

## Realities and Challenges of Support for Children with Special Needs in Nursery Schools

Kaori Ishiguro\*† and Shin-ichi Yoshioka‡

\*Graduate School of Medical Sciences, Tottori University, Yonago 683-8503, Japan, †Matsue Co-medical College, Matsue 690-0265, Japan and ‡Department of Nursing Care Environment and Mental Health, School of Health Science, Tottori University Faculty of Medicine, Yonago 683-8503, Japan

### ABSTRACT

**Background** Nursery schools and kindergartens have been struggling to cope with increasing numbers of children with special needs. Hence, we conducted a study on what nursery school teachers (NSTs) will require regarding learning and societal resources for supporting such children in the future.

**Methods** A questionnaire survey was conducted for 2,476 NSTs employed in 154 nursery schools in Shimane and Kochi Prefectures. The questionnaires were sent by post to officials at each nursery school. The completed questionnaires were collected by the school officials and returned by post. In addition to statistical processing of the survey results, the content of the free description responses was analyzed using the KJ method.

**Results** Responses were obtained from 1,509 NSTs at 118 nursery schools. Of the respondents, 90.7% had experienced difficulties coping with children with special needs, and 83.9% were in charge of caring for such children. Such children were enrolled in every childcare facility participating in the survey. The NSTs primarily needed to learn about specific coping methods, the illness, and skills for supporting parents; concerning the societal resources, they needed the addition of assistant NSTs, the implementation of age-five check-up, and the recruitment of mentors. The free description responses were categorized into the following five categories: demand for child care administration, cooperation with professional staff, support for parents, developmental health checkups, and on-site needs for nursery childcare. One of the specific demands was to develop human resources capable of providing parents with appropriate advice.

**Conclusion** The results have shown that all NSTs are required to deal with children with special needs. Future challenges for providing support for such children are:

i) to raise awareness of such children; ii) to eliminate regional disparities; iii) to provide professional training for NSTs specializing in developmental disorders; iv) to train and re-educate assistant NSTs and v) to enhance infant screening.

**Key words** children with special needs, developmental disorder, nursery school, nursery school teacher

Various neurodevelopmental disorders (NDDs), which are discussed in the Japanese edition (2014) of “the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*,”<sup>1</sup> include intellectual disability, communication disorder, autism spectrum disorder, attention-deficit/hyperactivity disorder, specific learning disorder, and motor disorder including tics. Moreover, the fact that there are cases with NDD wherein individual children suffer from a combination of multiple symptoms of the disorders makes it difficult to diagnose and support such children. Gillberg<sup>2</sup> has coined the term “Early Symptomatic Syndromes Eliciting Neurodevelopmental Clinical Examination” (ESSENCE) to refer to children whose developments subtly deviate from what may be considered normal despite having received no clear diagnosis. This term could describe the ones who could be categorized into a group of “children with special needs” (*ki ni naru ko*, literally “concerned children”) in Japan. It is critical to provide appropriate support according to the symptoms being presented. In general, in this study, “children with special needs” refers not only to the children whose conditions include mildly delayed intellectual or physical development and maltreatment but also to the children who NSTs considered to be “children with special needs who appear outwardly ordinary” and “children who are left out of a group of children.” In particular, the NSTs should be able to perceive that developmental disorder(s) might underlie problem behavior in a child they are dealing with once they have “noticed” something different about that child at an earlier stage.

In recent years, it has been noted that there are children who require early detection and intervention even at the nursery school and kindergarten level.<sup>3</sup> Shimono

Corresponding author: Shin-ichi Yoshioka, MD, PhD  
shiyoshi@med.tottori-u.ac.jp

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Abbreviations: ESSENCE, early symptomatic syndromes eliciting neurodevelopmental clinical examination; NDD, neurodevelopmental disorder; NST, nursery school teacher; PT, parent training; SST, social skills training

et al.,<sup>4</sup> Nakashima et al.,<sup>5</sup> and Kurokawa<sup>6</sup> have reported that children with special needs are enrolled in around 70% of nursery schools. Fukuyama et al.<sup>7</sup> pointed out that while 40% of the NSTs were aware of and provided support to children with special needs, a considerable number of behaviors and characteristics associated with the developmental disorders remained.

In this study, in light of the present situation of local support systems, we clarify the societal and learning resources that NSTs need in the future. While discussing how administrative bodies and professionals in fields such as medicine, welfare, psychology, and education should play their roles and render cooperation support for those involved, including the parents, we examined possible future challenges to enhance support for children and childcare.

## **SUBJECTS AND METHODS**

### **Subjects**

The study involved 2,476 NSTs employed at a total of 154 randomly selected nursery schools in Shimane Prefecture ( $n = 79$ ) and Kochi Prefecture ( $n = 75$ ). The study was conducted from August 2013 to the end of September 2013.

### **Methods**

A survey was conducted using an anonymous self-administered questionnaire. The questionnaires were sent by post to officials at each nursery school along with instructions and return envelopes with a request to distribute the questionnaires to NSTs in their schools. The completed questionnaires were collected by the school officials and returned by post.

### **Questionnaire contents**

The questionnaire was intended to find the attributes of NST respondents; their ideas about children with special needs (where to find information, degree of interest, childcare difficulties, workshop participation, the current situation of support systems, required learning and societal resources, etc.); and the opinions and requests they wished to address to government and institutional officials (free description).

### **Questionnaire analysis**

For analysis, simple tabulation and cross tabulation were conducted using SPSS version 19 (IBM, Armonk, NY). For statistical testing, the chi-squared ( $\chi^2$ ) test was used with a significance level of 5%. Free descriptions concerning NSTs' opinions and requests were classified and categorized using the KJ method for analysis.<sup>8</sup>

### **Ethical considerations**

Regarding ethical considerations, the study was implemented with approval given by the Tottori University School of Medicine Ethics Committee (dated July 22, 2013, approval number 2240) after obtaining prior approvals from the respective chairs of the Shimane Prefecture Childcare Council and Kochi Prefecture Nursery School Administrative Council. In addition, the questionnaire was accompanied by an explanation document that described the intention, purpose, and ethical considerations of the survey. Participation in the study was voluntary and the choices of the respondents as to whether to cooperate or not was respected. The questionnaire responses were anonymous to ensure the privacy of the participant.

## **RESULTS**

Responses were obtained from a total of 1,509 NSTs (collection rate of 60.9%) of 118 nursery schools (collection rate of 76.6%, from 68 schools in Shimane Prefecture and 50 schools in Kochi Prefecture). After excluding incomplete and unclear responses, responses from 1,233 subjects were evaluated for analysis (an effective response rate of 81.7%). For an analysis of free descriptions about required learning and societal recourses, responses including some missing data were evaluated.

### **Subject attributes (Table 1)**

The majority of the NSTs were in their twenties, and those with ten to twenties years of the experiences outnumber other years in the years of experience categories. Two-year colleges accounted for approximately 80% of the institutions where the respondents obtained their accreditation. Moreover, 57.2% of the subjects had opportunities to take courses in developmental disorders as part of their professional education.

### **Current situation of the support system (Table 2, 3)**

The proportion of NSTs who had experienced difficulties was 90.7%, and 83.9% of them had been in charge of children with special needs and 48.8% were currently experiencing difficulties caring for children with special needs. The proportion of nursery schools employing NSTs experiencing childcare difficulties was 100%, with 99.2% of all the schools employing teachers with some experience of being in charge of children with special needs, and 95.8% of the schools employing teachers currently in charge of such children.

The proportion of the NSTs who had sought advice about children with special needs in their classes was 79.2%. The first person that these teachers sought advice from was a colleague (72.4%) had sought advice from a

school nurse or physician.

School nurses were present in 63.9% of the nursery schools, and while 65.9% of the respondents indicated that they would consult with their school nurses in the event they became concerned about a child's behavior in the nursery.

Over 60% of the total number of subjects responded that cooperation with school physicians was easy to obtain. The professional expertise of school physicians was broken down into pediatrics (61.9%) and internal medicine (39.1%).

As for the frequency with which case study meetings were held in nursery schools regarding children with special needs, 28.5% of the schools met "regularly," 47.8% met "when necessary," and 4.1% met "annually."

As for the frequency of cooperation with developmental support and counseling centers or related institutions established by prefectures or municipals, 4.2%

cooperated monthly, 23.6% cooperated several times a year, 48.1% cooperated only when there was a relevant case.

The proportion of the NSTs who consulted with development counselors was 55.2%, and the occupations of the circuit development counselors who regularly visited nursery schools were as follows: public health nurses (68.5%), psychotherapists (14.7%), experienced NSTs (7.3%).

**Learning required by NSTs (Fig. 1)**

Each of "specific coping methods," "knowledge of disorders," "skills of supporting parents," and "ways of communicating with parents" were required by over 96% of the respondents.

With regard to how the extent of professional education courses affects a sense of requirement of learning (Table 4), for each of the learning items, the subject

**Table 1. Subject Attributes (n = 1,233)**

Item	Response	n
Occupation	Nursery school teacher (homeroom)	978 (79.3)
	Nursery school teacher (free)	89 (7.2)
	Supervisor	93 (7.6)
	Principal	73 (5.9)
Age	20–29	407 (33.0)
	30–39	329 (26.7)
	40–49	238 (19.3)
	50–59	231 (18.7)
	60 and above	28 (2.3)
Years of Experience	Less than 5	280 (22.7)
	6 to 10	269 (21.8)
	11 to 20	379 (30.8)
	21 and more	305 (24.7)
Accreditation as nursery school teacher	Vocational school	122 (9.9)
	Junior college	966 (78.3)
	University	65 (5.3)
	Nursery school teacher test	80 (6.5)
Opportunity to learn about developmental disorders as a part of professional training	Yes	705 (57.2)
	No	528 (42.8)

% in parentheses.

**Table 2. Proportion of nursery schools and of nursery school teachers who have felt a sense of difficulty in a child care setting**

Item	Response	No. of nursery school teachers	No. of nursery schools
Sense of difficulty in providing child care	Have felt it in the past	1118 (90.7)	118 (100)
	Felt it as a homeroom teacher	1034 (83.9)	117 (99.2)
	Feeling it presently	602 (48.8)	113 (95.8)

% in parentheses.

group who had taken the relevant professional educational experience had a keener sense of the necessity of understanding the role of interdisciplinary involvement, social skills training (SST), and parent training (PT) ( $P < 0.01$  in each item) as compared with the subject group without such training. The group with currently experiencing a sense of difficulty felt more strongly that the understanding of the role of interdisciplinary involvement ( $P < 0.01$ ) and the skills of supporting parents ( $P <$

0.05) were required learning items.

### Societal resources required by NSTs (Fig. 2)

Some of the most required resources were “increasing the number of assistant NSTs,” “implementation of age-five check-up,” and “recruitment of the mentors.”

With regard to how the extent of professional education courses affect a sense of requirement of the societal resources (Table 5), the subject group who had taken

**Table 3. Support systems for children with developmental special needs ( $n = 1,233$ )**

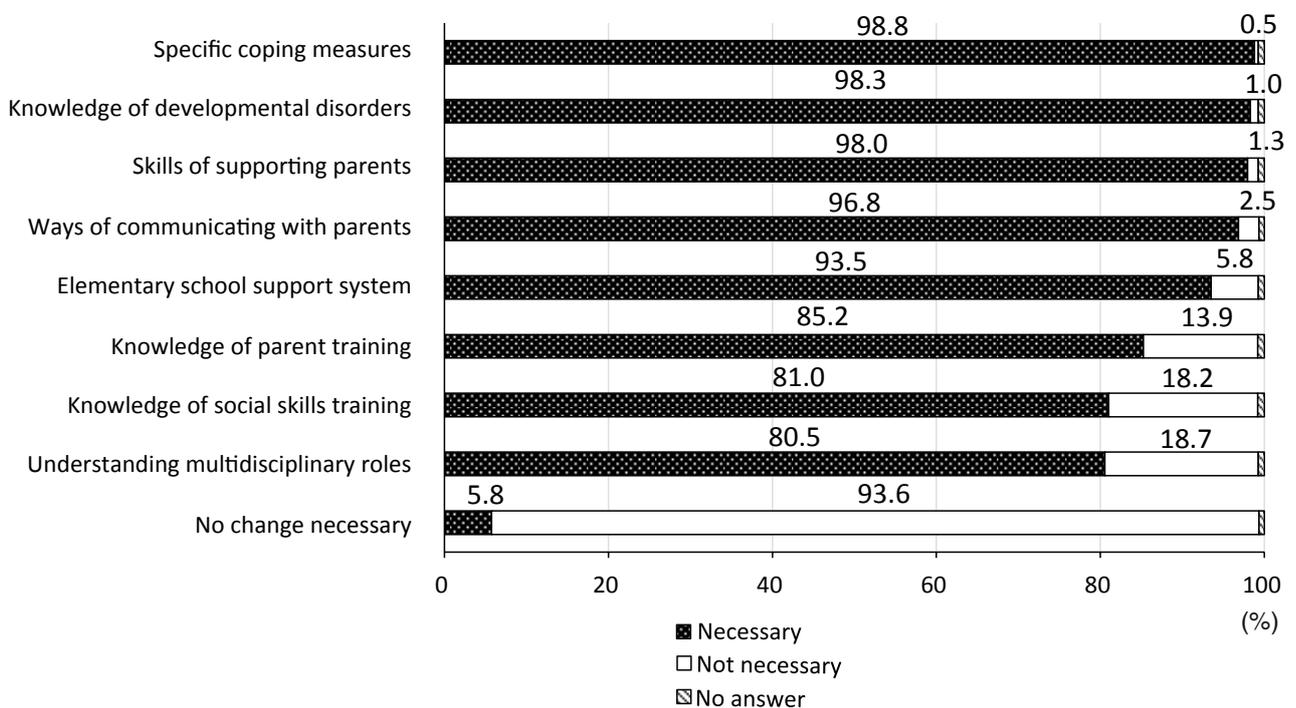
Item	Response	<i>n</i>
Experience seeking advice about a child with special needs in class.	Yes	976 (79.2)
	No	257 (20.8)
From whom did you first seek advice about children with special needs? (Multiple Responses)	Colleague	893 (72.4)
	Supervisor	296 (24.0)
	Administrator	240 (19.5)
	School nurse	21 (1.7)
	School physician	21 (1.7)
	Parents	6 (0.5)
	Other	28 (2.3)
Relationship with school nurse regarding children with special needs	Present	788 (63.9)
	Would/do consult	519 (65.9)
	Would not/do not consult	269 (34.1)
	Not present	445 (36.1)
Cooperation with school physician as a system for supporting children with special needs	Very easy to access	273 (22.1)
	Somewhat easy to access	520 (42.2)
	Somewhat difficult to access	261 (21.2)
	Difficult to access	179 (14.5)
Medical specialty of school physician	Pediatrics	763 (61.9)
	Internal medicine	482 (39.1)
	Otorhinolaryngology	28 (2.3)
	Ophthalmology	19 (1.5)
	Psychosomatic medicine	16 (1.3)
	Other	85 (6.9)
Frequency of holding case review meetings about children with special needs	Regularly	351 (28.5)
	Occasionally as necessary	589 (47.8)
	About once a year	51 (4.1)
	Not at all	242 (19.6)
Cooperation with developmental counselling support centers and related agencies	Almost every month	52 (4.2)
	Several times a year	291 (23.6)
	When there is a relevant case	593 (48.1)
	Not at all	297 (24.1)
Involvement of developmental counselors	Yes	681 (55.2)
	No	552 (44.8)
Occupation of developmental counselor who regularly visits the nursery school	Public health nurse	845 (68.5)
	Psychotherapist	181 (14.7)
	Speech therapist	106 (8.6)
	Experienced nursery school teacher	90 (7.3)
	University teaching staff	63 (5.1)
	Other	252 (20.4)

% in parentheses.

**Table 4. Learning items and professional training required, relevance to current sense of difficulty**

Item		Total	Professional training experience		$\chi^2$	P value*	Currently experiencing a sense of difficulty		$\chi^2$	P value*
			Yes	No			Yes	No		
Knowledge of developmental disorders	Necessary	1212 (99.0)	696 (99.0)	516 (99.0)	0.004	0.950	594 (99.3)	618 (98.7)	1.169	0.387
	Not necessary	12 (1.0)	7 (1.0)	5 (1.0)			4 (0.7)	8 (1.3)		
Specific coping measures	Necessary	1218 (99.5)	700 (99.6)	518 (99.4)	0.136	0.704	594 (99.3)	624 (99.7)	0.765	0.442
	Not necessary	6 (0.5)	3 (0.4)	3 (0.6)			4 (0.7)	2 (0.3)		
Skills of supporting parents	Necessary	1208 (98.7)	693 (98.6)	515 (98.8)	0.170	0.680	595 (99.5)	613 (97.9)	5.881	0.021
	Not necessary	16 (1.3)	10 (1.4)	6 (1.2)			3 (0.5)	13 (2.1)		
Ways of communicating with parents	Necessary	1194 (97.5)	689 (97.9)	505 (96.9)	1.073	0.300	585 (97.7)	609 (97.3)	0.178	0.673
	Not necessary	31 (2.5)	15 (2.1)	16 (3.1)			14 (2.3)	17 (2.7)		
Understanding the multi-disciplinary roles	Necessary	993 (81.1)	590 (83.9)	403 (77.4)	8.448	0.004	505 (84.4)	488 (78.0)	8.421	0.004
	Not necessary	231 (18.9)	118 (16.1)	118 (22.6)			93 (15.6)	138 (22.0)		
Knowledge of SST	Necessary	999 (81.7)	594 (84.5)	405 (77.9)	8.730	0.003	500 (83.8)	499 (79.7)	3.333	0.068
	Not necessary	224 (18.3)	109 (15.5)	115 (22.1)			97 (16.2)	127 (20.3)		
Knowledge of PT	Necessary	1051 (85.9)	625 (88.9)	426 (81.9)	12.055	0.001	521 (87.3)	530 (84.7)	1.716	0.190
	Not necessary	172 (14.1)	78 (11.1)	94 (18.1)			76 (12.7)	96 (15.3)		
Elementary school support system	Necessary	1153 (94.2)	665 (94.6)	488 (93.7)	0.472	0.492	568 (95.0)	585 (93.5)	1.315	0.251
	Not necessary	71 (5.8)	38 (5.4)	33 (6.3)			30 (5.0)	41 (6.5)		
No change necessary	Necessary	71 (5.8)	47 (6.7)	24 (4.6)	2.349	0.125	34 (5.7)	37 (5.9)	0.031	0.861
	Not necessary	1154 (94.2)	657 (93.3)	497 (95.4)			565 (94.3)	589 (94.1)		

% in parentheses. \* $\chi^2$  test and Fisher's exact probability test. PT, parent training; SST, social skills training.

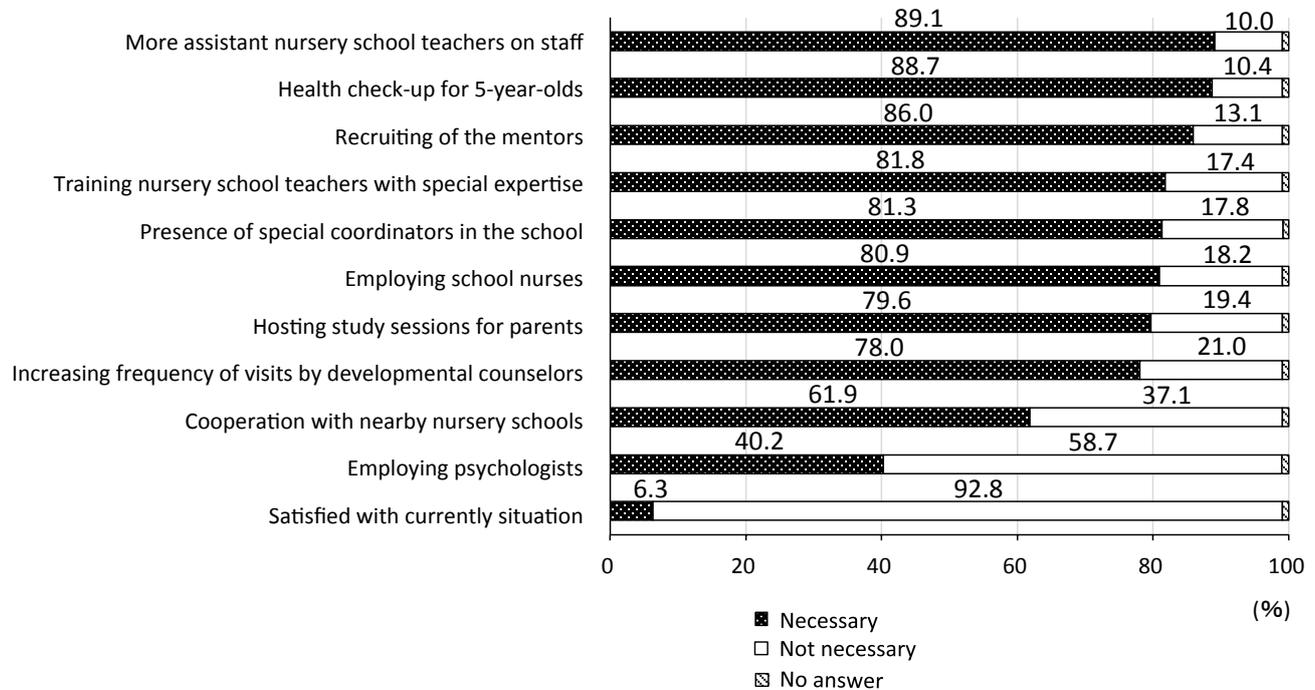


**Fig. 1.** Learning items necessary for nursery school teachers to support children with special needs and their parents. Multiple answers permitted in the question.

**Table 5. Social resources and professional training required, relevance to current sense of difficulty**

Item	Response	Total	Professional training experience		$\chi^2$	P value*	Currently experiencing a sense of difficulty		$\chi^2$	P value*
			Yes	No			Yes	No		
Presence of special coordinators in the school	Necessary	1003 (82.0)	588 (83.9)	415 (79.5)	3.888	0.049	509 (85.3)	494 (78.9)	8.341	0.004
	Not necessary	220 (18.0)	113 (16.1)	107 (20.5)			88 (14.7)	132 (21.1)		
Employing school nurses	Necessary	998 (81.7)	592 (84.5)	406 (77.9)	8.496	0.004	490 (82.1)	508 (81.3)	0.130	0.719
	Not necessary	224 (18.3)	109 (15.5)	115 (22.1)			107 (17.9)	117 (18.7)		
More assistant nursery school teachers on staff	Necessary	1099 (89.9)	627 (89.4)	472 (90.6)	0.438	0.508	544 (91.1)	555 (88.8)	1.819	0.177
	Not necessary	123 (10.1)	74 (10.6)	49 (9.4)			53 (8.9)	70 (11.2)		
Increasing frequency of visits by developmental counselors	Necessary	962 (78.8)	560 (80.0)	402 (77.2)	1.442	0.230	497 (83.4)	465 (74.4)	14.751	<0.001
	Not necessary	259 (21.2)	140 (20.0)	119 (22.8)			99 (16.6)	160 (25.6)		
Employing psychotherapists	Necessary	496 (40.7)	292 (41.7)	204 (39.2)	0.763	0.382	256 (43.0)	240 (38.4)	2.703	0.100
	Not necessary	724 (59.3)	408 (58.3)	316 (60.8)			339 (57.0)	385 (61.6)		
Cooperation with nearby nursery schools	Necessary	763 (62.5)	472 (67.4)	291 (55.9)	17.071	<0.001	376 (63.1)	387 (61.9)	0.177	0.674
	Not necessary	458 (37.5)	228 (32.6)	230 (44.1)			220 (36.9)	238 (38.1)		
Training nursery school teachers with special expertise	Necessary	1008 (82.5)	592 (84.5)	416 (79.8)	4.386	0.036	496 (83.1)	512 (81.9)	0.285	0.593
	Not necessary	214 (17.5)	109 (15.5)	105 (20.2)			101 (16.9)	113 (18.1)		
Recruiting of the mentors	Necessary	1060 (86.8)	613 (87.6)	447 (85.8)	0.822	0.365	533 (89.4)	527 (84.3)	6.958	0.008
	Not necessary	161 (13.2)	87 (12.4)	74 (14.2)			63 (10.6)	98 (15.7)		
Hosting study sessions for parents	Necessary	982 (80.4)	578 (82.6)	404 (77.5)	4.797	0.029	493 (82.7)	489 (78.2)	3.886	0.049
	Not necessary	239 (19.6)	122 (17.4)	117 (22.5)			103 (17.3)	136 (21.8)		
Health check-up for 5-year-olds	Necessary	1094 (89.5)	636 (90.7)	458 (87.9)	2.534	0.111	542 (90.8)	552 (88.3)	1.982	0.159
	Not necessary	128 (10.5)	65 (9.3)	63 (12.1)			55 (9.2)	73 (11.7)		
Satisfied with the current situation	Necessary	78 (6.4)	52 (7.4)	26 (5.0)	2.947	0.086	21 (3.5)	57 (9.1)	16.038	<0.001
	Not necessary	1144 (93.6)	649 (92.6)	495 (95.0)			576 (96.5)	568 (90.9)		

% in parentheses. \* $\chi^2$  test.



**Fig. 2.** Social resources necessary for nursery school teachers to support children with special needs and their parents. Multiple answers permitted in the question.

the relevant professional educational experience had a keener desire for cooperation with nearby nursery schools ( $P < 0.001$ ) as compared with the subject group without such training. They also felt a greater necessity of the employment of school nurses ( $P < 0.01$ ). Furthermore, the group with relevant professional educational experience was also somewhat more affirmative with having special support coordinator personnel in nursery schools, training of a professional NST specializing in developmental disorders, and convening the study session for the parents ( $P < 0.05$ ).

As shown in Table 5, the group with currently experiencing a sense of difficulty felt the strongest desire to

increase the number of visits by the itinerant counselors ( $P < 0.001$ ) as well as a stronger desire for the presence of coordinating personnel and the recruitment of the mentors ( $P < 0.01$ ), with many also indicating the desire to host parent-oriented study sessions ( $P < 0.05$ ). While over 80% of both groups favored the training of professional NSTs specializing in the developmental disorders.

### Opinions and requests to administrative bodies and institutions (Table 6)

The collected free description responses using the KJ method into 26 subcategories, were then grouped into the following five categories: i) requests for the childcare

**Table 6. Classification of nursery school teachers' opinions and requests to administrative and institutional officials**

Requests for childcare administrative bodies ( $n = 90$ )	Response
Desire to increase the total capacity of nursery school teaching staff and implement a smaller homeroom system	29 (32.2)
Augmenting staff in specialized departments and improving classroom environments to facilitate cooperation	21 (23.3)
Increasing operating funds and insufficient subsidies (not enough for paying assistant nursery school teachers)	16 (17.9)
Childcare system that can easily provide assistant nursery school teachers (institutionalized by the national government) and new childcare systems	12 (13.3)
Expansion of Rehabilitation Centers (Counseling sites are too far, which causes delayed response)	5 (5.6)
Concerns about the acceptance of children with disabilities under a new system that would involve "certification of childcare needs"	4 (4.4)
Desire to be led to appropriate treatment agencies by administrative guidance	2 (2.2)
Maintaining the current system to provide assistant nursery school teachers	1 (1.1)
Cooperation with professional staff ( $n = 77$ )	
Increasing the number of psychotherapists and counselors who can provide accurate, personalized advice	24 (31.2)
Implementing systematic skill training	19 (24.7)
Desire to increase the number of visits by developmental counselors to ensure their grasp of the on-site situation	11 (14.3)
Desire for opportunities to learn (e.g., through case studies) together with specialized staff such as developmental counselors and public health nurses	11 (14.3)
Desire for close cooperation with rehabilitation centers and specific opinions by attending physicians	5 (6.5)
Training nursery school teachers with medical expertise	4 (5.2)
Regular visits to nursery schools by childcare instructors	3 (3.8)
Desired changes for developmental health check-up ( $n = 34$ )	
Desire to conduct health check-up for 5-year olds (few opportunities for children to see specialists until they reach school-age)	13 (38.2)
Desire to perform a close examination to detect disabilities at the health check-up for 3-year-olds (overlooked in many cases)	9 (26.5)
Need to review how the health check-up for 5-year-olds should be (improve the quality of the staff, etc.)	4 (11.8)
Requests to physicians: improve the institutions (e.g., assistant teacher staff) based on their diagnosis	4 (11.8)
Clarify the real situation of the follow-up after the health check-up for 5-year-olds; Passing on the information to those involved after school enrolment	3 (8.8)
Desire to mitigate parents' distress caused by knowing the result of 1.5 year health check-up	1 (2.9)
Desired changes for supporting parents ( $n = 16$ )	
Providing opportunities to interact with parents to maintain positive relationships with them	14 (87.5)
Improving the role of nursery school teachers to support the independence of children requiring rehabilitation	2 (12.5)
On-site childcare needs ( $n = 8$ )	
Appreciating the importance of working as a team among nursery school teachers	5 (62.5)
Expanding freedom for principal's assistants	2 (25.0)
Needing a full-time assistant nursery school teacher to do a job using the physicians' diagnosis (to secure safety)	1 (12.5)

% in parentheses.

administration; ii) cooperation with the professional staff; iii) check-up for developmental health; iv) ways of supporting parents and v) on-site childcare needs. Requests for the childcare administration was expressed by most respondents, with many expressing requests related to staffing, such as increasing the total capacity of the NSTs and reducing the number of children per homeroom, and other requests such as improving the classroom environment and augmenting staff in the specialized departments. The next most popular request was cooperation with professional staff, with many expressing expertise-related requests, such as increasing the number of psychotherapists and counselors and implementing a systematic skills training. In the third place, with regard to check-up for developmental health, the implementation of age-five check-up was most desired. As for ways of supporting parents, there was a request for opportunities to interact with parents to maintain a positive relationship with them. As for the on-site childcare needs, there was a desire for fostering positive relationships with the fellow teachers as a team.

## DISCUSSION

Since it was found that children with special needs, whom the teachers felt difficult to cope with, were enrolled in all the target schools, it became evident that all NSTs were required to cope with children with special needs (Table 2).

The number of NSTs who consulted with their colleagues was 72.4% (Table 3). In addition, from their in-school discussions and case review meetings, it was inferred that they would implement a policy to cooperate with specialized agencies. These results were thought to suggest that approximately 80% of the respondents desired to attempt solutions through such regular cooperation. The proportion of respondents who consulted with school nurses was 65.9%. In nursery school with nurses on staff, Tsuda et al.<sup>9</sup> reported that approximately 50% of the staff consulted with their nurses. While it is desirable that nurses be assigned as nursery school staff members, it is required that they be more involved in consultation as a part of child care support, along with health and safety management of children with special needs.

For NSTs, school physicians are the most accessible medical professionals. The proportion of subjects who responded that they found it relatively easy to liaise with school physicians on a daily basis was 64.3%. While the principal task of school physicians is normally to visit schools on several occasions throughout the year, it is desirable that physicians be actively involved in providing support for children with special needs. Takada et

al.<sup>10</sup> also indicated the necessity of having dedicated physicians able to offer counsel to each nursery school regarding developmental issues. If school physicians view themselves as members of the nursery school staff and observe children on a continuous basis through regular school visits, then they would notice any abnormalities and share their observation with parents and other NSTs. This we believe will help build a system that better facilitates consultations regarding subsequent approaches.

Among the choices of learning required by NSTs, the following items were seen to be needed from the perspective of NSTs (Fig. 1).

As a quality of the experts from whom NSTs would like to seek advice regarding children with special needs, "offering suggestions about specific methods" was desired, as was noted by Hidaka et al.<sup>11</sup> and Kuboyama et al.<sup>12</sup> In addition, to understand specific coping methods, it is important to gain accurate and basic knowledge about the disorders that a child might have. If NSTs are able to grasp the mechanisms that give rise to behaviors that should not be considered as those of spoiled or selfish children but as symptomatic of an underlying disorder, then a better understanding of children with special needs will be obtained. For this reason, holding workshops with physicians and other medical and psychological professionals will be important.

NSTs also felt that supporting parents was as important as dealing with children with special needs. As reported by Inoue et al.,<sup>13</sup> it was found that many NSTs sensed the importance of ways of listening to and speaking with parents, and desired to learn them. It is important for NSTs to not only inform the current state of the children with special needs to their parents who are not mentally prepared for that fact but also display an attitude and demeanor that is sympathetic toward the parents who may be shocked and bewildered with such information.

It became evident that the foremost social resource demanded by NSTs was increasing the number of assistant NSTs (Fig. 2). It is necessary to have assistant NSTs to alleviate the physical and psychological burden on teachers. This suggestion seems to be backed by reports that state the staffing shortages might be related to the increase in the number of children with tendencies toward developmental disorders and the prevalence of burnout among NSTs.<sup>14</sup>

The second highest score of responses was to call for the implementation of age-five check-up. The age-five check-up is an optimal time to ensure the observations made by NSTs and to promote awareness among

parents. It has been reported that a majority of NSTs lack professional expertise regarding developmental and behavioral disorders,<sup>15</sup> suggesting the possibility that the recognition could be delayed. However, there are also reports stating that, while cognitive delays in children with developmental disorders begin to be discernible at around the age of two years old, with careful observation, most cases can be diagnosed by the age of five.<sup>16</sup>

Gillberg<sup>2</sup> reports that even when major symptoms of ESSENCE begin to appear, there are many cases where diagnoses are not sufficiently certain before the age of five, and that the drafting of intervention plans and follow-up diagnoses are important. In addition, it is also reported that since factors such as an environment and parents' level of education influence social attitudes and hyperactivity of the children, it is important to have medical check-ups between the ages of five and six.<sup>17</sup>

The conventional way of examination overlooked half of the cases of mild developmental disorders. By conducting check-ups at the ages of three and five and combining these with detailed observation records, individual interviews, and questionnaire surveys performed by NSTs, the ratio of overlooking high-functioning pervasive developmental disorders can be broadly reduced. Furthermore, the age-five check-up can serve as a screening for developmental disorders to be found, and the period around age five is known as the preparatory period for school enrollment, and thus, it is positioned at an ideal time, neither too early nor too late, to detect a type of the disorder.<sup>18</sup> In addition, by knowing the results of the age-five check-up, understanding what is going on with a child will be easier if problems arise after enrollment in a school, suggesting that it would be easier to provide them with support from the teachers.<sup>19</sup>

Even when NSTs become concerned about behavioral or emotional aspects of children's development, they did not feel the desire to convey such concerns directly to the parents and often experienced difficulties when dealing with them. Partnering with experts would allow for not only the strengthening of the relationship between NSTs and parents but also making the children's lives better. In anticipation of what would await for time to come, it is important to perform health check-ups at the proper time and to continue supporting children with special needs and their parents.

The desire for the recruitment of mentors was third. Specifically, NSTs sought experts to advise them on matters including disorder-related knowledge, and skills of supporting and communicating to parents, and they desired to be able to obtain multi-disciplinary advice in a timely and regular manner.

However, as reported by Miyake,<sup>20</sup> there are very

few mentors with specialized knowledge of developmental disorders of young children, and it is challenging to secure and train mentors who can play an active part in the field.

We investigated whether there was any association between either experience taking a professional educational course on developmental disorders or ongoing feelings of difficulty in dealing with children with special needs and learning items and societal resources required by NSTs.

The result showed that both those who had undergone the professional education and those experiencing ongoing feelings of difficulty significantly felt the need for understanding the multi-disciplinary approach. In terms of cooperation, some desire to know what types of occupations exist and the specific duties of those likely to be involved, such as public health nurses, psychotherapists, and speech therapists. The investigation also found that those who had pursued professional education strongly felt the importance of PT and SST and felt more strongly about the necessity of knowledge of the disorders. Those experiencing the ongoing difficulties strongly felt the need for skills of responding parents.

With regard to the relevance of the required societal resources, those who had pursued professional education felt strongly about cooperating with nearby nursery schools and employing school nurses, and many of them felt the need to hold study sessions for parents, to train NSTs with relevant expertise, and to ensure the presence of the special support coordinator. And, those experiencing ongoing difficulties had a strong feeling about the necessity of personnel able to provide advice when difficulties arose, thus expecting to increase the number of visits by development counselors, recruiting mentors, or ensuring the presence of a special support coordinator in nursery schools.

Asked to provide their frank opinion on the child-care administrative bodies and institutions, the respondents provided responses that were divided into five categories, as shown in Table 6. Regarding cooperation with professional staff, the proportion of responses "to increase the number of psychologists and counselors capable of offering accurate and individualized advice" was 31.2%. These respondents expressed their desire to enlist cooperation and participation from professionals.

The term "cooperation" in providing support here is defined as: i) mutual sharing of information among experts; ii) evaluation and analysis from a multidisciplinary perspective; iii) determination of a direction of the support and iv) leveraging of societal resources to provide the support, of which it is significant that ii) and iii) are firmly conducted by professionals.

In our survey, 68.5% of visiting developmental counselors was public health nurses; this is the highest ratio, followed by psychotherapists (14.7%). The survey revealed that psychotherapists capable of providing advice on regular and timely basis are required more than psychotherapists working in nursery schools full-time. Similarly, Hidaka et al.<sup>11</sup> reported that clinical psychotherapists are the experts from whom advice was most eagerly sought, presumably because there was likely a need for a counseling form of support that could recognize NSTs' sense of difficulty. The presence of psychotherapists in a support role for children with special needs and their parents is expected to be effective in making social adaptation possible, assisting them with forming a sense of attachment.

The kind of support for children with special needs, which NSTs can provide by making the most use of their expertise, is to quickly identify children who experience difficulties in kindergarten because of their unique characteristics in a group living and to make careful observations for compiling the childcare record so that they can enlist proper assistance and cooperation from professionals.

Many expressed their desire to "augment staff in specialized departments" and "improve an environment that would facilitate regular cooperation." With this point, it is expected that seeking advice and planning cooperation from a multidisciplinary standpoint (involving, e.g., physicians, public health nurses, psychologists, speech therapists, occupational therapists, elementary school teachers, and administrative staff) would give a direction for both short- and long-term support and lead to the effective utilization of social resources.

Mori et al.<sup>21</sup> reported that kindergartens and nursery schools do not fully understand the role of professionals who conduct periodic counseling visits. Furuichi<sup>22</sup> has examined how to work together with visiting counselors and has indicated the need for improving mutual communication and understanding. In addition, Sano et al.<sup>23</sup> suggested that there are regional differences to cooperation and that there is an urgent need to expand institutions in keeping with local childcare needs.

With regard to "a systematic skill training," Haraguchi et al.,<sup>24</sup> consistent with the results of our own study, pointed out that while NSTs do not lack desire for further training, implementation of the training in most nursery schools is actually inadequate and consideration should be given to training methods with a high degree of effectiveness and efficiency.

More than half of the free descriptions showed a desire to increase the number of assistant NSTs and suggested that more inclusive childcare can be realized if

the NST shortage could be resolved.

The Comprehensive Support system for Children and Childcare was launched in April, 2015. Accordingly, it would be desirable in the future to construct a more comprehensive system of childcare for children with special needs.

Concerning challenges related to childcare for children with special needs and measures for handling these, the results of this study suggest the following. i) Improving awareness of children with special developmental needs: most, if not all, of the nursery schools enroll children with special needs, and if NSTs are currently coping with the difficulty, they should first gain a firm understanding of normal development and acquire knowledge about developmental disorders. We recommend that they should spend ample time for hands-on childcare training in training courses for NSTs. In addition, we would also wish that parents have more learning opportunities to gain knowledge about developmental disorders. ii) Eliminating regional differences: there should be no shortage of societal resources, such as inadequate personnel, who should cooperate among themselves, caused by local circumstances. Continuous cooperation is also necessary, and to achieve it, human resources should be developed and cooperation systems, including administrative bodies, should be constructed. It is also important to gain an accurate and timely understanding of local childcare needs. iii) Training of NSTs specializing in developmental disorders: training professional NSTs by, for example, cooperating with developmental support centers in order for them to play a central role is necessary. For instance, this role would be a position similar to specialist nurses at visiting nurse stations. Such staff would play a leadership role in, for example, case review meetings held in nursery schools. iv) Training and reeducating assistant NSTs: in the context of a nationwide shortage of NSTs, it will be important to offer rewards to accredited NSTs and employ them after arranging for their re-training as well as to guarantee their employment on a multi-year basis rather than a single-year basis if possible. v) Enhancing infant health check-up: since it is possible that children with special needs or with clear physical or cognitive developmental disorders included among those who have yet to undergo health check-ups, it is important that follow-up and dialogue with those involved, including parents, should be performed. In parenting counseling sessions conducted at the same time for five-year-olds, an effort should be made to deepen parents' understanding and cope with their anxieties about childcare.

In conclusion, despite increasing social concerns about children with special developmental needs, it was

found that coping difficulties remained in childcare settings. However, early detection and early response can alleviate difficulties in childcare to some degree. To understand such children, it is important to improve the quality of NSTs, build their empirical knowledge base, and cooperate with professionals across various occupations. Furthermore, it is desired that NSTs, psychologists, and other experts be involved in providing parental support from an early stage.

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