

Epilepsy versus Asthma Perceptions among Preschool Teachers in Taiwan – Past versus Present

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BACKGROUND

Epilepsy and asthma are two common chronic illnesses of childhood. Children with a chronic illness (especially epilepsy) have a greater risk of psychological or behavioral disturbance than healthy children^(1,2). It is well known that many children with epilepsy perform poorly in school because of the negative effects of medications and psychosocial factors⁽³⁻⁵⁾.

Many past surveys of schoolteacher attitudes have shown a general awareness of epilepsy and misperception of the specific problems. In addition, most teachers underestimate the academic abilities of children with epilepsy⁽⁶⁾.

Our study in 2001 investigated preschool teachers' attitudes and perceptions of children with epilepsy and asthma; the results revealed very different perceptions of these two chronic illnesses. More teachers thought that epilepsy was a hereditary disease and that epileptic seizures were associated with insanity. They were significantly less accepting of children with epilepsy than of children with asthma, and encouraged them less to play with others. Teachers paid more attention to the aggression of children with epilepsy and worried about the objections from other parents to the presence of a child with epilepsy in the class⁽⁷⁾.

Despite recent advances in the management of

epilepsy, the disease remains a public health problem with relevant social cultural implications. Although several studies indicate an increasing awareness of the disease, attitudes toward epilepsy by a substantial fraction of the general population remain negative⁽⁸⁾. The purpose of this survey of preschool teachers in Taiwan was to assess the change in their attitudes and perceptions toward children with these diseases in the last 12 years.

MATERIAL AND METHODS

The present questionnaire was identical to the one used in our previous study in 2001. It included 22 paired questions about perceptions of epilepsy and asthma and followed the same knowledge, attitude, and practice (KAP) format used in many other previous investigations of public perceptions. Questions about children's school life problems identified in previous research were also included in this questionnaire. One question about epilepsy was paired with the same question about asthma. Agreement among all participants was also investigated.

A stratified, random sample of preschools was selected from 25 areas in Taichung City. Ten preschools were in original Taichung city urban area and others were in Taichung county. After the researcher calls the school supervisor to obtain consent, the research assistant will send the questionnaire and small gifts to the school.

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Preschool teachers in selected school were invited to fill out the questionnaire. According to the regulations of the Ministry of Education, preschool teachers must have a college degree or above. The research assistant is also responsible for retrieving all questionnaires.

Totally, 300 preschool teachers were sent questionnaires and 274 responded, resulting in a response rate of 91.3%. The average age of teachers was 32.6 + 8.1 years (range 19–54). Only 2 of the 274 responders were male, and 85.3 responders at least bachelor's degree. The average number of years of service was 8.6 + 7.0 years (1–32).

RESULTS

General finding in the recent survey

The researcher used the t-test for data analysis and found that there was a significant difference of teachers' knowledge, attitude, and practice between the past and recent group. In our recent survey, the causes of epilepsy and asthma were perceived differently. Comparing epilepsy to asthma, more teachers thought epilepsy was a hereditary disease ($M=2.25$ vs 2.11) and associated with insanity ($M=2.24$ vs 1.89) and fewer teachers thought it was an acquired disease ($M=2.01$ vs $M=2.42$). The

relationship between insanity and the two diseases was different (Table 1).

Participants were asked 6 pairs of questions (questions 7–18) to elicit teachers' attitudes toward children with epilepsy and asthma. Teachers were significantly less likely to accept children with epilepsy ($M=2.83$) than children with asthma ($M=3.01$). To the question "Will you encourage other children to play with a child with epilepsy (or asthma)?", less teachers answered yes ($M=3.41$) to encouraging play with an epileptic child than play with an asthmatic child ($M=3.44$). Regarding provision of special physical and emotional care, teachers tended to give both physical and emotional support to ill children, regardless of whether they had epilepsy or asthma. To the question "Do you worry about aggression from a child with epilepsy (or asthma)?", significantly more teachers answered yes to worry about aggression by the epileptic child ($M=2.16$) than by the asthmatic one ($M=1.94$). Questions 17 and 18 compared teachers' worries about parental attitudes. Significantly more teachers worried more about parental attitudes if the child had epilepsy ($M=2.28$) than if the child had asthma ($M=2.09$) (Table 2).

Four questions (No. 19–22) were asked about their actual experience with children with epilepsy and asthma. Teachers' responses to the question "Can you manage

Table 1. Comparison of teachers' knowledge to epilepsy and asthma

| Questions(1-6) | t-value | |
|---|----------|-----------|
| | 2001 | 2013 |
| Epilepsy (or asthma) is a hereditary disease. | 4.15*** | 4.34 *** |
| Epilepsy (or asthma) is an acquired disease. | -9.38*** | -12.76*** |
| Epilepsy (or asthma) is associated with insanity. | 5.14*** | 8.96*** |

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 2. Comparison of teachers' attitudes to children with epilepsy and asthma

| Questions (7-18) | t-value | |
|--|----------|----------|
| | 2001 | 2013 |
| Acceptance of a child with epilepsy (or asthma) in the class | -5.59*** | -7.69*** |
| Action of encouraging other children play with the child with epilepsy (or asthma) | 2.35* | -2.41* |
| Special physical care to the child with epilepsy (or asthma) | 0.00 | -1.67 |
| Special emotional care to the child with epilepsy (or asthma) | 0.58 | 1.77 |
| Worry of aggression by the child with epilepsy (or asthma) | 4.40*** | 3.46*** |
| Worry of objection by other kids' parents to the child with epilepsy (or asthma) | 6.71*** | 8.66*** |

* $p<0.05$, ** $p<0.01$, *** $p<0.001$

Table 3. Comparison of teachers' practice to children with epilepsy and asthma

| Questions(19-22) | t-value | |
|--|---------|----------|
| | 2001 | 2013 |
| Ability of managing the child with epileptic seizure (or asthma attack) before going to the hospital | 1.92 | 0.19 |
| Enough resources for understanding knowledge of epilepsy (or asthma) | -2.24* | -4.38*** |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

children with epileptic seizures before they are taken to the hospital" (M=2.62, SD=0.71) were similar to the responses to the question "Can you manage children with asthma attacks" (M=2.61, SD=0.68). However, the responses to the question "Do you have enough resources for understanding these two diseases?" seemed to indicate that significantly more teachers had resources for understanding asthma (M=2.55) than for understanding epilepsy (M=2.46)(Table 3).

Change in attitudes and perceptions after 12 years

In response to the question "Do you agree with the statements: epilepsy (asthma) is a hereditary disease?", the percentage of preschool teachers agreeing with these statements was higher now than 12 years ago. Past and present responses to our questionnaire differed significantly. There were more teachers (M=2.01) in the recent survey than in the past survey who agreed with the statements "Epilepsy is an acquired disease" (M=1.35) and "Asthma is an acquired disease". The level of agreement was higher in the recent survey (M=2.42) than in the previous one (M=1.75). The percentage of teachers holding the view that these were insanity-related illnesses remained unchanged between the two surveys.

Our investigation of teachers' attitudes to epilepsy and asthma showed that more teachers currently (vs 12 years ago) were willing to accept children with epilepsy (M=2.83, SD=0.69 vs M=2.72, SD=0.73) and asthma

(M=3.01, SD=0.607 vs M=2.94, SD=0.64) into their classes. Results indicate that teachers' encouragement of other children to play with their epileptic counterparts or asthmatic counterparts has remained unchanged over the last 12 years. Both surveys similarly showed that teachers tended to provide the same care to epileptic or asthmatic children as they did to other children and that most teachers did not give special in-class physical or emotional care to children with these illnesses.

Responses to the question "Do you worry about aggression by asthmatic children", indicated a decline in the level of worry (from M=2.01 to M=1.94). It seems that increased understanding of the characteristics of the illness has reduced the level of worry. Responses to the question "Do you worry about aggression by epileptic children", showed a very small decline in the level of worry (from M=2.17 to M=2.16).

Teachers' concerns about the objections of other kids' parents to inclusion of epileptic children in the classroom also declined significantly between the two surveys (from M=2.40 to M=2.28). The recent survey indicated that teachers now communicate with parents more confidently and worry less about the objections of parents of other children. Teachers today (compared to 12 years ago) think that they have a significantly better understanding of epilepsy (M=2.46, SD=0.71) and asthma (M=2.55, SD=0.71) (Table 4).

Table 4. Comparison of teachers' concepts to epilepsy and asthma during 12 years

| Questions (1-6) | 2001 | | 2013 | | t-value |
|-----------------------------------|------|-----|------|-----|-----------|
| | M | SD | M | SD | |
| Knowledge | | | | | |
| Epilepsy is a hereditary disease. | 1.74 | .43 | 2.25 | .83 | -13.95*** |
| Asthma is a hereditary disease. | 1.56 | .49 | 2.11 | .86 | -14.84*** |
| Epilepsy is an acquired disease. | 1.35 | .48 | 2.01 | .83 | -20.53*** |

Table 4. Comparison of teachers' concepts to epilepsy and asthma during 12 years (Countinue)

| Questions (1-6) | 2001 | | 2013 | | t-value |
|---|------|-----|------|------|-----------|
| | M | SD | M | SD | |
| Asthma is an acquired disease. | 1.75 | .43 | 2.42 | .81 | -22.99*** |
| Epilepsy (or asthma) is associated with insanity. | 2.19 | .86 | 2.24 | .95 | -.80 |
| Asthma is associated with insanity. | 1.87 | .74 | 1.89 | .78 | -.33 |
| Attitudes | | | | | |
| Acceptance of a child with epilepsy in the class | 2.72 | .73 | 2.83 | .69 | -2.98** |
| Acceptance of a child with asthma in the class | 2.94 | .64 | 3.01 | .60 | -1.93* |
| Action of encouraging other children play with the child with epilepsy | 3.42 | .55 | 3.41 | .58 | .48 |
| Action of encouraging other children play with the child with asthma | 3.46 | .52 | 3.44 | .56 | .90 |
| Special physical care to the child with epilepsy | 3.49 | .52 | 3.44 | .55 | 1.80 |
| Special physical care to the child with asthma | 3.49 | .52 | 3.46 | .56 | 1.06 |
| Special emotional care to the child with epilepsy | 3.39 | .56 | 3.38 | .61 | .51 |
| Special emotional care to the child with asthma | 3.38 | .59 | 3.36 | .63 | .89 |
| Worry of aggression by the child with epilepsy | 2.17 | .76 | 2.16 | 1.57 | .18 |
| Worry of aggression by the child with asthma | 2.01 | .72 | 1.94 | .72 | 2.14* |
| Worry of objection by other kids' parents to the child with epilepsy | 2.40 | .84 | 2.28 | .84 | 2.94* |
| Worry of objection by other kids' parents to the child with asthma | 2.15 | .77 | 2.09 | .78 | 1.85 |
| Practice | | | | | |
| Ability of managing the child with epileptic seizure before going to the hospital | 2.63 | .76 | 2.62 | .71 | .39 |
| Ability of managing the child with asthma attack before going to the hospital | 2.55 | .72 | 2.61 | .68 | -1.62 |
| Enough resources for understanding knowledge of epilepsy | 2.34 | .79 | 2.46 | .71 | -3.30*** |
| Enough resources for understanding knowledge of asthma | 2.41 | .75 | 2.55 | .71 | -3.62*** |

*p<0.05, **p<0.01, ***p<0.001

DISCUSSION

Compared with our past study, our present study shows a greater willingness of teachers to accept children with both epilepsy and asthma, which may reflect the greater a willingness of teachers to accept special needs children overall. Preschool teachers also found more resources for understanding knowledge of epilepsy in the past 12 years. It showed that understanding and awareness of the epilepsy and asthma were improved in our societies. Another possible explanation is that the special education

law in Taiwan has mandates acceptance of all kinds of students⁽⁹⁾ thereby promoting acceptance of children with epilepsy by other students.

Though in this study and previous studies⁽¹⁰⁻¹³⁾ some preschool teachers still thought of epilepsy as a hereditary disease associated with insanity, the prevalence of this view has significantly decreased since the last study 12 years ago. The results suggest that availability of information about epilepsy in school is improving, but more information about caring for epileptic children is needed. Past research indicated that poor education

affected personal knowledge of the disease, the belief that epilepsy is a mental disorder or even a form of insanity, and was a reason to prohibit driving and procreation⁽⁸⁾. However, as we mentioned in the previous paragraph, most preschool teachers at least bachelor's degree in this study but well-educated teachers probably still have some misconception of epilepsy. The provision of continuing education for disease care is necessary.

When comparing the results of recent survey to the 2001 survey, no matter in the past or present, results showed that teachers' acceptance of children with asthma was greater than teachers' acceptance of children with epilepsy. Thus the concerns of patients and their parents about adapting to school life were quite reasonable and may explain the lower school performance of children with epilepsy. Previous studies have shown a correlation between teachers' attitudes and their knowledge⁽¹⁴⁾. A Korean study revealed that teachers' knowledge was the most important factor influencing their attitude toward epilepsy⁽¹⁵⁾. Another study found up to one half of teachers opposed having children with epilepsy in their class because they feared the child would have a seizure during class and they would not know how to manage the seizure⁽¹⁰⁾. All these studies indicates that understanding of the disease maybe not enough, sufficient resources and support can improve teachers' acceptance and willingness.

The teachers were targeted because of the importance of school in the life of children. Because of their daily contact with children with chronic illness, teachers are in the ideal position to promote self-esteem and a positive attitude toward the condition^(7,16,17). The risk of achievement problems was previously reported to be higher among children with chronic epilepsy than children with other chronic disorders^(18,19). Teachers can play a crucial role in promoting positive attitudes toward children with epilepsy. We are pleased to find that teachers' knowledge, acceptance, and resources to diseases had progressed after twelve years. Progress on the concept of illness is seen as an important driver of health care. More education will be needed to reduced discrimination against chronic children. Appropriate understanding of illness especially for epilepsy can play an important role in improving the adaptability of school-age children with chronic diseases.

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