

Perceived Efficacy and Anxiety of Teachers in Japan toward Supporting Students with Chronic Illness in Mainstream School

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The objective of this study was to examine mainstream school teachers' anxiety and self-efficacy to teaching students with chronic illness. A survey was completed by 59 elementary and 44 junior high school teachers in Japan. Results indicated that the majority of teacher respondents perceived themselves as inadequate to teach students with chronic illness due to lack of practical knowledge and experience. A high proportion of respondents indicated that they had no academic training (62.1%) and no teaching experience (72.8%) for supporting students with chronic illness. On the other hand, there is a positive relationship between self-efficacy, anxiety level and academic training or teaching experience for supporting students with chronic illness. That is, teachers with practical experience teaching students with chronic illness in the classroom and teachers with more academic training in inclusive approaches demonstrated higher efficacy and lower anxiety than teachers without these experiences or with less training in inclusive teaching approaches. All teachers must be equipped with the extensive knowledge of how best to assist students with chronic illness. Additional efforts are needed to adequately support students with chronic illness in the regular education classroom.

Keywords : Chronic illness, Mainstream School, Inclusive Education, Self-Efficacy, Teaching Anxiety

Introduction

The development of disease control measures for children with chronic illness in Japan progressed with the medical subsidy program of 1968 for congenital metabolic disorders. The passing of the legislation of "Treatment and Research Program for Specific Pediatric Chronic Illness" with an amendment of the Child Welfare Act in 2005 expanded the chronic illness covered under the program. This expansion led to an increase in the number of children registered as children with

chronic illness beyond 100,000 (National Center for Child Health and Development, 2019). The Bureau of Social Welfare and Public Health of Tokyo Metropolitan Government (2017) reported that among the applicants ($n=2,579$), 90% of the students are enrolled in mainstream school with over 70% of these students enrolled in full-time regular education classes (elementary school 73.2%, junior high school 77.3%). The increase also reflects the nature of education for students with chronic illness has diversified with advances in medical technology.

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This trend is also driven by the impact of reforms in the education system in Japan. The Basic Act for Persons with Disabilities amended in 2011 prohibits discrimination based on disability (Article 4) and emphasizes that students with disabilities should receive education alongside students without disabilities to the extent possible (Article 16). This mandate is also incorporated in the Act for Eliminating Discrimination against Persons with Disabilities enacted in 2013, which stipulates the provision of reasonable individualized consideration according to the educational needs of children with disabilities. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) calls for the development of an educational environment for effective teaching based on the medical conditions and educational needs of children and requires education committees to strive for understanding and awareness among schools under their jurisdiction (March 4, 2013, Notification No. 20 issued by the Director of Elementary and Education Bureau of the MEXT). It is expected that the change will shift the role and responsibilities of the mainstream schools in supporting the educational needs of students with chronic illness.

These educational reforms are met with some challenges. Yoshikawa (2003)'s study of regular education class teachers ($n=26$) at elementary and junior high schools showed that half of the teachers surveyed (13 respondents) "felt difficulties" in teaching or supporting students with chronic illness. The reasons include: (1) lack of understanding of the disease/condition, (2) restrictions on school activities due to the condition and managing such situation (3) lack of understanding by parents about their child and their disease/condition, and (4) uncooperative attitude of parents to teachers. Similarly, Hiraga (2006), after discussing the "reasons for difficulties felt by teachers in providing educational support to students with chronic illness in regular educational classes" with in-service teachers ($n=13$) of the special needs education course in a University, pointed out that the difficulties were attributable to (1) education system and school facilities, (2) coordination among various related parties, (3) medical aspects of supporting the student and (4) explanation given to classmates and their parents. Subsequent studies

have also suggested that teachers have anxieties surrounding the educational needs of students with chronic illness (Omi et al., 2007; Iwami, 2014; Yoshitoshi, 2016).

Ohara et al. (2013) pointed out that in Japan, "A majority of the previous studies on children with chronic illness are limited to literature studies, and due to the lack of fact-finding surveys and practical studies, there is insufficient understanding of the actual situation of children with chronic illness". The initiatives for inclusive education are becoming widespread even in Japan. Although the number of studies for students with special educational needs in mainstream schools are increasing, only a few studies have focused on teacher awareness and initiatives regarding chronic illness. Therefore, understanding the complete picture of the awareness and initiatives of teachers is an important issue in promoting appropriate educational support, services and environment for students with chronic illness. This study aims to understand the perception and awareness of chronic illness among the all teachers including special education teachers in elementary and junior high schools of Japan, understand their self-assessment, and explore the relationship between their perception with factors such as years of teaching and academic training.

Methods

Survey Participants and Timing

From the attendees of an introductory course on special education (late August 2018) conducted by one of the prefectures in western Japan, 111 teachers (36 males and 75 females) working in mainstream schools were included in the survey. A collective survey was conducted after the course in which questionnaires were distributed (anonymous and self-filled) and collected.

Survey Items

The survey items were set by referring to the reports of Tamura et al. (2009) and Iwami et al. (2014). In addition to the attributes and experience of the respondents, the items related to supporting students with chronic illness in their school life consisted of "Self-assessment for coping with chronic illness" (4 items) and "Awareness of chronic illness" (2 items) and "Necessary conditions

Table 1. Items Related to Supporting Students with Chronic Illness in Their School Life

Self-assessment for coping with chronic illness	Teachers' knowledge related to names of chronic illness
	Support for students with exercise management
	Support for students with dietary restrictions
	Risk management of sudden changes in condition
Awareness of chronic illness	Wishes of the student and family for participation in school events
	Anxieties about being a class teacher for students with restrictions on daily activities
Necessary conditions for support	Conditions considered necessary for "intra-school collaboration"
	Conditions considered necessary for "learning support"
	Conditions considered necessary for "information considered necessary for support in schools"

for support" (3 items). The specific items are shown in Table 1. The response method was a combination of multiple-choice, Likert scale (5-point method) and free description.

Definition Of Term

As Bernell & Howard (2016) pointed out, "Within professional communities (i.e., medical, public health, academic, and policy), there is a large degree of variation in the use of the term chronic disease". Rather than adhering to a specific list of diseases and a specified time period, they advocate for a simpler approach. Therefore, term "chronic illness" in this study were viewed in a broad sense (not limited to certified students for public support) based on the legal philosophy (social model) of the Act for Eliminating Discrimination against Persons with Disabilities of 2013.

Analysis Method

IBM SPSS Statistics 22 was used for analysis. Teaching experience was aggregated for each school type to understand the status of teaching experience related to students with chronic illness in mainstream schools (hereinafter referred to as "Teaching experience"). Specialized courses and training (hereinafter referred to as "Academic training") for educating the students with chronic illness were also aggregated. The association between "Teaching experience" and "Academic training" was examined with a two-way ANOVA. As "Self-assessment for coping with chronic illness", the 5-point scale was used for the 3 items "Exercise management", "Dietary restrictions" and "Sudden changes in condition" and free description was used for 1 item (write up to 3 names of chronic illness that you know). In addition to "Awareness of

chronic illness", the mean value was calculated by scoring responses using the 5-point method. For example, the responses were scored as "No knowledge" (1 point), "Poor" (2 points), "Neutral" (3 points), "Good" (4 points), and "Very good" (5 points). A two-way ANOVA was performed by setting "Teaching experience" (Yes/No) and "Academic training" (Yes/No) as the independent variable and the score of each item using the 5-point method as the dependent variable. The significance level was set to 5%.

Ethical Considerations

When distributing questionnaires, the survey purpose, the right to not participate or withdraw from the survey at any point were explained orally and in writing to the subjects. All responses were converted to numerical values so that individuals could not be identified, and it was assumed that the respondents had given their consent by submitting the questionnaires.

Results

Collection Status

Responses were obtained from 107 respondents (Male 32 and female 75) of the 111 teachers to whom the questionnaire was distributed (collection rate 96.4%). The number of valid responses was 103 (valid response rate 92.8%) after excluding the questionnaires without response for either "Teaching experience" and "Academic training" from the analysis. The basic attributes of the respondents are shown in Table 2. While 59 (57.3%) respondents worked in elementary schools, 44 (42.7%) respondents worked in junior high schools. The most common affiliation of the respondents was special education class with 57 (55.3%)

respondents, followed by regular education class with 21 (20.4%) respondents. The number of respondents with teaching career less than 5 years were the least and were widely distributed among 5-10 years with 26 (25.2%) respondents, 11-20 years with 34 (33.0%) respondents, and more than 21 years with 32 (31.1%) respondents.

Teaching experience for Students with Chronic Illness and Academic Training

The percentages of “Teaching experience” and “Academic training” for students with chronic illness are shown by school type (Table 3, Table 4). Response “No” (75 respondents, 72.8%) was higher

than “Yes” (28 respondents, 27.2%) regarding teaching experience for students with chronic illness. Similarly, the response of a majority of the respondents was “No” (64 respondents, 62.1%) compared to “Yes” (39 respondents, 37.9%) to whether they have attended academic training for educating students with chronic illness. The number of teachers having teaching experience for students with chronic illness was 30%, irrespective of the school type. In addition, more than half of the teachers had never attended a course for educating students with chronic illness.

The percentage of “Academic training” for “Teaching experience” of students with chronic

Table 2. Teachers’ Background Information

Variable	Groups	Number of participants	Percentages
Type of School	Elementary school	59	57.3
	Junior high school	44	42.7
Class Setting	Regular education class	21	20.4
	Special education class	57	55.3
	Resource room	8	7.8
	N/A	17	16.5
Teaching Career	Less than 5 years	10	9.7
	5 ~ 10 years	26	25.2
	11 ~ 20 years	34	33.0
	21 years or more	32	31.1
	N / A	1	1.0

Table 3. Teachers’ “Teaching Experience” for Student with Chronic Illness

Teaching Exp	%	Type of School	<i>n</i>	%
Yes (<i>n</i> =28)	27.2	Elementary teachers	17	28.8
		Junior high teachers	11	25.0
No (<i>n</i> =75)	72.8	Elementary teachers	42	71.2
		Junior high teachers	33	75.0

Table 4. Teachers’ “Academic Training” for Student with Chronic Illness

Teaching Exp	%	Type of School	<i>n</i>	%
Yes (<i>n</i> =39)	37.9	Elementary teachers	22	37.3
		Junior high teachers	17	38.6
No (<i>n</i> =64)	62.1	Elementary teachers	37	62.7
		Junior high teachers	27	61.4

Table 5. Rates of “Teaching Experiences” and “Academic Training” for Student with Chronic Illness, and Means of Teaching Career

Teaching Experiences	%	Academic Training	<i>n</i>	%	Years of Teaching Career	<i>SD</i>
Yes (<i>n</i> =28)	27.2	Yes	14	50.0	17.0	7.22
		No	14	50.0	16.3	10.76
No (<i>n</i> =75)	72.8	Yes	25	33.3	19.3	10.37
		No	50	66.7	14.8	9.03

disease and the mean value of teachers' years of teaching career are shown in Table 5. As against 14 respondents (50.0%) who "Had teaching experience and academic training" and 14 respondents (50.0%) who "Had teaching experience but no academic training", 25 respondents (33.3%) "Had no teaching experience but had academic training" and 50 respondents (66.7%) "Had no teaching experience and no academic training". The number of years of experience of teachers was 17.0 years ($SD=7.22$) for respondents who "Had teaching experience and academic training", 16.3 years ($SD=10.76$) for respondents who "Had teaching experience but had no academic training", 19.3 years ($SD=10.37$) for respondents who "Had no teaching experience but had academic training" and 14.8 years ($SD=9.03$) for respondents who "Had no teaching experience and no academic training" (1 respondent did not answer).

When a two-way ANOVA was conducted to determine whether the provision of "Academic training" and the number of years of teaching career are associated with "Teaching experience", it was found that specialized courses and training on educating the students with chronic illness and the number of years of teaching career had no significant association with the teaching experience

related to students with chronic illness.

Self-assessment of Support to Chronic Illness

An overview of the self-assessment on how to cope with "Exercise management", "Dietary restrictions" and "Sudden changes in condition" for students with chronic illness is shown in Table 6. Although a significant difference was not observed in the support for the 3 items, all the items had a mean score of less than 3 points, which indicated a rather negative assessment by the respondents of their knowledge.

A two-way ANOVA was performed to check whether self-assessment by teachers for coping with "Exercise management", "Dietary restrictions" and "Sudden changes in condition" differs based on "Teaching experience" (Yes/No) and "Academic training" (Yes/No) (Table 7). The results showed that there was a significant main effect of "Academic training" in "Exercise management" ($F(1, 98)=11.79, p<.001$), "Dietary restrictions" ($F(1, 99)=13.98, p<.001$) and "Sudden changes in condition" ($F(1, 99)=5.80, p<.05$) while interaction was not observed. Those who had attended academic training had higher scores related to coping with school life. The results showed that there was a significant main effect of "Teaching experience" for coping with

Table 6. Self-assessment for Coping with Chronic Illness

Survey questions	Exercise management	Dietary restrictions	Sudden changes in condition
No knowledge (1)	17 (16.5%)	12 (11.7%)	14 (13.6%)
Poor (2)	37 (35.9)	44 (42.7)	32 (31.1)
Neutral (3)	18 (17.5)	11 (10.7)	18 (17.5)
Good (4)	26 (25.2)	33 (32.0)	35 (34.0)
Very good (5)	4 (3.9)	3 (2.9)	4 (3.9)
N/A	1 (1.0)	0 (0.0)	0 (0.0)
Total	103 (100.0)	103 (100.0)	103 (100.0)
Mean (SD)	2.64 (1.150)	2.72 (1.124)	2.83 (1.156)

Table 7. Differences of Self-assessment by "Teaching Experiences" and "Academic Training" for Student with Chronic Illness

Teaching Experience	Main effect				Interaction			
	Yes		No					
Academic Training	Yes	No	Yes	No	Teaching Exp	Academic Training		
Exercise management	<i>M</i>	3.43	3.08	2.71	2.16	3.59	11.79***	0.18
	<i>SD</i>	0.85	1.12	1.14	1.05			
Dietary restrictions	<i>M</i>	3.50	3.20	2.71	2.26	2.67	13.98***	0.11
	<i>SD</i>	0.94	1.08	1.07	1.01			
Sudden changes in condition	<i>M</i>	3.64	2.96	2.86	2.54	3.99*	5.80*	0.53
	<i>SD</i>	0.74	1.02	1.17	1.22			

Note. $p<.05^*$, $p<.01^{**}$, $p<.001^{***}$

“Sudden changes in condition” ($F(1, 99)=3.99, p<.05$). The score for a response during emergencies was high when the teachers had teaching experience and attended the training.

Teachers’ understanding of “chronic illness” was examined with “names of 3 pediatric chronic illness”. As a result, “Diabetes” (respondent percentage, 33.0%), “Heart disease” (23.3%) and “Bronchial asthma” (18.4%) were the most common diseases (Table 8). In addition, the responses included names of various other diseases, from those covered by specific pediatric chronic illness by the public project to allergies, atopic dermatitis and feeding disorders. When analyzing the results of those who “Had academic training” (39 respondents), 22 respondents (56.4%) filled in all 3 diseases, 4 filled in (10.3%) 2, 6 (15.4%) filled in 1 and 7 (17.9%)

respondents did not fill in any disease (Mean response number 2.05, $SD=1.21$). For those who “Had no academic training,” 13 respondents (20.3%) filled in all 3 diseases, 12 filled in (18.8%) 2, 8 (12.5%) filled in 1 and 31 (48.4%) respondents who did not fill in any disease (Mean response number 1.11, $SD=1.22$). A significant difference ($t(101)=3.803, p<.001$) was observed when a t-test was conducted between the two groups on the number of diseases known whether the respondents have had academic training. From the result and the average number of responses, respondents who had attended specialized courses and training listed many disease names related to chronic illness and had an image of individual “chronic illness” compared to those who did not have the opportunity.

Table 8. List of Names of Chronic Illness known by Teachers (3 answers possible)

Chronic Disease	Trained (n=39)	No training (n=64)	Total (n=103)
Diabetes	18	16	34
Childhood cancer	14	3	17
Heart disease	10	14	24
Kidney diseases	9	5	14
Bronchial asthma	9	10	19
Cerebral palsy	5	10	15
Polio	5	—	5
Epilepsy	2	5	7
Down syndrome / Chromosome aberrations	2	1	3
Allergic symptoms /Atopic dermatitis	2	5	7
Muscular Dystrophy	1	1	2
Eating disorder	1	—	1
Myelodysplastic syndromes	1	1	2
Hydrocephalus	1	—	1
Brain disorder	1	—	1
Myopathy	1	—	1
Obesity	—	1	1
Liver disease	—	1	1
Meningoencephalocele	—	1	1
Total	82	74	156

Table 9. Awareness of Support for Students with Chronic Illness

Survey questions		Survey questions	
Answer	Anxieties	Answer	Wishes of the student and family
not at all (1)	4 (3.9%)	not at all important (1)	1 (1.0%)
a little (2)	2 (1.9)	not very important (2)	0 (0.0)
Neutral (3)	9 (8.7)	Neutral (3)	9 (8.7)
quite a lot (4)	62 (60.2)	quite important (4)	18 (17.5)
very much (5)	26 (25.2)	very important (5)	74 (71.8)
N/A	0 (0.0)	N/A	1 (1.0)
Total	103 (100.0)	Total	103 (100.0)
Mean (SD)	4.01 (.880)	Mean (SD)	4.61 (.733)

Table 10. Difference in Perceptions by “Teaching Experience” and “Academic Training” for Students with Chronic Illness

Teaching Exp		Yes		No		Main effect		
		Yes	No	Yes	No	Teaching Exp	Academic Training	Interaction
Academic Training	<i>M</i>	3.43	4.08	3.93	4.16	5.22	2.25*	1.18
	<i>SD</i>	1.16	0.91	0.83	0.74			
Wishes of the student and family	<i>M</i>	4.86	4.64	4.48	4.59	1.67	.10	.97
	<i>SD</i>	.54	.63	.96	.67			

Note. $p < .05$ *, $p < .01$ **, $p < .001$ ***

Awareness of Support for Students with Chronic Illness

Regarding awareness toward support for students with chronic illness, the results of “Anxieties about being a class teacher for students with restrictions on daily activities” and “Wishes of the student and family for participation in school events” are shown in Table 9. While more than 80% of the respondents had some anxiety, they actively tended to respect the families’ wishes.

A two-way ANOVA was conducted to determine if the teachers’ awareness towards “Anxiety as a class teacher” and “Wishes of the student and family” differed depending on “Teaching experience” (Yes/No) and “Academic training” (Yes/No) (Table 10). The results showed that the main effect of “Academic training” on “Anxiety as a class teacher” ($F(1, 99)=2.25, p < .05$) was significant. Those who had attended the training on educating the students with chronic illness had higher scores related to coping with school life and low scores for feeling anxious. The mean scores of both sides were at a high level, and there was no significant difference in the case of “Wishes of the student and family”.

Necessary Conditions for Support in Schools

The multiple-choice format was used to obtain responses regarding the conditions considered necessary for “intra-school collaboration” and “learning support” and “information considered necessary for support in schools” (Table 11). Regardless of the “Teaching experience” and “Academic training”, mutual understanding with parents was extremely high in the case of “intra-school collaboration”. More than half the respondents chose human support and individualized teaching materials for “learning support”. Items related to specific in-school considerations, such as

restrictions and points to remember in school life and measures to be implemented in case of ill health, were selected by a high percentage of respondents for “information considered necessary”. The results of the χ^2 -test for teaching experience and training experience did not indicate any significant differences.

Discussion

According to the MEXT (2020), the implementation of in-school training (elementary schools, 90.9%; junior high schools, 81.4%) and external training (elementary schools, 95.2%; junior high schools, 90.2%) on special education are becoming commonplace in elementary and junior high schools across Japan. In addition, many students with chronic illness are already studying in mainstream elementary and junior high schools (Bureau of Social Welfare and Public Health of the Tokyo Metropolitan Government, 2017 & Kusaka et al., 2014).

Still, the results of this study showed only about 1 in 3 teachers have both the teaching experience and academic training experience for students with chronic illness. In particular, more than half the teachers did not have the teaching experience and academic training experience. A relationship was not observed for the number of years of teaching career with the teaching experience and training experience. In other words, it can be pointed out that there are still limited opportunities to address chronic illness in the training content used for special needs education in elementary and junior high schools. It is clear that this trend is independent of teachers’ careers and can be considered an issue that has not improved over time.

Yashima et al. (2011) have pointed out that given the fact that chronic illness in children and

Table 11. Necessary Conditions for Support in School

Category	Contents	Total (n=102)	Teaching Exp Group (n=28)	No teaching Exp Group (n=74)	Academic training Group (n=39)	No academic training Group (n=63)
Intra-school collaboration (4 choices)	Understanding of student with chronic illness	88 (86.3)	25 (89.3)	63 (85.1)	35 (89.7)	53 (84.1)
	Understanding of classmates	38 (37.3)	9 (32.1)	29 (39.2)	15 (38.5)	23 (36.5)
	Understanding of colleagues	41 (40.2)	11 (39.3)	30 (40.5)	13 (33.3)	28 (44.4)
	Mutual understanding with parents	98 (96.1)	26 (92.9)	72 (97.3)	37 (94.9)	61 (96.8)
	Understanding of school principal	23 (22.5)	6 (21.4)	17 (23.0)	8 (20.5)	15 (23.8)
	Building and improving of school system	71 (69.6)	21 (75.0)	50 (67.6)	31 (79.5)	40 (63.5)
	Information and advice from primary care physician	49 (48.0)	14 (50.0)	35 (47.3)	17 (43.6)	32 (50.8)
Number of responses		408	112	296	156	252
Learning support (2 choices)	Human support	79 (77.5)	25 (89.3)	54 (73.0)	31 (79.5)	48 (76.2)
	Individualized teaching materials	54 (52.9)	14 (50.0)	40 (54.1)	19 (48.7)	35 (55.6)
	Cooperation with in-hospital classes	16 (15.7)	5 (17.9)	11 (14.9)	6 (15.4)	10 (15.9)
	Planning individualized instruction program	36 (35.3)	8 (28.6)	28 (37.8)	14 (35.9)	22 (34.9)
	Use of ICT equipment	18 (17.6)	4 (14.3)	14 (18.9)	7 (17.9)	11 (17.5)
Number of responses		203	56	147	77	126
Information (3 choices)	Disease names	17 (16.7)	5 (17.9)	12 (16.2)	7 (17.9)	10 (15.9)
	Symptoms	33 (32.4)	8 (28.6)	25 (33.8)	16 (41.0)	17 (27.0)
	Restrictions and points to remember in school life	99 (97.1)	28 (100.0)	71 (95.9)	39 (100.0)	60 (95.2)
	Response to bad health condition	84 (82.4)	24 (85.7)	60 (81.1)	32 (82.1)	52 (82.5)
	Treatment contents	6 (5.9)	1 (3.6)	5 (6.8)	0 (0.0)	6 (9.5)
	Process of the disease	9 (8.8)	2 (7.1)	7 (9.5)	3 (7.7)	6 (9.5)
	Daily contact methods	39 (38.2)	9 (32.1)	30 (40.5)	14 (35.9)	25 (39.7)
	Medical treatment	12 (11.8)	6 (21.4)	6 (8.1)	4 (10.3)	8 (12.7)
Number of responses		299	83	216	115	184

Note: Numbers in parentheses mean the selection rate. (N/A, 1 respondent)

adolescents can be easily overlooked due to their inability to express their internal experiences and physical pain adequately, it is important for the adults around children and adolescents with chronic illness to be mindful of their conditions. Even if a child with a chronic disease is enrolled, specific support cannot be provided if the class teacher does not know how to understand the physical and mental condition of the child accurately. In a study conducted by Yoshitoshi et al. (2016), the attitude of teachers was extremely positive towards the required training, while they were reluctant to allow students with medical needs to learn in mainstream schools or get involved themselves. This study also suggests that academic training itself may not necessarily lead to actual change in teachers' attitudes if there is no on-going support at the schools and mechanism to ensure systematic learning opportunities for teachers to support students with chronic illness.

The scores of teachers who had received training were significantly higher for self-assessment of

knowledge on how to respond to “Exercise management”, “Dietary restrictions” and “Sudden changes in condition” for students with chronic illness. In addition, it was confirmed the training influenced the ability to recollect the names of chronic illness. On the other hand, the teachers' image of chronic illness included diabetes, heart disease, kidney disease and childhood cancer, and those requiring health support, indicating that they had a broad view of these diseases regardless of their training. Kusaka (2015) analyzed the school enrollment status by disease category based on a disease category survey of school children enrolled in special schools and special classes for the students with chronic illness and weak across Japan. When the periods after 2007 and after 2013 are compared, there is an increase in “behavioural disorders such as psychosomatic diseases”, including diseases such as organic brain disease, psychosis, neurosis and anorexia, and developmental disorders and non-attendance of school. Updating the information to manage the

diversification of diseases in the various scenarios for educating the students with chronic illness is also a challenge.

A previous study by Fukuda et al. (2007) has suggested that the level of knowledge and experience through academic training is also a factor in the willingness to help. In this survey, most of the respondents had some anxiety regarding the support for students with chronic illness and their attitude toward the wishes of the students and their families, but they tended to respect the wishes of the families proactively. Even in this case, the anxiety of the teachers' group with training experience was significantly lower, which confirmed the success of the training. On the other hand, a significant difference was not observed for Teaching experience. In a survey conducted by Yoshtoshi et al. (2017), the anxiety of teachers with less experience was found to be higher regarding "Daily life guidance based on understanding the medical condition of the student" and "Responding to sudden changes in medical conditions". One of the factors for the differences in results is considered to be the fact that more than 70% of the respondents of this study were teachers without experience in providing support; hence further research is needed.

Finally, regarding the support required for students with chronic illness, the responses of about 80% of the teachers were "Understanding the student" and "Mutual understanding with the parents" regarding intra-school collaboration, "Human support" regarding learning support, "Restrictions and points to remember in school life" regarding information, and "Response to bad health condition". We can say that the teachers recognized the necessity of content for understanding and responding to the actual situation of children based on cooperation with the families. The need to exchange and share information between schools and families to support students with chronic illness has been repeatedly pointed out before (ex. Enomoto, et al., 2012). On the other hand, Murakami (2006) has pointed out that students with chronic illness enrolled in mainstream schools, where most students do not have any disease, are likely to face significant psychological burdens. However, as Nakamura et al. (2014) stated, there are

many cases in which students with chronic illness feel that "there is no involvement of teachers in their illness" and that "their satisfaction with school life would improve if they had support from other children"; hence both teachers and medical professionals need to understand the feelings of students with chronic illness and their school life situation, in addition to treatment and disease management. Aoji and Miyai (2016) pointed out that for students with chronic illness to overcome challenges in classroom learning and interpersonal relations and have a more fulfilling school life, class teachers and school nurses should provide full support according to individual needs. According to the results of a study by Hiraga (2006), one of the reasons why teachers find it difficult to provide educational support to students with chronic illness in regular classrooms is "explaining the situation to classmates and their parents", and relationships with other children can also be considered an essential factor. However, the response "Understanding from other children" was low in this study, and we must not forget the perspective of support from a psychological aspect of the student in addition to the disease.

At the same time, the opinion "Use of ICT devices" as learning support was in the minority (September 20, 2018, Notification No. 837 issued by the Director of Elementary and Education Bureau of the MEXT) was issued in 2018 for learning support, which is an important component of school life. The notification indicated that children undergoing medical treatment in hospitals or at home could receive distance learning support by connecting with teachers and friends through simultaneous interactive class delivery and is considered for attendance in the teaching records, thus promoting an environment that guarantees educational opportunities. However, the results of this study show that for support considered necessary by teachers, "Human support" and "Use of individualized teaching materials" accounted for more than half the responses, and not much importance was given to the "Use of ICT equipment". In the future, new support methods will be required to meet the needs of the times, and the provision and sharing of information will become indispensable. This will be important given the

current COVID-19 pandemic as children with chronic health conditions are more susceptible to complications and need to be more careful in this environment.

Conclusion

This study clarified the situation of support provided to students with chronic illness, as well as self-assessment and awareness among elementary and junior high school teachers while examining the relationship with their teaching experience and training. The progress in the field of medicine has also contributed to the diversification of education. In particular, the subjects for educating the students with chronic illness are diverse, just providing training is unlikely to achieve the essential outcomes of reducing vague anxieties and increasing motivation for involvement in support, and there is a need for continuous training to meet such realities. Today, all persons preparing to obtain a teaching license are required to complete a course on “Understanding Toddlers, Children and Students with Special Needs” (at least one credit) following the amendment of the Education Personnel Certification Act and the Enforcement Regulations of the Act (Effective April 1, 2019). In the past, there were few opportunities to learn about students with chronic illness, except for those who were preparing to obtain a teacher’s license for special schools. If opportunities are available to learn about educating the students with chronic illness from the undergraduate education stage, we can expect that they will be able to imagine the considerations required for teaching. However, gaining sufficient knowledge with just some study time in a one-credit course may be extremely difficult. A significant challenge for supporting students with chronic illness in Japan is to ensure opportunities for providing continuous information at the teacher training stage and to teachers who are employed at present.

Funding

This study was supported by JSPS KAKENHI [Grant Number 19K02913 and 19K14298].

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