

Original article

Pre-school development and behavior screening with a consecutive support programs for 5-year-olds reduces the rate of school refusal

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Abstract

Objective: The efficacy of pre-school health consultation in improving developmental and behavioral problems at 5-years of age with follow-up consecutive educational support before and after entrance into regular elementary school for 8 years in a rural city, Taketa, Oita prefecture, was evaluated.

Methods: This program involved a survey with a three-step method as follows. Step 1: interviews and checklists conducted by public health nurses and nursery/kindergarten teachers for all children. Step 2: medical screening for all children performed by a local/home-school doctor. Step 3: diagnosis in selected children carried out by child neurologists, special support education teachers and clinical/school psychologists. Subsequently, for 1–2 years until entrance into elementary school, these children and their parents were given speech, behavioral and mental support as well as group play therapy in nursery/kindergarten.

Results: During the 8-years study period, 56 children (5.4%) were diagnosed with developmental disorders and six children were diagnosed with maltreatment by their parents among 1165 eligible children. Of these subjects, 40 children received support consecutively after entrance into school, 38 of whom entered regular elementary school and 32 attended regular classes for 1–6 years. A total of 39 of 40 children have attended school without refusal. Moreover, the total number of students refusing to attend school in elementary school decreased for 3 years from 8 of 3246 children (0.25%) in 2006–2008 and 13 of 2889 children (0.45%) in 2009–2011 to only 1 of 2646 children (0.04%) in 2012–2014.

Conclusions: Pre-school developmental-behavioral screening and consecutive support programs in a rural city reduced the number of students refusing to attend school.

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Keywords: Pre-school health consultation; Developmental disorders; 5-Year-old; School refusal

1. Introduction

Developmental and behavioral problems are the most common conditions of childhood and adolescence. When combined with school failure, school refusal and school drop-out rates reach 1 in 4–5 children [1]. All par-

ents, however, hope that their child will join regular elementary schools in association with their child's neighborhood friends and sisters/brothers, and subsequently grow-up step by step.

Pre-school health consultation for developmental and behavioral problems at 5-years of age and follow-up educational support before and after entrance into regular elementary schools was conducted for these 8 years in a local small city, Taketa, Oita prefecture, Japan. The efficacy of this program was herein evaluated.

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Table 1

Results of the pre-school health consultations and rates of school attendance among children with developmental disorders in Taketa city.

Year	Total number of eligible children	Number of surveyed children (%)	Number of children judged to need support at the first step (%)	Number of children followed at special hospitals (%)	Number of children who received special training and educational facilities (%)	Number of children who received support after entrance into school (%)	Number of children entered into regular schools	Number of children entered into regular classes	Number of children who refused to attend school
2007	159	140 (88.1)	63 (39.6)	3 (1.9)	11 (6.9)	3 (1.9)	1	0	1
2008	157	146 (93.0)	62 (39.4)	3 (1.9)	6 (3.8)	4 (2.5)	4	3	0
2009	138	115 (89.8)	57 (41.3)	7 (5.1)	12 (8.7)	6 (4.3)	6	6	0
2010	151	138 (91.4)	67 (44.3)	5 (3.3)	6 (4.0)	3 (2.0)	3	3	0
2011	148	131 (88.5)	66 (44.6)	6 (4.1)	6 (4.1)	6 (4.1)	6	5	0
2012	154	142 (92.2)	68 (44.2)	1 (0.6)	3 (1.9)	9 (5.8)	9	8	0
2013	149	131 (87.9)	70 (47.0)	2 (1.3)	2 (1.3)	9 (6.0)	9	7	0
2014	137	125 (91.2)	52 (38.0)	2 (1.5)	2 (1.5)	–	–	–	–
Total	1165	1068 (91.7)	505 (43.3)	29 (2.5)	48 (4.1)	40 (3.4)	38	32	1

2. Methods

This program involved a survey of all children based on the following three-step methods. Step 1: interviews and checklists conducted by public health nurses and nursery/kindergarten teachers for all children in this city according to essential screening points for developmental consultation and guidance for 5-year-olds in Japan [2]. Step 2: medical screening of all children by a local/home pediatrician. Step 3: diagnosis of selected children carried out by child neurologists and clinical/school psychologists dispatched from the Faculty of Medicine and Faculty of Education and Welfare Science, Oita University.

The number of special support education teachers was increased with this program, with the additional installment of special support classes in local regular elementary schools. Moreover, child neurologists and clinical/school psychologists directed the support program, and opened training sessions for public health nurses, nursery/kindergarten teachers, local/home-school doctors, school teachers, etc., as well as holding lectures for citizens to understand how to accept, bring up and support children with developmental-behavioral problems.

Subsequently for 1–2 years until entrance into elementary school, these children and their parents were given speech, behavioral and mental support to correct the core features of the disorders, facilitate development and learning, promote socialization, reduce maladaptive behaviors and prevent secondary disabilities by public

health nurses, nursery/kindergarten teachers, speech therapists, special support education teachers, clinical/school psychologists and child neurologists.

In order to evaluate the 8-year outcomes of children with developmental and behavioral problems, the enrollment status of the children into ordinary regular elementary school and regular classrooms as well as rate of school attendance was surveyed.

In addition, the annual trends in the rate of school refusal (defined as absence from class for 30 days or longer) in 9 years among the overall students in elementary schools were evaluated. Pearson's chi-square test was used to determine statistical significance using Bonferroni's correction.

3. Results

In Taketa city, 1068 (91.7%) of the total 1165 eligible children were surveyed in the first step consultation during these 8 years between 2007 and 2014. Of these subjects, 505 (43.3%) were judged to need public health support at the first step. A total of 56 children (5.4%) with developmental disorders (7 with autistic spectrum disorders, 29 with attention deficit/hyperactivity disorder, 4 with learning disorders and 7 with mental retardation), one child with Tourette's disorder and eight children with a history of maltreatment, including neglect and poor up-bringing by their parents, were diagnosed. Most children received support and education by local public health nurses, nursery teachers, school teachers and school psychologists. Of these sub-

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