


“Moving Toward Healthy”: Insights Into Food Choices of Mothers in Residential Recovery

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Abstract

This study utilized participatory and potentially empowering qualitative research methods of photo-elicitation and face-to-face interviews to investigate food choices of mothers living with their children in a residential substance use disorder recovery program. Face-to-face interviews were conducted with nine women (25–40 years) living in a residential substance use disorder recovery program in the Southeastern United States. Each audio recorded and transcribed interview was coded individually before collectively developing a consensual version of the codebook and identifying themes. The recovering women in this study expressed a new or renewed desire to “eat healthy” and voiced concerns about the nutritional value of foods. Food choices were influenced by their children’s nutritional needs and food preferences, their own food preferences and habits, the financial resources available to them, their personal food preparation self-efficacy and skills, and the limitations inherent in residential recovery. Understanding food choices benefits both recovering parents and their children.

Keywords

addiction / substance use, community and public health, mothers, mothering, nutrition / malnutrition, photography / photovoice

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Introduction

Mothers in recovery from substance use disorders comprise a population of specific concern for nutrition-related health issues due to their personal responsibilities for child care; poor diets (Cowan & Devine, 2012), including difficulties selecting, obtaining, and preparing healthy foods (Wall-Bassett, Robinson, & Knight, 2014); weight concerns; comorbid eating disorders (Cohen et al., 2010; Piran & Robinson, 2011); and other nutrient needs (Brady & Ashley, 2005). Compared with those who do not use illicit drugs, women who use drugs are younger and less educated, have lower incomes, experience a poorer health status, and suffer a greater degree of emotional stress. These women are more likely than those who do not use illicit drugs to raise multiple young children and be single, unemployed, and receive public assistance (Brady & Ashley, 2005; Simmons, Havens, Whiting, Holz, & Bada, 2009). As women seeking treatment for substance use and mental health disorders typically lack adequate financial resources, they are less able to access or utilize treatment services than women at higher income levels (Rosen, Tolman, & Warner, 2004). In addition to enduring

economic hardship, treatment-seeking women may face drug-related legal consequences and fear loss of child custody (Wechsberg, Craddock, & Hubbard, 1998).

S. J. Stevens and Patton (1998) found that mothers in recovery from alcohol or drug addiction exhibited better post-discharge outcomes if they lived with their children during treatment. Those residing with their children were more likely to refrain from using alcohol and other drugs, be employed, be able to maintain child custody, avoid legal trouble, and be involved in continuum-of-care support groups after treatment (S. J. Stevens & Patton, 1998). Although it is known that women with substance use disorders living with their children in residential recovery face a

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multitude of challenges, scant research exists regarding the sociocultural and environmental influences on healthy eating within this population. The purpose of this study was to investigate the influences on food choices made by mothers living with their children in a residential substance use disorder recovery program. The women's intrapersonal nutritional choices and issues excluding family context have been reported elsewhere (Wall-Bassett et al., 2014). This report addresses the family context of participants' food choice decisions while living in a residential treatment facility where they were responsible for procuring and preparing food for themselves and the children who lived with them.

Mothers and the Home Food Environment

Many fundamental dietary behaviors are established and reinforced in the home (Davison & Birch, 2001), making the home a crucial environment in which to assess food choice. Mothers and other caregivers play a primary role in their children's nutrition and health by creating the home food environment (Boutelle, Birkeland, Hannan, Story, & Neumark-Sztainer, 2007; Holsten, Deatrick, Kumanyika, Pinto-Martin, & Compher, 2012; Johnson, Sharkey, Dean, McIntosh, & Kubena, 2011). The home food environment is particularly complex due to the impact of disparate external factors such as accessible grocery stores and internal and interpersonal family influences (Glanz, Sallis, Saelens, & Frank, 2005). Researchers have recognized influences on food choice as multifactorial and inclusive of such elements as taste; availability of foods, particularly at home; hunger; food cravings; health benefits; time and effort associated with food preparation and consumption; food cost; mass media advertising; parental support; peer support and approval; body image; and mood (Holsten et al., 2012).

Food insecurity involving limited or uncertain access to adequate food (U.S. Department of Agriculture [USDA], 2014) may contribute to the health disparities of children whose parents or primary caregivers may not have the financial means to provide healthy food for them (C. A. Stevens, 2010). Although mothers of families suffering from food insecurity may find it helpful to stretch their food budgets by purchasing food that is filling and easily stored, their choices often include inexpensive, high-fat and high-carbohydrate foods that may contribute to the health disparities to which they and their children are vulnerable (C. A. Stevens, 2010).

The dietary influences of mothers or primary caregivers on their families can be seen in the types of food available and accessible in the home, the provision of family meals, and young children's exposure to new food items through food preparation activities (Birch & Fisher, 1998; Gillman, Rifas-Shiman, & Frazier, 2000; Patrick & Nicholas, 2005; Savage, Fisher, & Birch, 2007; Scaglioni, Arrizza, Vecchi, & Tedeschi, 2011). Researchers have identified food availability in the home as the main environmental influence on children's food choice; children perceived that their personal

food preferences and parents most influenced them in making food choices at home (Holsten et al., 2012). Current research indicates that maternal child-feeding practices may contribute to the formation of children's eating habits and, in some cases, lead to excessive intake and consequent pediatric overweight (White et al., 2011). As children's food choices typically do not align with established dietary recommendations, such choices have contributed to rising childhood obesity rates over the last three decades (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010).

Method

The present qualitative study focused on the views of women with substance use disorders and the extrapersonal, sociocultural, and environmental influences on food choices that they described while living with their children in a residential recovery program. As Swift and Tischler (2010) suggested, "food has multiple functions in a person's life and qualitative research is particularly well placed to deal with this complexity because it investigates how and why people behave in certain ways" (p. 564). The researchers believed that participatory and potentially empowering qualitative research methods were especially well suited to the present study due to the involvement of women who were likely to have been marginalized and stigmatized and feel mistrust (Kruk & Sandberg, 2013). Individual photo-elicitation interviews that involved the women in taking and talking about their own photographic images related to their food experiences presented an opportunity that was potentially empowering to them (Frith & Harcourt, 2007; Keller, Fleury, Perez, Ainsworth, & Vaughan, 2008; Padgett, Smith, Derejko, Henwood, & Tiderington, 2013), as well as enjoyable, meaningful (Close, 2007), and valued (Frith & Harcourt, 2007). Not only did a strategy such as photo-elicitation enable a de-centering of the role of the researcher, but also it afforded a collaborative, participatory research approach that facilitated the self-representation of an often marginalized population through visual rather than narrative means (Keller, Fleury, & Rivera, 2007; Power, 2003). Moreover, Johnson, Sharkey, and Dean (2011) have asserted that visual methods such as photo-elicitation were a particularly fitting data collection strategy in studies of women, families, and food.

A purposeful sample of study participants included all non-pregnant mothers engaged in a residential recovery program for women with substance use disorders. The program was located in the Southeastern United States. The recovering women could live in the facility with a maximum of two children below 11 years of age. During an average 18-month length of stay, the women lived in an area of an apartment complex designated for the recovery program. Each furnished unit was comprised of a small kitchen, two bedrooms, a bathroom, and a living room.

Nine women met the criteria for study participation in that they had attended a study orientation held by the first author

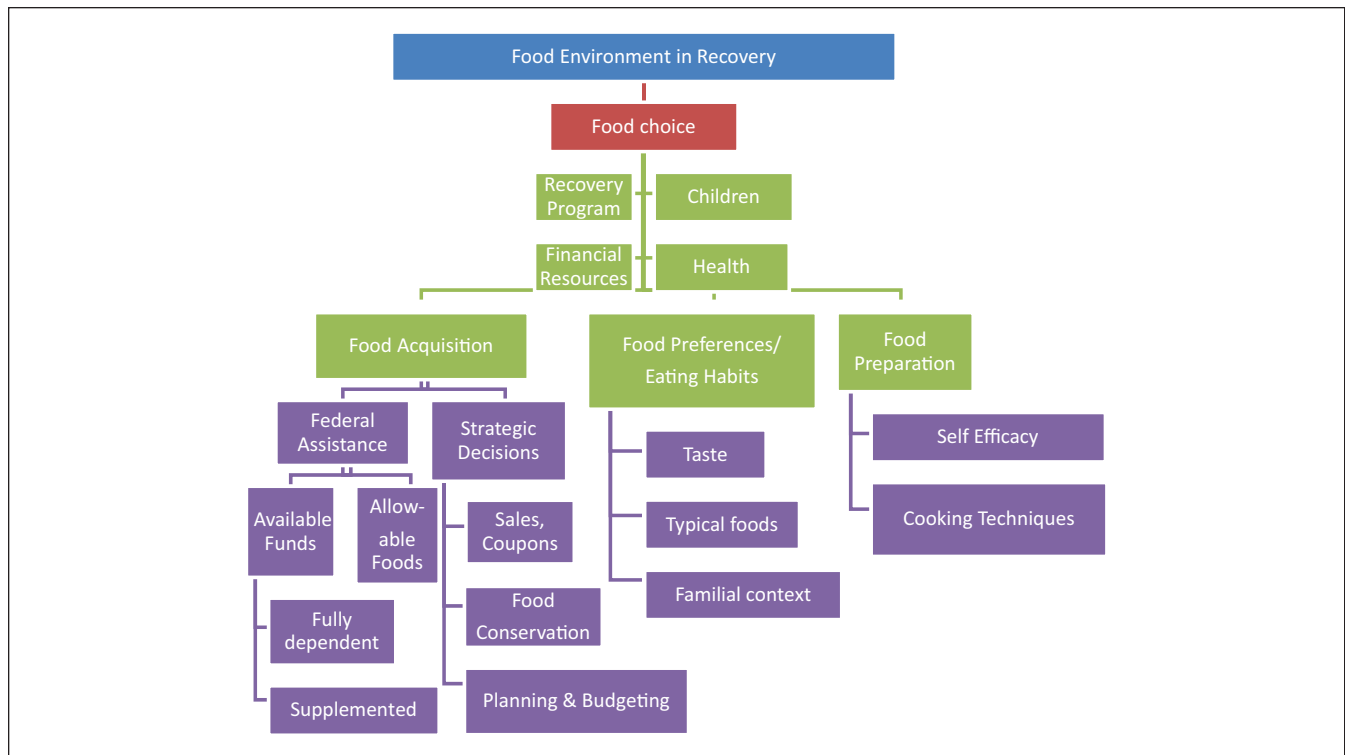


Figure 1. Food choice concept map.

(E.W.B.) during a regularly scheduled meeting. Participation was voluntary. This institutional review board (IRB)- and drug treatment program-approved study involved participants in completing a primarily demographic written survey and a researcher-facilitated individual face-to-face photo-elicitation interview. Study staff completed an in-home food inventory with study participants prior to the interviews. The researchers limited the findings reported in this article to the demographic survey data and data collected during the photo-elicitation interviews.

Data collection for the study involved an inductive approach of inviting participants to take their own photographs (Clark-Ibáñez, 2004) that depicted their home food environments, a strategy once referred to as “autodriving” to reflect that subsequent interviews were directed by study participants’ images (Clark, 1999; Heisley & Levy, 1991). The researchers invited participants to take photographs over a 2-week period of time that focused on their interpretation of their food environments. To provide consistency in the data collection process, E.W.B. provided each participant with a digital camera (Olympus Model Fe-26) and training on camera use. E.W.B. obtained informed consent for the study, scheduled interview appointments, and conducted each interview. Participants served in an expert role, leading the discussion and narrating and explaining their photographic images rather than answering researcher-posed interview questions (Keller et al., 2008; Ortega-Alcazar & Dyck, 2011).

E.W.B. downloaded the participant’s photographs on a laptop computer, engaged in a re-consent process, and commenced each photo-elicited interview by asking the participant to select the photographs she wanted to discuss. All participants chose to address every photograph they had taken. Participants viewed their images on the researcher’s computer screen and talked about each of their images in the order that they preferred. During the interviews, the women expanded upon their reasoning for taking the pictures and related them to their food choices. Interviewers used probes such as, “Are these typical foods, food preparation strategies, or food habits?” The interviews were audio recorded and lasted about 1 hour, with a duration that ranged from 30 to 75 minutes.

Data Analysis

All authors collaborated in a consensual process of data analysis. Each researcher independently read the photo-elicited data, coded interview transcripts that had been transcribed verbatim, and developed a codebook draft. They then developed a consensual version of the codebook and recoded the data using line-numbered transcripts to facilitate the resolution of differences. Respondent names were replaced by pseudonyms to protect confidentiality. The researchers repeatedly met to discuss and develop a concept map of the findings (Figure 1) on which they mutually agreed and which ultimately revealed key themes associated with the study.

This study was reviewed and approved by the East Carolina University IRB.

Findings

Participants' Characteristics

A total of nine mothers ranging in age from 25 to 40 years with a mean age of 33 years participated in the study. Five of the mothers were divorced, three were single, one was married, and all were parents of between one and three children who were at least 12 months old. The study participants comprised a diverse population in terms of race/ethnicity, with three Caucasians, three African Americans, one Native American, and two who self-identified as Other. At the time of the study, eight of the mothers received Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) benefits and all nine mothers received Supplemental Nutrition Assistance Program (SNAP) benefits. In terms of education, seven mothers had at least a high school diploma or equivalent and three of the seven had earned a 2-year college degree. All but one of the mothers was unemployed with annual incomes of less than US\$10,000; one employed mother had an annual income of less than US\$20,000. The researchers did not collect data about specific substance use disorders as part of this study, although program staff reported alcohol, cocaine, and non-medically used prescription drugs as substances that typically necessitated the women's recovery program participation. Some of the women were engaged in the residential program as part of a court-ordered mandate.

Food Choice

For these mothers in recovery, food choice presented a complexity of issues that became particularly apparent to them once they had begun to recover from their substance use disorders. The food choices of all of the women were heavily influenced by four interrelated concerns involving health, financial resources, children's well-being and preferences, and recovery program guidelines and constraints. All of the women mentioned striving for better health to benefit both themselves and their children, as reflected by their self-described efforts to make affordable and nutritious food choices. For some of the women, the recovery process resulted in the reemergence of a previously held desire for healthy food choices that had been suppressed or ignored during active substance use. They centered the reawakening of their health-related concerns in recovery primarily on their children and, for some women, a personal desire to reduce their body weight or improve a pre-existing disorder such as hypertension or high serum cholesterol (Wall-Bassett et al., 2014).

Health. All mothers expressed concern about their children's health and wanted to try to make healthier dietary choices on

their behalf. They also recognized a need to change their food choices and food preparation strategies, particularly by moving away from choosing foods that were sugary, high fat, and less-nutrient dense. As Anna stated, "I used to make him [her son] lots of cheeseburgers, so now I got the turkey burger or the turkey meat and cheese and made a turkey burger instead."

Financial resources. Limited financial factors influenced the food choices of all mothers who participated in this study. For instance, Anna stated, "He loves chicken like that, but he just gets tired of it. Ya know, I cook a lot of it, 'cause it's what I can afford." Participants pointed to the cost of food as a major concern and barrier in the food choices they made. All of the mothers received federal assistance to procure food.

Children. In terms of influencing food choice, the mothers talked about reciprocity within the mother-child dyad in addition to a desire to promote the health of their children while working within their existing food budgets. Although mothers were responsible for nutrient-related decisions and food preparation, their children invariably influenced those decisions. Paula recalled, for example, the impact of her children's food preferences on changing her own food choices. "I never ate that, but they [children] say that it taste good, so now I eat something that I don't normally eat like string beans, corn, stuff like that."

Residential program directives or guidelines. In addition to the interrelated influences of their children, their health-directed efforts, and the financial resources available to them, a notable influence on food choice that the women described was the residential program itself. The program-facilitated recovery process enabled some of the women to experience a clearer vision of their own and their children's nutritional needs. Residential program structure and guidelines contributed to the women's food environment, particularly in terms of the logistics of food procurement, storage, and consumption. Juanita remarked, for example, "Everything is real strict and mandated when it comes to food storage (and) labeling."

Recovery program policies and procedures directed the women's process of procuring food in terms of biweekly logistical access to grocery stores. According to Nancy, program residents, "don't get out that much really to go anywhere," but did have a regular opportunity, albeit time limited, to procure food for themselves and their children. The program provided the residents with transportation to a particular grocery store twice each month, with the expectation that they would complete their shopping within a 2-hour time period and return with the group to the facility.

Food acquisition. The procurement of food posed budgetary challenges for all of the mothers in this study. They negotiated such challenges by making strategic food choice



Figure 2. Photograph portraying strategic directions.

decisions within the constraints of the federal assistance program(s) for which they were eligible.

Federal assistance. For all of the women, federal assistance program benefits (WIC and food stamps) provided the primary source of funds to purchase food. The designated “allowable foods” associated with these benefits influenced the types of foods or food brands that they purchased. For example, Judy stated, “We eat a lot of Kix, because it’s on WIC. . . . I don’t buy cereal anymore I just let the WIC pay for it, the WIC vouchers.” Most of the women were completely dependent on such benefits for food acquisition.

Strategic decisions. For the women in this study, food acquisition typically involved strategic decision-making within their existing resources. They enacted strategic decision-making by using approaches such as using coupons, purchasing foods on sale, and using various food conservation methods (Figure 2). Their decisions about food choices while purchasing groceries varied along a continuum that ranged from adherence to a carefully researched and prepared shopping list that included clipped coupons and the identification of sale items published in newspapers, to a more impulsive strategy of finding what “looked good” or was on sale while in the store. As Rosa reported,

I go with a list, but I don’t ever use it. I just go. . . . I know what I want. I know what I need in the house, you know, but if I go down the aisle and I might see something that looks good, I’ll pick it up just ’cause it looks good and I’m probably hungry at the time anyway.

The women in this study aimed to stretch their budgets for food by using food conservation strategies that involved minimizing waste, planning meals with leftovers, purchasing staples (such as potatoes and rice) that were both filling and

able to be prepared in a variety of ways, and incorporating foods that offered satiety. Nancy shared that she, “always buy[s] rice, always buy[s] creamed potatoes, potatoes, ’cause you know you can cook them so many different ways and a little bit makes a lot.”

Not only did these women tend to enact cost-effective food conservation strategies, they also voiced a desire to eat “healthier” within their budgets. Their primary strategies for making more healthful choices included reducing sugar, fat, and red meat, and increasing their consumption of fruits and vegetables. Due to storage and expense issues associated with more nutrient dense foods, the women typically resorted to canned or frozen rather than fresh options for fruits and vegetables. They viewed the canned or frozen products as having the advantage of extended shelf life, thus reducing waste, but expressed concern related to health. Anna explained, “I don’t like any canned vegetables at all. I’ll eat them, because that’s what I can afford, but I prefer fresh any day.”

Food preferences/eating habits. During the photo-elicitation interviews, the mothers revealed several interrelated factors that influenced their food preferences including taste, foods they had consumed in their families of origin and within their own family units (*familial context*), and specific foods that they typically purchased, prepared, and consumed that were emblematic of the aforementioned factors. The study participants revealed how they and their children directed and influenced each other’s taste-based food preferences, although some of the mothers also contended that taste alone determined their personal food preferences. Participants also explained how their predilections for certain foods were influenced by their health concerns.

Typical foods. The mothers in this study were more inclined to purchase and prepare packaged, canned, frozen, and readily prepared items for the purpose of cost savings, convenience, and food conservation. Such items were also reflective of their children’s preferences and recovery program constraints. Some mothers, however, recognized the positive effects on both health status and taste derived from planning and preparing meals using fresh ingredients. For example, Henrietta remarked, “But I think if I start planning my meals and preparing my meals, it will be better instead of just grabbing something out of the freezer or refrigerator and just warming it up and cooking it.”

The eating habits of many of the mothers and their children were consistent, in that the mothers chose familiar food items that they and their children enjoyed. Rosa, for instance, expressed concerns about deviating from her normal eating patterns and trying new foods. As she stated,

I guess because I’m used to eating it and, I don’t know. I mean, I guess because I’m used to it and scared to try something different, and that’s just what I like. I love—you see I made a lot of sandwiches, and I love sandwiches, bagel sandwiches.

The mothers sometimes recognized that certain eating habits developed during a time when they were using alcohol and other drugs. For instance, Nancy expressed, “Well I reckon I got drinking my Mountain Dew when I got drinking my liquor.”

Taste. In addition to foods they typically consumed, some women recognized that home cooking could result in tastier and less expensive foods, depending on their food preparation skills. In regard to making her own pizza versus buying already prepared, frozen pizza, Debra stated, “Yeah, it’s cheaper like that [preparing it myself]. I found it’s real cheaper and it usually tastes better too.”

They also sometimes reached a compromise between tasty, high-fat food options and more healthful choices, though their strategy may not have ultimately resulted in a healthier product. Taste clearly influenced the food choices of mothers and children who preferred fried or high-fat foods. In the following comment, Judy illustrates the retention of fat as a taste enhancer in her choices of food. “I season my green beans with sausage and bacon grease. . . . And homemade mashed potatoes, which I make with . . . mayonnaise, butter.”

Familial context. Mothers recognized a desire for foods that were familiar to them in their own families of origin. When discussing eating habits, many mothers alluded to foods that family members cooked, consumed, and had available in the household when they were growing up. Nancy’s comment reflects the continuing influence of early life food experiences.

But normally when we buy ice cream, mostly every night before we go to bed we’ll have a float or a milkshake or if we have a cake or something we might put cake on it. But, I got that from my grandmom when I was little. She always had a little sweet before she went to bed. Now he don’t eat it but now I will make potato sandwiches, with mayonnaise and potatoes on it. I grew up on that (Figure 3).

The women recalled that even the ingredients they used in cooking influenced their present-day food choices. Latoya stated, “I come from a family of farmers so I like fresh stuff. I like fresh stuff. I wish I had a garden. I want a garden with a lot of stuff in it.”

Anna believed that some of her eating habits were a legacy from previous generations that she wanted to share with her children. She explained, “I wanted to show him [her son] how my grandma used to pop popcorn. And I remember when I was younger my mom cooked with turkey once and that was like this huge thing for us, you know?”

Some mothers found themselves purchasing the same food items that they had consumed when they were youngsters. For the women who made such purchases, their food choices may have had sentimental value or brought back



Figure 3. Photograph portraying familial context by Nancy.

memories or feelings of family. For example, Juanita stated,

These are Hot Pockets. I got these mainly ’cause I used to eat these a lot when I was younger, and they were on a special so it was an impulse buy. So it’s not something I buy often. It’s very, very rare.

Mothers who were willing to venture outside their customary or familial food choices typically did so to introduce more healthful food choices to their children. For example, a few mothers decided to try baking rather than frying foods. Debra, for instance, recognized the necessity of making a change in her current inclination to fry food to provide more healthful options for her growing infant.

That’s all I can see really, is just frying everything and everything greasy and breaded. But I know she’s [her child] going to love chicken nuggets and I’ll have to put them in the oven. See, I would cook mine in oil and deep-fry them (Figure 4).

To expand their children’s food experiences, some mothers insisted that their children taste and explore different foods. One mother believed that she could introduce alternative foods or flavorings because her children did not discern taste differences between options that they liked and those she perceived to be more or less healthy. As one mother contended,

I try to keep the kids away from the sugar contents, so we do a lot of . . . [flavoring with a sugar substitute]. We drink a lot of that. It tastes really, really good. You can’t tell it doesn’t have sugar in it because it’s so much sweeter than. . . [a brand name sugar sweetened beverage]. But it is actually better for you.

Food preparation. Mothers indicated that knowing or learning how to cook and season foods influenced the foods they



Figure 4. Photograph portraying familial context by Debra.

chose to eat. Those who viewed themselves as noncooks tended to prefer more processed, packaged, or microwavable foods.

Cooking self-efficacy. Mothers indicated that knowing or learning how to cook, cook differently, or season foods effectively was the key to the foods they preferred or would like to prefer. Their level of cooking self-efficacy influenced their food choices. Two mothers shared their perspectives on cooking by saying, “I just got to learn how to cook instead of fry really.” [Debra] and, “I don’t know how to cook them [greens], so I had to buy the canned, like corns, stuff like that. . . . Everything I buy is basically in a package.” [Paula].

Cooking techniques. In addition to cost and ease of preparation, some mothers chose packaged or frozen food items that could be prepared in a short amount of time because they required little or no extra ingredients. As Rosa stated,

Yeah, just water and a little bit of oil is optional. They’re cheap, and they’re easy to cook, and it only takes seven minutes. I like the Hamburger Helper boxes ’cause it’s easy and quick to make, but that’s my favorite kind, the chicken fried rice.

Frozen prepared items were popular food choices among mothers primarily because such foods required little preparation time and cooked fairly quickly. Debra stated, “Yeah. That’s my . . . [name brand] pizza. That was my quick little lunch—I just threw it in the oven.” The mothers reported that time was especially limited in mornings as they were busy getting children ready for day care or school. In the interest of saving time, they tended to purchase frozen breakfast items. Juanita remarked,

And this is these pancake sausages on a stick (Figure 5). I found these at a store, figured we’d try them ’cause it’s quick and easy in the mornings since . . . [daughter] Caroline and my time can



Figure 5. Photograph portraying cooking techniques.

be limited in the morning. I’ve learned if I wake up earlier I can actually make a big breakfast.

In terms of cost savings, mothers recognized that utilizing strategies such as cooking from scratch were cheaper than preparing pre-packaged food items. In addition, home cooking could result in tastier foods, depending on the food preparation skills of the individual. Juanita contended that cooking pre-packaged foods was not only more expensive than using raw ingredients, but also a less healthy option. She explained,

Why do I think it’s [purchasing a particular food with two pre-packaged items in a box] wasting money? You get two dollars a box, it’s a dollar a thing. I mean I could probably make it myself cheaper, you know, ’cause I’d have flour to last forever. The pepperoni will last forever, the cheese will last a lot longer, than you know, just something like that. And I don’t think those are healthy.

Discussion

The recovering women who participated in this study expressed a new or renewed desire to “eat healthy” and voiced concerns about the nutritional value of the foods they purchased or prepared, particularly as such food choices affected their children. They revealed that their food choices while being a resident in a substance use disorder recovery program were influenced by their children’s nutritional needs and food preferences, their own food preferences and habits, the financial resources available to them, their personal food preparation self-efficacy and skills, and the limitations inherent in residential recovery.

Understanding how people make decisions about their health can help in planning health promotion strategies, although no one theory or model sufficiently explains and

predicts the full range of food choice behaviors (Nestle et al., 1998). Understanding environmental influences within the context of psychosocial influences may help explain socioeconomic status and cultural differences in health behaviors and health outcomes (Lichter & Amundson, 1996). Knowledge of such influences may aid in the development of dietary recommendations, nutrition programs, and educational messages to promote dietary change among mothers recovering from substance use. Educational and behavioral strategies, for example, have been used in public health and community nutrition settings to increase fruit and vegetable intake (Anderson & Cox, 2000; Anderson et al., 1998; Cox, Anderson, Lean, & Mela, 1998). Particularly for mothers recovering from substance use disorders, children can have a positive impact on and be a motivator for adopting healthier behaviors such as completing active treatment, staying sober, and engaging in healthier activities (Young, 2011).

Family involvement is important in making and sustaining dietary change (Golan & Crow, 2004; Kumanyika et al., 2000); alternately, a lack of social support can sabotage dietary change (Brown & Wimpenny, 2011; Mansyur, Rustveld, Nash, & Jibaja-Weiss, 2015). Parents of young children often make trade-offs between healthier food options and a need to use quick cooking methods (Bava, Jaeger, & Park, 2007). Like some mothers in the present study exemplified, parents often purchase convenience foods as an easy, inexpensive alternative to a home-cooked meal. Consuming notoriously unhealthy convenience and processed foods has become a norm for many Americans.

Weaver et al. (2014) found that processed foods provided around 1,200 kcal per day and contributed a majority of the saturated fats, sodium, and sugars in American diets. More than one third of commonly consumed packaged products in another study were found to be high in saturated fats and more than one tenth of the products surveyed were high in the overall amount of fat (Samuel, Basch, Ethan, Hammond, & Chiazzeze, 2014). These processed foods contained a large amount of daily calories as well as total fat intake. According to the 2010 Dietary Guidelines for Americans, total fat intake should be limited to 20% to 35% of daily calories, with saturated fats totaling less than 10% of daily calories (USDA and U.S. Department of Health and Human Services, 2010). Maintaining these recommendations can be difficult for working parents who might have limited time, resulting in an increased consumption of convenience food (Ahlgren, Gustafsson, & Hall, 2004). Some women in this study revealed that time constraints as well as a variety of other factors including a lack of food preparation know-how and self-efficacy led to decisions to purchase convenience foods. A reliance on convenience foods can pose challenges to mothers in meeting their own and their children's nutritional needs.

Parents can exercise a high degree of control over a child's environment, particularly during the early childhood years, thus making parents the chief determining influence in shaping a child's eating behaviors (Patrick & Nicholas, 2005;

Savage et al., 2007; Scaglioni et al., 2011) Role modeling by parents is vital for children to develop good eating habits (Melanson, 2008). Moreover, Gillman et al. (2009) found that modeling healthy eating habits during family dinner time led to an increased consumption of fruits and vegetables. Some parents in our study were in the process of transitioning to more healthful food choices, often prompted by their concern about their children's well-being. Concurrently, they were influenced by and continued to be responsive to their pre-existing taste preferences and the foods and eating behaviors that were familiar to them. Thus, personal role modeling of healthful food choices and behaviors was not necessarily taking place.

Mothers in this study tended to eat meals with their children, for example, though this behavior may not be typical for them outside of the recovery environment. Women living in residential recovery may benefit from encouragement and awareness efforts that underscore the value of family meals and their personal potential to be a role model in making positive food choices.

Parental influence also makes a great impact on children's eating behaviors, with most children believing that parental decisions would override the child's preference for a particular food (Wilson & Wood, 2004). To change the eating behaviors of children, parents must be the target of the interventions as children tend to model their eating habits after their parents (Scaglioni et al., 2011). The mothers who participated in this study may be open to learning about healthier food options and instituting change in their family meal plans, but some also needed to gain basic skills in food preparation and have access to recipes to increase their likelihood of choosing and preparing recommended food options.

Children are also more likely to consume foods that are readily available and accessible. Parents provide food for the children, so availability of certain foods within the home can be correlated with children's eating behaviors. Children that consume healthier foods are more likely to have access to these foods in their home, such as a higher consumption of fruits and vegetables when more fruits and vegetables are available to them (Cullen et al., 2001). The mothers in this study faced significant financial constraints in meal planning. Some study participants were unaware of low-cost food options of high-nutrient value. Others were not aware that preparing fresh, nutrient dense foods could be accomplished within their budgets and food preparation skill levels.

In this study, the researchers used a qualitative photo-elicitation strategy to stimulate the participants' food-related perspectives and experiences. Photo-elicitation has exemplars in the nutrition literature. Keller et al. (2008), for example, found that the photo-elicitation process they used to study the dietary intake of seven Mexican American women was not only well received by the women and promoted discussion, but also promoted the women's self-reflection about food resources and habits. Johnson, Sharkey, and Dean

(2011) and Johnson, Sharkey, McIntosh, and Dean (2010) discovered that using photo-elicitation during the second of the two sequential interviews while exploring the influence of mothers on family food choice had several advantages. The researchers found that the process facilitated rapport, detailed data, mutual investment in the study, and opportunities to follow up on data from the initial interview. Johnson, Sharkey, Dean, et al. (2011) explored the food choices of 12 low to moderate income mothers using participant-driven photo-elicitation. A study by Lachal et al. (2012) used photo-elicitation to investigate the role of food in obese adolescents' family environments because the researchers observed that adolescents found it difficult to talk about family relationships and food. Thus, precedent existed for the use of photo-elicitation in exploring food choice, though no studies were identified that incorporated photo-elicitation in the study of food choice by women with substance use disorders. The photo-elicitation approach seemed to work well with the women participants as a catalyst for conversation about food that may not have otherwise been possible due to issues of trust and suspicion. Although the study design using photo-elicitation and face-to-face interviews had its strengths, the sample size of nine limits the generalizability of findings to a wider population.

Conclusion

Many factors contribute to mother's perceptions of food choices during substance use recovery including financial assistance, such as food assistance programs, child taste preferences, access to healthy foods, and transportation to grocery stores. Through the use of photo-elicitation, study participants voiced a desire to choose and prepare healthy foods, often for the sake of their children, but also discussed the challenges associated with making such choices. Barriers included lack of access to and availability of healthy foods, financial and time constraints, food preparation efficacy and skills, and child and mother taste preferences.

This study demonstrates a need to communicate with and educate women in substance use disorder recovery programs on how to choose and prepare healthy, affordable foods for themselves and for their children. Consideration must be given to prioritizing efforts to improve environmental supports for healthful eating within residential recovery programs. There is also a need to tailor interventions that address the challenges and barriers to making healthy food choices expressed by women recovering from substance use disorders. Ultimately, healthy food choices made by recovering parents at a residential facility and later at home can improve their own and their children's nutritional status and influence children to make healthy food choices in their own lives. As Hannah observed,

I'm trying to eat healthy. I'm in the process. I've changed a lot, a couple things of my eating. Like the junk food and the greasy

food, the drinks I'm cutting them down to where I drink the diet drinks or the water and the cranberry juice. I'm moving to healthy.

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