NEEDs for Tots: A Teacher-Ready and Parent-Friendly Curriculum Focuses on Principles of the Satter Division of Responsibility in Feeding

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Objectives

1. Describe the Satter Division of Responsibility (sDOR) in Feeding.

2. Describe the *NEEDs for Tots* early childhood education curriculum.

3. Discuss the sDOR.2-6y™ as an instrument to evaluate caregiver adherence to the sDOR in Feeding.
Authoritative Feeding is a Balance

- **WHEN** will meals and snacks be served?
- **WHAT** foods will be available?

Parent/caregiver leadership with feeding

Child autonomy with eating

- **WHAT** to eat from available foods?
- **HOW MUCH** to eat?
- **WHETHER OR NOT** to eat?
Satter Division of Responsibility in Feeding (sDOR)

• A framework for parents and caregivers to help children develop positive self-esteem, learn self-care skills, avoid food preoccupation, and ultimately increase quality of life and prevent childhood obesity.

• sDOR in Feeding supports feeding relationships congruent with healthy growth and development.

• Aligned with Responsive Feeding.
Caregivers can promote the sDOR by:

• Choosing and preparing food
• Having regular, sit-down snacks and family meals
• Being friendly, positive and matter of fact at mealtimes
• Helping children get served, but not pressuring them to eat
• Letting the child decide what and how much to eat from what the parent provide
• Providing mastery expectations
• Accepting and supporting children’s growth
Feeding pressure backfires

- Forcing, bribing coercing, nudging, applauding, rewarding, explaining, restricting **does not** work
- Children have a natural ability to self regulate
Despite awareness of sDOR, sDOR has not been fully integrated into early childhood education.
Objective

Define the impact of the 6-lesson, NEEDs for Tots curriculum on parent and teacher adherence to the sDOR in feeding, eating behavior, and nutrition/health behaviors.
NEEDs for Tots Curriculum

**NEEDs for Tots** is an early childhood education curriculum with online resources designed to disseminate Satter Division of Responsibilities in Feeding principles.

**NEEDs for Tots** is colorful, literacy sensitive and delivered as a complete kit to facilitate adoption by busy teachers or limited-resource schools.
NEEDs for Tots

Address key SDOR concepts of:
• joyful eating and shared mealtime
• food-neutral conversation
• the need to trust each person to manage their own eating

More information on NEEDs for Tots available at: www.needscenter.org/resources1
NEEDs for Tots Teacher’s Guide

• Detailed Teacher’s Guide introduces early childhood educators to sDOR
• No additional teacher training is required for curriculum delivery
• Teachers deliver NEEDs for Tots to children ages 2-5 y
• Teachers provide parents with handouts as well as magnets and coasters with reinforcing messages
Prologue: Mealtime is Family Time

• Parents & teachers view a short digital program about sDOR concepts in family mealtime, receive a magnet and coasters with reinforcement messages, and handout on feeding children.

• Download Mealtime is Family Time as an IOS or Android app, or view at: www.youtube.com/watch?v=5IEutt2zdM
Let’s Eat (A Comer): What Counts as a Family Mealtime?

• Children are read the book *Let’s Eat (A Comer)* and identify the benefits of eating together.

• Children learn what counts as family mealtime and evaluate 8 mealtime scenarios.

• A food tasting activity lets children try some foods portrayed in the book.

• Two parent-child activity sheets are sent home.
The Cow Loves Cookies: Showing How we Enjoy Eating

- Children are read the book *The Cow Loves Cookies* and explore enjoying eating and feeling comfortable with their enjoyment of eating.

- Parents receive handout on Eating Competence.
Conversation Starters

• Children learn about food-neutral conversation.

• Children create a “take-out box” to hold “fortunes” that can be used to start mealtime conversation in school and at home.

• Parents receive the handout Relaxed Mealtimes and a parent-child activity sheet on mealtime conversation.
Bee-Bim Bop: Cooking and Being Together

- Children are read the book *Bee-bim Bop* and pretend to cook and eat a bee-bim bop meal together.

- Children practice politely accepting or refusing the pretend foods.

- A 2-page parent-child activity sheet is sent home.
Eating the Rainbow: It’s a Child’s Choice

• Children practice the concept of courteous food acceptance and refusal while reading the book *Eating the Rainbow, A Colorful Food Book*

• Children do a food-tasting activity.

• A 2-page parent handout is sent home.
Methods

• Five ECE centers in central (n=3) and western (n=2) Pennsylvania.

• Parent and teacher feeding and eating behavior assessed through validated survey instruments administered online pre- and post-delivery of the NEEDs for Tots (NFT) curriculum.

• Parents/guardians completed a similar online baseline questionnaire and received a $15 gift card for completing baseline survey.
Thank you for completing the first NEEDs for Tots survey. The NEEDs for Tots lessons have been taught in your child’s classroom.

Click on the button on the bottom of the screen to begin the second NEEDs for Tots survey.

Thank you for your continued interest in the NEEDs for Tots Study!
Methods

• Teachers deliver the NFT curriculum.

• Follow-up surveys delivered to teachers and parents 8 weeks after baseline survey administration.

• Only parents/guardians who completed the baseline survey are eligible to complete follow-up survey and receive a $25 gift card.
Did you view Mealtine is Family Time?
(Yes, No, Do not remember)

How did you view Mealtine is Family Time?
(Website, Mobile phone, Shown at preschool)

How useful was the information in Mealtine is Family Time?
(Not Very Useful 1, 2, 3, 4, Extremely Useful 5)

What comments do you have about Mealtine is Family Time?
On a scale of 1 to 5, with 1 being Didn’t enjoy and 5 Enjoyed very much, how much did you enjoy teaching this lesson?

Comments:
Results
Figure 1. Participation in Evaluation of NEEDs for Tots
Descriptive Characteristics of Teachers

• Teachers (n=17) were female and white (n=16)
• Mean age was 37 years, 77% had a Bachelor’s degree or higher
• Most “agreed” or “strongly” agreed with the statement “I enjoy teaching preschool”
• 65% were eating competent
### Protocol for Mapping Policies and Practice (PMPP)\(^1\) Scores

<table>
<thead>
<tr>
<th>Time</th>
<th>PMPP score</th>
<th>Feeding Practices</th>
<th>Nutrition Education</th>
<th>Family Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-NFT delivery</td>
<td>33.8 ± 2.6</td>
<td>19.5 ±1.9</td>
<td>8.8 ±1.4</td>
<td>5.5 ±1.5</td>
</tr>
<tr>
<td>Post-NFT delivery</td>
<td>32.6 ± 3.1</td>
<td>19.0 ±2.1</td>
<td>8.6 ±1.5</td>
<td>5.0 ±1.5</td>
</tr>
</tbody>
</table>

- Consistent use of healthful child feeding practices at baseline, thus little change after intervention was anticipated.
- Substantial teacher involvement with these obesity prevention feeding practices informed feedback.

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<table>
<thead>
<tr>
<th>Teacher response (n=17)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class session used to teach <em>NFT</em></td>
<td>6.3 (1.9)</td>
</tr>
<tr>
<td>Class length, minutes</td>
<td>27.7 (9.2)</td>
</tr>
<tr>
<td>Class size, students</td>
<td>15.4 (3.2)</td>
</tr>
<tr>
<td>How prepared did you feel to teach <em>NEEDs for Tots</em>?</td>
<td>3.88 (0.99)</td>
</tr>
</tbody>
</table>
Teacher recommendations

- Provide a letter to families introducing NFT, let families borrow the books to take home and read.
- Invite families to snack time to observe the sDOR concepts in action.
- Align with PA Learning Standards for early childhood education.
Teachers showed support of sDOR

• Majority of teachers agreed with importance of implementing sDOR concepts

• 53% of teachers identified further sDOR training as important for being able to implement NFT successfully

“\textit{I think it was an easy concept to do, although a little more training in this or a little more literature on the topic would help.”} \textemdash \textit{NFT teacher}
Descriptive Characteristics of Parents (n=60)

- 90% of parent participants were female
- 83% were white
- 85% had a Bachelor’s degree or higher
- 63% were eating competent
Parents showed support of *NEEDs for Tots*

- Nearly all (98%) parents reported their child enjoyed participating in *NEEDs for Tots*
- Several parents noted that the paper handouts got lost or ripped and expressed an interest in electronic delivery

> “This program definitely sparked an interest in my child—he is now interested in food, nutrition, and recipes—after never having been interested in them before!” —NFT parent
sDOR.2-6y™: a tool to evaluate sDOR in feeding adherence

• 12-item, easy to complete validated measure of adherence to the sDOR for parents / caregivers of 2-6 year old children

• Include parent leadership and child autonomy items

• Scores range from 0 to 36, with higher scores demonstrating stronger sDOR adherence
<table>
<thead>
<tr>
<th>sDOR measure</th>
<th>Pre-NFT mean (SD)</th>
<th>Post-NFT Mean (SD)</th>
<th>P-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>I struggle to get my child to eat</td>
<td>2.35 (1.04)</td>
<td>2.52 (1.02)</td>
<td>0.032</td>
</tr>
<tr>
<td>I make something special for my child when s/he won’t eat</td>
<td>2.08 (0.98)</td>
<td>2.21 (1.04)</td>
<td>0.059</td>
</tr>
</tbody>
</table>

* Paired samples t-test

Interested in using sDOR.2-6y™?

• The survey is trademarked and needs permission to be used

• Contact NEEDs Center at Rochester Institute of Technology to obtain permission to use (https://www.needscenter.org/contact/)
Discussion and Implications
NEEDs for Tots

• Incorporated sDOR concepts in a feasible curriculum that was embraced by parents and teachers

• Developmental differences in 2-5 year old children may require modification of 1-2 lessons

• sDOR.2-6y™ is a face, content, and construct valid tool to measure adherence to sDOR

• Professional development for child care professionals on sDOR is warranted

• Future work will evaluate NFT in a more racially diverse sample
Predicting NutriStep with sDOR.2-6y™: Ordinary Least-Square Regression Model of Associations between Adherence to sDOR, Sociodemographics, and Eating Competence (n=44)

<table>
<thead>
<tr>
<th>Variable</th>
<th>β-coefficient</th>
<th>Standard Error</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sDOR.2-6y™</td>
<td>-0.729</td>
<td>0.225</td>
<td>0.003</td>
</tr>
</tbody>
</table>

- As adherence to sDOR increased, nutrition risk decreased.
- This relationship is independent of sex, race, SNAP participation and eating competence.
Table 3. Predicting NutriStep Risk Category with sDOR.2-6y™: Ordinal Logistic Model of Association between Adherence to sDOR, Sociodemographics, and Eating Competence (n=44)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sDOR.2-6y™</td>
<td>0.791</td>
<td>0.655, 0.955</td>
<td>0.015</td>
</tr>
</tbody>
</table>

- Each 1-unit increase in sDOR.2-6y™ was associated with a 21% reduction in the odds of being in a higher nutrition risk category (p=0.015).
- This relationship is independent of sex, race, SNAP participation and eating competence.
Acknowledgements

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Questions

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