

Original paper

School Nurse's Attitudes toward Children with Asthma

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Abstract

Recently asthma has become the most common chronic condition in children in Japan. The purpose of this study was to find out the current situation of school health nurses who are the key health care providers for students with asthma in schools. Randomly selected school nurses (n=200) in Okayama prefecture were sent a letter asking them to participate in this survey. The results show a significant difference between the nurses with a R.N. (Registered Nurse)-license and the nurses without a R.N.-license in terms of their education and the management of the children with asthma. It was found that school nurses required updated information and opportunities for continuing asthma education. To meet these demands, the schools may need to put additional personnel in place for support.

Introduction

Children with asthma have increased in elementary school by 2.7% and in middle school by 2.2% during the last 10 years in Japan [1]. The school nurse is the individual with primary responsibility for coordinating other health care professionals, teachers and parents for meeting the health care needs of children. Thus, the school nurse's handling of students with asthma is crucial to the student's participation in school learning activities. The purpose of this study is to assess the school nurses' attitudes towards children with asthma, and to assess the scope of practice and management of students with asthma in relation to the presence of R.N licensure.

Methods

We visited 6 public elementary and middle schools in Okayama city and had a dialogue with a nurse in each school concerning the students with asthma. Based on these interviews and Horiuchi's study [2] with some modifications, the research questionnaires were made (Table 1). Survey content included 6 sections asking the respondents questions related to the presence of R.N licensure (Table2 and Fig.1).

Random selections yielded 200 school nurses, consist of 130 elementary schools and 70 middle schools in Okayama prefecture who were sent a letter asking their consent to be included in this survey. Surveys were then distributed by direct mail on September 6, 2003 with returned envelopes provided and the response

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requested by September 30, 2003. Of 200 surveys distributed, 155 were returned, yielding a participation rate of 77.5%. The data were analyzed using SPSS 11.0 and the X^2 was used for analyzing the groups in relation to R.N licensure in which the respondents who had not answered being eliminated. A p value less than 0.05 was considered as the significant level in this study.

Results

The participants worked in elementary schools (73.1%) and middle schools (85.7%). Their years of school service ranged from less than 5 years (7.7%) to over 21 years (69.0%). Among the respondents (n=155), the possession of 48(31.0%) had a R.N. license while 107(69.0%) did not (Table 1).

Percentage distribution of characteristics:

School nurses who recognized an increased number of children with asthma were 57.4%. The majority of the school nurses (65.2%) reported that their schools did not provide and teach asthma management. Positive responses were given by 31.0% of the school nurses; 72.7% of whom answered that this teaching was done by school nurses and 27.3% of whom said it was done by homeroom teachers (Table 1). There was a significant difference in responding to the question "Does your school provide and teach asthma management?" between R.N.-licensed school nurses; 45% of whom said Yes while 55% said No, and non-R.N. school nurses, who responded Yes 27% and No 73% ($p < 0.05$, Fig.1). However, the majority of school nurses reported having an interest in providing the asthma education (93.6%). The majority of respondents (73.5%) have been asked for advice on asthma managements by parents (n=78), homeroom teachers (n=70), students (n=52) and others. The school nurse consulted most with school physicians (n=110), followed by primary physicians (n=86), colleagues (n=56), principals (n=18) and others (n=7, Table 1).

Educational needs of school nurses in relation to updating the knowledge, interaction with other staff and school activities:

The majority of school nurses worried about managing the students with asthma (72.9%) while the rest reported not to be worried (27.1%). There was no significant difference between the groups who were R.N.s and non-R.N.s (Table 2). As to the source of information to improve their knowledge, nurses obtained the most from journals and books (n=136), followed by educational training (n=79), primary physicians (n=43), principals (n=42), newspapers (n=29) and others, (n=21) for examples TV, internet, physician friends and colleagues (Fig.2 and 3). The majority of respondents had no plan, nor had scheduled an educational program for asthma managements in the year 2003 (91.6%). There was only 6.5% positive response. There was no significant difference between the groups with a R.N and the non-R.N (Table 2) on the same question. The majority of school nurses responded that they had no opportunity available for getting new information(n=33) when asked what was the reason for having difficulty planning asthma education and management (Fig.3). This was followed by no time available (n=16), no resources available (n=11), poor communications with other staff (n=7), uncooperative parents (n=6), uncooperative homeroom teachers (n=2) and others (n=11). Their responses included feeling of restriction in the management and difficulty in communicating with parents or guardians. The presence of exercised-induced asthma that was not easily managed was 54.8% (Table 1). During summer camp, 62.6% reported difficulty in management. Of 55 cases reported freely by the participants (Table 3), most concerned problems, in order of frequency were in camp relating matters (43.6%), followed by psychological caring (18.2%), communicating with parents, other professionals and staff (12.7%), suction and the use of equipment, administration of medications (10.9%), managing students with acute asthma attacks (9.1%), and others (5.5%). The details of the frequency of the problems were 14 cases of camping concern, 7 cases of suction and medication, 3 cases

Table 1 Characteristics of survey respondents (n=155)

Years of school health experience		Frequency of having been asked the advice of asthma managements	
< 5 years	12 (7.7%)	Often	5 (3.2%)
6-10 years	11 (7.1%)	Sometimes	109 (70.3%)
11-20 years	29 (18.7%)	Never	41 (26.4%)
21-plus years	103 (69%)		
Licensed as RN		Who comes to you often for the advice? (more than one choice was allowed)	
Yes	48 (31.0%)	Parents (care- takers)	78
No	107 (69.0%)	Homeroom teachers	70
Apparent increase or decrease in numbers of children with asthma in school		Students	52
Increased	89 (57.4%)	Principal	3
Decreased	6 (3.9%)	Other staff	3
Unchanged	56 (36.1%)	School physician	1
Do not know	4 (2.6%)		
Does your school provide and teach asthma management at school?		With whom do you discuss the problems being brought by the students and/or parents? (more than one choice was allowed)	
Yes	48 (31.0%)	School physician	110 (39.4%)
No	101 (65.2%)	Primary physician	86 (30.8%)
No answer	6 (3.8%)	Colleagues (school nurses)	56 (20.1%)
If you answer "yes", who teaches the problem?		Principal	18 (6.5%)
Homeroom teacher	42 (27.3%)	Others	7 (2.5%)
School nurses	113 (72.7%)	None	2 (0.7%)
Have interests in providing asthma education		Do you worry about managing students with asthma?	
Yes, greatly	24 (15.5%)	Yes, greatly	9 (5.8%)
Yes, moderately	121 (78.1%)	Yes, moderately	104 (67.1%)
No	10 (6.4%)	No	42 (27.1%)
If you answer "no", what is the reason?			
Asthmatic students are few	2 (20.0%)		
Capable of handling by themselves	8 (80.0%)		

Do you have difficulties managing students with asthma during summer camp?

Yes, often	5 (3.2%)
Yes, sometimes	92 (59.4%)
No, not at all	52 (33.5%)
No answer	6 (3.9%)

Scheduled the educational program for asthma management in the year 2003

Yes	6 (3.9%)
Planning	4 (2.6%)
No, and no plan	142 (91.6%)
No answer	3 (1.9%)

Do you have difficulties managing students with asthma during exercises (exercise-induced asthma)?

Yes, often	1 (0.6%)
Yes, sometimes	84 (54.2%)
No, not at all	66 (42.6%)
No answer	4 (2.6%)

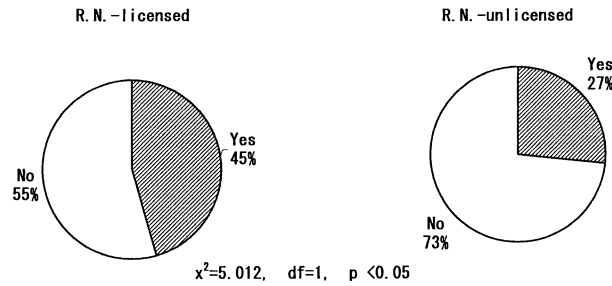


Fig. 1 Does your school provide and teach asthma management at school?

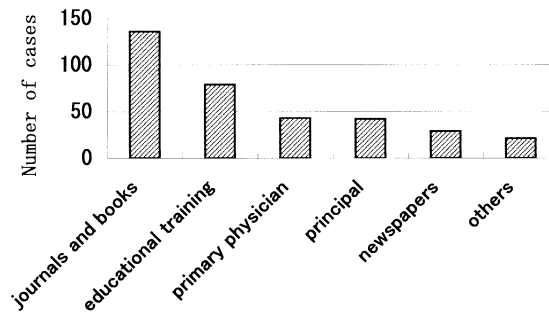


Fig. 2 Source of information

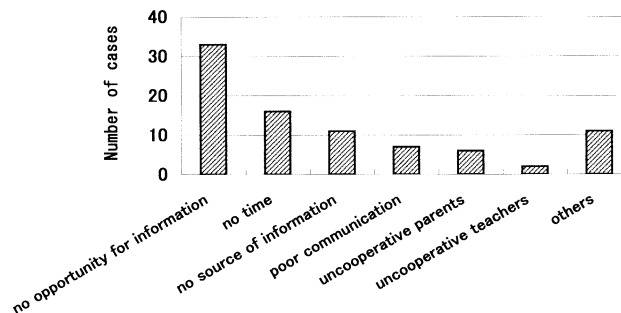


Fig. 3 The reasons for having difficulty planning asthma education and management

Table 2 Response of subjects with and without RN Licensure

1. Apparent increase or decrease in numbers of children with asthma at school			
	Increased	Decreased	Total
R.N.-licensed	27 (17.9%)	20 (13.2%)	47 (31.1%)
R.N.-unlicensed	62 (41.1%)	42 (27.8%)	104 (68.9%)
Total	89 (59.0%)	62 (41.0%)	151
			* n.s
* n.s=non significant			
2. Have interest in providing the asthma education			
	Yes	No	Total
R.N.-licensed	44 (28.6%)	3 (1.9%)	47 (30.5%)
R.N.-unlicensed	101 (65.6%)	6 (3.9%)	107 (69.5%)
Total	145 (94.2%)	9 (5.8%)	154
			n.s
3. Frequency of having been consulted regarding asthma management			
	Consulted	Not consulted	Total
R.N.-licensed	36 (23.4%)	11 (7.2%)	47 (30.6%)
R.N.-unlicensed	78 (72.9%)	29 (18.8%)	107 (69.4%)
Total	114 (74%)	40 (26.0%)	154
			n.s
4. Worry about managing students with asthma			
	Worry	Do not worry	Total
R.N.-licensed	34 (22.2%)	13 (8.5%)	47 (30.7%)
R.N.-unlicensed	79 (51.6%)	27 (17.6%)	106 (69.2%)
Total	113 (73.9%)	40 (26.1%)	153
			n.s
5. Scheduled the educational program for asthma management in the year 2003			
	Yes, and planning	No, and no plan	Total
R.N.-licensed	6 (3.9%)	41 (27%)	47 (30.9%)
R.N.-unlicensed	4 (2.7%)	101 (66.4%)	105 (69.1%)
Total	10 (6.6%)	142 (93.4%)	152
			n.s

concerning correspondence (Table 3).

Discussion

To assess the school nurse's attitudes toward students with asthma

School nurses have numerous and varied responsibilities that affect their ability to provide comprehensive health education and support services to children with asthma. School nursing includes two types of roles:

Table 3 Problems concerned with handling of asthma students (n=55), A and the detail of camping relating problems (n=24), B

A.	
Camp relating	24 (43.6%)
Psychological care	10 (18.2%)
Communication with parents, other professionals and staff	7 (12.7%)
Suctioning and the use of equipment, medications	6 (10.9%)
Management of acute exacerbation	5 (9.1%)
Others	3 (5.5%)
B.	
Camping in general	14 (58.3%)
Suction and administration of medications	7 (28.2%)
Correspondents concern	3 (12.5%)

the reactive role and the proactive role [3]. The reactive role serves the basic health maintenance of the school population with activities usually mandated by law, and the proactive role serves to enhance the health of the entire school. It includes counseling, education and management. Therefore, we may say from the survey that school nurses have served with the reactive role and have had little time for the proactive role. School nurses are the main consultant for parents, teachers and students concerning the health care needs of students with asthma (73.5%). This suggests the necessity for professional preparation if school nurses are expected to meet their demands. Many school nurses worried about managing students with asthma (72.9%), and they asked for new information and knowledge to prepare themselves. Most of the time, school nurses were getting information from journals and books in their school health services, but this might not be enough to cover their needs. They also complained of the difficulty in finding time. These may be the factors relating to a lack of confidence in management. Since the number of children with asthma is increasing, and the philosophy and practice of asthma care has changed tremendously in a relatively short period of time, there is a need for nurses to be well prepared to provide nursing care in school settings [4]. Only 6.5% of school nurses scheduled an educational program for asthma management in the year 2003. This rate is too little and it should be increased with help from other school personnel or help from outside personnel if necessary.

In optional sections (Table 3), there were 13 cases concerned with suction, the use of equipment, and the administration of medications. In the response from Table 1 from those having no interests in providing asthma education (n=10), eight respondents stated the reason was because of the student's ability to control themselves. This is a risky thought since asthma triggers vary from child to child. Even in the same child, we may find it difficult to control since the strategies may include objects as well as physical activities [5]. To effectively control asthma symptoms, school nurses must be competent to administer medicine and able to handle cases of acute asthma exacerbation. Continuing education is needed to update their knowledge.

To assess the management of students with asthma in relation to the presence of R.N licensure.

The survey shows that there was no significant difference between the groups who were R.N.-licensed and the group who were not, on five out of six questions (Table 2). However, there was a significant

difference between the two groups in providing and teaching management for students with asthma (Fig.1). Approximately 1/3 of school nurses were R.N.-licensed (n=44), and almost half of this group had positive responses. The other half had negative responses on the question described. Two-thirds of school nurses were not R.N.-licensed (n=105), and the majority of this group had negative responses. This suggests that R.N.-licensed school nurses have more positive attitudes on the management of students with asthma. This may be due to their educational background and experience. It will be necessary to discuss this with school nurses to understand the situation better since the majority of school nurses are interested (94.0%) in providing asthma education. In Japan, we differentiate between those who are practicing as school nurses and R.N.s hired specially for R.N. restricted jobs. The term "school nurse" and their role are not quite defined. In Japan, not all school nurses are graduates from a nursing school. The National Association of School Nurses in the U.S.A has determined that the minimum qualifications for the professional school nurse should include licensure as a registered nurse and a baccalaureate degree from an accredited college or university [6]. The New York State Association of School Nurses supports the law that requires R.N. as school nurses, since the practice of nursing in the school setting requires a broad theoretical background with concepts of community and public health nursing as well as knowledge of teaching/learning theory [7]. In this study, we had a case where the participant wrote that she was not able to help a child with suctioning because of not being licensed as a R.N.(data not shown). School nurses can do the following routine health related activities as well as first aid under the current regulations in Japan: 1) suction of oral cavities going no further than the pharyngeal portion, 2) tube feeding under stable conditions where there is no coughing, no vomiting, no wheezing, and 3) assist urethral self-catheterization [8]. We have heard recently that homeroom teachers and other school staff are allowed to suction if the following three conditions are satisfied: 1) they have an informed consent by the family, 2) they have a physician's order and 3) they have satisfactory training. This will give assurance to the child and families. The term "Normalization" has been spread widely and children with special health needs are admitted or transferred from special school to the regular school classroom. But our study had a case reported where there was a difficulty of staying in the regular school due to the frequent exacerbation of asthma attack. The child was forced to transfer to a special school in spite of the parent's wish for them to stay in the regular school. Such a child might be accepted in regular school if there were an extra R.N. to cover and assist the nurse on a daily basis, or by visiting nurses on demand.

Conclusions

1. School nurses do not have any spare time or opportunities for educational training to increase their knowledge and getting new information. An extra nurse or visiting nurse is needed to cover the time for the school nurse's educational leave and for support.
2. An increasing number of children with special needs are entering regular school. This necessitates further support for school nurses.
3. There was a significant difference between the group with a R.N.-licensed school nurses and the group without the R.N. license on providing and teaching management for students with asthma at school.

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