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Japanese paediatricians' judgement of the appropriateness of bathing for children with colds

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Objectives. This study investigated the decisions which Japanese paediatricians make regarding bathing a child with a common cold.

Methods. A total of 486 printed questionnaires were mailed to paediatricians systematically sampled from the list of members of the Japanese Pediatric Association. The questionnaire included two main questions. (i) Do you permit a 2- to 4-year-old child with a common cold to take a bath? (ii) If the answer to (i) was 'yes', what conditions should limit bathing of such children, and if the answer was 'no', why do you forbid bathing? In addition, the questionnaire included the age and sex of the practitioner, and the type and location of the practice.

Results. A total of 269 paediatricians returned questionnaires (response rate 55%); of these, 88% permitted a child with a cold to take a bath. Of these paediatricians, 5% permitted it without any conditions. The main conditions for taking a bath indicated by these paediatricians were 'no fever' (72%), 'not in a severe physical condition' (27%) and 'after 2 or 3 days from onset' (19%). Thirty-nine paediatricians indicated a specific body temperature at which bathing was appropriate. One-third of these paediatricians did not permit bathing at body temperatures above 38°C. Of the 31 paediatricians (12%) who answered that a child with a cold should not take a bath, 61% were concerned for the physical well-being of the child. However, 29% provided no supporting evidence.

Conclusions. Japanese paediatricians' judgements concerning bathing of a child with a cold are related to the effects of bathing on physical condition. Bathing immersed up to the neck does not always affect physical conditions. It is necessary to establish appropriate parental and patient education concerning bathing of children with colds.

Keywords. Bathing, child, cold, judgement, paediatricians.

Introduction

The common cold accounts for a large proportion of visits to paediatricians. The average pre-school child experiences 6–10 colds per year. It is essential for paediatricians to have both a standard medical education and knowledge of parental self-care activities relating to the common cold. Bathing in hot water immersed up to the neck for purposes of hygiene and relaxation is a custom enjoyed by the Japanese. Seventy-eight percent of Japanese parents say that they do not feel well if they are not able to take a bath every day.[1] Many parents ask paediatricians whether or not a child with a cold should have a bath. Research has shown that Japanese immersion-style bathing in water at 42°C increases the respiratory rate, blood pressure, metabolic rate and body temperature.[2] Many Japanese paediatric textbooks and books on self-care of children therefore state that a child with a cold should not take a bath until completely well. However, 44% of 3-year-old children do take baths when they have a common cold.[1] This suggests a discrepancy between paediatricians' advice and parental bathing practices for children with colds. However, no studies regarding this discrepancy were found in a MEDLINE (1966–1998) and JMEDICINE (1980–1998) search.

The objective of the study was to determine what decisions Japanese paediatricians make regarding bathing of a child with a common cold.

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Methods

A total of 486 printed questionnaires were mailed to paediatricians selected from the list of members of the Japanese Pediatric Association by a systematic sampling method in January 1994. Every twelfth member was sampled, i.e. almost 8% of all members (5794 paediatricians). The questionnaire included two main questions. (i) Do you permit a 2- to 4-year-old child with a common cold to take a bath? (ii) If the answer to (i) was 'yes', what conditions should limit bathing of such children, and if the answer was 'no', why do you forbid bathing? In addition, the questionnaire included demographic data related to the age and sex of the practitioner, and the type and location of the practice. A common cold was defined as a disease with one or more symptoms including cough, rhinorrhoea, nasal congestion and sore throat but without severe cough with dyspnoea, wheezing and purulent post-nasal drip. It was not necessary for a patient to have headache, arthralgia or fever. Upper respiratory infection and influenza were included among common colds because the common cold and influenza are both a type of viral infection, and it is difficult to distinguish between them in some cases. However, cases of asthma, allergic rhinitis, bronchitis, pneumonia, tonsillitis and sinusitis were not included.

One investigator (M.O.) made a list of the categories of the conditions which should limit bathing of a child with a cold and the reasons to forbid bathing. Two other investigators (A.H. and S.O.) independently classified these conditions and reasons into the list. In cases of disagreement on classification, the consensus of these investigators was obtained after discussion.

Results

Of 486 surveys mailed, 285 (response rate 59%) were returned. Sixteen respondents did not answer all questions completely. After excluding these responses, 269 questionnaires (response rate 55%) were analysed.

Respondents had a mean age of 56.1 years (SD 11.7 years), range 30–83 years. The group aged 60–69 years was the largest, and included 34% of the respondents. Males accounted for 74%, almost three times the proportion of females. A total of 70 and 30% of the respondents worked in clinics and hospitals, respectively. The proportion of practices in Middle-Western Japan (Kinki) was slightly larger than those in other areas, which were almost the same.

Eighty-eight percent of the respondents permitted a child with a cold to take a bath. Of respondents who permitted bathing, 5% permitted it without any limitations, while 14% did not indicate conditions for bathing. The main conditions for allowing bathing were 'no fever' (72%), 'not in a severe physical condition' (27%) and 'after 2 or 3 days from onset' (19%) (Table 1).

TABLE 1 *The conditions under which paediatricians permitted children with colds to take a bath*

	n (%), *n* = 238
No limitation	11 (5%)
No description	34 (14%)
Symptom	
No fever	172 (72%)
Not in a severe physical condition	65 (275)
No severe cough or wet cough	33 (14%)
Good appetite or good oral hydration	24 (10%)
Mild symptoms or symptom free	13 (5%)
No diarrhoea or vomiting	9 (4%)
No severe rhinorrhoea or nasal stiffness	8 (3%)
Sign	
No chest physical findings	5 (2%)
No pharyngeal findings	5 (2%)
Time	
After 2 or 3 days from onset	44 (18%)
Attitude	
Parent not opposed to bathing	7 (3%)
Other conditions	10 (4%)

No respondent specified the type of bathing and the water temperature as a condition. Regarding fever, 39 paediatricians indicated a specific body temperature as a condition. Of these, 33, 41, 8 and 18% indicated '≥38.0°C', '≥37.5°C', '≥37.3°C' and '≥37.0°C', respectively.

Twelve percent of the paediatricians answered that a child with a cold should not take a bath. Of these, 61% indicated that bathing badly affects the physical condition of a child with a cold, while 29% based their decision on experience and custom.

Discussion

This study found that 88% of paediatricians permitted a child with a cold to take a bath. The main conditions on taking a bath were 'no fever', 'not in a severe physical condition' and 'after 2 or 3 days from onset'. In Japan, the most popular form of bathing is tub bathing, which combines wet and heat exposure and entails immersion of the body up to the neck. There have been no studies examining the effects of bathing on febrile children, while there is a small amount of research on healthy children and young people. During bathing at 42 or 40°C, the rectal temperature is elevated ~1°C (on average) in children.[3] The sweat and heart rates and the skin and core temperatures are increased in young people 10 minutes after the start of bathing at 40°C.[4] These

changes are induced by hydrostatic pressure and heat stress.[4] These findings suggest that judgements about whether or not a child with a cold may take a bath result from considering the influence of bathing on physical condition to be important. On the other hand, during bathing at 38°C, the rectal temperature increases slightly in children.[3] The sweat and heart rates and the skin and core temperatures are not changed in young people 10 minutes after the start of bathing at 34.5°C.[4] At these temperatures, it is possible that bathing does not affect physical condition. In Japan, the water temperature of the bath tub is usually between 38 and 42°C. Although no paediatricians responded that the temperature of the bath was a condition as to whether or not a bath could be taken in this study, most Japanese paediatricians regard bathing as immersion up to the neck in hot water. Therefore, it is possible that not all the pre-conditions placed on bathing by the paediatricians in this study are appropriate if children bathe in hot water at 38°C.

In this study, many paediatricians did not indicate specific body temperatures at which bathing was appropriate; only 39 pediatricians did so. Of these 39 paediatricians, one-third answered '>38°C', but two-thirds answered '<38°C' and, surprisingly, 18% answered '>37°C'. Japanese paediatricians usually evaluate fever using the axillary temperature. Fever is defined as a temperature above the normal range. An axillary temperature above 37.2°C is taken to indicate fever. Twenty-nine percent of doctors give a child antipyretics for temperatures >37.5°C, while 58% give them for temperatures >38°C.[5] Since the proportion of paediatricians in our study who indicated a specific temperature for permission to take a bath was small, it is difficult to compare these reports with the findings of our study. However, it appears that the temperature at which Japanese paediatricians would not permit a child to take a bath, is less than it is with regard to doctors' administration of antipyretics. Furthermore, our study found that 15% of paediatricians did not permit a child with a cold with a normal temperature to take a bath. In this study, 12% of paediatricians answered that a child with a cold should not take a bath. Of these paediatricians, 61% gave a reason. All such reasons concerned the physical well-being of the child, but almost 50% of the reasons included no supporting evidence. These findings suggest that Japanese paediatricians make inappropriate decisions on whether to permit a child with a cold to take a bath. Bathing has beneficial effects, i.e. relaxation and maintenance of comfortable conditions.[6] It will be necessary to determine the appropriate conditions for a child with a cold to take a bath and the appropriate water temperature.

Conclusion

It will be necessary to establish appropriate patient education concerning bathing of children with colds. Eighty-eight percent of Japanese paediatricians permitted a child with a cold to take a bath. Of these pediatricians, only 5% permitted it without any limitations. The main conditions paediatricians placed on taking a bath were 'no fever', 'not in a severe physical condition' and 'after 2 or 3 days from onset'. We suspect that paediatricians specified these conditions because they believe that bathing affects the physical conditions. Some paediatricians did not permit a child with a cold to take a bath even with a normal body temperature. Furthermore, of 31 paediatricians answering that a child with a cold should not take a bath, 29% presented no evidence for their belief. Judgements concerning bathing of children with colds thus appear to be made unreasonably. Bathing does not always affect physical conditions. It is possible for a child with a cold to take a bath safely under the appropriate conditions. Further studies are needed to resolve the problem on bathing of children with colds, since bathing is enjoyed greatly by many Japanese people.

Acknowledgements

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