Title

Methamphetamine Using Mothers: Perceptions of Prepregnancy Sexual Risks, Recognizing Unintended Pregnancy, and Engaging in the Pregnancy

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Publication Date

2012

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Los Angeles

Methamphetamine-Using Mothers: Prepregnancy Sexual Risk, Recognizing Unintended Pregnancy And Engaging in Pregnancy

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Nursing

by

Margaret Susan Stemmler

2012

ABSTRACT OF THE DISSERTATION

Methamphetamine-Using Mothers:
Perceptions of Prepregnancy Sexual Risk, Recognizing Unintended Pregnancy
And Engaging in the Pregnancy

by

Margaret Susan Stemmler
Doctor of Philosophy in Nursing
University of California, Los Angeles, 2012
Professor Adeline Nyamathi, Chair

Methamphetamine has become the drug of choice for a growing number of women in their childbearing years. Methamphetamine reduces inhibitions and increases libido, such that high-risk behaviors are conducted in association with methamphetamine use. Women who become pregnant while using methamphetamine are likely to be younger than the general population of pregnant mothers. They have more comorbid conditions and they delay entry into prenatal care services. The number of methamphetamine-involved births has increased as methamphetamine has become more available and affordable in urban settings.

This dissertation investigated prepregnancy and pregnancy experiences in a sample of 17 women, ten pregnant women and seven postpartum mothers who used meth during a portion of a recent pregnancy. Constructivist Grounded Theory fueled by Symbolic Interactionism was used for data collection and analysis of semi-structured interviews, observations, and field notes. The dissertation is comprised of three manuscripts that describe consecutive events in a transition that

surrounded the participants' unintended pregnancies. The findings highlight their lives before pregnancy, learning they were pregnant, and becoming involved in the pregnancy. Three processes, *Progressing to a meth-centered lifestyle*, *Reconciling Pregnancy*, and *Engaging in Pregnancy*, depict the commonalities, variations, and conditions of the women's experiences. Within the process of *Progressing to a meth-centered lifestyle*, initiation to methamphetamine occurred and progressed to regular, chronic use. The women's age and social development were linked in the women's recollections of their initial use of methamphetamine. *Reconciling Pregnancy* describes two intertwining events, pregnancy and being drug-free after arrest or entry into substance abuse treatment. This combination of occurrences established a foundation for the women to begin modifying their perceptions about being pregnant and about pursuing sobriety. The third process, *Engaging in Pregnancy*, conveys the women's participation in their pregnancy transition by taking care of themselves for the sake of the pregnancy and bonding with their unborn child. It describes the influences that assisted the women to strengthen their involvement in their pregnancies while preparing for a sober life as mothers.

The qualitative findings expand our understanding of women living a methamphetamine-centered lifestyle. Through their rich descriptions of events surrounding unintended pregnancy, we learned about the women's neglect of self and poor health-seeking practices. Their stories uncover needs for intervention in each of the three processes.

The dissertation of Margaret Susan Stemmler is approved.

Angela Hudson

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Steven Shoptaw

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2012

Dedication

To the 17 women whose stories of life and pregnancy made this work meaningful.

To my mother, Thora Sue Jefferson, who gave me her sense of wonder.

To Paul, my husband whose love and support is unwavering.

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Acknowledgements

I would like to express my gratitude to my dissertation committee for their willingness to guide me through this endeavor. Each member of the committee has contributed to me in ways that have assisted me to grow as a researcher. I extend a special thank you to my mentor Dr. MarySue Heilemann, who teaches Grounded Theory with her heart, which enabled me to represent my participants with accuracy and dignity. Thank for your scholarly, supportive counsel Drs. Koniak-Griffin, Hudson and Shoptaw. Finally, I extend my deepest gratitude to Dr. Adeline Nyamathi whose patience is saintly.

This dissertation would be incomplete without acknowledging the support of my Qualitative Research Interest Group friends; thank you for your encouragement Nancy Anderson, Huibrie Pieters, Ann Anaebere, Hannah Nyugen, and Fran Nedjat-Haiem.

I also want to acknowledge financial support for this research provided by the National Institutes of Nursing Research, Grant T32 NR007077, Vulnerable Populations/ Health Disparities at UCLA School of Nursing.

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Introduction to the Dissertation

Trends in methamphetamine (meth) use have changed over the last decade; while meth use is found mainly in the western states, meth use has expanded from mostly rural areas to urban settings (SAMHSA Substance Abuse and Mental Health Services Administration, 2007). Greater availability of meth has reduced its cost while its potency has radically increased (Maxwell & Rutkowski, 2008). Since meth use has been monitored, the annual U.S. population-based survey on drug use has confirmed women's attraction to meth by reporting almost equal numbers of women and men who use meth (Substance Abuse and Mental Health Services Administration SAMHSA, 2010). However, differences arise between the genders as women quickly make meth their preferred drug (Rawson, Gonzales, & Obert, 2005). Women who use meth have less education attainment, higher depression scores, and negative life events that are associated with high levels of unprotected sex (Semple, Strathdee, Zians, & Patterson, 2010). Because risky sexual encounters are associated with meth use (Rawson, Washton, Dormier, & Reiber, 2002; Semple, Patterson, & Grant, 2004), research has demonstrated a notable concern for sexually transmitted infection and HIV transmission among meth users (Lorvick, Martinez, Gee, & Kral, 2006; Semple, Grant, & Patterson, 2004; Shoptaw, 2006). However, there is evidence that meth-involved births have also increased (Cox, Posner, & Kourtis, 2008; Terplan, 2009).

There is low tolerance in society for drug use during pregnancy (SAMHSA, 2005). When women who use illicit drug become pregnant, they face social stigma that is fueled by cultural expectations for protective conduct in pregnancy and by unrealistic ideals of motherhood (Koniak-Griffin, Logsdon, Hines-Martin, & Turner, 2006). Therefore, women who use illicit drugs become marginalized; they become alienated from the mainstream fearing that their drug

use will become known to others (Lester, Andreozzi, & Appiah, 2004). Until recently, the bulk of research about substance abuse and pregnancy has focused on women who use drugs other than meth.

Among women who use illicit drugs other than meth, women are more likely to end their drug use with the onset of a significant life responsibility, for example, marriage, pregnancy, and motherhood (Winger, Woods, & Hofmann, 2004). Pregnancy competes with the women's meth-using lifestyles. Smith and colleagues (2006) found that women who use meth regularly tended to continue their meth use throughout the entire pregnancy. They often have late entry into prenatal care services (Cox, Posner, & Kourtis, 2008; Derauf et al., 2007); thus, meth has been associated with poor pregnancy outcomes marked by the possibility of placental abruption, pre-eclampsia, preterm labor and birth, small for gestational age, and neurological effects in the neonate (Nguyen et al., 2010; Smith et al., 2007; Smith et al., 2008).

The inspiration for this exploratory research came from numerous direct interactions with women who were under the influence of meth upon arrival at the hospital in labor. The women often attempted to conceal their drug use, but they were obviously distraught and unable to cooperate well with the labor and delivery team. Toxicology results were positive for meth, but the results usually arrived after a rapid birth or cesarean section due to life threatening complications. Evaluating the team performance after the situation, it seemed obvious that health care professionals were unsure of how to work effectively with the meth-using women. The women's behaviors were erratic and disruptive; they coped poorly with the child-bearing process and with hospital procedures. The women were guarded. Explanations about how the women came to be in that vulnerable situation were not forthcoming from the women. Questions arose, "Does pregnancy make a difference to women who use meth? What happens when a woman

who is using meth becomes pregnant?" As an extension of that initial curiosity, an exploratory study was formulated.

To examine the experiences and perceptions that surrounded pregnancy from women who had used meth during pregnancy and with the intention of learning in partnership with the women, Constructivist Grounded Theory (CGT), guided by symbolic interactionism (SI) was selected for data collection and analysis. The exploratory nature of the study called for a research methodology that could adapt to the complex diversities of experience that were presented by the women and maintain the rigorous research process necessary to develop precise and meaningful interpretations from the data (Charmaz, 2006). CGT follows in the tradition of Grounded Theory (GT) methodology originated by Glaser and Strauss and influenced by symbolic interactionism (Glaser & Strauss, 1967). GT is an ordered application of structure and process for sampling, coding and categorization of data (Corbin & Strauss, 2008). For investigating novel or understudied phenomena, GT offers flexibility for developing emergent or unexpected data of significance within the phenomenon (Bryant & Charmaz, 2007). GT influenced by Constructivism recognizes contextual factors as essential to the phenomena and acknowledges the reflexive influence of the shared experience of the investigator and the participants in the interpretation of the data (Charmaz, 2006). The product of CGT is a process, which consists of associated actions that capture change in a temporal order (Charmaz, 2006).

CGT is influenced by Symbolic Interactionism (SI), which is a perspective derived from the teachings of George H. Mead and influenced by the pragmatism and behaviorism (Charon, 2007). The SI tenets make a platform for understanding meaning that is established between individuals though symbols (i.e., language, gestures, and facial expression), internal and external interactions, and interpretive processes. SI also makes it possible to understand how humans

learn and act from the basis of socialization and how they are situated in society (Charon, 2007; Ritzer & Goodman, 2004). Thus, CGT supported by SI, guides analysis to consider all possible meanings from data through its iterative comparison of empirical data and emerging analysis.

This dissertation consists of three data-based manuscripts that articulate the findings of qualitative exploratory inquiry. Individually each manuscript will be submitted for publication. Three focuses of the data have been highlighted in this dissertation; they comprise the women's descriptions of life prior to pregnancy, their experience of recognizing that they were pregnant, and their experiences of engaging in the pregnancy. The manuscripts build across the span of the women's experience of pregnancy, but do not include the childbirth process or postpartum for this dissertation. Across the three manuscripts, the study design and participant characteristics are replicated so that each manuscript is independent of the others.

Chapter One is the first manuscript in the series that describes the significance of meth use within the women's lives and it highlights their perception of life conditions prior to the time they became pregnant. Analysis of the participants' stories yielded a process called *Progressing to a Meth-centered Lifestyle.* The process conveys the women's perceptions about how their meth careers advanced. It ranges over time from their initial use until they became overwhelmed by living distraught, isolated lives in which using meth was the focus of their existence. *Progressing to a Meth-centered Lifestyle* results from five action stages within the progression to meth dependence or abuse, including how the women came to initiate meth use, finding benefits in using meth, unexpectedly accelerating their meth use, describing their methods for accessing meth supply. Finally, the women realized that they were stuck in their meth use but helpless to regain control over the drug. Simultaneously, within this process, an undercurrent of unsafe

sexual behavior occurred which increased the women's possibilities for pregnancy, HIV, and sexually transmitted infection.

Chapter two, the second manuscript, depicts the women's experiences of recognizing that they were pregnant. Within this time period, the women revealed a process of *Reconciling Pregnancy.* The process conveys how the women experienced learning that they had an unintended pregnancy and actions that they took to relieve the early symptoms of pregnancy. The women considered options to terminate the pregnancy. Within this process, the women experienced detoxification which aided them in recognizing their pregnant status. Last, the women reconciled being pregnant and they made decisions to continue the pregnancy.

Chapter three is the third manuscript that addresses the women's experiences of being pregnant while trying to stay abstinent from meth. Most of the women were residents in women-only substance abuse treatment facilities for pregnant and parenting women. This manuscript describes actions the women took as they began *Engaging in Pregnancy*. The women were attempting to make a life transition to new motherhood and simultaneously they were trying to stay drug-free. In this manuscript, the women told of their renewed insights about possibilities for life change, with new obligations posed by the pregnancy and the prospects of motherhood. The women described factors that benefitted their experience of pregnancy and supported their abstinence. Finally, the women began making plans for a new life as sober women with children.

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Chapter 1

Preconception, Living a Methamphetamine-Centered Lifestyle, and Sexual Risks

Abstract

Methamphetamine is the drug of choice for a growing number of women in their childbearing years. High risk sexual behaviors associated with methamphetamine use increase risks for HIV infection, sexually transmitted infections and pregnancy among female users. Guided by Constructivist Grounded Theory for data collection and analysis, this article explores the preconception lives of 17 women (10 pregnant and seven postpartum mothers) who used methamphetamine during a portion of a current or recent pregnancy. Analyses of semi-structured interviews constructed a process of *Progressing to a methamphetamine-centered lifestyle* that depicts stages of their methamphetamine addiction including: initiating, recognizing advantages to methamphetamine use, accelerating use, and losing control of methamphetamine use prior to pregnancy. Our research supports previous descriptive findings about women who initiate methamphetamine use; however it suggests that age and social development influenced the participants' reasons for their initial use of methamphetamine. High volume methamphetamine use reduced the participant's attentiveness to personal and sexual health needs; such that, their physical health deteriorated and they had no conscious awareness about pregnancy, HIV or sexually transmitted infection risks. The article provides nuance to the ways a methamphetamine-centered lifestyle influences women's quality of life and their self-care

behaviors regarding sexual risk. Confirmation of these findings with larger and more diverse samples of methamphetamine-using women at various stages of addiction severity is recommended. Also, future research is recommended regarding gender-focused prevention efforts to reduce methamphetamine initiation for adolescent females at risk for substance use.

Key words: methamphetamine, women, sexual risks, preconception

Introduction

Despite government efforts to curtail methamphetamine (meth) distribution (National Drug Information Center NDIC, 2011), easier accessibility in urban areas (Maxwell & Rutkowski, 2008) has triggered a surge of new initiates to meth use (Substance Abuse and Mental Health Services Administration SAMHSA, 2010). Female meth users tend to commit to the drug more than their male counterparts (Rawson, Gonzales, & Obert, 2005). In California, 42% of women in treatment reported meth as their primary drug of choice and six percent were pregnant on admission to treatment (California Outcomes Measurement System Data, CALOMS, 2008; Semple, Grant, & Patterson, 2004).

Meth is a highly addictive stimulant that sensitizes the brain's dopamine pathways to enhance subjective feelings of pleasure and reinforce continued use (McKetin, Kelly, & McLaren, 2006; Robinson & Berridge, 2001). Samples of drug-using women have declared preference for meth over other substances they have previously used (Joe, 1995; Laidler, Hodson, & Day, 2004). Compared to male users, it is suggested that women quickly develop greater meth dependence (Dluzen & Liu, 2008). Samples of female meth users have advanced to regular use within 18 months from their first use (Brecht, O'Brien, von Mayrhauser, & Anglin, 2004) and other noted immediate regular use (Joe, 1995). Considering a life course perspective of substance abuse (Hser, Longshore, & Anglin, 2007), women who use meth have exhibited trajectories of meth abuse that progress quickly and extend over prolonged periods of time in their lives (Brecht, Greenwell, & Anglin, 2007).

Meth and sexual activity are closely associated (Molitor, Traux, Buiz, & Sun, 1998; Zapata, Hillis, Marchbanks, Curtis, & Lowry, 2008) with sexual encounters occurring while users are under the influence of meth (Rawson, Washton, Dormier, & Reiber, 2002). Among

heterosexual meth users, highly risky sexual encounters, including acts of unprotected vaginal intercourse and receptive anal intercourse with multiple intimate or anonymous partners have been noted (Semple, Patterson, & Grant, 2004; Zapata, et al., 2008). Such behaviors are associated with increased risk for HIV transmission and sexually transmitted infections (STI) (Longshore, Stein, & Chin, 2006; Semple, Patterson, et al., 2004; Semple, Zians, Grant, & Patterson, 2005).

Although pregnancy is also a possible outcome for female meth users, health and social research has focused on sexually-acquired infection risk more so than pregnancy risk. Research about meth-involved pregnancies has targeted maternal characteristics (Derauf et al., 2007; Smith et al., 2003) and the potential harms to the fetus by prenatal meth exposure (Chang et al., 2004; Nguyen et al., 2010; Smith, et al., 2003). Little has been documented from the women's perspective about their lives surrounding pregnancy. Using Constructivist Grounded Theory, we analyzed narratives about pregnancy with women from Southern California urban settings who used meth during a recent pregnancy. This article describes the women's perceptions about their pre-pregnant lives and addresses an undercurrent of risky sexual behaviors beginning with their initiation to meth and progressing to chronic patterns of meth abuse.

Methods

Study Design and Theoretic Influences

Constructivist grounded theory (CGT) (Charmaz, 2006) and symbolic interactionism (Blumer, 1969) guided this research. CGT follows the theoretic foundation and systematic methods of Grounded Theory for constructing social processes and mid-level theory (Corbin & Strauss, 2008). Constructivism adds to Grounded Theory methodology by recognizing context as

an important constituent to the investigated phenomena (Morse et al., 2009); additionally, CGT recognizes the researcher's influence on and participation in the interpretation of data through a shared experience with the study participants (Charmaz, 2005).

As an integral part of CGT, symbolic interactionism (SI), a philosophical approach to understanding the ways that humans interpret their worlds (Blumer, 1969), assisted this work by providing a useful perspective for understanding human behavior. SI holds that individuals are active participants in their environment, they develop meaning through social interaction with others, and they act based on that meaning (Charon, 2007). Humans internalize interactions and they can modify meanings (Charon, 2007). Consequently, with CGT guided by SI, our interpretations were shaped through our interactions with the participants; however, we concede that our interpretations of the data are limited by our own experience which is external to the participants' meth-using world (Mills, Bonner, & Francis, 2006). For this reason, validation of our interpretations by our participants has been an integral part of using CGT in this research (Charmaz, 2006; Kearney, Murphy, & Rosenbaum, 1994b).

Sample and Settings

Seventeen women met the eligibility criteria for participation in this qualitative inquiry. Eligibility requirements called for candidates to be English-speaking women, 18 years of age and older, who identified meth as their primary drug of choice. Also, eligible candidates must have used meth during a current pregnancy or a pregnancy completed within six months prior to participation in the study. Recruitment sites included substance abuse treatment facilities, Women, Infant and Child (WIC) sites, and a private maternal-fetal medicine specialty clinic in two counties in Southern California.

Procedures

After institutional review board approval of the research protocol and receipt of a Certificate of Confidentiality, passive recruitment was conducted. Flyers were posted for nine months at five women-only residential drug treatment facilities, nine Women, Infant and Child (WIC) sites, and one private maternal-fetal medicine specialty clinic. Recruitment continued until substantive and theoretical saturation of data was achieved.

Twenty-five women responded to the flyers from the substance abuse treatment programs and the WIC sites. The candidates were screened for eligibility by telephone. Five women were ineligible due to late postpartum status or they used drugs other than meth. Twenty volunteers met the eligibility criteria; however, three of the candidates were not included in the study because one did not show up to give informed consent and one was arrested prior to consent. A third candidate gave informed consent but was withdrawn from the study after she was arrested during the first interview. Seventeen women who used meth during a recent pregnancy gave written consent and completed the study.

Data collection was conducted at drug treatment facilities or at a mutually agreed upon public place considered safe and private by the interviewer and the participant. Personal data, including demographic information, obstetrical history, and substance abuse history were obtained from the participants. The standardized DSM-IV Form 769 Severity of Meth Addiction tool was administered to assess acuity of meth abuse.

One or two audio-taped semi-structured interviews, averaging 100 minutes duration, provided the primary source of data. Secondarily, field notes documented direct observations. All interviews were conducted over seven months by the first author. Beginning with a less stigmatized focus, the women were simply encouraged to “Tell me about your life before this

pregnancy." Topic prompts and the participants' interests established the direction for the interviews. The audio-taped interviews were transcribed verbatim and reviewed for accuracy. Atlas.ti, a computer program was used for data organization (Muhr, 1991-2009). The participants received a $20 variety store gift card at the completion of each interview.

Data Analysis

Using CGT methods, simultaneous data collection and analysis were planned for this study. Independent and collaborative coding was conducted. Initial coding in line-by-line fashion identified action in the data. As actions occurred frequently or were significant within the participants' narratives, focus codes were noted which led to the rise of categories of actions grounded in the data. Theoretical sampling was used to pursue variations of experience among the participants and to confirm understanding of the data (Charmaz, 2006). Data collection occurred until no new variations occurred within categories. Field notes chronicled contextual data from personal observations and informal discussions in the interview setting. Analysis used constant comparison within the data and across the data for each participant. The analysis was augmented by situational analysis to examine relationships between contextual factors and influences (Clarke, 2005). Memo writing advanced ideas regarding theoretical construction of the social processes that were grounded in the women's stories about their lives before pregnancy (Charmaz, 2006).

Sample Characteristics

The participants included 17 women who used meth during a portion of their current or recent pregnancy. Ten of the women were pregnant, ranging from 17 to 39 4/7 weeks of

gestation (mean 30 weeks). Seven were postpartum mothers, ranging from 1 to 24 weeks after delivery (mean 7 weeks). The participants ranged from 18 to 37 years of age (mean 23 years). The participants' ethnicities were self-identified. Seven women reported they were White; seven women identified Hispanic origin; two women reported they were mixed-race Hispanic; and one identified herself as Asian-American. Eight participants reported they did not complete high school, four graduated high school, and five attended one or two years of college.

No participants reported employment at the time of the study. Eight participants never experienced legal employment; however, six of these women were dealing meth and four women committed other illegal acts to support themselves. The women received limited financial support from family members or intimate partners and one participant received a subsidy for mental health disability.

Thirteen participants reported they had never been married and four women reported that they were legally married. However, two married women were estranged from their husbands at the time of the interviews and the other two married women described sham marriages in which they had accepted money to marry someone who sought legal residency in this country. Sixteen participants temporarily resided at publicly-funded women-only residential treatment facilities and one participant lived with her nuclear family.

Diagnostic criteria for categorizing addiction, "abuse" refers to maladaptive drug use in which substance users demonstrate drug tolerance, withdrawal, or unsuccessful attempts to quit the drug. "Dependence" has similar characteristics as abuse but is distinguished by persistent drug use despite awareness of harm caused by the drug (APA, 2000). Sixteen participants met the criteria for meth dependence and one woman met criteria for meth abuse. The participants' duration of meth use averaged 7.5 years, ranging from four to 13 years of use since initiation.

Even though the women identified meth as their drug of choice, they reported concurrent use of other drugs to complement the meth effect or to ease "coming down" and withdrawal from meth. All but one participant smoked cigarettes.

Social agencies were heavily involved in the participants' lives. All but one participant reported recurrent criminal justice involvement. They described multiple short incarcerations in county jails; however, three participants had completed prison terms for longer than one year. At the time of the study, eleven participants were on probation or parole for drug-related, non-violent crimes. Many participants were also involved with the child welfare system (CWS) to regain or retain child custody of children who were under 18 years of age. Three participants had previously lost legal custody of one or more of their children prior to the current pregnancy.

Sixteen participants were in residential substance abuse treatment; a single participant was not in treatment and had not previously attended treatment. Ten participants were mandated to attend substance abuse treatment by the drug courts; five were in treatment as a condition of CWS; and one was sent to treatment by the juvenile justice system at eighteen years of age. A new parolee voluntarily requested drug treatment to support a gradual re-entry into society. Of the participants in treatment, six were attending their first treatment episode. During their participation in this study, all participants were drug-free per their own declaration.

Results

Our findings reflect what was important to our participants about their lives prior to pregnancy. Almost uniformly, they described progressing from initiation to regular, chronic use of meth. Through a process, *Progressing to a meth-centered lifestyle,* the participants detailed their meth use and meth-related consequences. The process includes stages of initiating meth

use, recognizing advantages to their use, accelerating use, and losing control of their meth use. In addition, an undercurrent of sexual risk-taking occurred throughout the process which was not a focus of the participants' conscious awareness. A depiction of the process is found in Figure 1.

Initiating meth use: Age and social development

As the participants began to tell about their lives before pregnancy, they gravitated to stories about the first time they used meth. Their average age for initiation to meth was 15.8 years, ranging from 12 to 19 years of age. However, most of the women indicated that they had tried or used cigarettes, alcohol, and marijuana or other drugs before their first meth experience. For example, one participant summarized, "Twelve I was drinking and using weed, 13-14, I was using pills and cocaine, and 15 I was using meth."

The women denied seeking out their first occasion to use meth and they rarely expressed hesitation about their first experience. One woman remembered, "I guess I just wasn't afraid to try it." The women had been offered meth by someone they knew, such as a family member, a friend, a school mate, or an intimate partner. Although only a few women verbalized "trust" of the person who first gave them meth, they were accustomed to meth and other drugs in their lives. Almost half of the women were second generation meth users. One woman recounted how she and her father had been introduced to meth by her mother, she recalled, "We used to sit and do lines all the time." Another participant referred to her family as a "family of addicts" as she outlined the drugs of preference for all members in her nuclear family. Even as young children, the participants had been aware of drug use by family members. Recognizing her mother's "defensiveness" about meth use, a participant said, "I thought it was bad when I was a kid. I just knew, the way she would act about it." Normalization of meth use in the family made it possible

to shift the responsibility for using meth to others. One participant assigned blame for her addiction to her meth-using brother because she claimed, "He didn't take care of me. The way I see it is like, I was his little sister. He should have told me 'Don't use!"

As the women described their first experience with meth, three age distinctions emerged corresponded with the participants' social and emotional development during the early, middle, or late teen years. The earliest initiators began using meth between 12 and 14 years of age. They linked their meth use with rebelliousness. The women in this group reported defiant behaviors in which they participated in gang activity, refused to attend psychological counseling, and ran away from foster care. Representative of this group, a participant said, "I started fucking around, doing drugs, hanging out with the wrong people, doing random guys." The early initiators had sexual debuts that corresponded with their meth use; consequently, two women in this group became pregnant and had babies at the age of 13. These participants also reported early childhood traumas, including rape by a mother's boyfriend, molestation for years by a father, and physical abuse and abandonment by a mother. To cope with painful childhood traumas, one participant said, "I'd get numb-- and I don't care. I dealt with it. So, it was cool for me to be doing drugs." Another early initiator associated using meth with "becoming depressed" after separation from her abusive family and placement in foster care.

Almost half of the participants started using meth during their mid-teen years, at ages 15 to 17. This group verbally connected their meth use with socialization. Most had their first meth experiences with school friends and family members. Some of these women reported boredom, disinterest, and a sense of alienation at school and with family. Using meth and "hanging out" with drug-using friends allowed them to feel connected and accepted. Many of these women described themselves as "shy." They credited meth with giving "confidence" to be social and

"more outgoing." One participant likened her first experience of meth to a "therapy session." Another mid-teen initiator described an altered experience of herself after using meth,

> When I used, I -- you know, I could just come up and talk to them, compared to like just sitting on the side. I was, you know, open or just, you know, not shy anymore. . . It's weird to say, but that's what it did. And after that, I didn't always need to use to feel confident. It started me that way.

The group who started using in their late teens, at 18 to 19 years of age, had a practical purpose in mind when they described their first meth experiences. They associated meth use with productivity-related motivations, using meth to meet obligations for college, work, and/or childcare. One woman called meth her "solution." She recalled, "I never heard of it and they were like, 'Yeah, you just roll a line and you'll wake up and have energy. No worry—you have to go to work!" After her first use, a young mother recalled, "I cleaned my house. It was very clean for the first time in a long time." A woman who worked at night found meth helpful on the job. Working as a stripper, she was given meth, she said, "I could stay up all night long. Being a stripper, I would get tired, so I couldn't make money. It (meth) made me a better stripper."

Recognizing benefits to meth use: "It was like being sober, only better."

The participants immediately developed an appreciation for the effects of meth. One participant declared, "Ever since the first time I tried it, I just liked it." Most of the women were particularly fond of the "rush" they felt almost immediately after using. Regardless of their reasons for initiating meth and aside from the euphoric effects of the drug, all the participants reported individual benefits to using meth that enticed them to use again. One woman assessed her meth experience, saying "It was like being sober, only better!"

Individual perceptions of reward from meth use included enhanced communication, greater human connection, motivation, increased attentiveness, weight loss, and improved

control of their emotions and their environment. The women claimed meth enhanced their ability to express themselves, in particular, meth made them talkative, "eloquent," and they perceived what they said was "important." A few women also reported greater artistic and creative expression. One participant thought she was better at "showing my feelings into my art" when using and another bragged about drawing "pretty sick dragons on myself. I was a really good artist when I'm high."

Many participants credited meth with giving them "motivation" and greater "focus" for tasks at hand. They relied on meth to apply themselves and recognize accomplishment in their activities. One participant explained, "It made me feel like I could handle my school, my two jobs and everything. It made me feel superior." Some participants gained "control" of their environment when they were using, reporting greater alertness, and responsiveness to their situations. In one example, a participant who traded sex for alcohol and other drugs frequently passed out from intoxication and she told of being raped on numerous occasions. After switching to meth, she was wakeful and in control when she was "high," thus, she realized, "I wasn't taken advantage of as much sexually."

Some women had increased sexual pleasure while under the influence of meth. One said, "It makes me enjoy sex where I hadn't ever before I had done meth. It made me feel like I actually wanted it. And I did!" Some participants reported using meth routinely with intercourse, one participant claimed, "It was better on it. If we didn't have it, we didn't even want to have sex." However, increased sexual desire or pleasurable sexual encounters was not the case for all participants; an equal number of the participants expressed a neutral or negative response about their sexual experiences while under the influence of meth. Some women conveyed preference to experience the euphoric effects of meth rather than to have sexual encounters. A woman

explained, “When I was high, sex wasn’t fun for me ‘cause I just got bored. I wanted to get high more—instead of having sex.” Another woman added, “When I wasn’t using, I was more into sex.” Although, the women agreed that their male partners were more interested in sex when high on meth than they were.

Only one participant reported that she started using meth to lose weight. Rather than a primary motivator to use meth, the women identified lack of appetite and weight loss as an added benefit to using meth. Upon realizing they were losing weight by using meth, some became even more motivated to “use.” Subsequently, many of the women identified weight control as a reason for continuing to use meth. The women were also wary of excess weight loss. They wanted to look “healthy” and “normal” so others would not suspect they were using meth. The women believed, “People can tell” by appearance alone if a person is using meth because “There is no sleep, there is no eating.” One woman alleged by “not keeping up your weight,” a meth user was letting others know that “you don’t care” anymore. Therefore, they expressed negative sentiments about getting “too skinny,” equating extreme weight loss with sinking to a very low status as a meth user; that is, one who is not in control of their meth use.

The women quickly learned they could use meth to alter their emotions, especially to diminish difficult or painful feelings. They used meth as a coping aid. A woman acknowledged, “I get stressed out and I want it (meth)…I’ve always used it to cope with things.” Being “high” gave temporary relief from worries because meth “stashed all your memories.” A participant said, “I think about it until I get high—then I don’t think about it anymore,” even though “It still happens, it still goes on.”

Eventually, all of the participants preferred meth to other drugs that they had been using. Yet, they continued to use a variety of prescription drugs and illicit substances to complement

their meth "high." About half of the participants used "speedballs," a combination of heroin and meth to intensify the "rush" effect when using meth. To ease their "come down" from an extended meth "run," they chose alcohol and marijuana to help them relax and sleep, but prescription anti-anxiety medications and opioids were also used when available.

Accelerating meth use: "The only thing I would do was use"

Most participants could not pinpoint when their meth use began to accelerate. The women were oblivious to subtle increases and they tried to fool themselves about consuming greater quantities. They wanted to believe they were in control of their meth use which indicated they were not "a slave to the drug." The women insisted they were "being normal, but just using." They called their use "functional" even though they had increased amount, frequency, or advanced from "sniffing" to smoking or to "slamming" (injection use). Consequently, the women stopped participating in their usual activities, recalling "The only thing I would do was use." Describing a typical day, a woman said, "I was using, spending my time getting high with a guy and running around in the streets. That was pretty much it. I never had a job. I never went to school. I just basically waited to get high every day."

While intensifying their meth use, many of the women acknowledged a disconnection from others, explaining, "It was all about me." The women lied and tried to deceive others about their meth use; they "put a wall between" themselves and non-using family, spouses, and friends. A few women called this separation being "independent." One participant said, "I know what I'm doing. I know what I have and what I need." She added, "I don't need anybody." The women eventually realized they had abandoned their supportive non-using relationships.

For social support, the women sought opportunities to associate with other meth users. Drug "connections" from the "streets" would "hang out" and "find ways to get high" by sharing meth supply and paraphernalia. At the same time, the women distrusted their "so-called friends," A woman shared, "They're my friends as long as I had drugs. And when the drugs ran out, nobody was there." Thus, many of the women voiced feelings of being "rejected," by family and used by their drug network. Many women confided being "alone," feeling "lonely" and not being "cared for" over extended periods while they were "on the streets."

The women recognized the sting of social stigma. They feared exposure of their meth use because inadvertent disclosure was a threat to their meth use and to their freedom. Even though the legality of meth use was not a recognized concern at initiation, shielding their meth use became an increasingly important aspect of their meth-using behavior. The women were sensitive to being stopped by police, they wanted to be "safe." However, in achieving "sanctuary" to use, they found the quantity and frequency of meth use unexpectedly increased. Eventually, the women came to experience multiple arrests for possession and/or paraphernalia charges and drug-related crimes.

Accessing meth: "Dating for Drugs"

To maintain a supply of meth, the women had to purchase or have a strategy to acquire meth if they did not have money. Some participated in illegal activities to get money for drugs. However, most of the women relied on others to give them drugs. One woman gave an account of the many ways she was able to get meth,

> I had friends who had it. I had other friends who said, "If you fuck him, you get it." I had a boyfriend who I was with for awhile that had a lot of it. He sold it. I had a friend who made it and gave it to me for free. I really never had to pay for a lot of it. I think the most I ever had to pay for was like three 8-balls. And

> everybody else was just like, '"Oh, yeah, like we got you, we got you.' I pretty much took drugs from people who didn't expect me to pay them back.

The women devised strategies that incorporated social interactions, wit, and their appearance to get meth without money. "Getting drugs for free" used sex and relationship as commodities of trade. One woman claimed, "I'm a cute girl, and some people would just like to get high with me, guys would." Describing this type of interaction, another participant explained, "It's not like they want to use you for sex and then give you some dope; it's more like they really want to be with you." Thus, the women made an effort to keep up their appearance and health toward the goal of getting free drugs.

Other women pretended to be romantically attracted to male meth users with supply. Building a "fake relationship" also offered social and emotional benefits in addition to a ready supply of meth. Explaining how she identified a target, one participant revealed, "I'm just here to get his money and his dope and have someone to hold me and probably make me feel comfortable inside." She called this approach "dating for drugs."

In a more direct exchange, some women would "sleep" with men to guarantee they would get the meth they wanted. Perspectives about their efforts to trade sex for meth varied; one participant concluded, "I wouldn't say it was prostituting, but I would say it was in a sense." Another thought trading sex for drugs was a worthwhile exchange, "I actually enjoyed that I could give somebody something that they wanted." A third woman expanded the limits about what she would do to get meth,

> I'm shooting up, and I'm whoring myself here and there to get money on the side, or robbing people on-line…" She confided, "I just found I didn't have to do anything—I would just get their money and leave. Like, if I were to actually stay and not take off with the money, then I would have to have sex with these people." Then, she admitted, "I was always somebody who would do whatever I had to do, I would sell myself, or I would do whatever. You know, that made me—like a hustler.

Half of the women eventually developed long term relationships with men who were meth users. One woman detailed the benefit of having a boyfriend who was a meth dealer, "He knew how to make money. You know, he always had supply." The drawback was the unforeseen increase in the amount, frequency or change in meth administration that followed.

The participants described sexual encounters outside of their primary relationship. The women admitted to casual sexual experiences with "using friends, to enhance their enjoyment and to counteract feelings of isolation; but, they denied anonymous sexual encounters. Though some participants reported previous treatment for STIs, no participant independently mentioned safer sex practices. Most had no conscious awareness of sexual risks. As a reassurance to themselves, the participants reported negative HIV results from recent jail or drug treatment screenings. A participant who reported sporadic condom use reasoned, "It was because I was under the influence that I didn't use a condom."

Many of the women believed they were not capable of becoming pregnant, in particular the women who were pregnant for the first time. This misconception was based on their experiences of frequent, unprotected sexual encounters without awareness of a resulting pregnancy. A participant said, "I'd never got pregnant from all the times that I was, you know, years of having unprotected sex and sleeping with anyone…" History also reinforced a similar belief among the women who had given birth as very young teens. One of these women explained, "I had my kid when I was 13 and after that I kept on with the same and I couldn't get pregnant anymore, since I was 13 till now." Others trusted they had been made "sterile" after being warned about the consequences to having a STI. In the face of a current pregnancy, a woman conceded, "But, I guess not" as she recognized her wishful assumption.

Some participants recognized their pregnancy risks. The women in long term relationships, with previous pregnancies, or children in CWS supervision gambled with their fertility. When asked about contraception, they reported trying birth control in the past but most discontinued its use. Pretexts for stopping contraception varied. A woman in her mid-twenties recalled, "When I first lost my virginity, yes, I did, about age 13—for a few years. I stopped after I broke up with my boyfriend that cheated on me." Others responded they were "not thinking about it," "just didn't want to use it anymore," or "didn't want to go to doctors anymore." One woman said she stopped using a birth control method when her children were taken away by CWS and she lost her government subsidized health insurance. Very few women used contraception, though inconsistently. One woman complained, "I was on the shot this time, and I still got pregnant."

Being stuck and wanting to quit: "Life falling apart."

Interruptions in their meth use occurred for periods of time, for example, during a separation from an intimate partner/meth supplier who had been incarcerated. Many women also described episodes in which they used self-restraint to control their meth use. Many participants described self-imposed rules about abstaining for occasions that they thought warranted being drug-free. In particular, they wanted to be drug-free for visits with their "PO" (probation or parole officer). They devised elaborate rules about days of the week and specific hours to stop using meth to guarantee a clean urine drug test for weekly probation appointments. Most of the women wanted to be "clean" when they were with their children or parents. One woman whose children who were in "family placement" feared her parents would not allow her to see her children if she were "high" during a visit. Thus, the women managed to stay "clean" for short

periods, but eventually they began to push the boundaries and break their own rules about abstaining from meth.

The women justified their meth use. They tried to convince themselves that they were in control of their drug use; however, most of the women reported moments when they "wanted to stop," which occurred most often at times when they were "loaded." One participant described her experience,

> I can't stand it when I get high. All I can think about is just getting clean, but it is too hard. I don't understand. I don't get it. It's really hard . . . Every time I'm high all I think about is getting clean. When I'm clean, all I think about is getting high.

Regardless of their intentions to quit using, the women were unable to stay drug-free by their independent efforts. Even in the face of legal or child welfare obligations that required them to be drug-free, they used. One woman described how she began "to slip" by having a "dirty" drug test at a probation visit. Thinking she could regain control, she told of being overcome by the influence of her meth-using friends, "They kept coming and I lost it." Even though she tried to stay clean, a young mother told about losing custody of her children. She lamented, "After losing my kids, the only thing I thought of was meth. I started shooting up again."

The participants reported periods of non-voluntary cessation of their meth use. Legal or social agencies forced detoxification and abstinence for short-term incarcerations, prison sentences, or drug treatment episodes. All of the women expressed anger at the loss of their freedom and loss of their meth use. They resented withdrawal from meth and they spoke about being angry and "irritable from the come down." However, most appreciated the chance "to get slept" and to eat regardless of their withdrawal symptoms. After detoxification, a women conceded, "Jail helped me out—cause I was there staying clean, not talking to any people that I get high with." Even though a few women confided they had "sniffed" meth while they were in treatment or used drugs while in prison, most described detoxification as being left alone to deal

with themselves. A woman said, “In jail, what you get to do is think,” so some women made plans to change their lives away from drugs and others to resume their meth-centered lives. Despite recurring episodes of detoxification, sooner or later the women resumed their meth use even though they knew the consequences for violating the conditions of probation or probation.

As “things were getting worse,” the women eventually came to recognize their lack of control over their meth use. A participant shared,

> It takes this path that everybody tells you it’s going to take, but you just think you’re better than that, that you’re smarter than that and that you can control it. You don’t realize the lack of control.

The women equated their loss of control with deterioration in the overall quality of their lives.

The women described as “life falling apart.” Their lives were meth-focused and repetitive. Unless they were “high,” the women reported being “depressed” and they lacked the “energy” to get through each day. They described the monotony of the “same thing” every day. They used terms like “being stuck” and “having no life.” The women were marginalized, living in unsafe conditions, involved in frequent violent exchanges, and without social or emotional supports. A woman described life “on the streets” with her meth-using partner as a “revolving door.” She recalled, “We had been on the streets—homeless pretty much—so, me and him, we either are in sober living for a few weeks, we’re in a motel for a week or two, or we’re in jail or prison.” Even though one woman expressed her life was “going nowhere,” she reflected, “I wasn’t worried enough to get me out of that situation.”

The participants engaged in petty theft, shoplifting, identity theft and fraudulent use of credit cards, stealing cars, and prostitution to get money for drugs and to live. Activities surrounding meth use were described as “getting into trouble with the law, doing bad--breaking laws.” All of the participants had recurrent involvements with the criminal justice system. They

described strings of arrests for crimes and warrants for failure to meet their legal obligations. One participant complained, "I kept going back to jail. I couldn't stay out of jail." The women surrendered physically and emotionally to law enforcement when arrested. Aside from their anger at the experience of being arrested, they revealed their vulnerability and defenselessness. Most described being "frightened," "embarrassed," and "devastated" by their incarcerations.

At the time of the study, the participants had been arrested for drug-related, non-violent crimes, they were in treatment as a condition of their sentences and most were extremely wary of returning to jail. Many of the participants were trying "to make good" to avoid going to prison. They were grateful to have been given "another chance" in treatment rather than being kept in jail or transferred to prison. Many women "thanked God" for the treatment opportunity; one woman said, "God answered my prayers; I just felt it was time for me to straighten up."

Discussion

Our findings revealed the reflections of women who were in treatment for advanced stages of meth addiction which spanned years of their lives. Discourse of their life experiences led to the construction of *Progressing to a meth-centered lifestyle*, a process, which began before conception and included recollections of their initial exposures to meth and progressed to regular, chronic use that eventually caused the participants to perceive deterioration in the quality of their lives. Sexual risk-taking behaviors were integral to their meth-using lifestyle, during which the participants were imperceptive to risks of pregnancy, HIV, and STIs. These women were not prepared for a pregnancy to occur; their attention was concentrated almost exclusively on their meth use and day-to-day survival.

The average age of introduction to meth use among our participants was four years younger than earlier reports of meth-using women who averaged 19 years of age at initiation (Brecht, et al., 2007). The participants' recollections of their first meth use revealed the social context of their lives; such that stories of their first meth use appeared to demonstrate synchronicity with adolescent developmental tasks. The women's memories reflected the timing and sequence of emotional, social, cognitive and neurobehavioral maturation of adolescence (Overton, 2006; Steinberg, 2008). Their ages, social interactions and reasons associated with their first meth use aligned into age groups that mirror traditional, clinical developmental stages of adolescence (Neinstein & Gordon, 2008). Early, middle, and late teen age-based initiator groups were delineated.

Our findings align with frameworks showing associations of traditional development stages and adolescent risk-taking behaviors related to alcohol initiation (Brown et al., 2008; Mastern, Faden, Zucker, & Spear, 2008). The initiator age groups also support neurobehavioral theories proposed about adolescent risk-taking during the teen years (Steinberg, 2008).

Though samples of meth-using women cited weight loss, energy, and thrill seeking as reasons to initiate meth use (Laidler, et al., 2004; Semple, Grant, et al., 2004), our participants detailed more passive initiations in which peer influences dominated their experiences of initiation. *Progressing to a meth-centered lifestyle* was not strictly linear or time ordered. The process advanced with stuttering progression toward chronic use. Their addiction trajectory was stymied at times; but, the women continued on a course toward meth dependence.

Meth availability and social influences were entwined at each stage of the process. Thus, their meth social networks provided meth supply and mutual validation that reinforced continued use. Similar to other samples of meth-users (Lende, Leonard, Sterk, & Elifson, 2007), our

participants claimed their meth use was "functional." This self-designation established a way the women convinced themselves that they were "normal" and in control of their drug use. Such denial alleviated culpability and justified advancing patterns of meth use even while they admitted their lives were getting "out of control."

As described with other samples of meth-using women, a deterioration of quality of life ensued which was accompanied with depressed emotion (Gonzales, Ang, Glik, & Rawson, 2011; Laidler, et al., 2004; Semple, Patterson, & Rant, 2005). Our sample experienced fallout from their meth use that influenced most aspects of life which added greatly to the complexity of lives.

An undercurrent of sexual risk-taking occurred throughout *Progressing to a meth-centered lifestyle*. While meth reduces inhibition, in our sample high risk sexual behaviors were also recognized as a type of short-term sexually-mediated coping (Young, Boyd, & Hubbell, 2000) to lessen the needs for physical closeness, belonging, and reduce feelings of isolation. Most of our participants had histories of childhood sexual and abuse trauma which have been associated with high-risk sexual practices (Dietz et al., 1999; Finer & Henshaw, 2006; Miller, 1999) and they had high-risk, unprotected sexual encounters and used their sexuality to secure meth as reflected in other samples of meth-using women (Grella, Stein, & Greenwell, 2005; Messina & Grella, 2006; Semple, Strathdee, Zians, & Patterson, 2010).

No participant independently identified sexual risk related to pregnancy, HIV, or STIs when reflecting on their preconception lives. By reframing their experiences, the first-time pregnant women and a few who had pregnancies in their early teens believed they were unable to conceive. They constructed this belief from their personal histories of frequent unprotected intercourse without experiencing pregnancy consequences. Similar to other samples of drug-using women, they expressed little concern about pregnancy risk and they demonstrated low

rates of contraceptive use (Gutierres & Barr, 2003; Harding & Ritchie, 2003; Kearney, Murphy, & Rosenbaum, 1994a). Our finding noted the participants' tendency to dampen painful emotions and forget troubling issues while they were on meth. This meth-mediated forgetfulness also may have reduced their awareness of sexual risks. Even though our participants did not voice barriers to adopting safer sex practices; while using meth, they had been imperceptive to sexual risks.

Strengths and Limitations

This article expands explanatory detail to the behaviors of women who use meth during their childbearing years. Even though the women were drug-free during participation in the study, their meth experience remained the focal point in their contextually rich accounts. Details in their stories established the sequence of change that occurred within the process of *Progressing to a meth-centered lifestyle*. In view of life course perspectives concerning substance abuse (Hser, et al., 2007), the *Progressing to a meth-centered lifestyle* process reflects a small portion of the long and complicated trajectory of the women's substance use careers.

Our study sample was limited by passive recruitment which did not capture a representative sample that spanned gradients of addiction severity among female meth users or diversity of experience in substance abuse treatment. At the time of recruitment, mainly women who were already drug-free and in treatment responded to flyers. We can only surmise that failure to volunteer by women who were actively using meth was due to fear of disclosure. However, the ethnic diversity of the sample reflects meth use within California (CALOMS, 2008), but may not reflect other communities of meth users.

Implications of the Study

Our findings suggest the importance of gender-specific, age and developmentally-appropriate drug prevention efforts for women throughout the teen years; nonetheless, we recommend further research to corroborate and expand our findings regarding linkages between age and developmental status at meth initiation. Evaluating female adolescent development at the time of drug initiation may identify windows of opportunity for developing gender-specific prevention strategies for young women at risk for onset of meth use.

Primary and secondary preventive strategies are needed to allay risk for substance use, pregnancy, HIV, and STDs for young women before they reach the childbearing years. Our findings support the inclusion of preconception health teaching to occur in adolescent sex education and in conjunction with primary care and contraceptive visits for young women prior to drug initiation. Additionally, sensitive screening, individual counseling, and appropriate referral is needed in primary care and non-medical settings for young women who may have experienced childhood trauma, exposure to family substance use, depression, or early sexual risk-taking. Further research is recommended to confirm our findings, and regarding motivations for self-care among female meth users at different stages in their meth careers, including novice users, women who are treatment naïve or attending non-residential treatment.

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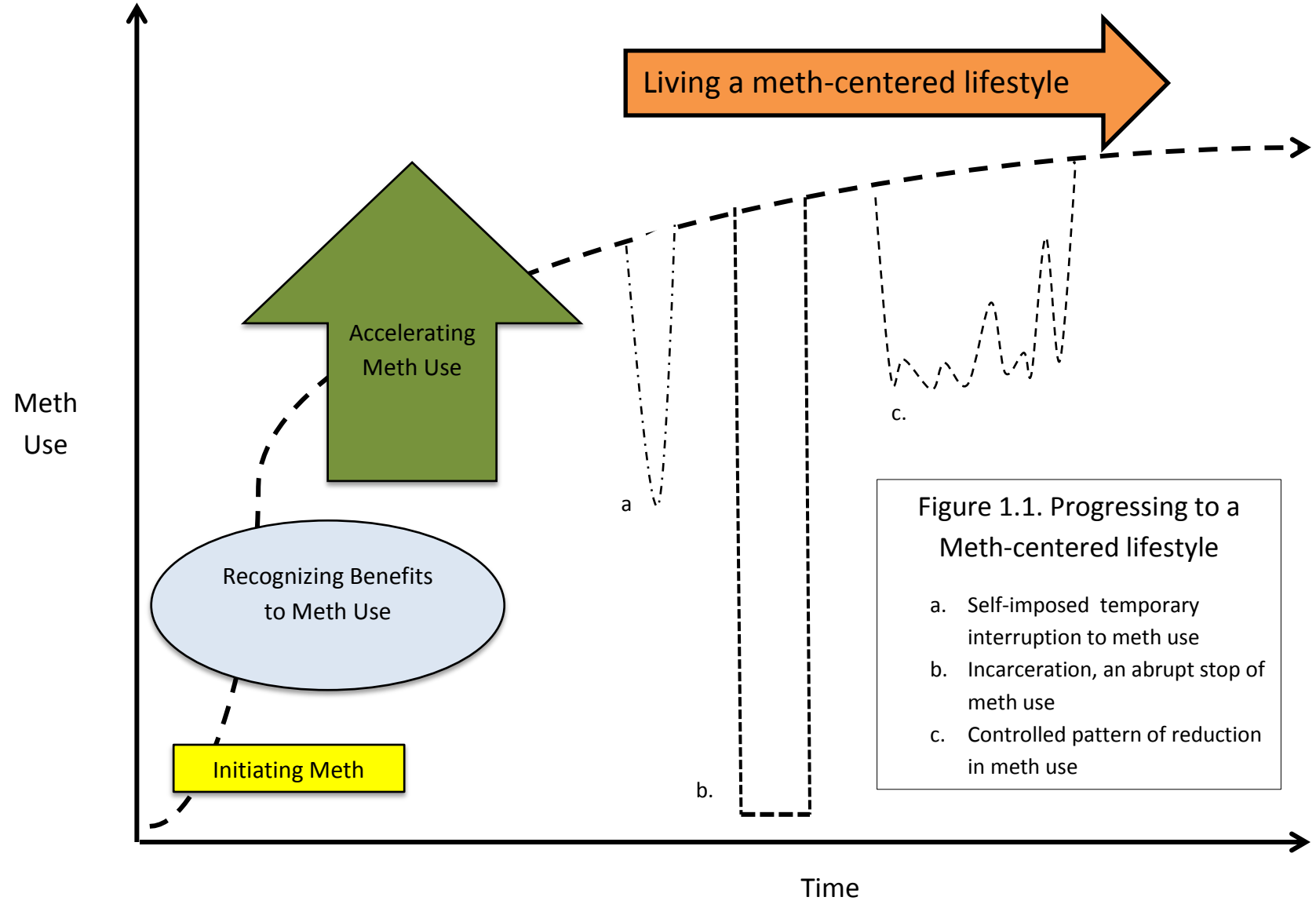

Figure 1.1. Progressing to a Meth-centered lifestyle

a. Self-imposed temporary interruption to meth use
b. Incarceration, an abrupt stop of meth use
c. Controlled pattern of reduction in meth use

Chapter 2

"What! I'm Pregnant?"

Reconciling Pregnancy among Methamphetamine-using Women

Abstract

Delayed entry into prenatal care signals the possibility of unintended pregnancy and the potential for a poor pregnancy outcome. Methamphetamine-using women tend to delay or avoid prenatal healthcare services in the face of high risk pregnancies that need specialized obstetrical management. Using Constructivist Grounded Theory, the details of pregnancy recognition were explored through semi-structured interviews with 17 pregnant or postpartum mothers from Southern California who used methamphetamine during a portion of their pregnancy. Analyses constructed a process of *Reconciling Pregnancy* that identified six stages of action completed by the participants to reconcile being pregnant, including: misdiagnosing pregnancy symptoms, ignoring or denying body changes in pregnancy, learning of the pregnancy, realizing pregnancy, assessing capabilities and options, and reconciling being pregnant. Methamphetamine-using women's preconception pregnancy intentions and their decision-making about unintended pregnancy were characterized. Social institutions such as the criminal justice system, child welfare system, and substance abuse treatment performed interventional roles by requiring detoxification which set the stage for the women to recognize their pregnancies. Our findings suggest that dependent methamphetamine-using women require drug-free status to acknowledge their unintended pregnancies. Our findings obviate the need to enhance preconception preparation, to promote earlier recognition of pregnancy through education, and to recommend

timely drug use screening and referral to substance abuse treatment, if needed. Further research to corroborate the *Reconciling Pregnancy* process in a larger sample of methamphetamine-using women with greater diversity of addiction severity is recommended.

Key Words: Methamphetamine, women, pregnancy, pregnancy recognition

Introduction

Methamphetamine (meth) is the drug of choice for a growing number of women in their childbearing years (Substance Abuse and Mental Health Services Administration SAMHSA, 2010). Known as a highly addictive stimulant, meth is reported to reduce inhibitions and increase libido (Semple, Grant, & Patterson, 2004), such that high-risk sexual behaviors are conducted in association with meth use (Rawson, Washton, Dormier, & Reiber, 2002; Semple, Patterson, & Grant, 2004). Consequently, higher rates of HIV and sexually transmitted infections (STIs) have been documented among female meth users (Lovrick, Martinez, Gee, & Kral, 2006; Semple, Grant, & Patterson, 2004) and meth-involved pregnancies have increased within the last decade (Cox, Posner, & Kourtis, 2008; Terplan, 2009).

Research about meth-involved pregnancies has targeted meth's pharmacologic effects on the pregnancy, neurobiobehavioral outcomes on prenatally exposed infants (Chang, L. et al., 2004; Forrester & Merz, 2007; Nguyen et al., 2010; Scott, Fleming, Bennett, & Graves, 2005; Smith et al., 2008), and user characteristics (Derauf et al., 2007). Meth exposure during pregnancy causes vasoconstrictive conditions that are associated with increased risk for hypertensive disorders in pregnancy, preterm labor and birth. Neonatal outcomes due to in utero exposure demonstrate dose-related low birth weight and resolving developmental delay (Cox, Posner, & Kourtis, 2008; Good, Solt, Acuna, Rotmensch, & Kim, 2010; Nguyen, et al., 2010; Smith et al., 2006).

Poor prepregnant health status and neglectful self-care generate concern for meth-using mothers and the well-being of offspring (Greenwell & Brecht, 2003). Meth-using mothers tend to be younger than the general population of mothers (Cox, Posner, & Kourtis, 2008; Terplan, 2009). They continue meth use into pregnancy and they are likely to smoke cigarettes and use

alcohol or other drugs (Derauf, et al., 2007; Grotta et al., 2010; Smith et al., 2003). They delay entry into prenatal services, missed visits, or simply fail to access care until delivery (Arria, Derauf, LaGasse, Grant, Shah, Smith, et al.,2006; Good, Williamson, Blumrick, Balducci, & Kim, 2006).

Ayoola (2010) suggests that delayed pregnancy recognition may be a reason for late entry into prenatal care. Women who have used other drugs have acknowledged barriers to care that are based in social discrimination regarding their substance use (Ahern, Stuber, & Galea, 2007), in particular, during pregnancy (Chang, J., Dado, Frankel, & Rodriguez, 2008; Harrison & Sidebottom, 2008). However, we know very little about meth-using mothers' pregnancy intentions or recognizing pregnancy. Using Constructivist Grounded Theory, we analyzed the narrated experiences of 17 women who used meth during a portion of their pregnancies. Our intent was to explore the women's perceptions and recollections regarding preconception, recognizing their pregnancy, and their experiences of pregnancy and childbirth. This article reflects our participants' recollections of learning that they were pregnant.

Methods

Study Design and Theoretical Influences

Grounded theory (GT) methodology was selected to guide this exploratory research throughout data collection and analysis (Glaser & Strauss, 1967). GT's theoretical foundations in Symbolic Interactionism, pragmatism and behaviorism guided data collection and interpretation (Charmaz, 2006). As a method, GT's systematic inductive analysis used iterative comparison to build conceptual processes from the data. In this study, Constructivism informed the use of Grounded Theory to expand its interpretive focus of the participants' world as the researchers

and participants constructed a social process from their shared interpretations (Charmaz, 2006). Thus, Constructivist Grounded Theory (CGT) diverges from research methods that attempt to make discourse fit into existing theory (Charmaz, 2006). CGT supported the construction of a plausible explanation of actions from the data offered by our participants' narratives and contextual data. In analyzing the data, Symbolic interactionism (SI), a foundational philosophical approach, aided our understanding about ways that the participants made meaning through interaction with others and through internal reflection. SI also emphasized the importance of utility as a feature in human action based in the participants' self-preservation (Blumer, 1969).

Sample and Settings

To meet study eligibility criteria, the women were 18 years of age or older, English-speaking regardless of ethnicity. Candidates were required to identify meth as their primary drug of choice, and to be pregnant or postpartum within six months of pregnancy completion.

Recruitment for volunteers occurred in five residential substance abuse treatment facilities for pregnant and parenting women, nine Women, Infant and Children (WIC) programs, and at a private maternal-fetal specialty clinic. Of the 25 women who responded, five were ineligible because their primary drug preference was for substances other than meth. Of the eligible candidates, three women were not included in because they were arrested or failed to show. Recruitment continued until no new variation occurred in action categories or no new information was brought to light. The total sample included ten pregnant women and seven postpartum women who had used meth during a portion of their current or recent pregnancies.

Procedures

Institutional review approval was obtained for the study protocol. To prevent legal jeopardy because of illegal meth use and drug-related behaviors, a Certificate of Confidentiality was obtained to protect participants. Passive recruitment was conducted with flyer placement.

Eligibility screening was conducted through voluntary telephone calls from candidates, arrangements were made to meet the candidates in safe, private settings for a face-to-face meeting. Informed consent was conducted for all participants. At this time, personal demographic information and obstetrical history were collected. DSM-IV Criteria Form 769 Methamphetamine Dependence/Abuse Screen was administered to establish severity of drug use for each consented participant. One or two in-depth semi-structured interviews lasting up to two hours were conducted with the participants. For their participation, each woman was given a $20 department store gift card upon completion of each interview.

Data Collection and Analysis

Data was simultaneously collected and analyzed using the CGT methodology. Semi-structured interviews were conducted. Prompts guided the interviews to encourage dialogue about the participants' experiences surrounding pregnancy, in particular about recognizing pregnancy. The interviews were audio taped, transcribed and verified for accuracy prior to upload into Atlas.ti (Muhr, 1991-2009), a computer software program for organizing qualitative data. Theoretical sampling aided data expansion and verification to ensure accurate understanding. Field notes documented observations and contextual details not captured in the participants' interviews. Initial coding and focused coding of the data involved hermeneutic techniques for inductive exploration and analysis using constant comparison yielded properties

and dimensions within categories of their actions and perceptions. CGT strategies promoted the development of *Reconciling Pregnancy* from the data.

Participant Characteristics

The sample of women were advanced in their meth careers, 16 participants met DSM-IV criteria for meth dependence and one participant met criteria for meth abuse. All participants used multiple drugs even though they identified meth as their primary drug of choice. The duration of their meth use during pregnancy ranged from two weeks into the pregnancy to the day prior to childbirth. On average, the participants continued to use meth for 4.5 months into their pregnancies.

Sixteen of the women were in residential substance abuse treatment at the time of their participation in the study. Only one participant was not in treatment, she had been released from jail in the month prior to her participation in the study. All participants declared they were drug-free when the interviews were conducted.

In their commitment to using meth, the participants' basic needs for food, shelter, and health were overshadowed. Their meth-centered lifestyles cycled through periods of meth use, short abstinences, recurrent incarcerations, and sporadic treatment episodes (Stemmler, Heilemann, & Nyamathi, under review). The women expressed sentiments of desolation about their lives. Although they professed wanting to quit meth use, the women continued using meth despite experiencing injurious consequences. Casual sexual encounters, sexual exchanges for meth, and prostitution for financial support were associated with their meth-using lifestyle. None of the participants intended to become pregnant; however, only a few participants reported using

contraception around the time their pregnancies occurred (Stemmler, Heilemann, & Nyamathi, under review).

Results

Analysis of data led to the construction of a process called *Reconciling Pregnancy* by which this sample of 17 meth-using women came to realize that they were pregnant. The process reveals the perceptions and actions taken by the participants after conception through the time that they decided to continue their pregnancies. Stages of *Reconciling Pregnancy* included misdiagnosing pregnancy symptoms, ignoring or denying pregnancy changes, learning of the pregnancy but unable to stop using, realizing pregnancy and still using, assessing their capabilities and options, and reconciling the reality of being pregnant. Figure 1 provides a symbolic representation of the Reconciling Pregnancy process.

Misdiagnosing the symptoms of pregnancy: "My body was rejecting"

Initially, the women assumed that their symptoms were drug-related; they did not relate "feeling bad" to pregnancy because they were accustomed to feeling fatigued and nauseated as a part of their meth experience. The women sought to eliminate the unpleasant reactions that they experienced when they used meth. So, even before they had any awareness of pregnancy, they assumed they needed to modify their meth use. They responded by increasing, decreasing, stopping their meth use or switching to another drug to avert the discomforts of nausea, vomiting, fatigue and frequency of urination. Describing her "bad" reaction, a participant said,

> I wanted to use, but it was the physical response, I would have a fix, or anytime I would smoke or even do a line I would get sick and it wouldn't get me high. It was like my body was rejecting. No matter what way I used the drug in, I would still get sick.

Most of the participants complained their response to meth was diminished, in that they did not get the "high" or have the characteristic euphoria and wakefulness they expected from

meth's stimulant properties. One participant thought her "supply" was "not good quality." One participant explained, "I started using more. I was using more to stay awake, I needed more and more, you know, to get the same effect." Feeling "comatose tired," one participant detailed a lackluster response to "the best dope, like, ever." She said, "You know, it got everyone spun out. I smoked with them and I just went back to bed. I missed it all."

Even though they were uncertain of the source of the annoying symptoms, many decreased their meth use to avoid "feeling bad." A participant recalled, "I actually cut down, I would go as long as I could in between times that I would get high." In particular, the women who "slammed" (injection administration) reported being especially susceptible to nausea and vomiting whenever they used meth in early pregnancy. One of these women reported, "I was still shooting up… I was feeling sick, I was just throwing up, feeling awful, feeling ugly. I just totally stopped." However, the cessation of meth was temporary because most of the women resumed using meth after their early pregnancy symptoms subsided.

Some women relieved their discomfort by switching from meth to other drugs. Two participants switched from meth to heroin to avoid extreme nausea. A woman remembered, "This was like the worst feeling when I'd slam. As soon as I did it, I ran outside or I'd run to the bathroom. It was a sign. I needed to stop..." When asked if she did indeed stop, she said, "Oh, I didn't stop there, I started doing heroin instead." Switching to marijuana, one mother explained, "Marijuana is perfect. That's what you do when you're pregnant; you eat and sleep a lot."

Ignoring or denying pregnancy changes while using: "I just didn't want to face it"

At the time of conception, most participants perceived they were in poor health. Most had been living "on the streets" and had neglected taking-care of themselves as part of their meth-

centered lifestyle. The women assumed drug-related poor health accounted for the early pregnancy symptoms. One woman said, “I was just very sick--sickly, real skinny. You know I went so long using.” Thinking she needed to get “clean,” she told of seeking refuge in jail after “being on the run.” She said, “I turned myself in, I couldn’t stand it. I was just getting high and I was throwing up all the time. I get sick, too, from drugs—so, I didn’t know.”

In particular, the women who were pregnant for the first time mistook the signs of pregnancy for other ailments. A first-time mother had been doing “speedballs” (combining meth and heroin); she suspected her nausea and fatigue was caused by “coming down from heroin.” A woman in early pregnancy recalled thinking, “I was peeing all the time. . . I’ve been sitting on this ‘UTI’ for a few weeks.” Another first-time mother assumed the nausea and fatigue was related to flu or food poisoning. Pregnancy was not considered a possibility in their minds.

Many participants completely discounted the most commonly recognized sign of pregnancy, a “missed period.” They did not distinguish a missed menses could mean pregnancy. One participant recalled, “It didn't really faze me that I lost my period, because you know, I had like not completely, but almost lost my period during that time; like, I wasn't really bleeding.” Some women also recalled “spotting” which they claimed did not cue them to consider the possibility of pregnancy; rather, they thought that irregular “spotting” was their menses.

However, some women did suspect that they might be pregnant; nevertheless, they “just didn’t want to face it.” One woman said, “I was in denial. I didn't really know whether I was pregnant. I didn't even really want to know if I was pregnant or not.” Others ignored the signs of pregnancy; a second-time mother continued taking birth control pills until her fifth month of pregnancy, while she simultaneously concealed the pregnancy by wearing large shirts. Many women cited depressed mood as an explanation for not noticing pregnancy-related symptoms.

One woman said, “Even though I knew those symptoms were there, like the throwing up, feeling sick and everything, I didn't really care, because I guess I was so much in a depression mode, to where I just didn't care anymore.”

Learning of the pregnancy while using: “I needed to find out I was pregnant”

In general, the participants did not acknowledge the signs and symptoms of pregnancy; external sources were needed to introduce the possibility of pregnancy. Only three women in the sample independently sought pregnancy testing. After performing a home pregnancy test, one participant recalled her disbelief of the test results,

> When I seen it (the positive test result), I was like, I couldn't believe it. And I tried to go --- like, I wanted to go to the doctor to find out how far along I was and if I was really pregnant, but I just never got to go 'cause I was getting high. I never made it up there.

Despite a positive pregnancy test, this participant did not change her drug-using behaviors. Like others she wanted “official” reassurances that she was “really” pregnant. On average, the women were 18 weeks gestation (4.5 months) when they were “officially” told about the pregnancy.

Most of the women were cued to recognize their body changes by others in their lives, often by an intimate partner, a family member, or a friend who noticed the body changes of pregnancy. For example, a first time mother remembered how she was introduced to the idea of pregnancy when her sister-in-law pointed out the linea nigra, a prominent darkened skin change in pregnancy:

> I don’t know; I was really high. And, my sister-in-law--see like, the little brown line right here (pointing to her lower abdomen)? ‘I think you’re pregnant. I was like no! And then she got it stuck in my head.

Most of the sample learned about their pregnancies after they had been incarcerated. When processed into “lock-up,” the women were routinely tested for pregnancy. If they were pregnant, the women received ultrasounds to learn the gestational age of the pregnancy and they

were referred for prenatal care. Pregnancy was confirmed for one participant as early as two weeks' gestation from routine health screening in jail. After arrest, one participant received pregnancy confirmation in her sixth month of pregnancy. She surmised, "It was the Lord that put me in jail because I would have used all the way through—I was so petrified of having another baby." She confided that she had been using meth to forget the worry of pregnancy symptoms. A first-time mother who was angry about being jailed reflected,

> I just could not figure out why he (the judge) sent me to jail that long. And I know why, because I needed to find out I was pregnant, because I would have kept using and using, you know. I was in denial I think. Like, my belly was really getting kind of big and I just thought I was getting big.

In a similar fashion, five of the participants learned about their pregnancies with routine pregnancy testing upon admission into substance abuse treatment programs after losing custody of an infant or child to child welfare services.

While living in the community, meth-dependent women failed at attempts to quit using meth. One participant described her efforts to quit using after getting a pregnancy test at a clinic,

> "You know, after I found out I was pregnant, I did try stopping several times. You know, I just couldn't. My thinking, I was just in a lot of misery, in a lot of self-doubt, a lot of low self-esteem. I didn't really grasp the fact that I was pregnant. You know, I was a little bit in denial.

In contrast, the woman who met DSM-IV criteria for abuse of meth suspected that she might be pregnant. She independently went to a doctor's office for a pregnancy test where it was determined that she was almost two weeks pregnant. Upon learning of the pregnancy, she reflected,

> I was in shock, I was happy, I was scared as hell. Didn't know what to do, but I decided I was going to stop. But I still hung out with the pot heads and the coke heads and the meth heads, and everybody.

Realizing pregnancy and still using: "What, I'm pregnant?"

Even though it took only a moment to receive "official" confirmation of the pregnancy, realizing that the pregnancy was "real" occurred only after the women were drug-free and over time. The women struggled to come to terms with the idea of being pregnant; they "hoped" the pregnancy was not real. A participant who did home pregnancy testing, registered her disbelief,

> Every time I'd go to the 99 cent store or pharmacy, first thing I would hit was the pregnancy tests. I'd buy them, go to the bathroom and do it, and do it, and do it--always two lines.--You know, positive or a little cross. I couldn't believe it. It took me four or five tests to realize it.

However, she continued using meth until arrested in the fourth months of her pregnancy.

The participants espoused a certain logic that justified not recognizing the pregnancy; they required proof by a professional, by ultrasound, or by documentation before they would acknowledge they were pregnant. One participant said, "When I found out I still didn't believe it, really, I thought it was just wrong. Until I, like, went to the doctors and they gave me the heartbeat and stuff." Despite suspicions of pregnancy, a mother who was trying to regain custody of her children postponed recognizing her pregnancy. She reframed her suspicions of pregnancy so she could continue to use meth without guilt. In her mind, if she allowed herself to acknowledge the pregnancy, she would have to face the possibility that she might also lose custody of her unborn baby. She said, "I was in denial. I was too scared to lose this one. I thought I was pregnant. I kept telling myself, 'No, I didn't really know whether I was pregnant." On admission to the treatment program, she conceded that she could be pregnant and requested confirmation of the pregnancy by an obstetrician before she would acknowledge the pregnancy.

Three participants reported previous or recent pregnancy losses; consequently, having another pregnancy represented uncertainty and great apprehension regarding survival of the current pregnancy. These women bargained to protect themselves from the pain of another

pregnancy loss. One explained, “That was my thing, If I could get past the first trimester, then I would care.” Another participant whose obstetrical history included a prior birth, numerous elective abortions, and a miscarriage the year prior explained,

> I didn't get excited because -- and I've heard other women say this, but I'll just say it for myself. For me, I thought that the baby was going to die again. So, I didn't want to get attached. I didn’t want to think about the future, like whether it’s a boy or a girl—you just don’t let yourself go there.

Assessing options and support: “Maybe I should have an abortion”

As an initial response to learning of the pregnancy, 13 of the 17 women considered abortion. Most considered the idea of abortion in a reactionary manner, they reasoned, “It’s not a good time;” they were not “ready;” and pregnancy would be a “struggle.” One woman recalled, “When I sobered up, long enough in jail, first I started thinking maybe I should have an abortion.” Most of the women missed the opportunity to terminate the pregnancy. They simply “waited too long;” persistent meth use interfered with their ability to follow-through with a plan for termination or to proceed to prenatal care. A mother of three children explained, “I knew that I was pregnant since I was, like, eight weeks. And I was supposedly going to have an abortion, but I never got to it, ‘cause I was so high.”

In making a decision, the women revealed awareness of social disapproval about drug use during pregnancy and they recognized their accountability in using meth during pregnancy, especially about the duration of their use. One woman said, “Oh my God, what have I done? The fact that I was using and I was pregnant--And I knew I should have stopped….I knew I was using for too long. I couldn't stop; it was already close to five months.” They also expressed awareness about the effects of meth on fetal life directly. Remembering an ultrasound experience when she went for a pregnancy termination, a mother recounted,

> I just got high and went over there. I could see the baby on the screen, and the baby was kicking a lot. Like, (the attendant said,) "Oh, the baby's hungry." And I was just thinking in my mind, 'The baby's not hungry, the baby's just high. But, you know, I just knew I couldn't, couldn't-- get an abortion.

Another woman explained her decision not to abort, "I couldn't do it, the baby's already a baby."

The women considered their life situations and social supports as they decided a course of action. Their decisions regarding abortion as a potential solution to the pregnancy were made autonomously. Some women had been encouraged to get an abortion by their partners or by their meth-using friends; however, the women wanted to make their own decisions. They made decisions in favor of keeping their pregnancies regardless of family recommendations. While realizing she would face personal consequences if she remained pregnant, one woman recalled, "Everyone was convincing me, like, 'Oh, you can't raise a kid, you're not ready yet. You should get an abortion.'" However, against the wishes of her friends and family, she decided to keep the pregnancy. Another woman explained, "If I didn't have it or if I did, like, either way they're going to be mad at me, I mean, they're---so, I ended keeping it." Only one participant considered the father of the baby in her decision-making to keep the pregnancy. She reasoned, "It's not fair on the dad. He doesn't even know, so, I didn't do it."

As well, the women considered aspects of the abortion procedure with respect to their individual circumstances. Some of the women had previous abortions and chose not to repeat the procedure with this pregnancy. Recalling a past abortion experience, a woman said, "I already had one, and it fucked me up." A few women found it unacceptable to have a "2-day procedure" for a second trimester therapeutic abortion. Thus, the opportunity for pregnancy termination was missed or rejected by the participants.

Reconciling being pregnant: "If I kept it, it would probably change my life"

Being drug-free, with the "official" confirmation of the pregnancy to think about in jail or in treatment, the women began to reconcile their emotions, past lives, and the possibility of a different life in the future as a mother. The women were in sheltered living conditions, safe, fed, and well "slept." They considered how the pregnancy would influence their lives. The women found that their life situations did not fit what they had "pictured" pregnancy would be. One of the first time mothers reflected,

> I don't have a job and I always said that I wanted to have a baby when I had a job and I had a career. So -- the situation I was in is like, I'm using -- I'm testing dirty for probation. I might go back to jail -- to prison -- I might go back. And what was I going to do? My boyfriend was locked up.

The women realized the pregnancy was not within their control, thus, some women resigned their decisions about the pregnancy to fate. One participant explained,

> So, when I found out I was pregnant, I was like, "You know what, if it's meant to be, I will carry the baby till term. And it will live, and I will be like the best mom I can be. If it's not meant to be, I will lose it early." After 12 weeks, I was like, "Shit, I'm stuck." I wasn't stuck as in saying, "Oh, I have to go through with it," I was stuck as in it's meant to be. I'm not going to lose the baby any time soon. God forbid I lose it at all.

Eventually, the women began looking to the pregnancy with hopeful expectation. Most considered the pregnancy a "wake up call" or a "second chance." A first-time mother articulated this as, "If I kept it, it would probably change my life and make me stop (using)." Some hoped the pregnancy would settle the "chaos" in their lives and they voiced goals for a "stable, good life." However, each of the participants realized that she might be "a single mom" through the pregnancy and after. They acknowledged "It was going to be hard." Many of the participants attributed spiritual meaning the experience of their pregnancies; some women equated the pregnancy with an intervention by God or to "miracles by God." The women reported, "God

wanted me to keep it" and the pregnancy as a "sign from God." As a more specific message, one woman claimed, "God's telling me to start over."

Telephone calls were made from jail to friends, intimate partners and parents to share the news of the pregnancy. Most of the women expected negative responses from their social network of family and friends. Some reported that family members had no faith that the women could be a mother and take care of a baby responsibly. One woman reported that her mother questioned the health of the baby, knowing that she had been using meth during the pregnancy. The woman remembered, "My mom and my boyfriend were both telling me to get an adoption, because I can't do this and my baby wouldn't come out good."

Regardless of the reactions by family, the women latched on to any semblance of acceptance for the pregnancy to bolster their resolve about keeping the pregnancy. The women expressed both appreciation and apprehension regarding their mothers' support of their pregnancies. The relationship with their mothers was especially important to the women. One woman described her mother as a confidante and emotional supporter even though when she was distraught after calling home to tell her mother of the pregnancy.

> I'm like, "Mom, I don't know what to say but I'm pregnant." She said, "Are you fucking stupid." and she hanged up on me. I was like, I think that was the thing that kept me doing drugs, you know. Cause, see my mom wasn't there, didn't like accepted it. I think I would have gone home, but she'd tell me, "You're stupid," you know. But, at the same time I understand that, because, after she explained to me. She was mad at me at the beginning. Not at me, but at the fact that now that I know that I'm pregnant and I was still doing my stuff.

The participants resigned to keep their pregnancies despite their relationship status with the babies' fathers. The women realized that the father of the baby would not be involved during the pregnancy or after the babies were born. Nonetheless, one of the women ventured, "He needs to know he has a baby in this world," but no participant expected a parenting partnership. The women were resigned to be "single" moms and fortified themselves to be self-reliant. One

woman expressed hesitation about notifying the father of the baby, "He doesn't have anything, so I don't expect anything. And, I don't want his dirty money, no drug money. But all kids want to know who their real parents are, so one day I'll tell him." In general, the women were cautious of "risks" posed by the fathers' drug use. The women considered both legal consequences and threats to their own meth recovery if they were to have contact with the fathers. Only two participants thought the fathers of the babies would possibly be involved after the birth; however, this was not yet confirmed by the fathers.

Discussion

Reconciling Pregnancy, a process of acknowledging unintended pregnancy, was constructed from narratives and observations of 17 pregnant or postpartum women who had used meth during a portion of their pregnancies. In *Reconciling Pregnancy*, six actions were identified as the participants revealed similar, critical events. The process occurred after the women began feeling pregnancy symptoms and continued until they were able to reconcile in their minds that they would keep the pregnancy. The actions included misdiagnosing pregnancy symptoms, ignoring or denying pregnancy symptoms, learning of the pregnancy, realizing pregnancy, assessing options and support, and finally reconciling being pregnant.

Throughout the process, meth was a blinding force that obstructed the women's ability to foresee the possibility of a pregnancy or become involved with the pregnancy. Without interruption of their drug use, the meth-dependent women did not acknowledge their pregnancies nor did they modify drug-using behaviors for the sake of their pregnancies. It was only through external social interventions and after attaining drug-free status that the meth-dependent women were able to realize that they were pregnant. Delays in pregnancy recognition have been reported

among other samples of pregnant women who use illicit drugs (Dott, Rasmussen, Hogue, & Reefhuis, 2010; Murphy & Rosenbaum, 1999), data from our meth-dependent mothers reconfirmed a similar delay. However, the woman in our sample who met DSM-IV criteria for meth abuse recognized her pregnancy early in pregnancy, sought verification of her suspicion, ended her meth use, and started prenatal care. These actions signify a critical difference in behaviors based on meth use severity, a measure which is generally undetermined among samples of pregnant women who have used meth during a pregnancy.

The women revealed deficits in their prepregnancy knowledge about reproductive signs and symptoms and failure to access health care services when physical symptoms signaled a problematic change. Their failure to identify and acknowledge early pregnancy symptoms combined with denial and other cognitive-emotional processes, impeded early pregnancy recognition. Consciously and unconsciously these women dampened their own curiosity about the signs and symptoms of pregnancy and other pressing life issues. Avoidant coping strategies such as denial, suppression of stressful emotions, redirecting culpability, and using meth to forget stressors peppered their stories. Escapist and avoidant coping styles have been noted among pregnant mothers with high risk pregnancies (Huizink, de Medina, Mulder, Visser, & Buitelaar, 2002) and among substance using women (Jessup, Humphreys, & Brindis, 2003; Young, Boyd, & Hubbell, 2000).

Away from tempting drug triggers, the women attached hope, spiritual significance, and opportunity to being pregnant. They associated their pregnancies with personal safety and well-being they acquired only after becoming meth-free and protected in treatment. Detoxification gave the women an opportunity to weigh their options for continuing the pregnancy. However, their ability to make choices regarding pregnancy termination was limited by their delayed

pregnancy acknowledgement which reduced access to uncomplicated services for termination because their advanced gestational age incurred greater medical risk, thus more involved procedures (Drey et al., 2006). Lost opportunities have been reported among other samples of drug-using women who failed to recognize pregnancy prior to the completion of the first trimester (Ayoola, Nettleman, Stommel, & Canady, 2010; Santelli et al., 2003). Without pregnancy, their risk for staying in jail or going to prison was greater, depending on their accumulation of legal infractions.

This qualitative study addressed two additional findings related to physiological changes of early pregnancy, reduced meth response and intensified nausea and vomiting in early pregnancy. From the participants' descriptions and timing of their symptoms, we suspect physiological changes due to increasing levels of progesterone in early pregnancy might be responsible for the dampened response to meth that our participants reported in the weeks after conception. Reproductive hormones, estrogen and progesterone, are known to influence meth pharmacokinetics at the different phases of the menstrual cycle (Carroll, Lynch, Roth, Morgan, & Cosgrove, 2004; Justice & De Wit, 2000; Terner & de Wit, 2006). However, further investigation is recommended regarding this response in pregnancy.

Second, severe nausea and vomiting was reported, especially among the participants who injected meth. Nausea in early pregnancy is associated with a healthy pregnancy, signaling low probability of pregnancy loss (Flaxman & Sherman, 2000). We suspect a augmented biochemical interaction occurred with the effects of pregnancy and the anorectic properties of meth causing amplified nausea, especially severe in women who injected meth. While the mechanism for nausea and vomiting in early pregnancy is not clearly understood; these symptoms occur as normal discomforts of pregnancy at about four to six weeks gestation in about two-thirds of all

pregnancies (Blackburn, 2003; Varney, Kriebs, & Gegor, 2004). Further investigation regarding this phenomenon is warranted as a potential cue to pregnancy among meth-using women.

Strengths and Limitations

The strength in this manuscript occurred in the participants' willingness to tell their frank, personal stories. However, our study was limited by the size and lack of diversity in the sample. The dependent meth-using participants overwhelmed the sample and underscored the underrepresentation of participants who met DSM-IV criteria for meth abuse only. Second, because most of the participants were in treatment, more data about women who are not in treatment could potentially broaden our insights regarding the pregnancy experience of women who use meth during pregnancy.

This article expands our understanding about pregnancy recognition among dependent meth-using women who have unintended pregnancies. The process *Reconciling pregnancy* identifies the necessary and controversial external intervention provided by the criminal justice system and child welfare systems regarding pregnancy recognition. Even though pregnancy management and policy appraisal within these agencies is not the primary focus, as an influential part in these women's lives, it demands further attention.

In the community, the *Reconciling pregnancy* process highlights needs for earlier pregnancy identification among meth-using women. In support of these efforts training of professional personnel in primary health care services and social agencies is needed to improve universal screening for substance use, brief substance abuse interventions, and referral to supportive treatment services for pregnant meth-using women. Suggested interventions include outreach, education, and referral for meth-dependent women who hide from the mainstream. We

recommend further corroboration of our findings with larger and more diverse samples of meth-using women of childbearing age.

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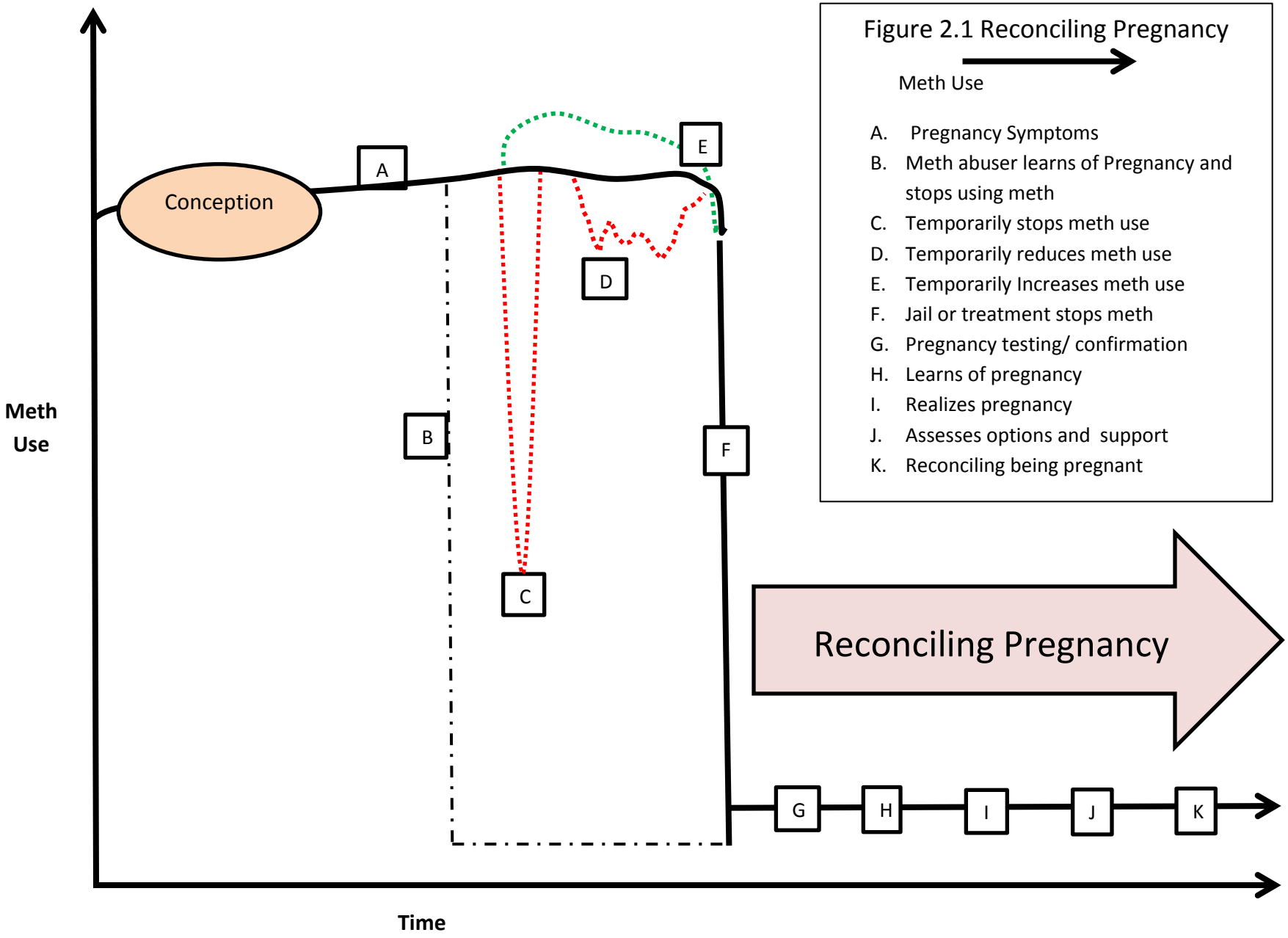
Figure 2.1 Reconciling Pregnancy
Meth Use
A. Pregnancy Symptoms
B. Meth abuser learns of Pregnancy and stops using meth
C. Temporarily stops meth use
D. Temporarily reduces meth use
E. Temporarily Increases meth use
F. Jail or treatment stops meth
G. Pregnancy testing/ confirmation
H. Learns of pregnancy
I. Realizes pregnancy
J. Assesses options and support
K. Reconciling being pregnant
Meth Use
Conception
A
B
C
D
E
F
G
H
I
J
K
Reconciling Pregnancy
Time

Table 2.1 Participant Characteristics, N = 17			
Characteristic	number or range	Percent or Avg	Std. Deviation
Age	18 to 37 years	24 avg.	4.43
Ethnicity			
White	7	41 %	
Hispanic	7	41%	
Asian	1	6%	
Mixed-race Hispanic	2	12%	
Education			
Less than high school	8	47%	
Graduated high school	4	24%	
More than high school	5	29%	
Employment			
Ever employed	10	59%	
Currently employed	0	0	
Marital Status			
Single	13	76%	
Married	4	24%	
Housing			
Lives independently	2	11%	
Homeless	8	48%	
Lives with nuclear family	7	41%	
Methamphetamine Use			
Onset	12 to 19 y/o	15.8 y/o avg.	2.0
Duration of meth use	4 to 13 years	7.7 yrs. avg.	1.37
DSM-IV status- abuse	1	2%	
DSM-IV status-dependence	16	94%	
Complementary Drug Use			
Cigarettes	16	94%	
Alcohol	10	59%	
Cocaine	2	12%	
Heroin	8	47%	
Prescription abuse	3	18%	
Treatment Status			
Drug Court-ordered	9	53%	
Child Welfare ordered	5	30%	
Juvenile Justice System ordered	1	2%	
Voluntary	1	2%	
Treatment naïve	1	2%	
Mothers having a First Pregnancy			
Pregnant	2	20%	
Postpartum	2	29%	
Mothers having a Repeat Pregnancy			
Pregnant	8	80%	
Postpartum	5	71%	

Chapter 3

Methamphetamine-using Mothers: Engaging in Pregnancy and Building a New Life

Abstract

When methamphetamine use occurs during pregnancy, it signals the probability of methamphetamine dependence in the mother. Methamphetamine-using women delay entry into prenatal care and miss opportunities for preventive screening and early interventions that could avert complications associated with the effects of methamphetamine. To understand factors that influenced the women's ability to become engaged with pregnancy, semi-structured interviews explored the pregnancy experiences and perceptions of 17 urban Southern California women who used methamphetamine during their pregnancies. Constructivist Grounded Theory guided analysis to develop a process, *Engaging in Pregnancy* that describes a sequence of actions, including: pursuing sobriety, taking-in the pregnancy, nurturing the pregnancy, and anticipating motherhood. *Engaging in Pregnancy* reveals conditions that strengthen the women's involvement in their pregnancies as they also plan for a sober life. Our findings suggested the meth-using women lacked knowledge about self-care behaviors in pregnancy, the roles of health care providers, and the preventive nature of prenatal services. Self-care behaviors and pregnancy awareness were reinforced through trusting relationships with other residents. However, the women simultaneously advanced their pregnancies and meth recovery in a supportive, structured treatment environment. We recommend further research with larger samples of pregnant methamphetamine-using women, both in and out of treatment, to corroborate our findings about behaviors and perceptions associated with engaging in the pregnancy.

Introduction

Methamphetamine (meth) use has emerged as a growing threat for the health and social welfare of women who use meth in their childbearing years. The number of meth-involved births is growing (Cox, Posner, & Kourtis, 2008; Terplan, 2009), triggering meth-related obstetrical complications (Good, Solt, Acuna, Rotmensch, & Kim, 2010) and social welfare cases for abandoned, neglected, or abused newborns and children whose mothers used meth during pregnancy (Haight, Carter-Black, & Sheridan, 2009; Young, 2006). Meth is a highly addictive, long-acting stimulant that is favored by female users who are especially attracted to the drug's mood elevating, energizing, and anorectic properties (Semple, Grant, & Patterson, 2004). Women tend to advance their meth use quickly (Brecht, O'Brien, von Mayrhauser, & Anglin, 2004). When meth use occurs during a pregnancy, it signals the high probability of physical and psychological meth-dependence (Derauf et al., 2007) which is characterized by continued use despite awareness of the drug's harmful consequences (APA, 2000).

Analysis of hospital obstetrical records revealed that pregnant meth-using patients were younger than the general population of pregnant mothers (Cox, Posner, & Kourtis, 2008). They started prenatal care later in pregnancy and they received fewer total prenatal care visits (Cox, Posner, & Kourtis, 2008; Derauf, et al., 2007; Good, Solt, Acuna, Rotmensch, & Kim, 2010). Thus, the meth-using women received less opportunity for preventive screening or early intervention (Good, Williamson, Blumrick, Balducci, & Kim, 2006) and they required high risk obstetrical management to avert consequences from the vasoconstrictive effects of meth (Good, Solt, Acuna, Rotmensch, & Kim, 2010). Although there is no physical syndrome associated with meth exposure during pregnancy; neonatal outcomes for meth-involved pregnancies exhibited low birth weights and dose-related neurologic effects (Nguyen et al., 2010; Smith et al., 2008).

Following birth meth-using women faced significant challenges adjusting to their new motherhood role because they had difficulties staying drug-free (Dowdell, Fenwick, Bartu, & Sharp, 2009). Derauf (2007) found that a third of meth-exposed newborns in a sample were removed from the care of their biological mothers within a month after birth. Consequently, mothers who use meth are often fearful of losing custody of their children (Grella, Hser, & Huang, 2006; Jessup, Humphreys, & Brindis, 2003).

Pregnancy is conceptualized as a time of social, emotional, and physical change. It involves a transformative process in which pregnant women modify their identities as women to adjust to new or renewed motherhood. In pregnancy transition women commit to a relationship with the unborn child (Callister, 2002; Mercer, 2004; Rubin, 1984). Comparison across studies revealed that trusting relationships, family support (Wilson et al., 2000), awareness of the fetus, support seeking behaviors, and first pregnancies were positively associated with maternal-fetal attachment. Whereas, negative emotions, ie., psychological distress like anxiety, depression, and emotional pressures were inversely associated with maternal-fetal attachment (Alhusen, 2008; Cannella, 2005). More recently, ultrasound imagery has positively influenced connection to the unborn child (Alhusen, 2008; Righetti, Dell'Avanzo, Grigio, & Nicolini, 2005; Stormer, 2003). However, samples of women who used illicit drugs, not including meth, were found to have difficulties developing the maternal-fetal attachment (Murphy & Rosenbaum, 1999; Shieh & Kravitz, 2006).

In today's world of complex and diverse lifestyles, context and cultural differences displace the long-standing western ideas of mothering behaviors (Koniak-Griffin, Logsdon, Hines-Martin, & Turner, 2006). We know little about how women who use meth perceive their pregnancies. To date, research has targeted meth's pharmacologic and neurologic influences on

pregnancy and the outcome of infants exposed in utero (Smith, et al., 2008; Smith et al., 2006). Descriptive research has identified many characteristics of meth-using mothers, but there has been limited research that explores pregnancy from the women's perspective. The purpose of this study is to explore the perceptions and pregnancy experiences of women in urban Southern California who used meth during a recent pregnancy.

Methods

Study Design and Theoretical Influences

Constructivist Grounded Theory (CGT) guided data collection and analysis. CGT applies the classic strategies of Grounded Theory to build social processes (Charmaz, 2005; Corbin & Strauss, 2008); however, Constructivism underscores context and the relationship created between the investigator and the study participants to co-interpret and co-construct explanatory processes from their narratives (Charmaz, 2006; Mills, Bonner, & Francis, 2006).

Symbolic Interactionism informed interpretations of experiences that were depicted in the data. SI heightened our awareness of the unique and pragmatic interactions that individuals have with their environment. Constructivism also reminded us that we make interpretations from our "lens" of experience and understanding. This was important while collecting and analyzing data because conversations between the investigator and the participant, although experiencing the same words, may not always convey identical understanding.

Sample and Settings

The total sample for this study consisted of 17 participants who had used meth during pregnancy; ten women were pregnant and seven women were postpartum mothers. Eligibility

criteria required the candidates to be English-speaking regardless of ethnicity, to be age 18 year and older, and to identify meth as their preferred drug of abuse with a report of meth use within a recent pregnancy. Passive recruitment for this study was conducted at five women-only residential substance abuse treatment sites, nine Women, Infant and Children (WIC) program sites, and at a high-risk obstetrical specialty practice. Twenty-five women made contact regarding participation, five women were found ineligible. One eligible candidate did not show for the written consent and one was arrested prior to consent. One participant was dropped from the study due to arrest during the initial interview. The final study sample contained 17 participants who had used meth for variable durations in their pregnancies.

Procedures

In addition to Institutional Review Board approval, a Certificate of Confidentiality was obtained to conduct this study. Approved flyers were posed at the recruitment sites. The women made telephone contact to express interest in the study, at which time they were screened for eligibility.

The first author met with the candidates individually for a face-to-face meeting at safe, mutually agreed upon locations. Information and reassurances regarding participation were provided; the Certificate of Confidentiality was explained and written consent was obtained. Demographic data was collected and a DSM-IV Meth Severity assessment was conducted.

Semi-structured interviews were conducted using topic prompts that were suggested and approved by women's health experts. The interviews incorporated issues from preconception through postpartum and prompts were used to encourage detail in their stories. Guided by CGT,

the dialogues followed the participants' views about what was important during their pregnancies (Jeon, 2004). The average duration of the interviews were approximately 100 minutes.

Analyses was conducted using constant comparison within each participant's story and between the stories of all the participants (Corbin & Strauss, 2008). Coding progressed by stages from initial coding to focused coding; eventually, categories of action and meaning were constructed from the data (Charmaz, 2006). The analysis considered the context of the women's experiences and incorporated the shared meaning that was made between the investigator and study participants (Charmaz, 2006; Morse et al., 2009). Theoretical sampling, field observations, and situational analysis (Clarke, 2005) supported the construction of the process *Engaging in Pregnancy*.

Participant Characteristics

Table 3.1 Sample Demographics and Table 3.2 Sample Psychosocial Influences give details regarding the study participants. The participants had been living stressful meth-centered lifestyles in which they were isolated from mainstream society. The women participated in high risk sexual behaviors; however, they were oblivious to consequences that were associated with their behaviors (Stemmler, Heilemann, & Nyamathi, under review-a). The outcome was unintended pregnancy.

They used meth for variable durations in their pregnancies, the shortest duration was two weeks into the pregnancy and the longest span of use was through the day before the baby's delivery. Sixteen of the women were meth-dependent users by DSM-IV criteria and one participant met criteria for meth abuse. Upon learning of pregnancy, the participants either failed to recognize the symptoms of pregnancy or they denied their pregnancies. Only the non-

dependent meth-user stopped using meth and sought prenatal care upon learning she was pregnant. The meth-dependent women proclaimed their "shock" as though pregnancy was not in the realm of possibility and they continued to use meth until they were incarcerated or court-ordered to attend substance abuse treatment for pregnant and parenting mothers. The women realized they were pregnant and reconciled being pregnant only after they were detoxified (Stemmler, Heilemann, & Nyamathi, under review-b).

Results

This manuscript explores the experiences of women who had used meth during a current or recent pregnancy. Sixteen participants were ordered by drug courts to attend substance abuse treatment and one participant was treatment naïve. A process called *Engaging in Pregnancy* involves experiences that enabled the participants to become involved in their pregnancies while in substance abuse treatment. The process describes pursuing sobriety, taking-in the pregnancy, nurturing the pregnancy, and anticipating motherhood. Figure 3.1, depicts the simultaneous actions categories within the *Engaging in Pregnancy* process.

Pursuing sobriety: Recognizing an opportunity to change

Most of the women had been arrested for drug-related non-violent crimes; consequently, they were ordered by drug courts to attend women' residential substance abuse treatment. Besides promoting sobriety, a focus of these programs is to support life skills for parenting and self-sufficiency. The participants responded quickly to the treatment milieu with expanded programs for women who were pregnant and/ or responsible for the care of young dependent children. The participants found immediate benefits from being in treatment; however, the

participant who was not ordered to attend substance abuse treatment after her release from jail was anxious and greatly stressed in her struggle to stay drug-free until the her baby's birth.

The participants realized their pregnancy was the catalyst that prompted members of the criminal justice system to champion their cases. The women gave accounts of probation officers, district attorneys and judges who intervened on their behalf to "keep them out of jail." The women opted for integrated legal and child welfare oversight for the term of their sentences. Arrested in mid-pregnancy, a first-time mother with multiple violations feared she would be sent back to prison; she expressed relief when she was ordered to treatment, because "I just didn't want to have my baby in jail."

Getting "another chance" echoed across the sample of women. The "opportunity" to change their lives was attributed to the pregnancy. One woman explained,

> They're not going to put me in jail. So, they're giving me a chance to do this drug treatment. And I was very, very relieved that they actually gave me another chance. And I just remember going back to my cell, praying, saying, "Thank you, Lord. I'm going to do this thing right. Just help me through it. Just day by day, help me through it." And ever since I got out of custody, I've been clean and sober.

A portion of the sample had been mandated to substance abuse treatment by the family dependency drug courts so they could preserve legal custody of their children. A new postpartum mother who had lost custody of two other children reflected,

> If I didn't get pregnant with her, none of this would have happened. Even though it's one of the most horrible things that can happen to a parent, I see it as she kind of saved me in a way. Not just right now, but in a month from now, a year from now. I would probably be doing the same thing, just getting worse and worse. It's a good opportunity for me, because I don't think I would have come here very willingly.

The significance of treatment was intertwined with the women's assessments of their quality of life. The participants were weary from life on the streets and being in residential substance abuse treatment offered a drug-free setting in which they were provided shelter, safety,

and regular meals and a chance to redirect their lives. A woman who had been homeless recounted her appreciation of the residential treatment facility.

> I just got up at 7:00. I took a shower. I made my bed. I got dressed. I put clean clothes on. I ate breakfast every morning. There was always food, which wasn't something I was used to. I have friends now. I had a reason to be happy. I had stability. I had accountability. If I ever had to go anywhere, they would give me a ride. And if I ever called them, not only would they always answer the phone, but they always picked me up. That wasn't something I was used to. People wouldn't answer the phone when I called. People wouldn't answer the door if I knocked on it. People wouldn't -- you know, I experienced like a lot of really hard stuff to go through emotionally, but now that I'm in treatment, it's just like the best thing ever. So, I'm just really, really happy.

After being isolated in their meth-using lives, the participants were pleased to meet other women who had similar life experiences; they assumed that the other residents "knew." The program residents supported one another through adjustment to the treatment milieu. One woman described "the girls," saying, "They're like my sisters." Speaking of her new friends in treatment, another participant said,

> Like they say, "Oh, do you need anything?" Or, "Do you need help?" It's not to do it for something in return, it's just to do it out of their hearts, you know. And when the girls come up to me, or when I go up to the girls and vent, they actually sit down and listen, you know, and that's something that I never had." I mean, I had it with my mom, but she's my mom, come on, you know? These friends here, they give me good advice, they help me keep my head up and put good sense into me, you know, like put some good wisdom, and they encourage me that I can do this, that I am smart, you know…

However, living in residential treatment required the women to cooperate and get along with one another. A woman said, "I'm learning how to accept things for what they are, that things cannot always be my way, and that it's teaching me how to get along with others." They also described "little dramas" and volatile clashes also occurred between residents. After witnessing a loud quarrel between residents, a participant explained, "There are sometimes we have off days and bad moods and give attitude and they get all mad and make a big old argument about it. Just better if you just walk away from that."

Most of the women had used meth on a daily basis until they were arrested or brought to treatment. Craving meth persisted as a challenge to their recovery, so organized and structured activities in the treatment diverted their attention from wanting and "needing to get high." A woman who had been in treatment for about one month explained, "My mind wanders if I don't do something. If I am sitting there, and I don't got nothing to do, I constantly think, 'Well, I have all this free time, I could be getting high right now.'" However, a first-time mother who was in treatment after release from prison also revealed, "Now it's gotten better but it's weird that over eight months of being clean -- I mean--It's still in me, you know. That's kind of disappointing, a little bit, but I guess, I'm still craving it."

Taking in the pregnancy: Committing to the being pregnant

Taking-in the pregnancy conveyed giving their attention to the pregnancy. This action occurred as the women recognized, accepted, and anticipated pregnancy progress. Taking-in the pregnancy aided the women to commit themselves to the pregnancy and its outcome. They acknowledged their changed drug status. As a result, the women remarked positively about being pregnant and they embraced their pregnant bellies saying they were "happy," "excited," and "amazed" with the pregnancy. The women expressed their commitment to completing the pregnancy and they stated they wanted "to be a mother to the baby."

The women regretted the risks they had taken while using meth. Some women "felt guilty," fearing their baby was harmed by their meth use during pregnancy. One woman said, "I probably did so much damage to my baby already. You know, I was using meth every day." Most of the participants were comforted knowing the baby was growing normally. The women received obstetrical ultrasounds with every prenatal visit. Seeing ultrasound images gave

reassurance that their own babies were developing normally and strengthen the women's commitment to the pregnancy. A participant described her experience of ultrasounds during this pregnancy,

> It was so small, I said, "It's like a tadpole." And then next I went--It's like you see the little head, like a little circle. And then after a while, more and more, every time you go, you see, you know, the body form, and then now, I have a baby with a head and eyes and nose and toes and fingers, you know, it's just -- it's amazing.

The experience enabled the women to make a relationship with the healthcare provider though discussions about the baby's development. The ultrasounds hastened the women's sense of knowing their baby, especially after learning the baby's gender; as a result, some participants named their baby and routinely referred to the baby by name when speaking about the pregnancy.

Having pregnancy-related body changes reassured the participants that they were like the other women. A first-time mother shared her anticipations, "I just want to feel it kick. I'm four months. And like, I just want to feel it move. It moves, but I don't feel it move yet." In an environment of pregnant and new postpartum mothers, the participants judged how others looked and behaved during pregnancy. In particular, the first-time mothers were responsive to observing other mothers. They compared and judged pregnancy milestones such as onset of fetal movements and onset of labor. Seeing other women's pregnancy progress prompted critical evaluation; a woman having her first pregnancy compared her uterine size to the uterus of a woman with twins. She remarked, "It needs to hurry up because I don't even look pregnant."

Being sober and sheltered in residential treatment, the women expressed defiant resolve to "get involved with the pregnancy." Wanting to "be a mother to this baby" after losing two children to family custody, a woman recalled, "My brother was telling me, 'Now, you know how

much stuff you were doing?' And I was, like, 'I know how much stuff I was doing.' I am -- if God wants me to, you know, have this baby--- and I'm having it. And whether it's sick or not, I'm going to take care of it. It's my baby."

Nurturing the pregnancy: Learning how to take-care

While living on the streets, the women had been preoccupied with using meth; they struggled to take care of their own health and hygiene. Most participants did not independently modify their health behaviors for the pregnancy nor did they begin prenatal care. A participant recounted an attempt to start prenatal care. She said, "He wanted proof-of-pregnancy with a blood test. Then, it took a couple of weeks for me to even go to get my blood work done; then, it took three weeks for him to call me back. And by that time, I was a week away from when I went to jail." As a result, she did not start prenatal care until after she was arrested. The women expressed concrete ideas about self-care in pregnancy that focused on prenatal vitamins, eating "healthy," and terminating their drug use.

A few women reported that friends or a family encouraged them to begin taking-care of the pregnancy even before their arrest. Almost uniformly, the participants reported that they took prenatal vitamins as though it was a magic protector. After her sister suggested she should take prenatal vitamins, one new mother reported that she stole prenatal vitamins to take for the baby's sake. Another pregnant participant recalled,

> When I told one of my friends (about being pregnant), she had just had her baby. So, she said, 'Here at least take this. That is the best thing you could do right now.' She was like, 'If you're not going to stop, drink these prenatal pills.' I was drinking prenatal pills and I started eating to cover up for every time I'd slam and stuff.

In treatment, the women recognized that they had made healthy changes by "doing things, like eating three meals a day, getting my sleep, working, exercising, and just getting my life together." Yet, their understandings about self-care were laced with conjecture and misinformation. Some women held a belief that food would counteract the effect of their meth use. Like the previous participant, a postpartum mother explained,

> I was under the impression that if you ate before your smoked meth or did meth-- Okay, I pictured like this baby inside you, getting things from you. Like, okay, the baby's hungry, so it's going to get things from you. If you feed the baby, then it's not going to try to pull things from you anymore. So, I would eat before I would do meth, thinking that the baby wouldn't be getting the meth, or like as much.

In general, the participants were uncertain about the risks of their meth use. The women had conflicting ideas about meth use during pregnancy. Most expressed being "scared," "guilty," "irresponsible," and "wrong" about continuing to use meth in the pregnancy. Whereas, a few women insisted, "Meth does not have an effect on babies." A new mother voiced her doubts about the harmful effects of meth exposure during pregnancy, she refuted, "All my sister's kids-- She used meth with all of them and they're all pretty healthy, really smart. And she used her whole pregnancy with them all." Another woman who had used meth through her 8th month of pregnancy offered her thoughts about meth use in pregnancy,

> There's lots of different things you hear. One thing was that babies aren't really affected by meth, not like they are cocaine or alcohol. I did some -- I looked it up online, and I just saw stuff that said that the umbilical cord restricts, like the flow. I know that you have to watch your blood pressure, and that the problem -- I thought the only problem with meth and being pregnant is you don't eat or sleep when you're high, and you need to eat and sleep a lot when you're pregnant. She went on to explain.
>
> I know that crack babies, because I've seen them, they're just like off the chain. Like, they're hyper and they don't really need much sleep or anything, and they cry just like, "Uhhhhh." They shake. And alcohol babies are just kind of retarded looking, their noses and their -- just -- I don't know. I thought pot babies were slow and stupid, but meth babies were cool.

While in the community, many of the women had assumed health care providers would "judge" them and act negatively toward them for their drug use during pregnancy. They did not want to be questioned or confronted about their meth use. One participant said, "I was just afraid of them, like…. the judgment on me, being pregnant, you know, and doing it." A few women told of painful incidents surrounding medical visits. One woman recalled someone saying, "'You haven't gotten any prenatal care?' I'm like, 'No.' I thought I was seven months pregnant, but I was eight months pregnant. See, I didn't even know."

All of the meth-dependent women were started with prenatal care while in jail or in treatment. In treatment, many participants reported that it had made a difference when their drug use was already known. Disclosure of their drug use was no longer an issue. A woman explained, "It kind of made it easier that they already knew my situation and for me having troubles, you know?" Similarly, without worry associated with the prenatal visit, another participant said, "It was nice feeling like I was doing something, like I started to slowly feel like a normal person. Like, normal people go to the doctors when they're pregnant." Regarding disclosure of meth use to the provider, a few participants answered that they tried to hide their drug use. However, a few women insisted that it was necessary to let healthcare providers know; a woman explained, "I thought if they knew specifically that I had used that there would be a better chance if there was an emergency that they could fix the situation if they had more information. So, I always tried to keep that out in the open with my doctors."

The women's understanding about customary health-seeking behavior when pregnant was lacking and they were fearful to seek prenatal services. Even after attending prenatal care in treatment, some women were uncertain about what prenatal care offered. One woman asked, "What is prenatal care?" Generally speaking, these women expected to receive timely service

without waiting to see a provider. Their evaluations of prenatal care were based on their assessment of how they were treated by the health care personnel. Some participants said they had been given a "hard time" and they did not like "rude" nurses. The women preferred the nurses and the health care provider to be "nice," "friendly," and "concerned." A postpartum mother complained,

> "He's a little quick with me…I just thought it was so quick and so impersonal for something that is going to be personal. One time he called me a name that wasn't even my name and said, 'Your baby is due in November,' but my baby is due in August."

They held very high expectations for professionals and they were critical when their expectations were not met. When asked about learning in prenatal care, a woman responded, "Not, really." Some participants complained, "They weren't doing much;" the visits were "not informative;" and some women said that they had "expected more." One woman complained, "I didn't get no instructions on anything." However, they appreciated receiving sonograms, prenatal vitamins and iron supplements, and "papers" about "how your body changes" in pregnancy. None of the participants in this study attended prenatal classes.

From their perspective, the women were trying to do "what I have to do for the pregnancy, you know the right things." Their commitment to pregnancy was determined, hopeful, and fragile. While they were in treatment and sober, they were doing what was needed to the extent of their knowledge. One mother's remarks typified the sentiments of the sample, "I'm, you know, staying clean no matter what, drugs, alcohol, everything. I'm in a program. You know, I'm in an inpatient program. I'm taking care of myself. I'm taking my prenatals. I'm doing my checkups. You know, I'm actually taking responsibility."

Anticipating motherhood: Working toward a new, sober life

Anticipating motherhood included not only getting ready to "bring a baby into the world," but also to make a home for themselves and the baby. The women's lives had been chaotic on the streets, not the "stable, good life" that they envisioned for motherhood. Their ideas about this pregnancy were hopeful with naive expectations. However, the women acknowledged that almost certainly they would raise their babies without a partner since many of the biological fathers were no longer a part of their lives. One of the women envisioned childbirth saying, "I always dreamed of having a husband or someone to be there with me, kissing my forehead after the baby's born. I've always wanted that, you know? 'I love you. I'm right here.'"

About half of the women had families who would be able to assist them with their role as new mothers. Most anticipated completing the residential treatment program. The women hoped to transfer to a sober living facility to complete their drug court requirements and build a new life. All but two participants would continue to be under the supervision of child welfare after completion of the treatment program. Nonetheless, the women were hopeful about their pregnancies and their meth recovery; they spoke positively about prospective motherhood, even though they knew they would have challenges to overcome.

The women outlined personal goals for being a mother; most goals were related to making a "better life" for their children and "staying clean." The women wanted to break generational cycles of isolation and neglect or abuse with their children. Referring to the neglect she experienced as a child, one woman said," I don't want to be that mom that—like my mom was, you know? I have too much pride, I guess, for that now." Another woman spoke of breaking her own "patterns" with her children; she said, "I just don't want it to be in that same

pattern again, with this baby, for me to drop them off somewhere just because I feel sort of bad after I give birth to it."

To facilitate their goals, the women were aware that they needed to "find themselves" again and stay in recovery. They willingly acknowledged recovery challenges, in particular, poor coping. Pregnant with her second child, a mother evaluated her situation,

> With this pregnancy, I know it's going to be hard. But -- I need to deal with it. You know, that's life. You know, learning to feel. I would always numb my feelings, my pain, my hurt, my emotions, my sadness, everything with drugs; you know, with alcohol and drugs. You know, "Oh, I don't feel good." "Oh, I'm sad today. Something bad happened, have a beer." You know, I'm not going to do that. . . It's stuff that we needed to learn how to deal with. . . . I never learned. And with this pregnancy, I know I'm doing what I need to do. I just need to continue. You know, I'm a mother. I know I was a good mother at one point, before I started putting drugs in front of him. Now, I just need to bring that mother back. And I'm trying to do that.

The treatment setting provided built-in social and emotional support. One woman realized, "I have the support that I don't have at home." Pregnant for her first time, a woman was reassured that she would "not be left on my own after the baby comes." Another participant who had just arrived in treatment observed, "There's lots of help for when I have my baby. I noticed that the girls help out a lot." They viewed the other residents as valued, knowledgeable resources. Although some of the participants claimed, "I do my own thing," and may have been hesitant to ask others for help, they were "comfortable" asking other residents for help.

The women reasoned the girls knew best, especially about pregnancy and babies, since they were new mothers. Some women reported they would "go to the girls, first because they believed that others "don't understand, because you haven't been through it." Through their experience of other residents, the women learned and made personal decisions about their own ability to "step up" to the responsibilities of motherhood; however, the other residents were occasionally a source of myths or inaccurate information.

Some women thought that they were not ready to be mothers. A woman who had terminated previous pregnancies said, "I'm still not good at living life. I -- there's a lot of things I just don't know how to do; I'm not totally capable, at all, of taking care of myself. I'm still not capable of it (motherhood) yet." Within their treatment community, the women helped with childcare of newborns and toddlers and gained confidence with their care. Recognizing she had misjudged the demands of childrearing, a woman said,

> Seeing the babies--because I've never really even held a baby before I came here. I never changed a diaper, I'd never really done anything. And I think coming here, it clicked how much attention the babies take and need. It's too hard. So, I think it clicked; I need to make a decision to do what I have to do and stay clean.

In contrast, the participants with children were less concerned about physical care of their children; instead, they were concerned about jeopardizing their custody of their children.

Regarding their long-term partners, some of the first-time mothers were worried about losing their relationship. Since most of the long term partners were still using meth, in jail or on probation or parole, the women predicted that continuing their relationships would make it "hard" for them to stay clean. Above all, the women did not want meth use to jeopardize custody of their new infants. One participant unleashed her frustrations about a future with her longtime partner and made alternative plans for life without him,

> Supposedly, he has a job. Supposedly, he has a two-bedroom apartment. Supposedly, he's getting all these things for me, to be ready when I come out. But I told him, 'I won't believe you until I see it,' because being in here, my mentality changed, and I'm getting a lot stronger in here, mentally and emotionally. And I'm learning a whole lot in here, and he can't play with my head no more, like he used to…I'm looking for sober living or transitional housing, until I get used to living on my own. But I can do it. I can do it.

With felony drug charges, the participants were not eligible to receive "cash aid;" instead, they hoped to get jobs for financial support. Some women thought they could do many jobs; but most realized they lacked work skills and employment experience. Therefore, many of the

women were interested in job training. Many women reported they needed to complete the GED and have gainful employment as part of meeting their drug court program requirements.

The women formulated ambitious plans for achieving their goals. They acknowledged they could not go back to their previous life and the people in their drug network. The sentiment of the group was expressed by a woman, who said,

> All the people I was hanging out with weren't the people I want my kid to grow up with. I decided that for my baby to be in a healthy environment, and no matter what, it would be a loving, caring home. For my baby to grow up –somewhat normal, I would have to stop hanging out with all my friends and figure out a way to stay clean after I have this baby.

Even as a temporary living arrangement, the women considered the treatment setting a safe haven. The treatment milieu supported women's substance abuse recovery, strengthened life skills, and assisted the women to assume their roles as mothers through participation within the therapeutic community. The women took part in cooking and cleaning chores, they supported one another during labor and childbirth, and all residents participated in childcare for the community of residents. Now, they were protected and supported. Their biggest challenges were still yet to come.

Discussion

Engaging in the Pregnancy described a process of transition through pregnancy after becoming drug-free. The process occurred while the participants attended substance abuse treatment, as required by social agencies including the criminal justice, juvenile justice, and child welfare systems. Through this process, the participants simultaneously engaged in pursuing sobriety, taking-in the pregnancy, nurturing the pregnancy, and anticipating motherhood. *Engaging in Pregnancy* is anchored by pregnancy which acted as a catalyst for opportunities

established through the community drug-courts that adjudicate non-violent, drug-related crimes (Terplan, Smith, Kozloski, & Pollack, 2010). Social agencies compelled the women to maintain abstinence. It was through abstinence that the women were able to engage in their pregnancies.

While various samples of women who used illicit drugs other than meth have reportedly reduced their drug use after recognizing they are pregnant (Bailey, Hill, Hawkins, Catalano, & Abbott, 2008; Ebrahim & Gfroerer, 2003; Muhuri & Gfroerer, 2008) the meth-dependent women continued to use until they were forced to detoxify by incarceration or mandated to treatment. Only the woman who met DSM-IV criteria for abuse acted independently to acknowledge and engage in her pregnancy.

Pregnancy is considered a window of opportunity for improved access to drug treatment (Daley, Argeriou, & McCarty, 1998). Even though pursuing sobriety was not self-initiated; these participants, like other samples of meth-using women, responded positively to substance abuse treatment established through the drug courts (Hartman, Listwan, & Shaffer, 2007). They also perceived benefits to being placed in women-only treatment facilities (Hser & Niv, 2006). The study participants viewed their situation in treatment as an opportunity to support life change.

Reinforced by interactions with other pregnant women, taking-in the pregnancy integrated the women's awareness of their advancing pregnancies with mutually supportive relationships within the treatment settings. Female bonding strengthened the women's resolve about keeping the pregnancy, enhanced their learning about their pregnancy, and buoyed their determination to stay drug-free. This finding points to the importance of relationship in the women's lives, especially for promoting personal growth and self-worth (Covington, 2002; Covington & Surrey, 2000). Correspondingly, the value of shared pregnancy experiences has been confirmed as the philosophy of Centering Pregnancy, a technique that uses shared

pregnancy experience to enrich women's learning about their pregnancy and improve their satisfaction of prenatal services (Rising, Kennedy, & Klima, 2004). A distinct difference occurred for the participant who was not in treatment. She remained isolated; her goal to stay drug-free was far more overwhelming without the benefit of supporting relationship and the structured treatment milieu.

Nurturing the pregnancy comprised taking-care behaviors through self-initiated health activities and attending prenatal care. The women interpreted taking-care of their pregnancies in very concrete ways; they did not follow societal conventions for early prenatal care. Their thinking was egocentric, in that their focus remained on their own fears about drug disclosure rather than considering the pregnancy. In the foreground of their perceptions, the women had idealistic visions of what a pregnancy and motherhood would be like. Even after acknowledging their meth use during pregnancy, the women wanted everything to turn out okay. Consequently, some women needed to believe that meth exposure does not affect babies. The participants seemed to be unprepared for reality to fall short of what they had envisioned.

Similar to pregnant adolescents and other women with unintended pregnancies, our sample delayed seeking conventional care (Dott, Rasmussen, Hogue, & Reefhuis, 2010). Their meth use precluded preventive action or self-initiated care for the pregnancy. Thus, their roles in nurturing the pregnancy were remedial advancement toward learning about pregnancy, doing self-care activities, and following mainstream expectations for preventive prenatal care.

Our sample began prenatal services while the women were in jail or upon entry into treatment; this finding has been demonstrated in another sample of pregnant meth-using women (Terplan, Smith, Kozloski, & Pollack, 2010). As noted with other samples (Arria et al., 2006; Ayoola, Nettleman, Stommel, & Canady, 2010; Smith et al., 2003), our participants missed

opportunities for preventive screenings and early intervention because of late entry into prenatal care. Due to lack of knowledge, the women expressed a limited appreciation for the preventive aspects of prenatal care services; rather, the women valued medical services for correcting what might go wrong, opportunities to "see the baby," and receive assurances of the baby's growth, which they equated with health and normality.

Their expectations of prenatal care focused on relational interactions, especially regarding encounters with healthcare personnel. Some women recoiled from disclosing their meth use or the possibility of caustic encounters with healthcare personnel. Stigmatized interactions experienced by substance abusing women have been reflected in the literature (Ahern, Stuber, & Galea, 2007; Skinner, Feather, Freeman, & Roche, 2007). Marginalization that the women perceived was fueled by experiences of paternalistic and judgmental attitudes from healthcare personnel; similar experiences have been well documented (Abel & Kruger, 2002; Chang et al., 2008; Fornili & Haack, 2005; Norman, 2001).

As in other samples, our participants revealed psychological comorbidities, history of childhood trauma, and isolation (Brecht, Anglin, & Dylan, 2005; Grella, Hser, & Huang, 2006). The participants reconciled their past while transitioning to new lives as mothers as reported about other samples of drug-using mothers in substance abuse treatment (Kearney, 1996; Kearney & O"Sullivan, 2003). However, our sample of pregnant women not only looked to their past, but they also looked to a tentative future with hope to create new lives for themselves and a better life for their children. Anticipating motherhood encompassed awareness of their futures as mothers including single parenthood with supervision by the criminal justice system and/or the child welfare system.

Findings from this research suggest many areas of need associated with meth use during pregnancy. Efforts to disseminate accurate information need to be expanded regarding alcohol, tobacco, meth and other drugs in pregnancy. In particular, novel interventions are needed to address the clandestine characteristics of meth-centered lifestyles which may benefit from collaboration with meth-using women to devise methods for making information available to women who are not in treatment.

For professionals in health care, universal, non-threatening methods for substance abuse screening are needed that are adaptable for social service agency settings. To increase their understanding, the providers' knowledge base needs to be expanded regarding coping behaviors, and the interpersonal needs of meth using women. Understanding the importance of non-threatening relationship can contribute to how services are provided to this population of women. Emphasis needs to be placed on coordination of services and follow-up by social agencies to address social issues that the women encounter during their efforts to build a drug free life and adapt to pregnancy and motherhood. Without supportive services, the opportunities afforded by treatment alone can be quickly lost due to relapse to meth use.

Strengths and Limitations

The importance of this work is in the voice given to our participants to describe their pregnancy experience. Conducting face-to-face semi-structured interviews in which the women sensed they were safe to expose their meth use without consequences was an important aspect of our data collection. Constructivist Grounded Theory as a methodology provided flexibility for addressing unexpected contextual issues that the women presented.

Conversely, there were difficulties recruiting pregnant women who were not in treatment for this study. We suspected that fear of disclosing meth use in pregnancy was the primary barrier to participation for women who were not in treatment. Thus, the women who responded to recruitment were drug-free when they expressed interest in participation.

Implications for Research

Our meth-dependent participants recognized they were fortunate to be in treatment and simultaneously they were under the jurisdiction of social agencies because of their meth use. It remains unclear how meth-using women who remain isolated in their meth-centered lifestyles engage in pregnancy. Thus, further research with larger samples of pregnant or new postpartum mothers with a broader range of meth addiction acuity is encouraged.

Intervention to support sobriety and future motherhood is warranted for women who use meth. However, among this group of mostly dependent meth-using women, the interventions originated through legal action by social agencies after pregnancy occurred. Therefore we suggest investigation of conditions that can be facilitated to support sobriety for pregnant women who are not in treatment; also, by outlining treatment success for women across meth use trajectories it may be possible to develop timing opportunities for intervention.

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Figure 3.1 A model of *Engaging in Pregnancy* depicts the simultaneous action categories within the process.

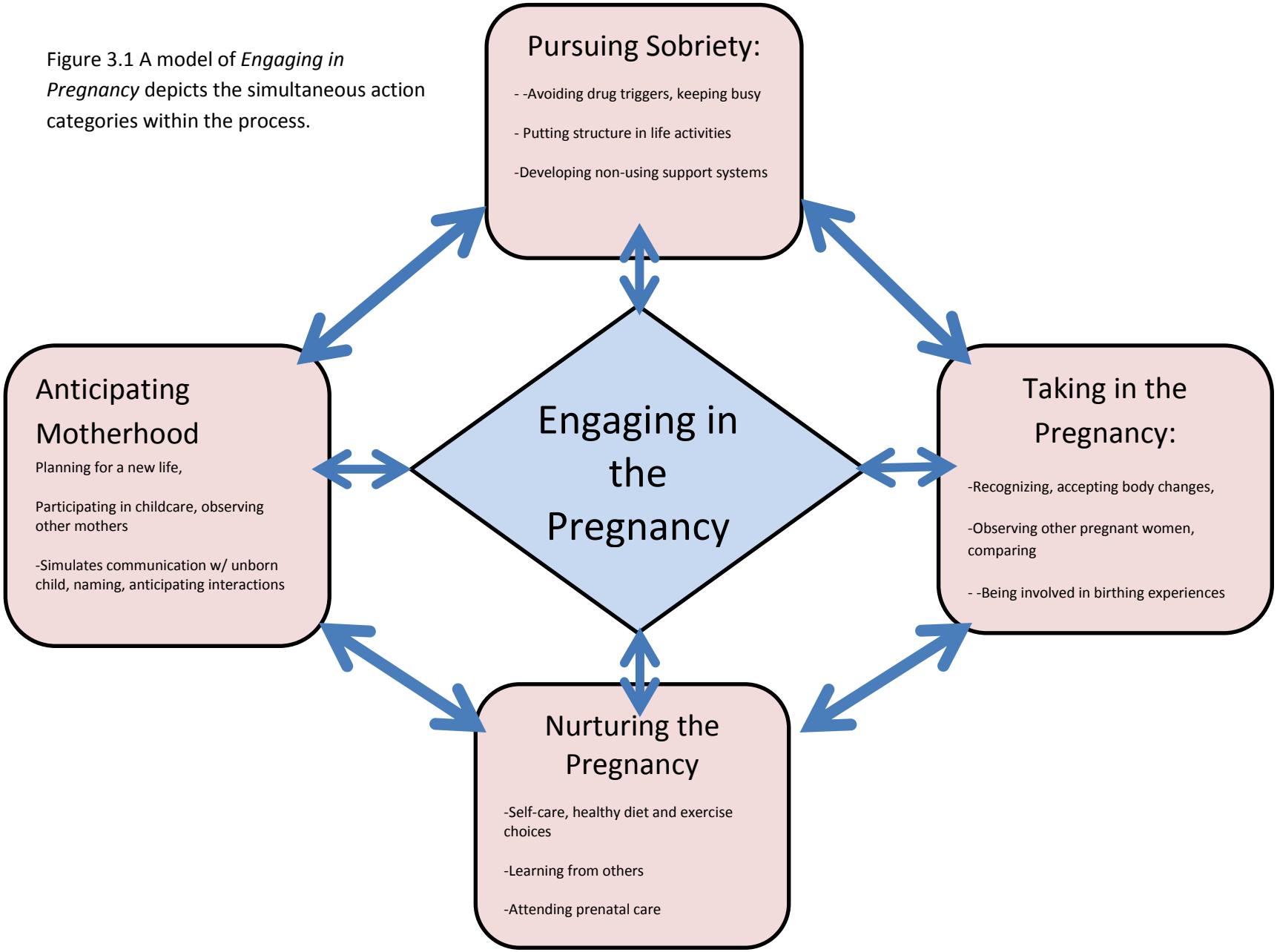

Table 3.1 Sample Demographics

Characteristic	Pregnant Women	Postpartum Women	Total %
N =17	10	7	100%
Age of participants	18-27 y/o	22-37 y/o	
Mean	26	22.8	
Standard Deviation	5.5	1.26	
Ethnicity			
White	2	5	41%
Hispanic	6	1	41%
Asian	1	0	6%
Mixed race	1	1	12%
Educational Attainment			
Less than high school	5	3	47%
High school	2	2	24%
Some College	3	2	29%
Marital Status			
Single	8	5	76%
Married	2	2	24%
Relationship with Father of the Baby			
Casual relationship	5	2	41%
Long-term relationship	5	5	59%
Housing			
Living independently	0	3	18%
Living with family	2	3	29%
Homeless	6	3	53%
Income			
General Relief	6	3	53%
Disability	0	1	6%
Family Support	4	3	41%
Employment	0	0	0%

Table 3.2 Sample Psychosocial Influences

Characteristics	Pregnant Women	Postpartum Women	Total %
History of Childhood Trauma	3	1	24%
History of Sexual Assault	3	2	30%
History of Violent Trauma	7	6	76%
History of Foster care	1	1	12%
Psychological Comorbidities			
Depression	4	3	41%
Other diagnosed mental illness	1	3	24%
Substance Abuse			
Cigarettes	9	7	94%
Alcohol	10	7	100%
Cocaine	1	2	18%
Heroin	5	3	47%
Methamphetamine	10	7	100%
Non-use in pregnancy	1	0	6%
Use in Pregnancy	9	7	94%
Injection use	5	3	47%
Prescription drug abuse	1	4	29%
Treatment Status			
Treatment naïve	1	0	6%
First Treatment experience	4	1	29%
Previous treatment experience	5	5	59%
Primary Sources of Social Support			
Family	7	4	65%
Non-drug using friends /mentors	1	0	6%
Current Treatment residents	2	3	29%
History of Incarcerations			
No jail experience	0	1	6%
Previous jail <1 year duration	9	7	94%
Previous prison >1year duration	1	3	24%
History of Child Welfare Involvement			
Currently under supervision	2	2	24%
Custody of children given to family	4	2	35%
Lost legal custody of children	2	1	18%

Conclusion to the Dissertation

This dissertation investigated the transition surrounding unintended pregnancy for 17 women who used meth during their pregnancy. During this transition, the conditions of the women's lives changed. They left a meth-centered existence in which they were marginalized by isolation, stigma, and instability to live in a sheltered environment of abstinence in which the women began to make projections for self-sufficiency as mothers. The consecutive events were captured as processes, *Progressing to a meth-centered lifestyle, Reconciling Pregnancy, and Engaging in Pregnancy.* The processes depict the commonalities, variations, and consequences of the women's life of meth use, learning of pregnancy, and their simultaneous efforts to adjust to the pregnancy and recreate their lives.

While participating in this study, the women were drug-free; however, they still experienced compulsions to use meth. Most of the participants were living in a temporary drug treatment sanctuary in which their needs for housing, food, companionship and emotional support were being met. However, they faced multiple challenges in everyday living and their ability to cope with frustrations was tested on a daily basis.

Within the process of *Progressing to a meth-centered lifestyle*, meth initiation occurred and progressed to regular, chronic use. The women's age and social development were clearly linked in the women's recollections of their earliest meth use. Perceived benefits from their meth experience reinforced meth use, such that the women advanced quickly to regular use and cemented their attachment to the meth-centered lifestyle. During this process, the women embraced their meth-using social networks, rejected non-meth-using family and friends, and set up barriers to safeguard their meth use. As a result, the women became isolated from

conventional society which hastened the advancement of their meth addiction. Within the meth-centered lifestyle, the women lost control of themselves, their health and their quality of life.

Throughout *Progressing to a meth-centered lifestyle*, reduced inhibition and unprotected sexual encounters with multiple partners increased the women's risk for pregnancy, HIV, and STIs. Sex was used as a commodity to fulfill their personal needs for interpersonal contact and sexual gratification but it was also used as an exchange for meth and other drugs. Safer sex practices and contraception were not used; the women failed to perceive or they denied sexual risk from their behaviors. Moreover, many of the women presented unfounded beliefs that they were not able to conceive, based on histories of having unprotected intercourse without pregnancy consequences.

The meth-centered lifestyle was a compelling precursor to unintended pregnancy. The second process, *Reconciling Pregnancy*, describes two intertwining factors, pregnancy and being drug-free after arrest or entry into substance abuse treatment that established a foundation for the women to begin modifying their perceptions about being pregnancy. The women did not suspect pregnancy when it occurred, nor did they want pregnancy to interfere with their meth-using behaviors. The women used avoidant coping strategies to shield their awareness from many aspects of their lives. In the course of *Reconciling Pregnancy*, the women misidentified and denied pregnancy symptoms to protect their meth use. Not until they were arrested, detoxified in jail or treatment did the women begin to internalize that they were pregnant. Thus, pregnancy triggered opportunities from social agencies that might not have been available to the participants if they had not been pregnant.

In the third manuscript, a process called *Engaging in Pregnancy* described the women's endeavors to take on two new role identities, as a pregnant woman and as a recovering meth

user. While using meth, the women had failed to seek health care for the pregnancy. After they began *Engaging in Pregnancy,* the women acknowledged the impact of their meth use, faced concerns about the effects of meth use in pregnancy, and began to bond with their unborn child. Reversing self-neglect and taking-care of themselves for the sake of the pregnancy was promoted in treatment through learning-relationships with other female residents. In general, the women had limited knowledge about self-care associated with pregnancy. The participants initiated prenatal care after arrest or after entry into treatment. From their perspective, prenatal care was not informative; rather they evaluated prenatal services based on their perceptions about how they were treated by healthcare professionals. They harbored mistrust of healthcare personnel and treatment staff, but trusted the advice of fellow treatment residents.

As they planned for life after the pregnancy and completion of their treatment, the women realized they would be single mothers, parenting without the help of a life partner. They also realized they were ill-prepared to financially support themselves because many of the participants were limited by education and work skills. Regardless of personal deficits or challenges to their goals, the women held out hope for a sober life and the prospects of being a mother to their babies. Many of the women found spiritual significance in the opportunity to become mothers and to be sober.

Significance of the Study

The information provided in this study can be of benefit to interdisciplinary audiences. It adds breadth to the work of nursing and social science researchers through new knowledge that it offers for expanding knowledge and prompting development of interventions for this vulnerable population of women. The participants' narratives presented richly descriptive detail and nuance

about women who use meth during their childbearing years. These descriptions can expand understanding about meth-using women for health care, social agency, and substance abuse treatment personnel and inform policymakers. The experiences and perceptions of the participants uncovered needs for interventions during each of the three processes. For example, while *Progressing to a meth-centered lifestyle*, the women faced life burdens that increased their susceptibility to drug initiation. In *Reconciling Pregnancy*, the participants lacked knowledge of physical changes of early pregnancy and some did not know how to access pregnancy testing and prenatal care. In the *Engaging in Pregnancy* process, the women lacked knowledge about healthy self-care and the value of prevention in prenatal services. Our findings suggest that the processes were effective for identifying critical timing focuses for many gender- and pregnancy-specific interventions; for example, preventive messages regarding substance use with pre-conception counseling, immediate and brief intervention counseling associated with substance abuse screening, and reliable substance abuse referral in primary care and non-medical settings for young women who might be at risk for meth use or other harmful substances.

The findings of this study serve as a foundation for future research with this population of women who are in great need of supportive guidance for living in mainstream society. They also need responsive policy and procedures for health care, social services, and substance abuse treatment. In support of these concerns, more research is needed to investigate responses across the range of meth severity regarding motivations for self-care, use of reproductive safeguards, and general health-care seeking behaviors.

Developing interventions to reduce barriers for entry into community-based health care is needed for drug-using women. For example, an area of concern noted in this research was interpersonal relationships between professionals and the participants who anticipate being

treated poorly. Counteracting self-stigma among drug-using women and attitudinal barriers among health care professionals is an important goal. On both fronts, offsetting false beliefs is needed. Training efforts for health care personnel in the primary health care setting and social agency settings is needed to make healthcare services more responsive to the needs of drug-using women. Education and training of health care personnel can be developed for effective, less offensive and more universal substance abuse screening procedures in health care. As well, short therapeutic interventions using motivational interviewing and cognitive behavioral therapy techniques can be developed for incorporation into daily practice to support providers' confidence about interacting with drug-using clients. Finally, while the jails are screening for pregnancy among arrestees, the community fails to support women to identify pregnancy in a timely manner. Development of preventive strategies for meth-using women, for example, social media outreach and word of mouth campaigns are needed to open the door for drug-using women who are at risk for unintended pregnancy, HIV and STI exposure.

This research was intended to learn about meth-using women and to give the women an opportunity to have a voice about what is important in their lives. In this spirit, they should also be involved in future research as participatory collaborators and as evaluators of the outcomes of research interventions.