 months old cerebral palsy children. *Modern Rehabilitation*. 2014;8(1).
13. Li WH, Chung JO, Ho EK. The effectiveness of therapeutic play, using virtual reality computer games, in promoting the psychological well-being of children hospitalised with cancer. *Journal of Clinical Nursing*. 2011;20(15-16):2135-43. DOI:10.1111/j.1365-2702.2011.03733.x
14. Hyvonen PT. Play in the school context?: The perspectives of Finnish teachers. *Australian Journal of Teacher Education (Online)*. 2011;36(8):49. DOI10.14221/ajte.2011v36n8.5
15. Goldstein J. *Play in children's development, health and well-being: Toy Industries of Europe* Brussels; 2012.
16. Panksepp J. Can PLAY diminish ADHD and facilitate the construction of the social brain? *Journal of the Canadian Academy of Child and Adolescent Psychiatry*. 2007;16(2):57. PMID:PMC2242642
17. Baggerly J, Parker M. Child-centered group play therapy with African American boys at the elementary school level. *Journal of Counseling & Development*. 2005;83(4):387-96. doi.org/10.1002/j.1556-6678.2005.tb00360.
18. Cordier R, Bundy A, Hocking C, Einfeld S. A model for play-based intervention for children with ADHD. *Australian Occupational Therapy Journal*. 2009;56(5):332-40. Doi: 10.1111/j.1440-1630.2009.00796X.

19. Li WH, Mak YW, Chan SS, Chu AK, Lee EY, Lam T. Effectiveness of a play-integrated primary one preparatory programme to enhance a smooth transition for children. *Journal of health psychology*. 2013;18(1):10-25. DOI:10.1177/1359105311434052.
20. Nijhof SL, Vinkers CH, van Geelen SM, Duijff SN, Achterberg EM, van der Net J, et al. Healthy play, better coping: The importance of play for the development of children in health and disease. *Neuroscience & Biobehavioral Reviews*. 2018. In Press DOI:10.1016/j.neubiorev.2018.09.024.
21. EMARATI FS, NAMAZIZADEH M, MOKHTARI P, MOHAMMADIAN F. Effects of selected elementary school games on the perceptual-motor ability and social growth of 8-to-9 year-old female students. 2011.
22. Chinekeh A, Kamalian M, Eltemasi M, Chinekeh S, Alavi M. The effect of group play therapy on social-emotional skills in pre-school children. *Global journal of health science*. 2014;6(2):163. Doi: 10.5539/gjhs.v6n2p163

UNDER PEER REVIEW