ABSTRACT

The primary objective of the present study was to find out the late effects of malnutrition on cognitive and reading abilities of primary school children. The study involved a 2 X 2 factorial design, having 40 subjects in each cell, within the age range of 7 to 12 years. Both the factors were between-group-design factors. The factors were Grade/age (Grade II and Grade V), and early nutritional status (malnourished and wellnourished), each having two levels. Thus, there were four resultant cells, and a total of 160 subjects belonging to both sexes were assessed for their cognitive and reading abilities. The dependent measures were cognitive abilities (measured by intelligence tests: Raven’s Coloured Progressive Matrices, Figure Coping, and Draw-a-Child; Creative thinking test: Torrance test of creative thinking; Working memory tests: Nonlanguage working memory-dots counting, and language-based working memory - reading span; Short-term memory tests: Digit span - forward and backward, and letter-span-forward and backward; and long-term memory tasks: Story telling), and reading abilities (measured by the oral reading tasks).

The data were analyzed by the help of bivariate ANOVA and Scheffe test. Results revealed that the malnourished Oriya medium primary school children, irrespective of their Grade/age, were found to be inferior to their wellnourished counterparts in their cognitive abilities (i.e., nonverbal intellectual abilities, nonverbal/figural creative thinking abilities, both nonlanguage and language-based working memory capacities, and both short-term and long-term memory capacities), and also in their reading (oral reading) abilities.

Analysis of data also revealed that the Grade V (higher age) children, irrespective of their early nutritional status (ENS), were found to be better than
Grade II children in their cognitive and reading abilities as measured by a variety of measures, except the measures of TTCT - originality, language-based working memory, and number of additions during reading the task. Moreover, the adverse effects of early malnutrition on the later cognitive and reading abilities of children dissipated over ages as indicated by, not all but, a majority of measures used in the present study for measuring both cognitive and reading abilities of children.

Rehabilitation programmes for the previously marasmic or kwashiorkor child as well as his/her chronically undernourished counterpart are suggested; these rehabilitation programmes should provide for the stimulation of language and thought in addition to giving food supplements. Moreover, a well-designed prospective study should incorporate programme for language use for the preschoolers and bonuses to the family for sending the older child to school since the school attendance facilitates the development of thinking through the use of language.