Himachal Journal of Agricultural Research 34(2):93-95, 2008

Developmental outcomes of rural female infants

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Abstract

The present study aimed at investigating the Mental and Psychomotor Development Index of rural female infants in district Kangra of Himachal Pradesh. Total of 60 rural female infants (30 in experimental and 30 in control group) were selected. An intervention for a period of six months regarding Mental and Psychomotor Development was imparted to the experimental group mothers and their infants. Both the groups (experimental and control) were post tested after six months. The control group showed less change in comparison to experiment group with regards to mental and psychomotor development. The intervention had a significant effect on the psychomotor and mental development level of the experimental group.

Key words: PDI, MDI, motor and mental age.

Introduction

Children form the basis of any society and must have top priority on societies commitment at all points of time. They are the eternal source of inspiration and hope, the potentialities of children are to be brought to the maximum and their innate qualities of hand, head and heart need to be properly nourished and developed, because all educability is dependent upon innate capacities of growth.

The first year of the life is formative and impressionable. Infancy is a period of prodigious growth and learning. Not only physical structures and functions develop, but personality characteristics also become well defined and patterned. Girl child occupies a prominent place in the demography of any country. Female children form 20 % of the country's population and their welfare and development should be a matter of a national priority. They are the future human resources of a nation; therefore, it is imperative to promote their health and to protect them from diseases because only a healthy body has Healthy mind (Karkal 1991). The quality of environment a female child receives during this stage, has a great deal to do with her well being and with future development because the female child in India, is discriminated against all walks of life. The promotion of development of child does not depend upon one factor alone but on many factors, which encourage or inhibit the child's development. Development also consists of mental development index and psychomotor development index. Mental development index is the index, which indicates the level of mental development of a child. Mental development concerns the emergence of thinking capability of the individual. Psychomotor Development Index is the index, which indicates the level of motor development. Motor development means the development of control over the bodily movements through the coordinated activities of nerve centre, the nerve and the muscles. Infant's motor development is dependent upon their overall physical growth like walking, crawling, climbing etc.

The word intervention means mediation and it has been derived from the word intervene which means to modify existing skills, practices and to prevent the undesirable actions and to bring out desirable changes. Intervention programme is the programme, which is based on preplanned activities using in indigenously available and low cost materials to enhance the physical, motor, and cognitive development of the children.

Methodology

A total of 60 infants belonging to the age group of seven to twelve months' were selected from two clusters of villages, one experimental and other control group. An equal number of infants (n= 30 each) were selected from experimental and control group. After six months of intervention, these sub-groups came in the category of 13-14 months, 15-16 months and 17-18 months, respectively. The experimental group infants were provided with stimulation consisting of different toys and play materials for enhancing motor and mental development. Their mothers were given

intervention regarding various aspects of motor and mental development like understanding developmental milestones of infants, conducive home environment, package on health and hygiene etc. The Psychomotor Development Index and Mental Development Index was measured by using Baylay's Scale of Infant development.

Results and Discussion

Infants were divided into three sub groups, viz; 7-8 months, 9-10 months and 11-12 months in the experimental and control group.

The data presented in the Table 1 show the mean scores regarding motor age of infants in both groups during pre and post testing.

Table 1. Mean scores and standard deviation of infants regarding motor age

Age cohorts(in months)	Groups	Pre test Mean (SD)	Post test Mean (SD)	t-value
7-8	Experimental	7.4 (0.6)	13.4 (0.6)	2.17*
	Control	7.1 (0.5)	12.8 (0.5)	
9-10	Experimental	9.2 (0.8)	15.2 (0.9)	0.17
	Control	9.4 (0.4)	14.9 (1.0)	
11-12	Experimental	11.2 (0.9)	18.2(1.7) 16.5	2.53*
	Control	11.4 (1.0)	(1.4)	

*Significant at 5% level of significance

Infants from all the age cohorts in both the groups had similar mean scores of motor age during pre testing. Motor age scores of experimental groups were significantly greater than the control group during post testing. As a result of intervention to mothers and stimulation to the experimental group infants, their mean scores were greater than the control group in different motor age. Majority of the infants had average and high psychomotor development index in the experimental group. While the control group infants had low and average psychomotor development index. Pathak (1971) found that high-risk babies had lower performance on motor scales till 18 months and 24 months.

It is observed from Table 2 that the infants had almost same mean scores of psychomotor development index during pre and post testing. Awasthy etal (1992) concluded that malnourished children scored poorly in all the areas of development that is motor, adaptation language, and personal social.

Table 2. Mean and SD regarding psychomotor development index (PDI)

Age cohorts (in months)	Groups	Pre test Mean (SD)	Post test Mean (SD)	t-value
7-8	Experimental	110.1 (6.9)	106.6 (6.7)	2.26*
	Control	106.2 (7.2)	99.6 (5.7)	
9-10	Experimental	98.7 (8.2)	103.1 (5.3)	0.72
	Control	105.3 (6.1)	101.5 (5.3)	
11-12	Experimental	97.1 (5.1)	102.4 (2.5)	3.84**
	Control	98.2 (4.5)	94.5 (5.7)	

**Significant at 1% level of significance
*Significant at 5% level of significance

Jaya and Ratna (1992) and Rayar (1992) studied the motor and mental abilities of urban and rural infants of age 8-12 months in Dharwad (Karnataka) by administering the Bayley Scale of Infant Development (BSID) in 210 infants. They found that urban infants easily attained motor and mental tasks after giving intervention as compared to rural infants and at most age levels and urban infants were more advanced in their abilities.

It is indicated from Table 3 that during post testing the infants had more mean scores of mental age.

Table 3. Mean scores and standard deviation of infants regarding mental age

Age cohorts (in months)	Groups	Pre test Mean (SD)	Post test Mean (SD)	t-value
7-8	Experimental	8.4 (0.7)	15.0 (1.0)	2.99**
	Control	8.0 (0.6)	13.8 (0.5)	
9-10	Experimental	10.5 (0.7)	17.5 (0.7)	4.73**
	Control	10.2 (0.5)	16.1 (0.7)	
11-12	Experimental	12.3 (0.8)	21.2 (2.5)	3.55**
	Control	12.1 (0.7)	18.2 (0.7)	

**Significant at 1% level of significance

The t-value was found significant in the post testing. It was observed in the present study that all the infants in the experimental group were doing the activities like making the train of cubes, turning the pages of the book, recognizing objects etc. greater than their chronological age. In the mental development index changes were observed after post testing. The results are in agreement with the results of the Monika (1998) and Bhardwaj (2000) that majority of the infants had high metal

development index due to the fact that they were devoid of proper stimulation, which was given only to the infants of experimental group.

From the Table 4 it is observed that the infants from all the age cohorts in both the groups had almost same mean scores of mental development index during pre testing. After post testing significant results were found in the experimental group.

Table 4. Mean and SD regarding mental development index (MDI)

		Pre test	Post test	
Age cohorts (in months)	Groups	Mean (SD)	Mean (SD)	t-value
7-8	Experimental	127.0 (7.4)	123.3 (3.8)	5.93**
	Control	120.5 (6.3)	113.4 (2.7)	
9-10	Experimental	113.4 (6.3)	118.5 (3.2)	5.83**
	Control	107.5 (5.3)	109.6 (3.9)	
11-12	Experimental	110.9 (4.3)	122.5 (8.1)	5.74**
	Control	108.5 (5.2)	104.9 (3.5)	

**Significant at 1% level of significance

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