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ABSTRACT

This pamphlet discusses strategies for reducing baby bottle tooth decay (BBTD) among Native American children. BBTD in infants and toddlers is a painful disease characterized by extensive decay of the upper front and side teeth. It is caused by prolonged exposure of teeth to carbohydrates, such as those contained in infant formula, milk, and fruit juice. Treatment for BBTD is painful and expensive as affected teeth must be capped, filled, or extracted, which sometimes involves sedating and hospitalizing the child. Long-term affects of BBTD include a higher incidence of orthodontic problems and psychological and social problems affecting children embarrassed over their appearance. Recommendations for effective community intervention programs include encouraging community members to participate in program development, training community members to act as peer counselors, and targeting caregivers. Other strategies include collecting data on the prevalence of BBTD at the local level and initiating a mass media campaign to raise community awareness of BBTD. Essential in developing an intervention program is assessment of community cultural belief systems to identify factors that have a direct impact on child-rearing practices. The document includes resources for additional information and a parent information sheet on BBTD. (LP)

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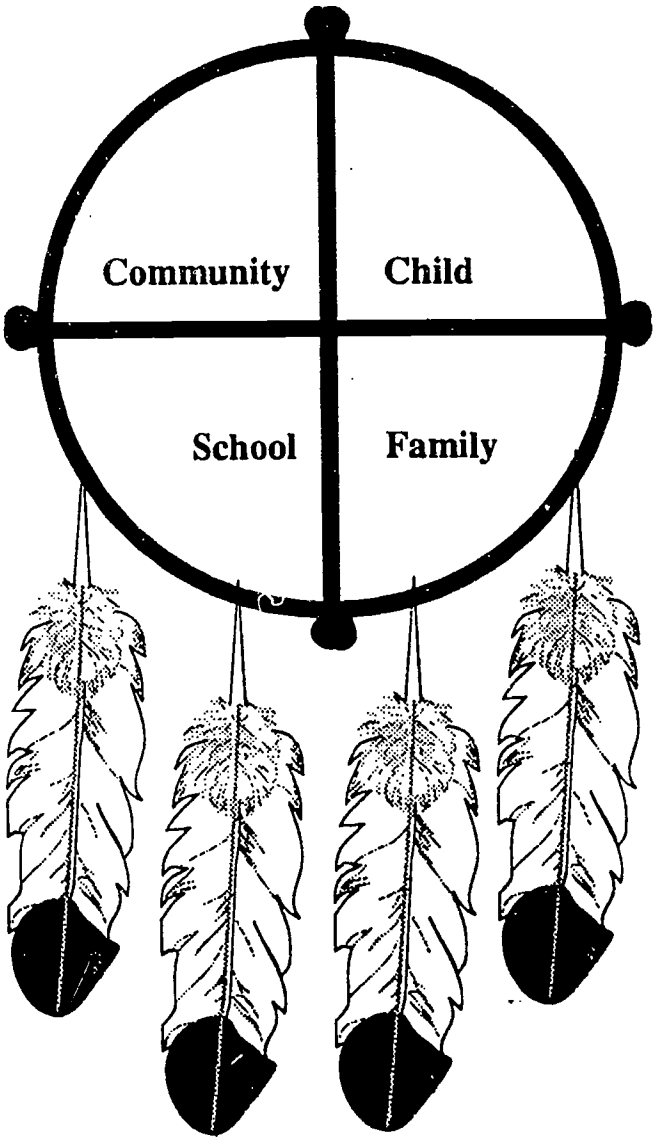
A SERVE RESEARCH BRIEF:

Reducing Baby Bottle Tooth Decay



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Widespread health problems within a community seldom result only from poor health education. These problems are often a reflection of societal and cultural characteristics as well. Such is the case with baby bottle tooth decay (BBTD). BBTD in infants and toddlers is a painful—but completely preventable—disease characterized by extensive decay of the upper front and side teeth. It is caused by prolonged exposure of a tooth to carbohydrates, such as those contained in infant formula, milk, and fruit juice, which ferment when they come in contact with certain oral bacteria.

According to Bruerd, Kinney, and Bothwell (1989); Phillips and Stubbs (1987); and Rabinowitz (1974), BBTD has many harmful effects on children and their families. Not only is the disease painful, but treatment for BBTD is also painful and expensive. Affected teeth must be capped, filled or extracted, which sometimes involves sedating and/or hospitalizing the child. In addition, increasing evidence suggests that falling asleep with liquid in the mouth can cause middle ear infections. Long-term effects of BBTD include a higher incidence of orthodontic problems and possible psychological and social problems that affect a child who suffers embarrassment over his or her appearance.

In 1984, the U. S. Department of Health and Human Services brought together three of its offices, Indian Health Services, the Head Start Bureau, and the Centers for Disease Control, to develop a strategy for eradicating BBTD among Native American children. According to Bruerd et al. (1989), this group identified three factors that contribute to the presence of BBTD in a community. BBTD seems to be most prevalent when

- a woman's identity in the community culture is closely linked to her role as a mother. When this role identification exists, parents and grandparents are often reluctant to encourage children to abandon the bottle—a powerful symbol of infancy.
- families are large. Because daily responsibilities in a large family can at times be overwhelming, caregivers often use a bottle of milk or juice to pacify a child.
- the habit of prolonged bottle feeding is prevalent throughout the community. When this habit exists, very little pressure is exerted from within the community to change.

Using this information and the data collected over the tenure of the project, the Department of Health and Human Services has outlined several recommendations for developing effective community intervention programs to eradicate BBTD. One of these recommendations includes inviting community members to participate in program development. Because prolonged use of the bottle can be a manifestation of culturally ingrained attitudes, feelings, and perceptions, HHS has concluded that the participation of community members can be critical in the development of effective intervention programs. The same is true of other collaborative strategies, such as having a team approach, training community members to act as peer counselors, and targeting caregivers to receive this counseling.

Because national data are too impersonal to generate interest and ownership in local communities, HHS recommends that specific data on the prevalence of BBTD be collected at the local level. HHS also suggests that a mass media campaign (radio and television spots, fliers, posters, etc.) can be effective in raising awareness of BBTD throughout a community (Bruerd et al., 1989).

Bruerd et al. (1989), Phillips and Stubbs (1987), and Rabinowitz (1974) identify several adult practices that decrease the likelihood that a child will suffer from BBTD:

1. Put babies to bed without a bottle or with a bottle containing only water; do not let them fall asleep with a bottle containing formula, milk, fruit juice, or other carbohydrate-dense liquids in their mouths.

2. Wean a baby to a cup by one year of age.

3. Instead of pacifying a baby with a bottle, rely on such strategies as cuddling, patting, talking, singing, reading, or playing.

4. Give babies a clean pacifier. Do not give them pacifiers that have been dipped in sugar, honey, syrup, or other sugary substances.

During the course of the HHS project, the Native American communities collaborated with Indian Health Services, Head Start, and the Centers for Disease Control to initiate many successful activities:

- Many communities organized "swap parties" at which parents were encouraged to bring their child's bottle to swap for a two-handled training cup.
- The Rosebud Sioux Women, Infants, and Children Program presented parents of one-year-old children who had been successfully weaned, framed pictures of their child at birth and at age one.
- The Tlingit-Haida staff developed a computer database so that they were able to send parents of newborns a reminder to wean their child by age one.
- The Isleta Pueblo and Oglala Sioux sent a package of materials to the parents of newborns that included a coupon for a specially designed BBTD "tippee cup."
- Leupp volunteers produced a videotape featuring BBTD task force members and Navajo children.
- Northern Cheyenne health center staff wore BBTD T-shirts every Wednesday

(Bruerd et al., 1989).

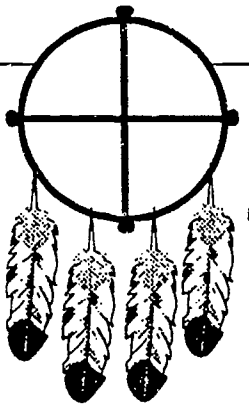
As members of any community come together to develop programs to combat BBTD, it will be important that they assess the community's cultural belief systems in order to identify factors that have a direct impact on child-rearing practices. Knowledge of these belief systems will also be helpful in developing effective intervention programs. This kind of assessment, along with good dental health education programs, can be a powerful strategy for reducing the incidence of baby bottle tooth decay.

REFERENCES

Bruerd, B., Kinney, M. B., & Bothwell, E. (1989). Preventing baby bottle tooth decay in American Indian and Alaska Native communities: A model for planning. *Public Health Report, 104,* 631-640.

Phillips, M. G., & Stubbs, P. E. (1987). Head Start combats baby bottle tooth decay. *Children Today, 16,* 25-28.

Rabinowitz, M. (1974, March-April). Why didn't anyone tell me about bottle mouth cavities? *Children Today,* 18-20.



TO REQUEST ADDITIONAL INFORMATION . . .

To request additional information about baby bottle tooth decay or to order educational materials (including books, posters, stickers, fliers, etc.) developed in conjunction with Native American communities, please contact the following office:

Department of Health and Human Services
U. S. Public Health Service
Indian Health Service
Dental Service Branch
Field Support and Program Development Section
300 San Mateo, NE, Suite 600
Albuquerque, NM 87108
(505)262-6319

Communities in the southeastern United States may also contact the following office:

Dental Disease Prevention Coordinator
Indian Health Services
Office of Health Programs
3310 Perimeter Hill Drive
Nashville, TN 37211
(615)781-5494

Florida State University
SERVE
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345 S. Magnolia Drive, Suite D-23
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ABOUT THE SERVE LABORATORY . . .

SERVE, the SouthEastern Regional Vision for Education, is a coalition of educators, business leaders, governors, and policymakers seeking comprehensive and lasting improvement in education in Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina. The name of the laboratory reflects a commitment to creating a shared vision of the future of education in the Southeast.

SERVE operates under contract with the Office of Educational Research and Improvement in the U. S. Department of Education. The laboratory's mission is to provide leadership, support, and research to assist state and local efforts in improving educational outcomes, especially for at-risk and rural students. SERVE's goals are to address critical issues in the region, work as a catalyst for positive change, serve as a broker of exemplary research and practice, and become an invaluable source of information for individuals working to promote systemic educational improvement.

For more information, please call the SERVE office nearest you:

- Greensboro, North Carolina .....(800)755-3277
- Tallahassee, Florida.....(800)352-6001
- Atlanta, Georgia .....(800)659-3204
- Cleveland, Mississippi .....(800)326-4548

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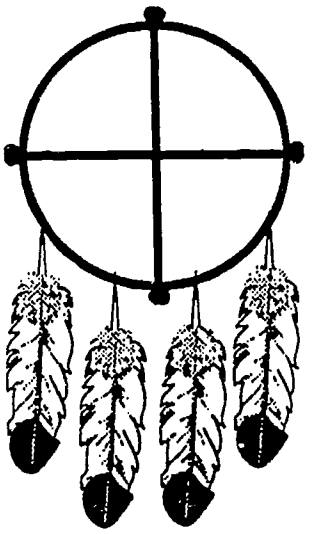
KEEP YOUR BABY'S TEETH HEALTHY!



Did you know that putting your baby to bed with a bottle in his or her mouth can cause your baby's teeth to rot? If your child's bottle has milk, formula, or juice in it, these drinks can sit in your baby's mouth overnight and eat away at the baby's teeth. This is called "Baby Bottle Tooth Decay" or BBTD. BBTD is very painful for children and can cost a lot of money to have treated by a doctor. Sometimes children with BBTD even have to be put in the hospital to have their teeth pulled.

Here are some things you can do to help keep your child's teeth healthy and free from BBTD:

- Put your baby to bed without a bottle. Do not let your baby fall asleep with a bottle in his or her mouth. If you wish to give your baby a bottle at bedtime, fill the bottle with water only.
- Teach your baby to use a cup by the time your baby is one year old.
- If your baby is upset or irritable, do not always use a bottle to soothe him/her. Instead, try cuddling, patting, talking, singing, reading, or playing with your baby.
- If you give your baby a pacifier, do not dip the pacifier in sugar, honey, syrup, or anything else that is sweet. Sugary foods can cause your baby's teeth to rot.

For more information, contact:

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