 J. Hum. Ecol., 15(3): 223-225 (2004)

The Impact of Intervention on Motor and Mental Development of Rural Female Infants in District Kangra of Himachal Pradesh

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INTRODUCTION

Majority of the Indian population live in villages. The infants get fewer opportunities to develop their full potential because their mothers lack knowledge regarding scientific child care, stimulatory activities and conducive environment which are essential for healthy development. Proper care and right kind of development opportunities for this vulnerable and vast section of population are critical since these have a direct bearing upon the future human resource development of a nation (Vander, 1977).

Development involves the processes that are biologically programmed within the organism and the processes in which the organism is changed or transformed to the interaction with the environment. It consists of two major kinds, motor and mental development. Motor development means the development of control over bodily movements through the coordinated activities of nerve centres, the nerves and the muscles. Infants' motor development is dependent upon their overall physical growth like walking, climbing, crawling, etc. Mental development refers to the process of knowing. It encompasses phenomenon of sensation, perception, imagination, retention, recall, problem solving, reasoning and thinking. Hence, it involves our reception of raw sensory information, elaboration, storage, recovery and its usage in various fields. Development of child does not depend on one factor alone but on many factors, which encourage or inhibit the child's development. The type of environment provided to children at tender age is very important for their total development.

Intervention means mediation which has been derived from the word intervene that means to prevent the undesirable actions and to bring out desirable changes. Intervention programme plays vital role in motor and mental development of rural infants. It is the programmme that is based on pre planned activities using indigenously available and low cost material to enhance the physical, motor, cognitive and social development of the infant. Mishra and Mohanty (1991) gave short term intervention training and found significant improvements in cognitive skills of the children.

The present study focused on the impact of intervention programme on the motor and mental development of rural infants through a pre-post experimental research design.

METHODOLOGY

A total sample of 60 infants belonging to the age group of seven to twelve months was selected from two clusters of villages, one experimental and other control groups. An equal number of infants (n= 30 each) were selected from experimental and control group. The experimental group infants were provided with stimulation consisting of giving them 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, packages on health and hygiene etc. The motor and mental development of infants was measured through Bayley's Scale of Infant Development.

RESULTS

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 the groups during pre and post testing.

It is observed from Table 1 that 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 group were significantly greater than control group during post testing.

It is observed from Table 2 that the infants had almost same mean scores of Psychomotor

Table 1: Mean scores and SD of infants regarding motor age.

Age cohorts (in months)	*Groups*	*Pre test*	*Post test*	
		Mean (SD)	*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)	2.53*****
	Control	11.4(1.0)	16.5(1.4)	

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

Table 2: Mean and SD regarding mental development index (MDI).

Age cohorts (in months)	*Groups*	*Pre test*	*Post test*	
		Mean (SD)	*Mean (SD)*	*t- value*
7-8	Exp.	110.1 (6.9)	106.6(6.7)	2.26*****
	Control	106.2(7.2)	99.6(5.7)	
9-10	Exp.	98.7(8.2)	103.1(5.3)	0.72
	Control	105.3(6.1)	101.5(5.3)	
11 -12	Exp.	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.

Development Index during pre and post testing. The t- value was found significant in the experimental group.

It is indicated from Table 3 that during post testing the infants had more mean scores of mental age. The t- value was found significant in the post testing.

It is revealed from table 4 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 experi-

Table 3: Mean scores and SD of infants regarding mental age.

Age cohorts (in months)	*Groups*	*Pre test*	*Post test*	
		Mean (SD)	*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.

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

Age cohorts (in months)	*Groups*	*Pre test*	*Post test*	
		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.

mental group.

DISCUSSION

Mental development concerns the emergence of thinking capacity in the individual. We can see how the child develops and changes from one age to the next. Exploration of the surroundings and the questions regarding the why and how of things result in an increasing store of information. Thus 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. Mental development index is the index which indicates the levels of mental development of a child. In this study significant changes were observed after post testing. The results are in agreement with the results of the research conducted by Monika (1998) and Bhardwaj (2000) that majority of the infants had high mental development index in the experimental group. In control group infants had average mental development index due to the fact that they were devoid of proper stimulation which was given only to the infants of experimental group.

Psychomotor development index is the index which indicates levels of the motor development of the child. After giving intervention to mothers and stimulation to the experimental group infants, their mean scores were greater than the control group in motor age. Majority of the infants had average and high psychomotor development index in the experimental group. While in the control group infants had low and average psychomotor development index. Pathak et al. (1971) found that high risk babies had lower performance on motor scales till 18 months and 24 months. Awasthy et al. (1992) conducted that malnourished children scored poorly in all the areas of development that is motor, adaptation language and personal social. Jaya and Ratna (1992) and Rayar et al. (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 in 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.

KEYWORDS Impact. Infant. Mother. Motor and Mental Development.

ABSTRACT The present investigation attempts to see the impact of intervention on motor and mental development of rural female infants. A total sample of 60 infants (30 in experimental and 30 in control group) were selected. The infants in experimental group were exposed to intervention for a period of six months and both the groups were post tested. Results revealed a heightened performance of experimental group infants in motor and mental development during post test. Significant differences were found in mental and motor development including psychomotor index and mental development index in experimental group after imparting appropriate knowledge to the mothers.

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