

SATISFACTION DETERMINANTS: PARENTS WITH CHILDREN ADMITTED TO
AN ADULT INPATIENT SURGICAL UNIT

By

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ABSTRACT

With the recent movement in healthcare to view the patient as a consumer, it has been recognized that patient satisfaction is an essential measurement of high quality healthcare. For populations of patients that have difficulty speaking for themselves, such as pediatrics, assessing the parent guardian satisfaction becomes essential. Rural areas face unique challenges with pediatric care including long distances from home to a healthcare facility and lack of specialized care. The causal model is used for the theoretical framework, which states that there are two factors that directly influence patient satisfaction. These are process quality and clinical quality. Demographic factors are also included because there is conflicting information of the correlation between demographics and satisfaction. There is little known about the factors that contribute to high levels of satisfaction in the pediatric population. The purpose of this study is to understand what factors play the greatest role in directly influence satisfaction of parents whose children are hospitalized. Specifically, the relationship between overall satisfaction and parent demographics, process quality and clinical quality were explored. The study is a descriptive correlational study with a non-random, convenience sample of parents whose children are admitted to adult in-patient surgical unit during an eight week period of time. The parents filled out a Pediatric Family Satisfaction Questionnaire (PFSQ) at the time of discharge. The total sample size was 13 with a 77% response rate. Overall, the satisfaction scores were very high. Correlations could not be established due to the lack of variability in certain factors. The study did reveal trends that are consistent with findings of previous studies. These trends include the reluctance to be critical of healthcare, higher satisfaction scores with lower levels of education and higher satisfaction with process quality.

OVERVIEW

Introduction

In past years there has been a movement in healthcare to provide high quality health care and to also serve patients as customers or consumers of the health care industry. (Guzman et al., 1988) This has led to an increased interest in patient satisfaction as an essential factor in providing quality health care. (Dougherty & Simpson, 2004) Furthermore, there has been an increased focus on and movement toward the practice of family centered care. With this movement has come an increasing awareness of the need to understand patients and their families, especially in acute care.

Patient satisfaction of care is an essential measurement of success. This is especially true in a setting that ascribes to a family centered care philosophy, or that the family is an integral and essential part of the patient's health. In populations that have difficulty speaking for themselves, such as the mentally disabled or children, assessing parent or guardian satisfaction becomes especially important. (Ygge & Arnetz. 2001) In order to achieve high levels of satisfaction for patients and their families, it is imperative to understand what are the most significant factors in achieving high levels of satisfaction.

In rural areas, such as Montana, two unique sets of problems exist. The first is access to healthcare. Some rural populations live hundreds of miles from the closest healthcare facility, and some choose to travel even further to larger healthcare facilities. Secondly, there is a lack of specialized patient care, especially for pediatric patients.

Since there is a lack of specialized pediatric care, children who need to be hospitalized will often be admitted to an inpatient adult unit that does not specialize in pediatric care.

Hospital discharges nationwide in 2001 indicated that there were 423 discharges of patients under the age of fifteen per 10,000 population. These pediatric discharges made up 8% of the hospital discharges on average. (Hall & DeFrances, 2003)

Specifically in Montana, a major hospital within Yellowstone County that does not have a specialized unit discharged 141 pediatric patients in 2004 and 186 pediatric patients in 2003.

Fine (2001) notes that increasing hospital expenses including new technologies and treatments, aging population, managed care's limitations and regulations, along with the increases cost of liability insurance for both care providers and the hospital organization have led to a continuing attempt to reduce costs. Therefore hospitals are trying to reduce costs of operation in conjunction with improving quality of care. This unique challenge has led to the focus on a market driven approach that utilizes patient satisfaction as a measure of quality and performance. (Di Paula, Long, & Weiner, 2002)

Problem

Little is known about satisfaction determinants of parents whose children are admitted as inpatients in adult units. This is especially problematic in rural and frontier areas that don't have ready access to specialized pediatric in-patient units.

Purpose

The Purpose of this study is to understand what factors play the greatest role in directly influencing satisfaction of parents whose children are hospitalized, especially in those areas where specialized units are not available for pediatric care. Specifically, measuring overall satisfaction with care, and in addition, understanding the influence that parent demographic characteristics, perception of delivery of care (process quality) and perception of quality of care (clinical quality). A general assumption is made that family-centered care is the optimal model for care of delivery to children and families.

Specific Aims

The objectives of the study are to establish (1) overall satisfaction (2) perception of clinical quality (3) perception of process quality (4) identification of demographic variables and (5) understand the relationship between clinical quality, process quality, parent demographics and the impact they have on satisfaction.

Summary

Patient satisfaction is an important measurement of quality of care, especially with the movement in healthcare to see patients as clients and consumers. It is essential to understand what specific factors lead to the highest levels of patient satisfaction. This is especially important in rural areas like Montana because often, patients live hundreds of miles from the closest healthcare facility and are often admitted to non-specialized adult

in-patient units. There exists limited information of the satisfaction factors for the pediatric population, and this study aims to explore the relationship between overall satisfaction and demographic, process quality and clinical quality factors.

LITERATURE REVIEW

Introduction

A literature search was performed using the Medscape, CINAHL and Infotrac One-file databases. Keywords were children, pediatric, parent, patient satisfaction, hospital and in-patient. The searches were limited to dates between 1995 and current. Only peer reviewed articles were included. The resulting articles that pertained solely to development and testing of site-specific questionnaires were excluded for use in the review of literature.

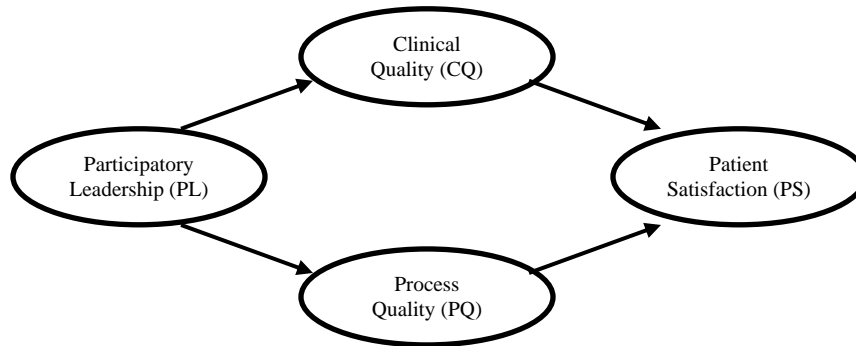
Theoretical Framework

The Causal Model (Figure 1) is a theoretical model that considers three areas that influence patient satisfaction. Two directly influence patient satisfaction, clinical quality and process quality and the third, participatory leadership, indirectly influences patient satisfaction. The Causal Model was tested by using the equation modeling method. (Marley, Collier & Goldstein, 2004).

The first area the causal model theorizes has an indirect influence on satisfaction is participatory leadership. Participatory leadership is defined by Marley (2004, p. 352) as “the level of motivation exhibited by administrators and executives of the hospital in setting strategic quality goals, improving the overall well-being of the patients and employees, and directing employees in all improvement initiatives.” While the leadership style and quality does not directly influence patient satisfaction, it does have

an effect on both clinical and process quality and therefore it is theorized that it indirectly influences the outcome of patient satisfaction.

Fig. 1. Causal Model



The second area that affects overall satisfaction is clinical quality and it is defined as “the ability of hospitals to achieve high standards of patient health through medical diagnosis, procedures and treatment, and ultimately creating physical or physiological effects on the patient.” (Marley et al., 2004, p. 353) Another definition is “arriving at appropriate strategies of care and having the skill to implement these strategies” (Yellen, Davis, Ricard, 2002, p. 24) Clinical quality is the technical aspect of care, including diagnosis, treatment regimens, skillfully performed procedures and physiologic outcomes.

The final area within the causal model is process quality and it is how the service is delivered. This includes but is not limited to things such as personalization, interactions and timeliness of services not only by the doctor but by all those involved in the delivery of care. Process quality is defined as “a process that meets individual and social

expectations and standards; it is the vehicle by which technical care is implemented and on which its success depends.” (Yellen, Davis, Ricard, 2002, p. 24)

The overall outcome is patient satisfaction. The American Nurses Association defines patient satisfaction as “the measure of a patient’s or a family’s opinion of care received” or it has also been defined as “the patient’s emotional or cognitive evaluation of a healthcare providers performance”. (Maciejewski, 1997 as cited in Yellen, Davis & Ricard, 2002, p. 23) Patient satisfaction has been found to be a significant factor in providing high quality health care.

According to the causal model, clinical quality and process quality directly influence a patients perception of care and their overall satisfaction with the care they have received. The third area of influence is leadership style which indirectly influences overall satisfaction by affecting the clinical quality and process quality. Therefore, if the patients perceives high process quality and clinical quality their overall satisfaction will be optimal.

Background

There is a vast amount of research about patient satisfaction in the general adult population. Research findings of adult patient satisfaction factors and influences have been looked at closely multiple times. Research has focused mostly on process quality and clinical quality, and the impact those variables have on overall patient satisfaction.

Process quality has found to be a significant factor in adult patient satisfaction, though the literature is somewhat ambiguous on what specific elements of process quality has the strongest correlation with overall patient satisfaction. According to Marley et al.

(2004) there are indications that process quality has a stronger association with patient satisfaction when compared to the correlation between clinical quality and patient satisfaction. Nursing interactions with patients is a determinant within process quality that has been found to have a significant positive association with patient satisfaction. (Gonzalez, Lopez & Garrido, 2005; Yellen, Davis & Ricard, 2002) Perception of non-physician concern was found to have a greater correlation to patient satisfaction than physician concern in hospital settings, though both were shown to have a positive impact on satisfaction. (Cho, Lee, Kim, Lee & Choi, 2004) While in primary care settings where physicians typically spend more time with the patient, physician care was found to have a stronger correlation than nursing care. This may indicate that it is the care of the provider that spends the most time with the patient that has the strongest effect on overall patient satisfaction. (Otani, Kurz & Harris, 2005) Individualized nursing care has been shown to have a positive impact on overall patient satisfaction. (Suhonen, Valimaki & Leino-Kilpi, 2005) In addition to finding individualized care of nurses, Schmidt (2003) found that nursing interactions such as informal explanations, timely responding, and the perceived feeling of being “watched over” positively influence satisfaction ratings.

Clinical process has also been found to be associated with patient satisfaction. Mostly patients’ perspective of clinical quality is judged from clinical outcomes. (Shine, 2002; MacStravic, 1999) High levels of clinical quality are strongly associated with expertise and experience of the provider especially with specialized conditions. (Solomon, Bates, Panush & Katz, 1997; Landon et al., 2002; Schreiber, Elkhatib, Grines, & O’Neil, 1995) The patients’ perception of receiving technically competent nursing has been associated with increased levels of satisfactions. (Yellen, Davis & Ricard, 2002)

There are indications that as the patient's medical knowledge and experience increases, the technical competence of their provider becomes increasingly significant to their overall satisfaction with their physicians care. Cho, et al. (2004) notes that while their study did not show technical care to have strong correlations with satisfaction in the acute setting, other studies such as Calnan (1988) found as the patient becomes more informed, they become more critical about their physicians practices. This is supported by the general idea of consumerism that states as the consumer becomes more educated and experienced, they begin to evaluate all aspects of quality not just the aesthetic indicators of quality. (Maheswaran, 1994. Maheswaran & Sternthal, 1990.)

Not in the original framework, is the influence of demographic data on patient satisfaction. There have been conflicting findings with some studies finding demographic data such as age, gender and education having a significant effect on general satisfaction levels, (Gonzalez, Lopez & Garrido, 2005) and data from the Agency for Healthcare Research and Quality indicates there is a variation of patient satisfaction with differing age, race, and type of insurance coverage. (AHRQ, 2000) In contrast, other studies have found that demographic data has not been linked with increased satisfaction levels, (Guzman et al., 1988) and specific demographic data such as education, place of residence and profession are not predictive of satisfaction. (Moumtzoglou et al., 2000) Considering that there is conflicting data, it is warranted that this aspect be assessed for its potential influence on patient satisfaction.

There is a lack of significant data in regards to leadership and its impact on patient satisfaction, and this could be due to its indirect link to patient satisfaction, and therefore is difficult to evaluate effectively. Recent evidence shows that more than twenty

percent of hospitals in the United States reports problems within their system such as delayed procedures, poor organization upon admission, not knowing the primary physician for the patient. (Coulter & Cleary, 2000).

While there is a vast amount of information on satisfaction in the adult population, there is a limited amount of studies specifically looking at satisfaction in the pediatric population. Many of them are looking at specialized settings (Varni, 2000; Halfon, Inkelas, Mistry, & Olsen, 2004; McPherson, Sachdeva & Jefferson, 2000; Stumpel, Wagner, Diwo, Vidailhet, Fyad, 2002.) and units during a time of transition and restructuring (Palisin, Cecil, Gumbardo & Varley, 1997) and are not generalizable to the general hospitalized pediatric population. Due to the ethical, legal and developmental difficulties of using pediatrics as subjects, pediatric satisfaction is often measured through the parent's satisfaction with their child's care.

Process quality along with clinical quality has been shown to be important aspects of parent satisfaction. Areas that have been identified as important are communication, caring, safety, environment, and appreciation. (Schaffer, Vaughn, Kenner, Donohue & Longo, 2000) In a study performed in a specialized pediatric unit, showed that things within process quality such as staff sensitivity and interactions were found to be associated with higher levels of satisfaction. (Miceli & Clark, 2005; Marino, Marino & Hayes, 2000; Moutzoglou et al., 2000)

Conclusion

There are two direct influences of patient satisfaction according to the causal model: process quality and clinical quality. These aspects are supported by the literature

in patient satisfaction in the adult population as having a significant influence on overall satisfaction. However little research exists to explore the relationship between these factors and pediatric populations. These same characteristics of process quality and clinical quality will be assessed in the study for satisfaction of parents with hospitalized children. Considering the contradicting information of the impact of demographic characteristics on satisfaction within the literature, the influence of demographics will also be explored.

METHODS

Introduction

Many children are admitted to inpatient adult units throughout the country due to the lack of specialized pediatrics units. With the movement towards family centered care it is important to understand the aspects that lead to high levels of patient satisfaction. The purpose of the study is to measure overall parent satisfaction with care, and in addition, understanding the influence that parent demographic characteristics, perception of delivery of care (process quality) and perception of quality of care (clinical quality).

Sample

The sample is a non-random convenience sample of parents whose children are admitted as an in-patient to an adult surgical unit during an eight-week period of time at a local hospital. Based on an approximate 150 admissions a year average the resulting sample size would be 30.

Inclusion Criteria

Parents are operationally defined as primary care providers who care for the child at least 50% of the time. The age of the children are between 6 months and 17 years of age.

Exclusion Criteria

Parents whose children are on the unit for 23-hour observation or recovery will not be included in the study.

Design

This is a descriptive correlational study using a reliable and valid survey filled out by the parents of children to analyze the relationship between process quality, clinical quality and demographic factors and their influence on the overall satisfaction score.

Human Subjects Consideration

Permission was requested through Montana State University Institutional Review Board (IRB). The application was reviewed and the board granted permission to proceed. The study was deemed “exempt”, or of little risk to the subjects participants by the Montana State University IRB. The Billings IRB deferred the need for formal application to the hospitals internal research board based on the Montana State University’s IRB exempt findings. The hospitals internal research board reviewed the Montana State University’s IRB application and approval and subsequently, permission was granted to proceed without further application. The manager of the unit that was the area of research was consulted and the study was approved to proceed.

Data Collection

Potential discharging nurses were identified and provided with an informative and instructional letter about the study. The primary researcher provided the materials to the hospital staff, and the questionnaire and informed consent letter was distributed with the hospitals standard pediatric packets. The survey came in an envelope along with a letter

of description of the study, explanation of confidentiality/HIPPA and instructions to complete the form. The discharging nurse distributed the envelope to the parents at the time of discharge. At that time the parents were asked to fill out the survey and return it along with the signed consent to the discharging nurse before leaving the hospital. The nurse collected the survey and turned it in to a designated spot on the floor. The researcher was not directly involved with the data collection to eliminate potential bias or coercion. For a period of eight weeks data was collected from the sample population. No identifiable data will be collected. The resulting data was analyzed using SPSS 14.0.

Instruments

The instrument used in this study, is the Pediatric Family Satisfaction Questionnaire (PFSQ) that was developed by the University of Iowa Hospitals and Clinics. (Budreau & Chase, 1994) This questionnaire was developed to evaluate parent's satisfaction with their child's care during a hospital stay. The different areas of evaluation are nursing care, medical care, hospital service and child life therapy. The process and clinical quality items are identified in the PFSQ. (Table 1) Child life therapy is an aspect that is specific to the University of Iowa's Hospital and Clinic and therefore will not be included in this study. Bragadottir & Reed (2002) tested the PFSQ and it was proven to be reliable and valid. It was also tested with the child life therapy excluded, and was found to have no impact on its reliability and validity. (Bragadottir & Reed, 2002) In an effort to evaluate demographic data and its effect on parent satisfaction the PFSQ will be modified only by adding demographic questions and excluding the child life therapy questions, and should not effect the reliability and validity of the survey. (Table 1)

Table 1. PFSQ Items

<u>Process Quality Items</u>	<u>Clinical Quality Items</u>
<p>The Nurses Were caring and concerned Were gentled with the patient Kept us informed Answered our questions clearly Explained the patient's condition and care in terms we understood Listened to what we had to say Included us in making decisions and planning care</p> <p>The Doctors: Were caring and concerned Had clear honest communications with us Gave us information about treatments and tests before they were done Kept us informed of test results and of changes in the patients conditions Gave us complete explanation Answered our questions clearly Included us in making decisions and planning care</p>	<p>The Nurses Checked the patient's condition closely Notified the doctor when necessary Gave treatments and medications on time Were skillful with procedures and equipment Were aware of changes in the treatment plan</p> <p>The Doctors: Were familiar with the medical history Were knowledgeable and skillful Responded promptly to changes in the patient's condition Were available when needed or called</p> <p><u>Parent Demographics</u> Age of parent/guardian Gender Marital Status Education Level Age of child Home Location Distance from hospital Time to hospital</p>

RESULTS

The study was conducted for a predetermined eight-week period of time between January 2, 2006 and February 28, 2006. Seventeen pediatric patients were discharged during that time. Four subjects declined to participate. The total sample size was thirteen. The response rate was 77%.

Sample Demographics

The participants' ages ranged from 21 to 45 years old with the mean age of 33.9 years old. The majority of the participants (38.5%, n =5) were between the ages of 30 and 34 years old. One of the participants did not indicate their age. Respondent were predominately female. (92.3%, n = 12) and 69% (n = 9) were married. 15% (n = 2) of the sample was single, and 15% (n = 2) were divorced. All of the participants attended some high school, but two did not graduate. College was attended by 38.5% (n = 5) of the sample with two of those graduating from college. None of the participants had education higher than college. The age of the children ranged from 1 year to 16 years old with the mean age being 9 (SD=4.7) years old. (Tables 2 and 3)

Table 2. Demographic Data

Response	Number of Cases Reported	% of Total Sample
Age of Parent*		
20 – 24 years old	1	7.7
25 – 29 years old	2	15.4
30 – 34 years old	5	38.5
35 – 39 years old	1	7.7
40 – 44 years old	2	15.4
45 – 49 years old	1	7.7

Gender		
Male	1	7.7
Female	12	92.3
Marital Status		
Single	2	15.4
Married	9	69.2
Divorced	2	15.2
Education		
High School	13	100
College	5	38.5
Higher education	0	0
Childs Age		
0 - 11 months old	0	0
1- 2 years old	2	15.4
3 – 5 years old	2	15.4
6 – 10 years old	4	30.8
11 – 14 years old	3	23.1
15 – 17 years old	2	15.4

* 1 participant did not indicate their age.

The majority of participants were from Montana (92%, n = 12) with 46% (n = 6) living in Billings, the hospital location. One participant did not report their home city. The distance from the respondent's home to the hospital ranged from 2 miles to 300 miles and the mean miles was 98.7. (SD=106) forty-six percent (n = 6) lived within 20 miles of the hospital. An additional 46.2% (n = 6) lived within 30 minutes of the hospital and 23 % (n = 3) lived 61 - 120 minutes from the hospital.

Table 3. Home Location Data

Response	Number of Cases Reported	% of Total Sample
Home City*		
Billings	6	46.2
Clark	1	7.7
Fort Peck	1	7.7
Gardiner	1	7.7
Jordan	1	7.7
Sydney	1	7.7
Wyda	1	7.7
Home State		
Montana	12	92.3

Wyoming	1	7.7
Miles to Hospital		
0 – 20	6	46.2
21 – 50	0	0
51 – 100	2	15.4
101 – 150	1	7.7
151 – 200	1	7.7
>200	2	15.4
Time to Hospital (minutes)		
0 – 30	6	46.2
31 – 60	1	7.7
61 – 120	3	23.1
121 – 180	1	7.7
181 – 240	1	7.7
>240	1	7.7

* one participant did not report home city.

Satisfaction Scores

The questionnaire collected satisfaction scores from process and clinical quality items for both physicians and nurses along with the parents overall satisfaction. The participants scored care by a Likert rating system for the questions in table 1 with the score of 5 meaning agree, 1 disagree and 0 doesn't apply.

Process Quality

There was a total of 13 process quality items on the questionnaire. The range of total process quality scores was from 3 (undecided) to 5 (agree), with the mean score of 4.94. (SD = 1.39) Four questions in process quality received at least one "doesn't apply"; Nurses explained the child's condition in understandable terms, nurses included us in making decisions and planning care, doctors gave us information on treatments before they were performed, and doctors kept us informed of test results and changes in patients condition. All the participants felt the nurses and doctors were caring and concerned.

Table 4. Process Quality Responses

Response	Number of Cases Reported	% of Total Sample
Nurses were caring and concerned Agree	13	100
Nurses were gentle with the patient Somewhat agree	1	7.7
Agree	12	92.3
Nurses kept us informed Undecided	1	7.7
Somewhat Agree	1	7.7
Agree	11	84.6
Nurses answered our questions clearly Somewhat Agree	2	15.4
Agree	11	84.6
Nurses explained child's condition in understandable terms Doesn't apply	2	15.4
Undecided	1	7.7
Agree	10	76.9
Nurses listened to what we had to say Somewhat agree	3	23.1
Agree	10	76.9
Nurses included us in making decisions and planning care Doesn't apply	1	7.7
Somewhat agree	3	23.1
Agree	9	69.2
Doctors were caring and concerned Agree	13	100
Doctors had clear, honest communication with us Somewhat agree	1	7.7
Agree	12	92.3
Doctors gave us information on treatments before they were performed Doesn't apply	1	7.7
Somewhat agree	1	7.7
Agree	11	84.6
Doctors kept us informed of test results and changes in patients condition Doesn't apply	1	7.7
Somewhat agree	1	7.7
Agree	11	84.6
Doctor gave us complete explanations Somewhat agree	1	7.7
Agree	12	92.3
Doctors answered our questions clearly Somewhat agree	1	7.7
Agree	12	92.3
Doctors included us in making decisions and planning care Somewhat agree	1	7.7
Agree	12	92.3

Clinical Quality

There was a total of 9 clinical quality items on the questionnaire. Scores ranged from 3 (undecided) to 5 (agree), with the mean score of 4.18. (SD=1.66) Seven questions received at least one doesn't apply answer: Nurses notified doctor when necessary, nurses were aware of changes in treatment plan, nurses gave treatments and medications on time, nurses were skillful with procedures and equipment, Doctors were available when needed, doctors responded promptly to changes in patient's condition. 23.1 percent (n = 3) somewhat agreed that the nurses check the patient's condition closely and gave the medications and treatments on time. 61.5 percent (n = 8) agreed that the doctors were familiar with the patients medical history. 92.3 (n = 12) percent felt the doctors were knowledgeable and skillful.

Table 5. Clinical Quality Item Responses

Response	Number of Cases Reported	% of Total Sample
Nurses checked patient's condition closely		
Somewhat agree	3	23.1
Agree	10	76.9
Nurses notified the doctor when necessary		
Doesn't apply	1	7.7
undecided	1	7.7
Agree	11	84.6
Nurses were aware of the changes in the treatment plan		
Doesn't apply	1	7.7
Undecided	2	15.4
Somewhat Agree	1	7.7
Agree	9	69.2
Nurses gave treatments and medications on time		
Doesn't apply	2	15.4
Somewhat Agree	3	23.1
Agree	8	61.5
Nurses were skillful with procedures and equipment		
Doesn't apply	1	7.7
Somewhat agree	1	7.7
Agree	11	84.6
Doctors were familiar with the medical history		
Doesn't apply	1	7.7
Somewhat agree	4	30.8
Agree	8	61.5

Doctors were knowledgeable and skillful		
Undecided	1	7.7
Agree	12	92.3
Doctors were available when needed or called		
Doesn't apply	1	7.7
Agree	12	92.3
Doctors responded promptly to changes in patients condition		
Doesn't apply	1	7.7
Agree	12	92.3

Overall Satisfaction

There was one question to evaluate overall satisfaction: Overall we were very satisfied with the care received. 100% of the sample answered 5 (agree)

Data Correlation

The goal of the study was to establish patient demographics, satisfaction with clinical and process quality and overall satisfaction with care. In addition it was sought to understand the correlation between individual items and the overall satisfaction. Overall people were satisfied with the care they received. Due to the small sample size and lack of item variability, correlations were not possible

DISCUSSION

This study found that the subjects were satisfied with their overall care. This is consistent with the findings of previous studies. There tends to be consistently high satisfaction ratings in these types of studies. (Fitzpatrick & Hopkins, 1983; Fitzpatrick, 1993) It is theorized that this may be a phenomenon of unwillingness to criticize health care services versus a true evaluation of satisfaction. (Staniszewska & Ahmend, 1999) The tendency of subjects to rate their satisfaction as high, can and does complicate research seeking to understand satisfaction and the essential factors that are correlated with it.

This study also reported high levels of satisfaction in factors related to process quality. Notably, all the subjects all felt that the physicians and doctors were caring and concerned. In previous studies process quality of the non-physician concern was found to be associated with high levels of satisfaction. In the same study the perception of physician concern also emerged as a significant factor for those who spent increased time within the medical system. (Cho, Lee, Kim, Lee & Choi, 2004) Gonzalez-Valentin (2005) also found the perception of personal and human care to be a significant factor in satisfaction. While correlations could not be established, the patients perceptions of high levels of care and concern may have lead to the high levels of satisfaction in this study.

The perception of clinical quality was also reported to be high in this study. Clinical quality has not been found to be as strongly correlated with patient satisfaction as compared to process quality. Overall, most studies find that high levels of clinical quality

is associated with high patient satisfaction. (Solomon, Bates, Panush & Katz, 1997; Landon et al., 2002; Schreiber, Elkhatib, Grines, & O'Neil, 1995; Yellen, Davis & Ricard, 2002) In a qualitative study, interestingly, the technical aspect of the care they received was rarely mentioned in an open conversation about the patient's satisfaction with their care. (Schmidt, 2003)

Overall 2 of the participants graduated from college and the majority of the sample had only graduated from high school. Education has been found to be associated with satisfaction scores. (Gonzalez – Valentin, 2003; Uzun, 2001) While other studies have not found associations with education levels and patient satisfaction. It is unclear the role that education plays in a patient's perception of care and overall satisfaction. It is theorized that the more educated a patient is, the more critical they become of their medical care. (Calnan, 1988; Maheswaran, 1994; Maheswaran & Sternthal, 1990.) Thus, given the participants overall lower education level, they may not be as critical of the care they received as a sample as compared to a sample that had a higher mean education level.

Limitations

It could not be established if demographic characteristics, process quality or clinical quality has a significant correlation with overall satisfaction because of the small sample size and the lack of variability in factors. The sample size was 13 in comparison to the anticipated sample size of 30. While the response rate should be considered good at 77%, during the time frame the study was conducted the average census of pediatric inpatients was significantly down, and therefore did not allow achievement of target

sample size. The sample selection was a convenience sample from one location and cannot be considered representative of the general pediatric population of the nation. A large randomized sample is necessary to establish true generalizability of the findings.

There are some difficulties of assessing patient satisfaction through the framework that the patient is a customer. This may be due to the fact the human body is unlike a broken machine. There is more to it the replacing a broken part. “The experience and expression of satisfaction with treatment outcome is . . . unlikely to be a purely rationale process because of the emotional and experiential responses to treatment interventions.” (Hudak, McKeever & Wright, 2003, p.107)

Implications

Research

Further studies are needed to establish the relationship between satisfaction factors and overall patient satisfaction in the pediatric population. Previous research in the adult population has consistently shown process quality to be strongly correlated with high satisfaction ratings. Whether or not this is true in the pediatric population should be established.

The trend that was noted in this study, along with other studies for participants to rate their satisfaction high due to unwillingness to be critical of their health care, creates difficulties in satisfaction studies. Further understanding of this phenomenon is necessary to be able to establish methods and design questionnaires that obtain accurate levels of satisfaction

There are a wide variety of tools that are used for the evaluation of patient satisfaction. Like the tool used in this study, some of them have been adequately studied for their reliability and validity. Given the difficulty with accurately evaluating satisfaction in the healthcare setting, it would be indicated for a development of a more universal and sensitive tool that can be used for collection of patient satisfaction information.

Teaching

It is important for healthcare providers to understand what factors play an essential role in the highest levels of satisfaction. This study's trends support previous research findings that it is important not only to delivery high quality technical care but to also understand the importance delivering care in an understanding, compassionate, individualized manner. As more healthcare providers are taught this and implement it in their daily practice, patient satisfaction levels will increase.

Practice

The findings of this study are consistent with findings of previous adult and pediatric satisfaction research, which indicates that process quality is strongly correlated with high levels of patient satisfaction. The Nurse Practitioner is trained using the nursing model, or a holistic approach to healthcare. In contrast to other medical professionals who are trained under the medical model or a problem based approach. The holistic approach to healthcare that a Nurse Practitioner utilizes has the potential to lead to higher levels of patient satisfaction.

Conclusion

With the movement in healthcare to treat the patient as a consumer or a client of the health care system, it becomes increasingly important to utilize patient satisfaction as a marker for high quality care. In addition, with the fiscal limitations and advancements in technology it becomes ever more important to understand what factors play the largest role in leading to high patient satisfaction. Recognition of this importance has led to a great deal of research in the adult patients. In contrast, there exists little data about pediatric satisfaction, especially in the non-specialized hospital settings.

Rural areas are faced with unique challenges of providing high quality care in non-specialized settings. Oftentimes pediatric patients are treated and admitted onto adult inpatient units due to the lack of specialization. Especially in these types of settings, it is essential to understand important factors of high patient satisfaction in order to, in part, deliver high quality care.

While this study's sample size was small and certain factors lacked enough variability to establish correlation between demographic items, process quality and clinical quality with a patients overall satisfaction, it did result in notable trends. These trends include high process quality satisfaction with high process quality scores and the majority of the sample only having high school education. Whether or not these trends can be correlated with high satisfaction levels needs to be the subject of further study.

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APPENDICES

APPENDIX A

PEDIATRIC SATISFACTION QUESTIONNAIRE

Pediatric Satisfaction Questionnaire

Demographics

Age of parent/guardian: _____ Sex: Female Male

Marital Status (please circle): Single married divorced.

Education level: ____ High school . Did you graduate? _____

____ College. Did you Graduate? _____

____ Higher than College. Degree: _____

Home Location(city, state, county): _____

Miles from home to hospital: _____ Time to hospital: _____

Age of child: _____

The Nurses:

	agree	Somewhat agree	undecided	Somewhat disagree	disagree	Doesn't apply
Were caring and concerned	5	4	3	2	1	0
Were gentle with the patient	5	4	3	2	1	0
Checked the patient's condition closely	5	4	3	2	1	0
Notified the doctor when necessary	5	4	3	2	1	0
Were aware of changes in the treatment plan	5	4	3	2	1	0
Gave treatments and medications on time	5	4	3	2	1	0
Were skillful with procedures and equipment	5	4	3	2	1	0
Kept us informed	5	4	3	2	1	0
Answered our questions clearly	5	4	3	2	1	0
Explained the patient's condition and care in terms we understood	5	4	3	2	1	0
Listened to what we had to say	5	4	3	2	1	0
Included us in making decisions and planning care	5	4	3	2	1	0

<u>The Doctors:</u>	agree	Somewhat agree	undecided	Somewhat disagree	disagree	Doesn't apply
Were caring and concerned	5	4	3	2	1	0
Were familiar with the medical history	5	4	3	2	1	0
Were knowledgeable and skillful	5	4	3	2	1	0
Were available when needed or called	5	4	3	2	1	0
Responded promptly to changes in the patient's condition	5	4	3	2	1	0
Had clear honest communication with us	5	4	3	2	1	0
Gave us information about treatments and tests before they were done	5	4	3	2	1	0
Kept us informed of test results and of changes in the patient's condition	5	4	3	2	1	0
Gave us complete explanations	5	4	3	2	1	0
Answered our questions clearly	5	4	3	2	1	0
Included us in making decisions and planning care	5	4	3	2	1	0
<u>Overall satisfaction</u>						
Overall we were very satisfied with the care received	5	4	3	2	1	0

APPENDIX B

LETTER OF APPROVAL FROM UNITS MANAGER



2800 Tenth Avenue North
P.O. Box 37000
Billings, Montana 59107-7000

To Whom It May Concern:

The Billings Clinic Inpatient Surgical Unit manager and clinical coordinators have been presented with all the pertinent study information for Satisfactions Determinants: Parents of Children Admitted to an Adult In-Patient Surgical Unit and have discussed it with the primary investigator, Sharla Dosier. It was reviewed by the Institutional Review Board and was found to be satisfactory. Billings Clinic and the Inpatient Surgical Unit have approved and granted permission to proceed with the study. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Janice McFarland".

Janice McFarland
Manager, Inpatient Surgical
Billings Clinic
657-4224

APPENDIX C

APPROVAL TO PROCEED BY HOSPITAL RESEARCH DEPARTMENT



Research Center
1045 North 30th Street
Billings, Montana 59101
(406) 255.8470

February 28, 2006

To Whom It May Concern:

I have reviewed the Montana State University Institutional Review Board's letter dated November 30th, 2005 regarding the research to be performed by Sharla Dosier.

I grant her permission to proceed without any further review by the Billings Institutional Review Board.

Sincerely,

A handwritten signature in cursive script that reads "Debbie".

Deborah Sindland, RN, BSN, CCRC
Manager

bg

APPENDIX D

MONTANA STATE UNIVERSITY'S INSTITUTIONAL REVIEW BOARD
EXEMPT STATUS APPROVAL



INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects

960 Technology Blvd. Room 127
c/o Veterinary Molecular Biology
Montana State University
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Telephone: 406-994-6783
FAX: 406-994-4303
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Chair: Mark Quinn
406-994-5721
mquinn@montana.edu

Administrator:
Cheryl Johnson
406-994-6783
cherylj@montana.edu

MEMORANDUM
.....

TO: Sharla June Dosier

FROM: Mark Quinn, Ph.D. Chair *Mark Quinn*
Institutional Review Board for the Protection of Human Subjects

DATE: November 30, 2005

SUBJECT: *Satisfaction Determinants: Parents with Children Admitted to an Inpatient Surgical Unit*

The above research, described in your submission of November 30, 2005, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal Regulations, Part 46, section 101. The specific paragraph which applies to your research is:

- (b)(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.
- (b)(3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- (b)(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.
- (b)(5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- (b)(6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.