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THE IMPACT OF USING DIAPERS ON CHILDREN'S ENURESIS IN ZHENGZHOU CHINA

Hypothesis / aims of study

The using diapers might impact the developing of voiding control in infant and children. The purpose of present study is to assess the impact of using diapers on children's enuresis incidence.

Study design, materials and methods

A cross-sectional study of using diapers was performed by distributing 6522 self-administered questionnaires to parents of 5 to 7-year-old children in 51 schools of Zhengzhou City, Henan province China. The questionnaire was filled by parents including information of age, gender, inhabitation (living in rural or urban areas), arousal dysfunction, using diapers data, enuresis data, physical or psychological disorders, daily behaviour to the toilet, and so on.

Results

The response rate of investigation was 86% (5609/6522) in which 5302 (81.3%) were qualified to enter the final statistical analysis. A total of 4822(90.95%) children used diapers after born and their enuresis incidence is 20.71% ; 436 (9.05%) children never use diaper and their enuresis is 9.05% , enuresis is significantly more in those who used diapers after born($P<0.001$) . Of all diaper-used children , 1438 children used only diapers in the night in whom 213(14.81%) of enuresis occurred daily ; 3199 children used diapers all day long , 614(19.19%) of enuresis occurred daily. The difference was statistically significant ($P<0.05$) . There are 4419 parents provided how long their children used diapers , 1266(28.65%) children used diapers from birth to about 1 year old, in whom 178(14.06%) have enuresis ; 1977(44.47%) used diapers till about 2 years old , in whom 302(15.28%) have enuresis ; 757(17.13%) used diapers till about 3 years old , in whom 202 (26.68%) have enuresis ; 249(5.63%) used diapers till more than 4 years old , in whom 84(33.73%) have enuresis , A significant difference is found between them ($P<0.001$).

Interpretation of results

This is the first investigation aim to find the association between diaper and enuresis, the investigation is still underway and the primary results show a significant impact of using diapers on the enuresis incidence. The reason of this might be related the decrease of voiding training chance to children who used diapers. At 12 years ago we had made an epidemiological study of PNE in Chinese children and find that PNE incidence in 5 to 8 years old children is about 10%, which is significant less than that in western country (more than 15% - 20% of children by the age of 5, which decreases to 1%- 2% by the age of 17). However, 19.56% incidence of enuresis is found in present study, significant increase comparing to those of 12 years ago. We strive to seek the reason, once again made epidemiological investigation again in the same city and found main reasons might be due to using diaper. Therefore, we collect the information of duration, frequency, usage of using diapers , age, gender, inhabitation (living in rural or urban areas), arousal dysfunction, associated daytime symptoms and family history as well as inquiry about how the infants and children were raised including whether using toilet training, and any urination and defecation function disturbance. The result indicated that more diapers that used the higher of the enuresis in children. Chi-square and rank analysis are used to analysis the above information, the differences are statistically significant. In recent 2 decades, a rapid growth in usage of diapers in mainland of China, and the diaper using do decrease the labour of parents to take care of the infants. From 1998 to 2016, the usage of diaper number increased from 0 to 24 billion. Considering the number of children included in this study is not enough to make detail analysis, more investigation is needed in the future, to find the relationship between the using of diapers and incidence of urinary incontinence in children.

Concluding message

Increasing using diapers might contribute to the increasing incidence of enuresis in children in China.

References

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Disclosures

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