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Measuring Patient Satisfaction in New Mothers with Substance Use Disorders: A Correlative Investigation

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Abstract

The measurement of patient satisfaction is a concept that is becoming more and more critical in the exploration of health outcomes. Currently, there is very little research available that examines how pregnant women with substance use disorders (SUDs) rate their pre/postnatal healthcare experiences. This correlative investigation measured the extent to which new mothers diagnosed with SUDs patient satisfaction levels differed from non-substance using new mothers. Data collected from a total of 106 new mothers with and without SUDs responses to the Patient Satisfaction Questionnaire Short-Form (PSQ-18) were analyzed. The dimensions of patient satisfaction that were measured included general satisfaction, technical quality, interpersonal manner, communication, and time spent with doctor. Multivariate analysis of variance (MANOVA) and descriptive statistics concluded that diagnostic status significantly influenced patient satisfaction ratings in new mothers with SUDs. This population reported lower patient satisfaction ratings in each of the five patient satisfaction dimensions explored more frequently than new mothers who were not diagnosed with a SUD.

Keywords: Patient satisfaction; Pregnant women; Substance use disorder; Addiction; Stigma; Discrimination

Introduction

Patient satisfaction is an emergent concept that is becoming extremely critical in the measurement of health outcomes; and has been defined as a patient's perceptions and responses to their healthcare experiences [1]. Previous studies have explored the concept of patient satisfaction in contexts that focus on patients' demographics, chronic conditions (i.e. diabetes, cancer, obesity, mental illness, and illicit substance use, etc.), and socio-economic statuses [2,3] yet, they have not exhaustively investigated patient satisfaction in new mothers with SUDs. Although patient satisfaction is becoming more prominent in research and in the measurement of patient outcomes, its components cannot be grouped into a single category [4]. Past studies show that providers' interactions with patients influence satisfaction [1,5,6]. More specifically, a provider's demeanor toward a patient can act as a barrier to satisfaction when the provider fails to display compassion and friendliness, neglects to address the patient's concerns, does not meet the patient's expectations, or fails to provide a clear and understandable diagnosis or explanation for the cause of the patient's condition [4].

In the past, patient satisfaction was measured by using objective approaches, but those strategies were deemed inaccurate because patient satisfaction can also be influenced by other factors like the provider's interpersonal manner [5]. Several patient satisfaction studies have found that patients often combine their reactions to various areas of their treatment experiences in order to establish an overall patient satisfaction rating [5,7-9]. Those who study patient satisfaction have found the concept difficult to compartmentalize [4]. Therefore, this study examined five dimensions of patient satisfaction, which included general satisfaction, technical quality, interpersonal manner, communication, and time spent with doctor.

General satisfaction is the measurement of a patient's overall response to the healthcare experience. Technical quality is the patient's opinions about the provider's competence level or ability to meet his/her healthcare needs. Interpersonal manner relates to the patient's evaluation of the manner displayed by the provider throughout their interaction. The dimension of communication focuses on the provider's ability or willingness to acknowledge the patient's concerns, and explain the patient's diagnosis in a way that he/she comprehends and can take into consideration when making decisions about his/her care [10]. Lastly, time spent with doctor is the amount of time a provider spends with a patient addressing his/her healthcare needs and concerns. This study placed emphasis on exploring each of the aforementioned dimensions because they comprise the social aspects of the healthcare experience that are critical for obtaining an accurate measure of differences that exist in the patient satisfaction levels of new mothers with and without SUDs. It was hypothesized that new mothers diagnosed with SUDs would report overall lower levels of patient satisfaction than non-substance use disordered new mothers in each dimension.

Research indicates that pregnant women with SUDs frequently report they are dissatisfied with the services rendered by their health care providers [11]. A study completed by Corse et al. [12] purported that providers' beliefs and actions influence patients' decisions to engage in medical treatment. Interestingly, very few studies have explored

patient satisfaction in new mothers with SUDs. Those that do exist tend to focus on the perceptions and attitudes of the health care provider [12-18]. Some providers have labeled pregnant substance users as women who have low self-esteem, poor coping abilities, dysfunctional family relationships, and negative feelings associated with being an unfit mother [18]. Pregnant women with SUDs have also been categorized as unreliable individuals who are undeserving of the privileges of motherhood because they lack moral values and the ability to make their own healthcare decisions [19]. These perceptions make it very difficult for pregnant women with SUDs to engage in care because they are sometimes scrutinized by health care professionals who are undereducated on the disease of addiction, and the effects that certain substance abuse treatment approaches have on birth outcomes [20]. Such judgments have also been known to cause individuals with SUDs to self-stigmatize, which could ultimately lead them to believe that they do not deserve to be treated with fairness and dignity. This lends to the concept of deservingness judgment and how it too can influence patient satisfaction levels in new mothers with SUDs.

Within the concept of deservingness judgment, it is asserted that health care providers think substance-using patients are responsible for their SUDs [21]. This has established a foundation for providers' belief that patients with SUDs deserve to be treated with lower standards of care than patients that do not use drugs. Regardless of that notion, a judgment that an individual with a SUD is fully responsible for his or her disorder does not indicate that he/she is not deserving of adequate and fair healthcare treatment. Rather, it demonstrates that the practice standards by which health care professionals operate should reflect the empathetic and caring attitudes associated with their roles [21].

Primary provider theory

The primary provider theory (PPT) was founded by Stephen Aragon [22], and has been validated in numerous studies documenting patient-centeredness and its influence on patient satisfaction in the hospital/emergency room environment. PPT is a generalizable theory that postulates that an individual's satisfaction with healthcare services results from an array of interrelated components associated with the individual's primary provider, provider's assistants, and the length of time spent waiting for services [23]. PPT operates by several key points that assert: (a) only the patients' judgments about the quality of the care received are relevant, and judgments from other sources are insignificant; (b) when engaging in care patients present with a previously established hierarchy of expectations; (c) the patient views the primary provider as having the most clinical utility for addressing his/her her health concerns; and (d) satisfaction is initiated at the point where provider power and patient expectations meet [22,23].

The central assumption of PPT holds that an individual's satisfaction or dissatisfaction with healthcare services results from the association between the individual's patient-centered expectations and the interaction he/she has with the treating physician [22]. In essence, PPT highlights the importance of the presence of healthy dynamics in the provider-patient relationship. PPT also accentuates how interactions between providers and patients can influence satisfaction and other outcomes. PPT aligned well with the goals of this study because the researcher was interested in examining the extent to which patient satisfaction levels differed between substance using and non-substance using new mothers.

Material and Methods

Procedures

After receiving approval from the university Institutional Review Board (IRB), a site authorization letter requesting permission to recruit participants and administer surveys was mailed to the administrators of selected substance abuse treatment centers and parenting education programs. The letter introduced the researcher and explained the title and purpose of the study. The primary research question was presented and the areas of patient satisfaction that would be measured were introduced. To reduce the threat of coercion, a recruitment script was used and two visits were conducted at each of the participating facilities to recruit volunteers attending substance abuse treatment and/or parenting education groups. Recruitment flyers outlining the purpose of the study, eligibility criteria, and the researcher's contact information were also posted at each site in an effort to outreach others who may have met the criteria to participate. Recruitment visits lasted approximately 30 minutes.

A survey administration script was used to guide the participants through the step-by-step data collection process. During survey administration, participants were provided with a numerically-coded research packet (i.e. PAR001, PAR002, etc.) that contained an adult informed consent form, patient satisfaction survey, and a demographic sheet that asked the participants to provide their age, race, whether or not they had a SUD during pregnancy, and whether or not they would like a copy of the study's aggregated results. All participants were entered into a raffle for a chance to win one of three $50.00 gift cards.

Study sample

In New Jersey, women account for 33% of admissions to substance abuse treatment programs and half of them are mothers [24]. The researcher used a non-probability, purposive sampling design to recruit 106 participants for this study. Participants were substance using and non-substance using new mothers, ages 18-40, who delivered a baby between January 2011 and May 2014. The sample was recruited from five substance abuse treatment centers and parenting education programs located throughout three Southern New Jersey counties. Demographic data such as age, race, and substance use disorder status was collected. **Table 1** presents

the frequency for age of the participants, where the age groups fall between 18-21, 22-25, 26-30, 31-35, and 36-40.

Table 1 Age of participants.

	Frequency	Percent
18-21	20	18.9
22-25	31	29.2
26-30	31	29.2
31-35	15	14.2
36-40	9	8.5
Total	106	100

Table 2 highlights the participants' races which included White, Black/African American, Hispanic, and Indian. The majority of the participants were White (n=49; 46.2%). Black/African American participants made up the second highest group of participants (n=35; 33%). Approximately 21 (19.8%) of participants were Hispanic. One participant identified as being Indian.

Table 2 Participants' races.

	Frequency	Percent
White	49	46.2
Black/African American	35	33
Hispanic	21	19.8
Indian	1	0.9
Total	106	100

Substance use disorder status is presented in **Table 3** with 'No' representing non-substance use disordered participants, and 'Yes' representing substance use disordered participants. Approximately 56 (52.8%) participants reported that they did not have a SUD while pregnant. The remaining 50 (47.2%) participants acknowledged using or being treated for substance use during pregnancy.

Table 3 Substance use disorder status.

	Frequency	Percent
No	56	52.8
Yes	50	47.2
Total	106	100

Table 4 depicts the frequency for the participants' drug of choice. Of the 50 participants who were diagnosed with a SUD, 24 (48%) reported heroin use. Methadone (n=12; 24%) and marijuana (n = 11; 22%) were the second and third most frequently reported drugs of choice, respectively. It should also be noted that some of the participants reported having more than one drug of choice. Unfortunately, the data collected did not indicate the frequency of their drug-using habits so they could not be classified as polysubstance abusers. This prohibited the researcher's ability to conduct an in depth analysis of patient satisfaction levels in those with multiple drugs of choice.

Table 4 Drug of choice.

Drug Type	Frequency	% of Sample Population
Alcohol	2	4
Cocaine	2	4
Crack	4	8
Heroin	24	48
Marijuana	11	22
Methadone	12	24
Opiates (unspecified)	3	6
OxyContin	2	4
PCP	2	4
Percocet	5	10
Pills (unspecified)	2	4
Roxicet	1	2
Suboxone	1	2
Subutex	1	2

Measures

The Patient Satisfaction Questionnaire Short-Form (PSQ-18) [25] was administered to each of the participants in order to measure the dependent variable, which was patient satisfaction level (higher, lower or equal to). The PSQ-18 was designed to examine 7 dimensions of patient satisfaction and each yields separate scores. The dimensions focus on areas such as general satisfaction (items 3 and 17); technical quality (items 2, 4, 6, and 14); interpersonal manner (items 10 and 11); communication (items 1 and 13); financial aspects (items 5 and 7); time spent with doctor (items 12 and 15); and accessibility and convenience (items 8, 9, 16, and 18) (Rand Health, 2013). This study used the PSQ-18 to focus primarily on the general satisfaction, technical quality, interpersonal manner, communication, and time spent with doctor subscales.

The PSQ-18 can be used to measure global satisfaction with healthcare, and is a brief Likert scale based survey that takes up to four minutes for respondents to complete. The items on the PSQ-18 are presented as statements of opinion that reflect the participant's satisfaction or dissatisfaction with that particular area of care. For example, "Doctors act too businesslike toward me" (item 10); "Doctors sometimes ignore what I tell them" (item 13); "I am dissatisfied with some of the things about the medical care I receive" (item 17); and "Doctors usually spend plenty of time with me" (item 15), etc. The items are rated as strongly agree (1), agree (2), uncertain (3), disagree (4), and strongly disagree (5). They are scored on

a scale of 1 to 5, in which, a rating of 5 indicates a high level of satisfaction. The 7 subscale scores are calculated by averaging the scores of the items that are in the same subscale. The overall score is obtained by averaging all the scores.

Data analysis

Descriptive statistics and MANOVA were used to analyze correlations between the variables. The independent variable, which was diagnostic status, consisted of two levels, substance use disordered new mothers and non-substance use disordered new mothers. The dependent variable was overall patient satisfaction level and was based on three levels: higher, lower or equal to. Prior to conducting the analysis, the researcher tested and met several assumptions for MANOVA, which included normality of dependent variables, outliers, linear relationship between each pair of dependent variables for each group, and homogeneity of variance-covariance matrices.

Results

Results from the MANOVA are presented in **Tables 5 and 6**. The significance of this MANOVA was determined with Wilks' Lambda. As highlighted in **Table 5**, the Wilks' Lambda for SUD has a significance value of 0.001, indicating that patient satisfaction levels are significantly correlated with new mothers' diagnostic status. As such, there was a statistically significant difference in patient satisfaction levels based on substance use disorder status, $F(5,100) = 4.76$, $p = 0.001$; Wilks' $\Lambda = 0.808$.

Table 5 Multivariate tests.

	Effect	Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.958	455.592b	5.000	100.000	0.000
	Wilks' Lambda	.042	455.592b	5.000	100.000	0.000
	Hotelling's Trace	22.78	455.592b	5.000	100.000	0.000
	Roy's Largest Root	22.78	455.592b	5.000	100.000	0.000
SUD	Pillai's Trace	.192	4.760b	5.000	100.000	0.001
	Wilks' Lambda	.808	4.760b	5.000	100.000	0.001
	Hotelling's Trace	.238	4.760b	5.000	100.000	0.001
	Roy's Largest Root	.238	4.760b	5.000	100.000	0.001

Table 6 Tests of between-subjects effects.

	Source	Type III Sum of Squares	df	Mean Square	F	Sig.
SUD	General Satisfaction	19.246	1	19.246	17.131	.000
	Technical Quality	5.866	1	5.866	9.202	.003
	Interpersonal Manner	19.005	1	19.005	17.114	.000
	Communication	15.983	1	15.983	16.922	.000
	Time Spent with Doctor	12.048	1	12.048	9.379	.003
Error	General Satisfaction	116.839	104	1.123		
	Technical Quality	66.297	104	0.637		
	Interpersonal Manner	115.491	104	1.11		
	Communication	98.227	104	0.944		
	Time Spent with Doctor	133.593	104	1.285		

Table 6 presents the tests of between-subjects effects. As observed, being diagnosed with a SUD is statistically correlated with all five patient satisfaction dimensions: general satisfaction ($F(1, 104) = 17.13$; $p<0.0005$), technical quality ($F(1, 104) = 9.2$; $p=0.003$), interpersonal manner ($F(1, 104) = 17.11$; $p < 0.0005$), communication ($F(1, 104) = 16.92$; $p<0.0005$, and time spent with doctor ($F(1, 104) = 9.38$; $p=0.003$). In addition, Bonferroni Correction should be accounted for multiple ANOVAs run, statistical significance is accepted at $p<0.025$. Given this, significance values for all five satisfaction levels were less than 0.025.

Table 7 presents the descriptive statistics for the five dimensions of patient satisfaction that were measured. This table highlighted the minimum and maximum patient satisfaction ratings reported for each dimension. The ratings ranged from 1.0 to 5.0.

Table 7 Descriptive statistics for patient satisfaction dimension levels.

	Min	Max	Mean	Std dev
General Satisfaction (N = 106)	1.00	5.00	3.1509	1.13844
Technical Quality (N = 106)	1.75	5.00	3.4340	.82901
Interpersonal Manner (N = 106)	1.00	5.00	3.3231	1.13177
Communication (N = 106)	1.00	5.00	3.4009	1.04293
Time Spent with Doctor (N =106)	1.00	5.00	2.8868	1.17774

Table 8 Descriptive statistics for patient satisfaction levels grouped by diagnostic status ('Yes' or 'No').

	SUD	Mean	Std dev	N
General Satisfaction	No	3.5536	1.0387	56
	Yes	2.7	1.08327	50
	Total	3.1509	1.13844	106
Technical Quality	No	3.6563	0.75463	56
	Yes	3.185	0.84487	50
	Total	3.434	0.82901	106
Interpersonal Manner	No	3.7232	1.02212	56
	Yes	2.875	1.08826	50
	Total	3.3231	1.13177	106
Communication	No	3.7679	0.91931	56
	Yes	2.99	1.02763	50
	Total	3.4009	1.04293	106
Time Spent with Doctor	No	3.2054	1.13529	56
	Yes	2.53	1.13124	50
	Total	2.8868	1.17774	106

Finally, **Table 8** demonstrates the descriptive statistics of the dependent variables based on diagnostic status. As indicated within the table, the means for those who reported having a SUD were lower than those of non-substance users. In addition, the averages for participants who reported having a SUD were the lowest in time spent with doctor, followed by general satisfaction, interpersonal manner, and communication, respectively. It was observed that patient satisfaction ratings were highest in the area of technical quality. Results from this study demonstrated that new mothers with SUDs report overall lower levels of patient satisfaction than non-substance use disordered new mothers in each of the five patient satisfaction dimensions explored.

Discussion

This study analyzed 106 new mothers' responses to the PSQ-18 in an effort to establish whether differences exist between the overall patient satisfaction levels of new mothers with SUDs and non-substance use disordered new mothers in five dimensions of patient satisfaction. Of the 106 participants, 50 reported having a SUD. Findings successfully demonstrated that new mothers with SUDs reported lower patient satisfaction levels than their non-substance using counterparts in each dimension of patient satisfaction that was explored. More specifically, new mothers with SUDS reported an average patient satisfaction level of 2.8, whereas non-substance using new mothers had an average satisfaction rating of 3.6.

Inferences based on the outcomes

The delivery of patient-centered care enhances patient satisfaction [21,22,26]. It was believed that this study's findings would highlight weaknesses in areas of patient satisfaction that would allow the audience to make inferences about the standard of care provided to new mothers with SUDs. Theoretically, patients are likely to be less content with care when they do not receive the level of patient-centered care they want or expect [27]. Aragon [22] asserted that the central assumption of PPT holds that an individual's satisfaction or dissatisfaction with healthcare services is derived from the association between the individual's patient-centered expectations and the interaction he/she has with the treating provider. The theory's assumptions are accurate as it relates to the outcomes of the current study.

The researcher was able to draw several inferences based on the outcomes of this study. For instance, it can be inferred that new mothers with SUDs may not be treated with the same standards of care as their non-substance using counterparts; thus failing to meet their patient-centered expectations. The current results support those discovered by Neale, Tompkins, and Sheard [28] who conducted a qualitative study exploring barriers to accessing generic health and social care services in a population of injection drug users. Most of the participants disclosed that providers in the emergency room treated them differently from non-substance using patients, and substance using patients were often treated contemptuously.

Results from a study performed by Ahern et al. [29] indicated that approximately 85% of substance abusers reported feeling devalued by their health care providers. Although this study did not seek to examine the cause for lower patient satisfaction levels in new mothers with SUDs, findings that new mothers with SUDs have lower patient satisfaction levels in the dimensions of interpersonal manner (items 10 and 11) and communication (items 1 and 13) demonstrate there is a need for further research in this area. The current findings make it possible to infer that poor interpersonal manner and communication might occur

because providers may not always display a warm, friendly bedside manner towards substance using new mothers; and providers might not explain the causes behind the individual's condition or the reason for ordering certain medical tests in a way that is easy for her to understand.

It is also important to consider the notion that some providers do not believe that pregnant women being treated for SUDs are capable of making health care decisions for themselves or their children. This supports Logan's (1999) statement that, "they are regarded as incapable of responsible decision-making, morally deviant, and increasingly, unfit for motherhood" (p. 115). Those findings also relate back to the concept of deservingness judgment that was introduced by Skinner et al. [21] who explained that deservingness judgment can have a negative influence on health care providers' practice of patient-centered care with substance use-disordered patients.

Whitebeck et al. [30] declared that stigma and discrimination have been identified as the leading factors behind the health-related stress experienced by adults. For pregnant substance users or substance users in general, the fear of being turned away and denounced can stir up certain levels of discomfort. As a result, pregnant substance users are often discouraged from seeking care. This study's results provide the opportunity to infer that due to their overall low patient satisfaction levels, pregnant substance users are more likely to avoid accessing pre/postnatal care or enroll in prenatal care late in their pregnancies because they fear the stigma associated with their condition. This inference is supported by Phillips et al. [31] who explained that pregnant substance users demonstrate low patient satisfaction levels during pregnancy and as new mothers, and this is likely due to how their healthcare concerns are addressed by their providers.

Implications for practice and/or policy

Professional training and education are critical for enhancing the provision of healthcare services to pregnant substance users. According to Gerace et al. [15], nursing professionals with higher levels of education showed higher rates of participation in trainings that advanced their knowledge and comprehension of SUDs. Furthermore, patient satisfaction increases when physicians attend educational training on the importance of patient satisfaction and its influences on provider success, performance, and compensation [23].

As researchers attempt to expand the breadth of knowledge surrounding patient satisfaction in pregnant substance users they should consider how geographical location lends to differences in substance-using behaviors. For instance, a vast majority of the literature that discusses pregnancy and substance abuse evolves from studies that were conducted outside of the United States. Simons-Morton et al. [32] explained that this factor could make the generalization of the findings difficult because substance-using behaviors in the United States may differ from substance-using behaviors in other countries. Furthermore, those studies have not documented how pregnant substance users rate different areas of care. The results of the current study are significant and differ from many others in that it focused on highlighting new mothers with SUDs' patient satisfaction levels within three counties located throughout Southern New Jersey, a geographical area that lacks pre/postnatal care providers who are trained to treat pregnant substance users.

For the current study, no previous research was found that examined new mothers with SUDs' patient satisfaction levels in the dimensions of general satisfaction, technical quality, interpersonal manner, communication, and time spent with doctor. As it pertains to addressing the knowledge gap associated with healthcare avoidance, there is a strong need to conduct research and connect previous studies in order to pinpoint the cause(s) for such behavior and develop interventions [33]. To that end, this study's results can be used to expand substance abuse research literature, and provides a stable foundation for building future quantitative and qualitative studies geared toward exploring patient satisfaction in the pregnant substance-using population and how it influences engagement in pre/postnatal care.

Financial aspects, and accessibility and convenience also play a critical role in the measurement of patient satisfaction. As it was indicated in a study performed by Aragon et al. [34], health care organizations can improve patient satisfaction in Medicaid patients by stressing the practice of patient-centered behaviors like friendliness, courtesy, communication, and giving attention to the patients' requests. Therefore, exploring those dimensions in pregnant women with SUDs receiving Medicaid could produce results that provide further insight into this population's healthcare experiences and engagement behaviors.

Limitations

Although this study produced significant findings, several limitations were observed. First, it was conducted using a small sample size, which prohibited the findings from being generalized across populations. Second, there was an overrepresentation of participants in one of the target counties. Another limitation was that this study did not include a complete analysis of financial aspects and accessibility and convenience and how they also contribute to patient satisfaction.

There were also a number of flaws observed in this study's methodology. The most obvious flaw was associated with the survey tool and its inability to pinpoint specific contextual factors related to the provider-patient encounter and how they may have influenced the participants' satisfaction ratings. For example, it did not indicate whether a participant's overall satisfaction level was based on her prenatal, postnatal or hospital care (labor and delivery) experiences. Additionally, the survey did not provide the opportunity for participants to indicate how their interactions with certain providers (i.e. encounters with doctors, nurses or other healthcare staff) influenced their satisfaction levels.

Conclusion

The nascent concept of patient satisfaction is becoming more and more significant in the process of measuring patient health outcomes. To date, a limited number of studies document patient satisfaction in new mothers with SUDs. Unfortunately, pregnant substance users are often treated with low standards of patient-centered care. As a result, they often report lower levels of patient satisfaction than non-substance using pregnant women. It is becoming increasingly evident that low levels of patient satisfaction in this population could be the cause for their poor pre/postnatal care treatment engagement and compliance rates.

Having a SUD has statistically significant relationships with all five patient satisfaction dimensions. This study's findings aid in bridging the gap in literature that exists between the health care professional's perceptions and those of pregnant substance users. As it was previously mentioned, the patient's perceptions of care were often overshadowed by research emphasizing the perceptions and attitudes of the provider. In essence, the results and inferences derived from this research dichotomize the opinions, beliefs, and experiences of the provider and patient, and extend an opportunity to substance abuse researchers to tailor more patient-centered studies towards the exploration of patient satisfaction in the pregnant substance-using population.

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