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Nurses' Attitudes toward Patients with Sickle Cell Disease: A Worksite Comparison

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Abstract

Background—Individuals with sickle cell disease (SCD) have reported being stigmatized when they seek care for pain. Nurse attitudes contribute to stigmatization and may affect patients' response to sickle cell cues, care-seeking, and ultimately patient outcomes.

Aim—The purpose of this study was to determine if there are significant differences in nurse attitudes towards patients with SCD by worksite- medical-surgical units compared to emergency departments/intensive care units (ED/ICU).

Design—The study used a cross-sectional, descriptive comparative design.

Setting/Participants—The sample consisted of 77 nurses (36 nurses from the ED/ICU and 41 nurses from medical-surgical units) who completed an anonymous online survey.

Results and Conclusions—There were no significant differences in attitudes by worksite with both sites having high levels of negative attitudes towards patients with SCD. Findings suggest that nurses from both worksites need additional education about SCD and care of this vulnerable, patient population.

Keywords

Attitudes; stigma; sickle cell

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Introduction

Many individuals with chronic illnesses are living longer lives. The role of self-care in these disease states has been increasingly studied in recent years given its importance to managing the disease process over time. Chronic disease management involves self-care which is highly individualized. In order to successfully perform self-care behaviors, individuals must be able to recognize and interpret evolving problems that are unique to their bodies (cue recognition), then use specific strategies such as seeking medical help to address those problems (cue response). Cue recognition and response are important for individuals living with sickle cell disease (SCD). Negative nurse attitudes may affect patients' response to sickle cell cues, thus may affect clinical care and ultimately patient outcomes. It is important to understand nurse attitudes towards patients with SCD and to determine if they differ by worksite. The limited studies that have reported nurse attitudes towards patients with SCD have either focused on the ED or have not specified a worksite. The purpose of this study was to determine if there are significant differences in nurse attitudes towards patients with SCD by worksite- medical-surgical units compared to emergency departments/intensive care units (ED/ICU).

Background: Challenges of Care-Seeking for SCD

Sickle cell disease is the most common genetic disorder in the United States (Pack-Mabien & Haynes, 2009). It is an inherited blood condition that results in a genetic defect in the hemoglobin structure (Creary, 2007), leading to the classic sign of sickle shaped red blood cells. The sickled red blood cells cause hemolysis which leads to anemia and other complications that can affect every body system. They may also lead to irreversible damage (Zack-Williams, 2007). The clinical manifestations of SCD are primarily caused by two mechanisms: hemolysis and vaso-occlusion. Hemolysis is the most recognizable sign of SCD. The average hemoglobin of an individual with SCD is 6-9 gm/dl (Howard & Oteng-Ntim, 2012; MacMullen & Dulski, 2011), as compared to the norm of 13.8 to 17.2 gm/dL for males and 12.1 to 15.1 gm/dL for females (Medline Plus, 2014). Another major clinical feature, vaso-occlusion, results in acute pain. These pain episodes have been characterized as sickle cell crises or pain crises. In a critical reappraisal of sickle cell pain, Ballas, Gupta, and Adams-Graves (2012) agree with Diggs' (1956) description of sickle cell pain as typically being sudden onset in the low back, or one or more joints or extremities. It can be confined to one area or it can migrate and the pain is often continuous and throbbing. These crises are the primary reason for health care utilization and they often result in hospitalizations (Lattimer et al., 2010).

Care for sickle cell crises is typically sought after strategies at home have been exhausted with no relief and the pain has reached unbearable levels (Jenerette, Brewer, & Ataga, 2013). Individuals who present to the hospital in sickle cell crises are often stabilized in the emergency department with fluids, oxygen, and pain medication then discharged; however, discharge does not necessarily indicate resolution of the crisis (Ballas, Gupta & Adams-Graves, 2012). More severe cases or cases worsened by delayed analgesia result in admission for further symptom management and/or treatment of the underlying problem (Ballas, 2011). Beyond the emergency department (ED), inpatient assignment, nursing unit

or intensive care unit, is based on patient status and bed availability. Inpatients with SCD are often assigned to medical-surgical units because hospitalists are increasingly more likely to manage inpatient admissions of adults with SCD (Smith, Jordan, & Hassell, 2011); therefore, medical-surgical nurses are seeing an increased number of patients with SCD (Jenerette, Brewer, & Moura, in press).

Regardless of the ED, intensive care, or inpatient unit, nurses are the chief providers of direct clinical care and interact most often with patients. They are essential for pain management, health education, and prevention of subsequent sickle cell crises (Valente et al., 2010). Nurses not only communicate patient status and concerns to the primary care provider, but they also offer recommendations based on nursing judgment and implement prescribed therapy. In doing so, nurses assume a large percentage of the responsibility to serve as patient advocates. Attitude can serve as a barrier between a nurse and a patient. Prior to entering nursing school, many nurses develop negative attitudes about pain and the use of opioids for pain management as a result of their ethnic background, values, family, church, and community (Pack-Mabien, Labbe, Herbert, & Haynes, 2001). Having preconceived notions about pain can result in imprecise pain assessments and thus insufficient treatment of pain.

The pain management process can be difficult for all involved because individuals with chronic pain may not show visible signs of pain. Nurses must rely on the patient's subjective description of pain to guide assessment and treatment. Thus, the mantra that pain is “whatever the experiencing person says it is, existing whenever the experiencing person says it does” (McCaffery, 1968, p.95) ought to guide practice. This does not always occur. Persons with SCD report being discriminated against, being stigmatized by healthcare providers, feeling as though their complaints are ignored, and just being poorly treated when they access the health care system (Jacob, 2001; Jenerette & Brewer, 2010; Todd, Green, Bonham, Haywood, & Ivy, 2006).

Vaso-occlusion, a cause for pain in SCD, may lead to other complications such as infection, acute chest syndrome, stroke, renal dysfunction, retinopathy, avascular necrosis, and cholelithiasis (Howard & Oteng-Ntim, 2012; MacMullen et al., 2011). In addition, an increased frequency of pain episodes has been associated with a higher risk of early death (Reddin, Cerrentano, & Tanabe, 2011). Consequently, timely evaluation and treatment is imperative. On the contrary, patients with SCD report long delays in receiving pain meds, insufficient treatment of pain, allegations of being a drug seeker, and that providers lack an understanding of SCD (Lattimer et al., 2010). Nurses were reluctant to administer high doses of opioids to patients with SCD experiencing an acute pain crisis because they felt they were contributing to the patient's addiction (Khattab, Rawlings, & Ali, 2005). It is believed that patients with SCD become dependent on pain medications or that they should have a lower pain threshold. Nurses who were younger (less than 39 years old), had less education (lower than a Master's degree), and had less than 10 years of active nursing experience (often between zero and 5 years) were more likely to believe that drug addiction frequently develops in the management of sickle cell pain and should be a primary concern in the care of patients with SCD (Pack-Mabien et al., 2001). These nurses were also most likely to believe that most patients with SCD are drug addicts. In fact, nurses reported that

patients with SCD require too much time and that they can, at times, look too healthy to be sick (Valente et al., 2010). Unlike cancer and postoperative pain, there appears to be a lack of sympathy for those with SCD (Pack-Mabien et al., 2001).

The Theory of Self-Care Management for Sickle Cell Disease identifies lack of sickle cell crisis cue recognition/response as a vulnerability factor (along with complications, crises per year, and overprotection) that has a negative influence on health outcomes/health related quality of life (depressive symptoms, self-esteem, pain management experience, and health-related stigma). This relationship is positively mediated by self-care management resources which include assertive communication skills, coping behaviors, self-care ability, self-care actions, self-efficacy, and social support (Jenerette & Murdaugh, 2008). Negative nurse attitudes towards patients with SCD can affect the nurse-patient relationship and contribute to poor health outcomes as proposed in the Theory of Self-Care Management for Sickle Cell Disease. For example, when patients with SCD report lack of satisfaction with care-seeking experiences, they often delay care-seeking in the future by not responding appropriately to cues of an evolving pain crisis (Jenerette, Brewer, & Ataga, 2013).

Additionally, nurses are important conduits in the content and context of information that is relayed to the primary care provider, thus influencing the quality of care provided (Haywood et al., 2010) and patient outcomes. These attitudes are a major reason why patients limit or delay further care seeking when needed (Jenerette, Brewer, & Ataga, 2013). Patients then present in greater, uncontrolled pain and with more advanced issues when care is finally sought. This negatively affects the care experience and the cycle continues.

Method

Design

University institutional review board approval was obtained from The University of North Carolina at Chapel Hill prior to the start of the study. Additionally, the study was approved by the nurse councils at the two hospitals where the data were collected. In this descriptive comparative study, data were collected from July 2012 to December 2012.

Sample

A convenience sample of 77 nurses was recruited from the ED, intensive care units, or medical-surgical units from two hospitals. To be included, nurse managers agreed that their respective unit admitted patients with SCD.

Study Measures

The Qualtrics© online questionnaire consisted of demographics, the General Perceptions about Sickle Cell Patients Scale (Haywood, Jr. et al., 2010), three items adapted from the Sickle Cell Disease Health-Related Stigma Scale (SCD-HRSS; Jenerette, Brewer, Crandall, & Ataga, 2012) and an open-ended statement requesting any additional comments about nurse perceptions of patients with SCD.

Demographics Questionnaire—The demographic questionnaire requested information in order to describe the sample by age, sex, education, and practice.

Nurse Attitudes—Nurses' attitudes about patients with SCD were measured by the General Perceptions about Sickle Cell Patients Scale (Haywood, Jr. et al., 2010). This 17-item scales measures attitudes and beliefs towards adult sickle cell patients using Likert-type items. The scale is composed of four subscales that measure negative attitudes, positive attitudes, concern raising behaviors, and red flag behaviors. Each subscale score ranges from 0-100 with higher numbers indicating higher levels of the respective attitude. Internal consistency reliabilities have been reported to range from .76-.89, and construct validity was supported with expected correlations with the Medical Condition Regard Scale (Haywood, Jr. et al., 2010).

Stigma Items—The SCD-HRSS is a 30 item Likert scale that measures health related stigma perceived by individuals with SCD. The three adapted items focused on the cause of sickle cell pain, appropriate use of pain medication, and comparing SCD patients to other patients with medical conditions. The adaption allowed nurses to report agreement with these items. The Cronbach's alpha reliability coefficients for the total score and subscales of the SCD-HRSS have been reported to range from .69-.84, and construct validity was supported with expected correlations with the Beck Depression Inventory (Jenerette et al., 2012).

Procedures

All eligible nurses received a link to the anonymous online survey from their respective nurse manager. Nurses provided informed consent by completing the survey. Nurses who provided their name and e-mail address, which were separated from study data, were eligible for a drawing for a $50 gift card at each of the two hospitals.

Statistical Analyses

Descriptive statistics, including means and standard deviations for continuous variables and proportions for categorical variables, were reported by worksite. Bivariate tests of the association of demographics and other characteristics variables with worksite were performed using t-tests, Fisher's Exact tests, or Cochran Mantel-Haenszel (CMH) tests of general association, as appropriate. Independent sample t-tests and analysis of variance (ANOVA) were employed to compare attitude and behavior outcomes across stigma categories and demographic characteristics. A post-hoc multiple comparison procedure using the Scheffé method was performed to assess pairwise differences among the levels of each factor with significant overall ANOVA F test. The p-values for all hypothesis tests were two-sided and statistical significance was set at $p < 0.05$. All analyses were performed using the SAS software package, version 9.3 (SAS Institute, Cary, NC).

Results

Demographics

A total of 36 nurses from the ED/ICU and 41 nurses from medical-surgical units were included in this cross-sectional study. Demographic data and other nurse characteristics are summarized in Tables 1 and 2. The vast majority of study participants were female (89.6%), white (82.6%), non-Hispanic (93.5%), and held a Bachelor of Science in Nursing (62.3%). The mean age for nurses in this sample was 38.2 years (SD 11.8). On average, study participants have been practicing nursing for 11.3 years (SD 11.36) and have been working in their current practice for 8.3 years (SD 8.28). Except for gender (p=0.044), the ED/ICU and medical-surgical groups were similar with regards to demographics and other characteristics.

Effect of Worksite

Independent sample t-tests were conducted to evaluate whether ED/ICU nurses and medical-surgical nurses demonstrated different attitudes and behaviors towards patients with SCD. The results of these tests are reported in Table 3. Overall, nurses working in the ED/ICU were more likely to show negative attitudes, concern-raising behaviors, and red-flag behaviors; they also had lower mean scores for positive attitudes. These differences, however, did not reach statistical significance (p=0.342 for negative attitudes; p=0.661 for positive attitudes; p=0.232 for concern-raising behaviors; p= 0.186 for red flag behaviors).

Effect of Gender and Education

There was no effect of gender on negative attitudes [t(72) = -0.05, p=0.962], positive attitudes [t(74) = -0.82, p=0.413], concern-raising behaviors [t(75) = 0.13, p= 0.899], or on red flag behaviors [t(74) = -0.26, p= 0.793]. Likewise, mean scores across education levels were similar for negative attitudes [F(3,69) = 0.15, p=0.928], positive attitudes [F(3,72) = 1.01, p = 0.395], concern-raising behaviors [F(3,73) = 1.0, p=0.395], and red flag behaviors [F(3,72) = 1.05, p = 0.374].

Effect of Stigma on Nurse Attitudes

One-way analyses of variance (ANOVAs) were conducted to compare the effect of stigma on attitudes (positive, negative) and behaviors (concern-raising, red flags). Tables 4-7 summarize the ANOVA results for each outcome of interest. These results revealed that the hypothesis of zero effect of the stigma item, “There is a real physical cause for sickle cell pain”, was supported. However, significant differences in attitudes and behaviors were found for the following two stigma items: “Patients use pain medication appropriately”, and “Patients with sickle cell do not complain about their illness any more than patients with other medical conditions”.

Post hoc comparisons using the Scheffé procedure indicated that nurses who agreed that “Patients use pain medication appropriately” reported, on average, lower negative attitude scores, lower concern-raising behaviors scores, and higher positive attitude scores than those in either “disagree” or “strongly disagree” categories. Furthermore, nurses who either disagreed or strongly disagreed that “Patients with sickle cell do not complain about their

illness any more than patients with other medical conditions" tend to achieve higher mean scores for negative attitudes, concern-raising behaviors, and red-flag behaviors.

Table 8 depicts select nurses' responses to the request for additional comments General Perceptions about Sickle Cell Patients Scale subscale scores are included.

Discussion

Although other studies have reported clinicians' attitudes about patients with SCD (Glassberg et al., 2013; Haywood, Jr. et al., 2010; Ratanawongsa et al., 2009) this is the first known published study to explore differences in attitudes by nurse worksite. Additionally, the majority of previous studies focused on ED staff. A focus on the ED is important because many individuals with SCD frequent the ED. However, because care often continues beyond the ED and more patients are being admitted to medical-surgical units, it is important to understand attitudes of nurses in other areas.

Overall, responses to the questionnaire and comments suggest two major themes. First, the non-significant results comparing attitudes of ED/ICU nurses and medical-surgical nurses reveal that explorations about nurse attitudes need to extend beyond the ED. This is especially important because the attitudes most often exhibited by ED/ICU nurses and medical-surgical nurses were negative. This result is in contrast to a study by Ratanawongsa and colleagues (2009) that found that inpatient vs. emergency department providers and nurses vs. other providers had higher positive attitude scores.

Secondly, the survey responses and comments suggest that, in order to minimize the potential for stigmatization based on inaccurate perceptions, nurses need significant education regarding the care of patients with SCD. The comments provided by the nurses were illustrative of attitude scores and provide insight into potential foundations for stigmatizations of patients with SCD. Comments support the previously reported healthcare provider concerns about drug-seeking behaviors and addiction in patients with SCD (Khattab, Rawlings, & Ali, 2005; Lattimer et al., 2010). Nurses have a less negative attitude towards patients with SCD when they agree that the patients used pain medication appropriately. Nurses need to have a better understanding of the basic pathophysiology of SCD as well as the disease trajectory and complications. In order to better understand how patients with SCD use their medication and seek care, nurses need to understand addiction, dependence, and pseudo-addiction. Nurses would better understand care-seeking for the pain of SCD if they understood cue recognition and the factors that influence how individuals with SCD respond to cues of an evolving pain crisis.

Finally, nurses need to understand the coping mechanisms that may develop over a lifetime of living with a chronic disease that often involves both chronic and acute pain. Although there are potential objective indicators of pain such as increased heart rate, grimacing, etc., we know that pain is subjective. Nurses are taught that pain is what the patient says it is and occurs when the patients says it occurs (McCaffery, 1968). Due to coping mechanisms that have developed during the day-to-day management of SCD, patients may not present as expected demonstrating the typical signs of pain. Individuals who live with chronic and/or

acute pain experience physiological and psychological changes that account for their pain behaviors and lack of visible signs of pain. Therefore, when a nurse perceives that patients with SCD are not in pain because they can talk on the telephone or pain scores do not match objective indicators, this can lead to stigmatization and delays in treatment. Nurses should never reach the conclusion that there is a better way to assess pain that does not include the patient's self-report.

In addition to more education regarding SCD and care of the patient with SCD (Valente et al., 2010), cultural competency training may be efficacious for nurses to recognize the ways that race, ethnicity, and culture may affect their attitudes and communication behaviors with SCD patients (Ratanawongsa et al., 2009). We know that the majority of individuals living with SCD in the US are African American and race does influence the provision of care.

Although this study revealed important information about nurse attitudes towards patients with SCD, there are some limitations that need to be considered. Even though the influence of the significant stigma variables on the reported outcomes (attitudes, behaviors) was in the direction expected, the observed statistical significance should be interpreted with caution due to sparse sample size (e.g. N=1) in some stigma categories. Additionally, the survey and comments were anonymous. There was no means to follow-up with respondents to clarify comments. Finally, the sample was not diverse as the majority of respondents were White females. Future studies should target larger, more diverse samples. Furthermore, perhaps a mixed-methods approach would provide more insight into nurses' attitudes towards patients with SCD in order to better inform future interventions.

Taken together, the results from both the survey and comments suggest that while the work setting (ED/ICU, medical-surgical) may not matter much, underlying stigma towards patients with SCD stigma may play a significant role in shaping nurses' attitudes and behaviors towards SCD patients. It is important to uncover the foundations that negatively influence the care of patients with SCD so that they can receive timely and appropriate care.

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References

Ballas S, Gupta K, Adams-Graves P. Sickle cell pain: A critical reappraisal. Blood. 2012; 120:3647–3656.10.1182/blood-2012-04-383430 [PubMed: 22923496]

Ballas S. Update on pain management in sickle cell disease. Hemoglobin. 2011; 35:520–529.10.3109/03630269.2011.610478 [PubMed: 21910604]

Ballas S, Gupta K, Adams-Graves P. Sickle cell pain: A critical reappraisal. Blood. 2012; 120(18): 3647–3656. doi:http://dx.doi.org/10.1182/blood-2012-04-383430. [PubMed: 22923496]

Creary M, Williamson D, Kulkarni R. Sickle cell disease: Current activities, public health implications and future directions. Journal of Women's Health. 2007; 16:575–582.10.1089/jwh.2007.CDC4

Diggs LW. The crisis in sickle cell anemia: Hematologic studies. American Journal of Clinical Pathology. 1956; 26(10):1109–1118.

Glassenberg JA, Tanabe P, Chow A, Harper K, Haywood C, DeBaun MR, Richardson LD. Emergency provider analgesic practices and attitudes toward patients with sickle cell disease. Annals of Emergency Medicine. 2013; 62(4):293–302. [PubMed: 23561465]

Haywood C, Lanzkron S, Hughes M, Brown R, Massa M, Ratanawongsa N, Beach MC. A video-intervention to improve clinician attitudes toward patients with sickle cell disease: The results of a randomized experiment. Journal of General Internal Medicine. 2010; 26:518–523.10.1007/s11606-010-1605-5 [PubMed: 21181560]

Howard J, Oteng-Ntim E. The obstetric management of sickle cell disease. Best Practice & Research Clinical Obstetrics and Gynaecology. 2012; 26:25–36.10.1016/j.bpobgyn.2011.10.001 [PubMed: 22113135]

Jacob E. Pain management in sickle cell disease. Pain Management Nursing. 2001; 2:121–131.10.1053/jpmn.2001.26297 [PubMed: 11748547]

Jenerette C, Brewer C. Health-related stigma in young adults with sickle cell disease. Journal of the National Medical Association. 2010; 102:1050–1055. [PubMed: 21141294]

Jenerette C, Brewer C, Ataga K. Care seeking for pain in young adults with sickle cell disease. Pain Management Nursing. 2013; 15(1):324–330.10.1016/j.pmn.2012.10.007 [PubMed: 23343879]

Jenerette C, Brewer CA, Crandell J, Ataga KI. Preliminary validity and reliability of the sickle cell disease health-related stigma scale. Issues in Mental Health Nursing. 2012; 33(6):363–369. doi: 10.3109/01612840.2012.656823; 10.3109/01612840.2012.656823. [PubMed: 22646200]

Jenerette C, Brewer C, Moura V. Teachable moment: Breathing exercises for inpatients with sickle cell disease. MedSurg Nursing. in press.

Khattab A, Rawlings B, Ali I. Haemoglobinopathies and healthcare provision for ethnic minorities. British Journal of Nursing. 2005; 14:824–827. [PubMed: 16116410]

Lattimer L, Haywood C, Lanzkron S, Ratanawongsa N, Bediako S, Beach M. Problematic hospital experiences among adult patients with sickle cell disease. Journal of Health Care for the Poor and Underserved. 2010; 21:1114–1123.10.1353/hpu.2010.0940 [PubMed: 21099065]

MacMullen N, Dulski L. Perinatal implications of sickle cell disease. American Journal of Maternal Child Nursing. 2011; 36:232–238.10.1097/nmc.0b013e3182215 [PubMed: 21709519]

McCaffery, M. Nursing practice theories related to cognition, bodily pain, and man-environment interactions. Los Angeles: University of California at Los Angeles Students' Store; 1968.

MedlinePlus. Hemoglobin: Normal results. 2014. Retrieved from http://www.nlm.nih.gov/medlineplus/ency/article/003645.htm

Pack-Mabien A, Haynes J. A primary care provider's guide to preventive and acute care management of adults and children with sickle cell disease. American Academy of Nurse Practitioners. 2009; 21:250–257.10.1111/j.17457599.2009.00401.x

Pack-Mabien A, Labbe E, Herbert D, Haynes J. Nurses' attitudes and practices in sickle cell pain management. Applied Nursing Research. 2001; 14:187–192.10.1053/apnr.2001.26783 [PubMed: 11699021]

Ratanawongsa N, Haywood C, Bediako S, Lattimer L, Lanzkron S, Hill P, et al. Beach M. Health care provider attitudes toward patients with acute vaso-occlusive crisis due to sickle cell disease: Development of a scale. Patient Education and Counseling. 2009; 76:272–278. doi:10.1016/j.pec.2009.01.007; 10.1016/j.pec.2009.01.007. [PubMed: 19233587]

Reddin C, Cerrentano E, Tanabe P. Sickle cell disease management in the emergency department: What every emergency nurse should know. Journal of Emergency Nursing. 2011; 37:341–345.10.1016/j.jen.2010.04.014 [PubMed: 21741568]

Smith WR, Jordan LB, Hassell KL. Frequently asked questions by hospitalists managing pain in adults with sickle cell disease. Journal of Hospital Medicine. 2011; 6(5):297–303.10.1002/jhm.933 [PubMed: 21661104]

Todd K, Green C, Bonham V, Haywood C, Ivy E. Sickle cell disease related pain: Crisis and conflict. The Journal of Pain. 2006; 7:453–458.10.1016/j.jpain.2006.05.004 [PubMed: 16814684]

Valente S, Alexander J, Blount M, Fair J, Goldsmith C, Williams L. Sickle cell disease in emergency department: Education for emergency nurses. JOCEPS: The Journal of Chi Eta Phi Sorority. 2010; 54:11–14.

Zack-Williams E. Sickle cell anemia in pregnancy and the neonate: Ethical issues. British Journal of Nurse Midwifery. 2007; 15:205–209. doi:10.1067/.

Table 1

Categorical Baseline Demographic Variables and Other Characteristics of Nurses by Worksite

	ED/ICU		Medical-Surgical		Total		p-value
	N=36	%	N=41	%	N=77	%	
Gender							
Female	29	82.9	40	97.6	69	89.6	0.044[1]
Male	6	16.7	1	2.4	7	9.1	
Race							
Black or African American	1	2.8	5	12.2	6	8.7	0.257[2]
White	27	75.0	30	73.1	57	82.6	
Other Race	1	2.8	1	2.4	2	2.6	
More than one race	0	0.0	2	4.9	2	2.6	
Prefer not to answer	6	16.7	3	7.3	9	2.7	
Ethnicity							
Hispanic	1	2.8	1	2.4	2	2.6	1.000[1]
Not Hispanic	33	91.7	39	95.1	72	93.5	
Education							
Associate Degree -- RN	11	30.6	15	36.6	26	33.8	0.652[2]
Bachelor of Science in Nursing	24	63.9	24	58.5	48	62.3	
MN/MSN	1	2.8	2	4.9	3	3.9	
DNP	1	2.8	0	0.00	1	1.3	

ED, emergency department; ICU, intensive care unit.

Two-sided p-values:

[1] Fisher's Exact,

[2] CMH general association

Table 2

Continuous Baseline Demographic Variables and Other Characteristics of Nurses by Worksite

	ED/ICU		Medical-Surgical		Total		p-value
Continuous Baseline Variables	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	
Age	38.0	13.08	38.2	10.87	38.2	11.83	0.950[1]
Length of time (in years) as a nurse	11.4	12.58	11.2	10.34	11.3	11.36	0.914[1]
Length of time (in years) in current practice	8.8	9.71	7.7	6.99	8.3	8.28	0.576[1]

ED, emergency department; ICU, intensive care unit.

Two-sided p-values:

[1] t-test.

Table 3

Differences in Nurse Attitudes Toward SCD Patients by Worksite

	ED/ICU	Medical-Surgical			
Subscales	**Mean (SD)**	**Mean (SD)**	**df**	**t**	**p-value**
Negative Attitudes	58.0 (22.36)	55.5 (26.40)	71	0.44	0.661
Positive Attitudes	23.8 (18.12)	28.1 (20.69)	74	-0.96	0.342
Concern Raising behaviors	76.7 (21.0)	70.5 (23.58)	75	1.21	0.232
Red-Flag Behaviors	74.1 (18.79)	67.3 (24.16)	74	1.34	0.186

ED, emergency department; ICU, intensive care unit; SD, Standard deviation; df, degrees of freedom; t, t-value.

Table 4

Means, Standard Deviations, and ANOVAs for Effects of Stigma Variables on Negative Attitudes

Stigma Item	Category	Mean (SD)	F	η^2 (95% CI)	p-value
Real physical cause for sickle cell pain	Strongly agree	55.4 (24.04)	0.54	0.02 (0.00,0.09)	0.658
	Agree	57.2 (25.33)			
	Disagree	83.0 (NC)			
	Strongly disagree	71.0 (NC)			
Patients use pain medication appropriately	Strongly agree	17.0 (NC)	7.46	0.36 (0.14,0.48)	<.001
	Agree	28.9 (14.33)			
	Somewhat Agree	54.4 (24.23)			
	Somewhat Disagree	64.7 (13.86)			
	Disagree	73.7 (20.56)			
	Strongly Disagree	93.0 (8.89)			
Patients with sickle cell do not complain about their illness any more than patients with other medical conditions	Strongly agree	29 (NC)	6.54	0.33 (0.11,0.44)	<.001
	Agree	32.6 (25.02)			
	Somewhat Agree	49.5 (26.12)			
	Somewhat Disagree	53.3 (19.31)			
	Disagree	65.4 (18.54)			
	Strongly Disagree	81.0 (16.65)			

SD, standard deviation; η^2, Effect Size; CI, confidence intervals; NC, Not calculated due to insufficient sample size

Table 5

Means, Standard Deviations, and ANOVAs for Effects of Stigma Variables on Positive Attitudes

Stigma	Category	Mean (SD)	F	η^2 (95% CI)	p-value
Real physical cause for sickle cell pain	Strongly agree	30.0 (22.31)	1.02	0.04 (0.00,0.12)	0.388
	Agree	23.7 (17.53)			
	Disagree	19.0 (NC)			
	Strongly disagree	5.0 (NC)			
Patients use pain medication appropriately	Strongly agree	81.0 (NC)	3.06	0.18 (0.01,0.29))	0.015
	Agree	41.9 (19.94)			
	Somewhat Agree	24.7(20.28)			
	Somewhat Disagree	24.1 (17.97)			
	Disagree	17.7 (13.88)			
	Strongly Disagree	27.3 (23.86)			
Patients with sickle cell do not complain about their illness any more than patients with other medical conditions	Strongly agree	56.0 (NC)	2.28	0.14 (0.00,0.24)	0.056
	Agree	42.5 (28.88)			
	Somewhat Agree	29.9 (18.99)			
	Somewhat Disagree	22.0 (12.45)			
	Disagree	23.1 (19.14)			
	Strongly Disagree	22.6 (25.28)			

SD, standard deviation; η^2, Effect Size; CI, confidence intervals; NC, Not calculated due to insufficient sample size

Table 6

Means, Standard Deviations, and ANOVAs for Effects of Stigma Variables on Concern-Raising Behaviors

Stigma	Category	Mean (SD)	F	η^2 (95% CI)	p-value
Real physical cause for sickle cell pain	Strongly agree	70.9 (25.20)	0.81	0.03 (0.00,0.11)	0.493
	Agree	75.3 (18.24)			
	Disagree	100.0 (NC)			
	Strongly disagree	85.0 (NC)			
Patients use pain medication appropriately	Strongly agree	5.0 (NC)	8.00	0.37 (0.15,0.48)	<.0001
	Agree	48.3 (20.16)			
	Somewhat Agree	74.9 (19.50)			
	Somewhat Disagree	77.5 (17.68)			
	Disagree	88.3 (13.29)			
	Strongly Disagree	96.7 (5.77)			
Patients with sickle cell do not complain about their illness any more than patients with other medical conditions	Strongly agree	40.0 (NC)	3.70	0.21 (0.02,0.32)	0.005
	Agree	59.5 (26.92)			
	Somewhat Agree	65.4 (26.34)			
	Somewhat Disagree	71.7 (18.86)			
	Disagree	84.7 (13.07)			
	Strongly Disagree	85.5 (21.14)			

SD, standard deviation; η^2, Effect Size; CI, confidence intervals; NC, Not calculated due to insufficient sample size

Table 7

Means, Standard Deviations, and ANOVAs for Effects of Stigma Variables on Red Flag Behaviors

Stigma	Category	Mean (SD)	F	η^2 (95% CI)	p-value
Real physical cause for sickle cell pain	Strongly agree	69.4 (23.53)	0.17	0.01 (0.00,0.03)	0.919
	Agree	72.3 (20.63)			
	Disagree	80.0 (NC)			
	Strongly disagree	67.0 (NC)			
Patients use pain medication appropriately	Strongly agree	73.0 (NC)	4.24	0.24 (0.04,0.35)	0.002
	Agree	42.9 (14.67)			
	Somewhat Agree	73.7 (21.99)			
	Somewhat Disagree	79.2 (15.16)			
	Disagree	71.2 (22.27)			
	Strongly Disagree	64.3 (31.56)			
Patients with sickle cell do not complain about their illness any more than patients with other medical conditions	Strongly agree	40.0 (NC)	3.20	0.19 (0.01,0.30)	0.012
	Agree	59.5 (26.92)			
	Somewhat Agree	65.4 (26.34)			
	Somewhat Disagree	71.7 (18.86)			
	Disagree	84.7 (13.07)			
	Strongly Disagree	85.5 (21.14)			

SD, standard deviation; η^2, Effect Size; CI, confidence intervals; NC, Not calculated due to insufficient sample size

Table 8

Nurses' Comments about Perceptions of Patients with SCD

Comment	PA	NA	CRB	RFB
Majority of the sickle cell patients I come across are hateful towards the staff, however I have had some legit sickle cell patients that were really in a crisis & did not exhibit drug seeking behaviors & have been grateful for the pain relief that was provided & requested oxygen & fluids in conjunction with pain meds.	31	63	100	93
It would be interesting to know how healthcare providers can adequately care for sickle cell patients without inappropriately administering narcotics, creating or encouraging their addiction. Rating pain at an 8 out of 10 when the pt is laughing, talking on the phone and socializing with friends does not warrant additional doses of narcotics; there needs to be a better gauge than what the patient reports pain to be.	25	100	100	67
It is very hard to treat all of our patients without doubt due to their behavior and hx of drug abuse (selling their medications on the street and being abusive to staff and stealing medical supplies out of their room when they have no medical need for the supplies).	5	50	50	73
While it can be sometimes frustrating in treating this population of patients, part of that I think comes from not knowing what that kind of pain feels like. I'm sure they just want it to stop.	25	54	75	80
Each sickle cell patient behaves differently. There are those who just want to be “knocked out” and therefore ask for the famous combo, diluadid, phenergan and benadryl IV push. There are others who do not call for any pain meds until the scheduled PRN time allowed. I do understand pain and sympathize with them but attempt to make them understand that there is a fine line between reducing pain and depressed respirations.	63	38	75	60

PA, Positive Attitude; NA, Negative Attitude; CRB, Concern Raising Behavior; RFB, Red Flag Behavior