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SAFE SLEEP EDUCATION AND STAFF COMPLIANCE

SAFE SLEEP EDUCATION AND STAFF COMPLIANCE

An undergraduate honors thesis submitted in partial
Fulfillment of the requirements for the degree of
Bachelor of Science in Nursing

By

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Abstract

The purpose of this project was to evaluate compliance with the teaching and documentation of safe sleep practices within a pediatric unit. The objective was to increase the percentage of the charts of patients one year of age and younger that have documented safe sleep teaching at the level of compliance with the department policy. This change in compliance was measured by determining the percentage of patient charts having documented safe sleep teaching at the level of compliance prior to the implementation of mandatory staff education as compared to the percentage of charts with documented safe sleep teaching at the level of compliance after the quality improvement education. The current percentage of documentation compliance with the pediatric department policy on Safe Sleep Teaching is less than 40%. The goal is 100% of the charts will have documentation of safe sleep teaching each shift per department policy.

Introduction

Sudden Infant Death Syndrome (SIDS) is the leading cause of death in infants from one month to one year of age (1, 2, 3). Despite attempts to raise awareness of the risk factors and suspected causes of SIDS, the rate of SIDS deaths merely plateaued (1 & 4).

Back to Sleep campaign, launched in 1994, was developed to raise the awareness of prone sleeping as a major risk factor for SIDS (1 & 4). The Back to Sleep campaign has expanded to encompass a wide range of other risk factors contributing to SIDS (1). It is hoped that through this expansion parents and guardians will better understand how to protect their babies from this silent and unexpected killer. Through a renewed emphasis on the Back to Sleep Campaign healthcare professionals are hoping the rate of SIDS will once again begin to decline.

Literature Review

The aim of the Back to Sleep campaign was to raise awareness of the benefit in prevention of SIDS in children under the age of one year (1). Once the child reaches the age that they can roll over by themselves, they may be left in the sleeping position that they assumed themselves (1). Since the launch of this campaign the number of infants placed on their backs to sleep has risen to 75.7% and the number of SIDS deaths has fallen by 50% (1). However, in 2001, the number of SIDS deaths plateaued (1). Among a sample of 3,136 infants that succumbed to SIDS, only 25% of them were in a crib or on their backs (1). Seventy percent were not sleeping in a space designed for infant sleep (1). 64% of the infants from this sample were sharing a sleeping space (1). This raised the question of what risk factors are associated with SIDS resulting in expanding the guidelines.

Although placing infants on their backs to sleep is still a recommendation, additional recommendations should be taken into consideration (1). One of the recommendations is that infants sleeping in a crib should have a firm mattress covered with a tight fitted sheet. (1). Also, it is recommended that parents share a room with their infants, but not a bed (1). Bed sharing with parents is also a risk factor for SIDS and should be avoided in infants under 3 months of age (1). Parents should also ensure there are no soft objects such as bumper pads in the crib or sleep area as these increase the risk for suffocation (1). Regular prenatal care is paramount in decreasing the risk of SIDS (1). Expectant mothers should avoid tobacco smoke exposure as well as ensure their infants are not exposed to secondhand smoke (1, 2, 6). Breastfeeding has also been shown to decrease the risk of SIDS (1 & 5). A 73% decrease in risk of developing SIDS was seen when infants were exclusively breast fed and 60% decrease in infants fed with a combination of breast milk and formula (5). Pacifiers have also been shown to decrease the risk of SIDS and it is recommended that one is offered at naptime and at bedtime (1 & 3). However, this should be delayed until there is a firmly established breastfeeding pattern (usually 3 to 4 weeks) (1). Overheating environmentally should be avoided as well as putting infants in too many layers of clothing (1). All immunization recommendations should be followed. There is no

evidence that these can cause SIDS and they may even be a protector against it (1). One study found that an increase in the incidence of Diphtheria-tetanus-pertussis (DTP) vaccination was associated with a decreased rate SIDS related death. This study recommended that this vaccination even be encouraged as a way to possibly protect against SIDS (11). It is recommended that parents not use any commercially marketed devices that are supposed to decrease the risk of SIDS as there is no evidence that these even work (1). Even though infants should sleep on their backs, supervised tummy time is highly recommended and should be started as early as possible (1). Staff in hospitals should implement all preventative measures from birth (1). It is also very important that the media not send mixed signals by avoiding the use of safe sleep guidelines in advertising (1). All of these things have been shown to reduce the risk of SIDS (1).

Though SIDS is still largely a mystery, there has been some speculation that some of the infant deaths could be due to a problem with circulatory control (10). Cardiorespiratory monitors are not encouraged in or outside of the hospital (1). However, through the SIDS related deaths of some infants while on these cardiorespiratory monitors, there may have been important discoveries alluding to a possible cause of SIDS related death. The memory systems of these monitors lend themselves to show the fatal turn of events leading up to the death of these babies (10). It has been found that often times the emerging issue is an episode of tachycardia (10). This tachycardia was associated with sweating which could be caused by several of the known risk factors for SIDS including co-sleeping, overheating, and sleeping in the prone position (10). This tachycardic episode is then followed by an episode of bradycardia which is progressive even though the baby is still breathing (10). This bradycardia will lead to a decreased venous return to the heart, decreased cardiac output, and therefore decreased blood pressure (10). The prone sleeping position is known to multiply the infant's risk for SIDS by eight as it has been associated with postural hypotension (10). All of these factors lend themselves to a catastrophic event of SIDS.

One of the biggest aspects addressed by this study is the compliance of staff nurses with patient teaching and, even more so, the documentation of that teaching. Without accurate documentation, it is not possible to determine compliance with safe sleep instruction. It is very realistic that the teaching could be done and just not documented. Because of this limitation, this study focused solely on the compliance with documentation. Though documentation has repeatedly been identified as one of the most important aspects of nursing care, there are several issues that often cause it to fall by the wayside. One of these reasons is that nurses do not consider documentation to be as important as actual patient care (12). They also consider documentation to be very time consuming (12). However, with incomplete documentation comes incomplete patient care, a dangerous domino effect. The issue lies in making the connection between documentation and patient care. The hope was that this goal could be achieved through education of nursing staff. This education should be repetitive as well as consistent to be the most effective (14). Important aspects of the education would be modeling the practices in the

hospital for the parents to see and copy, making sure all necessary personnel (nurses in this case) receive education that is consistent among them and their colleagues, and making sure that doctors and other healthcare providers are receiving safe sleep education that is consistent with that of the nurses (14). All of these would lend themselves to a successful staff education program. One of the most important parts of implementing staff education is acceptance of the education (14). You need buy in to ensure that the education will be effective and useful within the designated units (14). A successful education program is presented to administration in a way that includes a comprehensive explanation of how big the problem is (include statistics), evidence that the particular program will work through past evidence of that particular model's success, and an accurate and comprehensive explanation of how cost-effective the education program will be (14). There may still be some issues with nurses being uncomfortable with the back to sleep idea as well as those that feel the safe sleep recommendations do not support breast feeding because they disapprove of co-sleeping (14). These nurses need a better understanding of the breadth of the problem (14). This can be achieved through the presentation of statistics, as well as presenting them with research done on the effectiveness of the recommendations in reducing the rates of SIDS deaths in our country (14). It is important to include primary care providers in education as they are often the most influential people in the parents' decision to continue safe sleep practices once they go home (14). They are an ally to be educated and utilized to achieve success in safe sleep education. These programs can be presented in several ways such as computer-based or face-to-face (14). Although computer-based may be more convenient for some, there is evidence that there is better compliance when education is completed face-to-face (14). All of these aspects are what a successful staff education program to increase patient education looks like.

Parental compliance is an issue that can make nurses feel the education provided is not effective (13). One study found that even though nurses are teaching parents safe sleep practices, at age six weeks less than 43% infants of educated parents are placed on their backs to sleep (13). Even though those 43% were being placed on their backs only 21% of the parents said that the nurses' teachings influenced them (13). A way to remedy this feeling of ineffectiveness would be to first evaluate the effectiveness of their teaching and then find ways to improve this effectiveness if need be (13). If the nurses feel more confident in the effect that their teaching is having on their patients' outcomes, in theory, they will be more likely to complete and document such teaching.

Theory

A major component of this study was implementing change in the practices and habits of nurses. There are both contributing factors to facilitate the change and opposing factors keeping the nurses from fully implementing the documentation and teaching change. An important theory to examine on the subject of change was Kurt Lewin's Change Theory. Lewin's theory holds that there are both driving forces and restraining forces in the process of change (7). That is, there are reasons for the change but there are also limitations to the change (7). There are reasons that the

change is resisted (7). If the opposing forces were stronger than the driving forces, the change would not take place (7). There will be no progress toward the goal (7). However, if the driving forces were stronger than the opposing forces, the change would take place (7). In order to achieve the desired outcome the driving forces must have been strengthened or the opposing forces must have lost strength (7). Even in cases where there is substantial evidence to suggest the need for change, there can still be opposition (8).

In order to implement the desired change you must have identified what both the driving and opposing factors were (7). The identification of these forces could help to identify how to make the desired change more accepted in the target community (7).

One way to identify possible driving forces would be to question nurses involved in the study what they think would improve staff compliance among their colleagues. By identifying what the nurses themselves see as driving forces you may also be able to identify the opposing forces. In a Canadian study in 2011, Lewin's change theory was implemented in a project to improve the job satisfaction of a group of nurses (9). These nurses were asked to identify what they perceived as more appropriate components of a model of care (9). These suggestions were taken into account and changes were made (9). At the end of the study there was no statistically significant increase in job satisfaction (9). However, the researchers think that this was due to fact that there were more factors than the model of care that were contributing to a decreased level of job satisfaction (9). From looking at this study there was no real evidence for the use of Lewin's change theory. However, if the theory were implemented in more areas of the problem rather than only one aspect, a more positive change could occur.

Aims and Objectives

The purpose of this study was to determine if the implementation of mandatory staff teaching regarding the importance of Safe Sleep patient education leads to staff compliance of safe sleep education in the pediatric department. Compliance is defined as safe sleep teaching documentation being done every shift.

The goal was that nurses would verbalize safe sleep education and demonstrate safe sleep practices to the parents/guardians of all patients one year of age and younger, admitted to the pediatric unit of the hospital every shift and would document this education every time it was done.

The current policy of the pediatric department was under review. It was determined for the purposes of the study that the policy being currently utilized was congruent with the policy in place in the labor and delivery department. The current policy required nurses to present safe sleep education to the families and caregivers at least once per shift. The families and/or caregivers would verbalize understanding and the nurses would document the teaching as such in

the patient chart. The pre-implementation percentage of documented staff compliance was less than 40%. The goal was to achieve 100% compliance with the Safe Sleep Teaching charting policy of teaching and documenting at least once per shift. This was to be achieved through mandatory staff education regarding safe sleep teaching coupled with the changes to the charting system to include a specific area for documenting the completion of safe sleep patient education.

Methodology

The design of this study was a retrospective medical records review; with a pre- post-intervention evaluating sixty-two charts. The actual review of these charts took place between January 12, 2015 and December 15, 2015. Each medical record was coded to protect the identity of the patient as per guidelines established by the Health Insurance and Portability Act (HIPPA). All results were reported in the aggregate.

The percentage of charts belonging to pediatric patients age one year and younger that document safe sleep teaching per department teaching policy were evaluated before staff teaching and after staff teaching to determine if staff education increases compliance with the department policy of completing and documenting safe sleep education at least once per shift.

The charts in the pediatric department were changed in order to include a specific area to document safe sleep teaching. Along with this change, mandatory staff education on the importance of safe sleep was implemented among the staff employed in the pediatric department.

The charts prior to this mandatory teaching and chart change were evaluated previously. To determine if the project is successful, the charts of patients one year of age and younger admitted after this mandatory teaching and chart change were evaluated for compliance with documentation of safe sleep patient education. Compliance was defined by safe sleep education being completed and documented at least once per shift. The post-project percentage was compared to the pre-project percentage to determine if an increase in staff education leads to an increase in staff compliance.

Statistical Analysis

Interval scales were analyzed by mean and standard deviation. This allowed the visualization of averages involved in the study such as the average number of shifts patients were admitted as well as the average number of times safe sleep teaching was performed. These averages helped to better interpret the data.

Demographic data was presented in terms of frequencies. Nominal data was tested in this way. Data was evaluated using a chi square test for association to test the null hypothesis that there was no statistically significant association between any of the variables being tested. This helped determine which variables were associated and which were not. The statistical significance was established at $p < .05$. In incidences where there were too many variables less

than five a Fisher's exact test was used. A Phi test was used to determine the strength of the association between the nominal variables.

Results

During this study a total of 62 charts were assessed. These charts were all of the patient charts meeting the criteria of the project between September of 2014 and the beginning of February 2015. All children under age 12 months, admitted to the pediatric unit were included in the study. Exclusion criteria included children over age 12 months and admission to the Emergency Department. A total of 62 charts were reviewed to determine documentation compliance with the department policy of documenting safe sleep teaching at least once per shift. Each chart was given a number (1-62) in order to protect the identity and sensitive information of the patients.

If there was not at least one teaching event documented in each shift that the patient was admitted the chart was deemed as non-compliant with the Safe Sleep teaching policy. It was found that although safe sleep education was documented at least once 61% of the time, safe sleep education documentation was only done on the level of compliance 5% of the time. There was no safe sleep education documented at all 39% of the time and 95% of documented safe sleep education fell in the category of non-compliance. Figure 1-1 shows the frequency of compliance and non-compliance with the charting policy. There was a statistically significant difference between compliance and non-compliance.

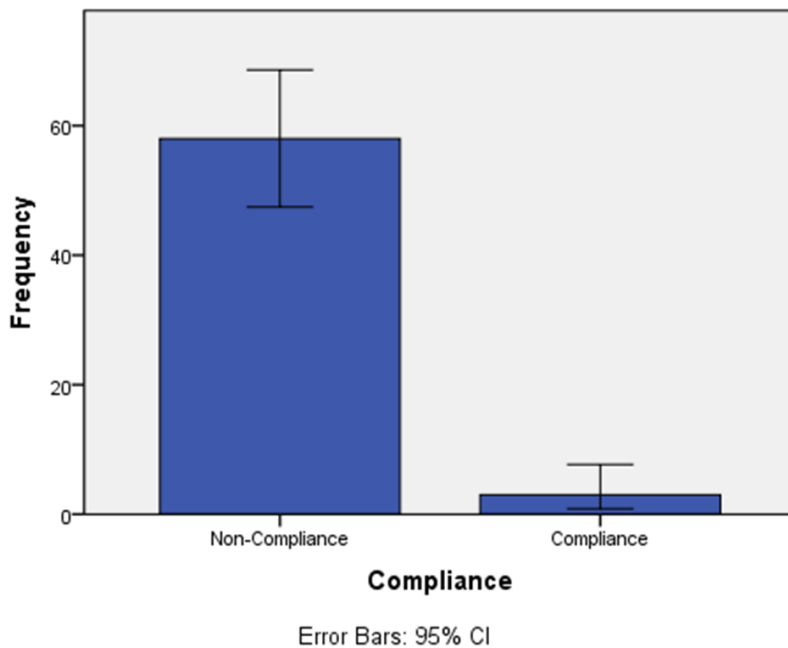


Figure 1-1: Shows the frequency of compliance versus non-compliance.

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It was found that 32% of the sample was admitted under observation status while 68% were admitted under inpatient status. Compliance was found in the inpatient setting 2% of the time and in the observation setting 3% of the time. There was no statistical significance found regarding an association between the type of hospitalization and safe sleep education compliance. Figure 1-2 shows the frequency of compliance and non-compliance within both the inpatient and observation types of hospitalization.

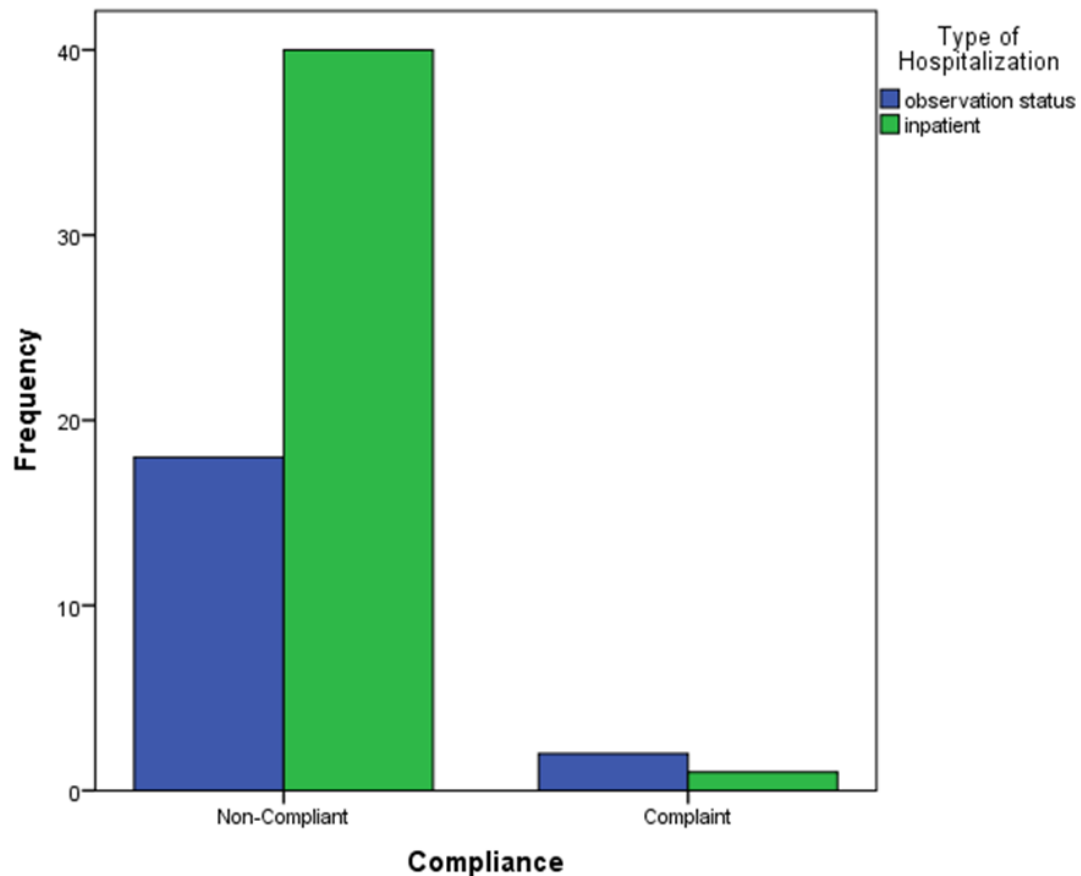


Figure 1-2: Shows the frequency of compliance and non-compliance within both the observation and inpatient types of hospitalization.

The shifts of admission and discharge were also collected. Table 1-1 shows this demographic data surrounding admission and discharge shift. Compliance was reached a total of 3 times in which the patient was admitted during the night shift (7p-7a) and 0 times in which the patient was admitted during the day shift (7a-7p). There was statistically significant evidence to suggest that compliance with safe sleep teaching policy happens more frequently if the patient is admitted during the night shift (7p-7a) versus the day shift (7a-7p). A Fisher's exact test was performed and a value of 0.032 was found. This represents statistical significance in the association between shift of admission and compliance with safe sleep documentation. There

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was a moderately strong association between shift of admission and compliance with safe sleep teaching documentation, $\Phi=0.326$, $p=0.011$.

Table 1-1: Table shows the shift patients were admitted and discharged along with the percentage of the total admitted or discharged on each shift.

SHIFT	PERCENTAGE OF WHOLE
Admitted During Day Shift (7a-7p)	66%
Admitted During Night Shift (7p-7a)	34%
Discharged During Day Shift (7a-7p)	90%
Discharged During Night Shift (7p-7a)	10%

Each chart was then examined to see how many shifts the patient was in the pediatric unit in total. This was compared to the occurrence of safe sleep teaching during their stay. Table 1-2 shows the number of shifts patients were admitted by percentage. Figure 1-3 shows the number of times safe sleep education was documented and whether or not that particular series fell within the category of compliance or non-compliance. There was no statistical significance found in the number of shifts patients were admitted regarding the compliance of safe sleep education.

Table 1-2: Table shows the percentage of the total sample admitted for each number of shifts

Number of shifts admitted	Percentage of Whole Sample
1	3%
2	12%
3	26%
4	10%
5	23%
6	5%
7	10%
9	3%
11	3%
13	2%
19	2%
21	2%

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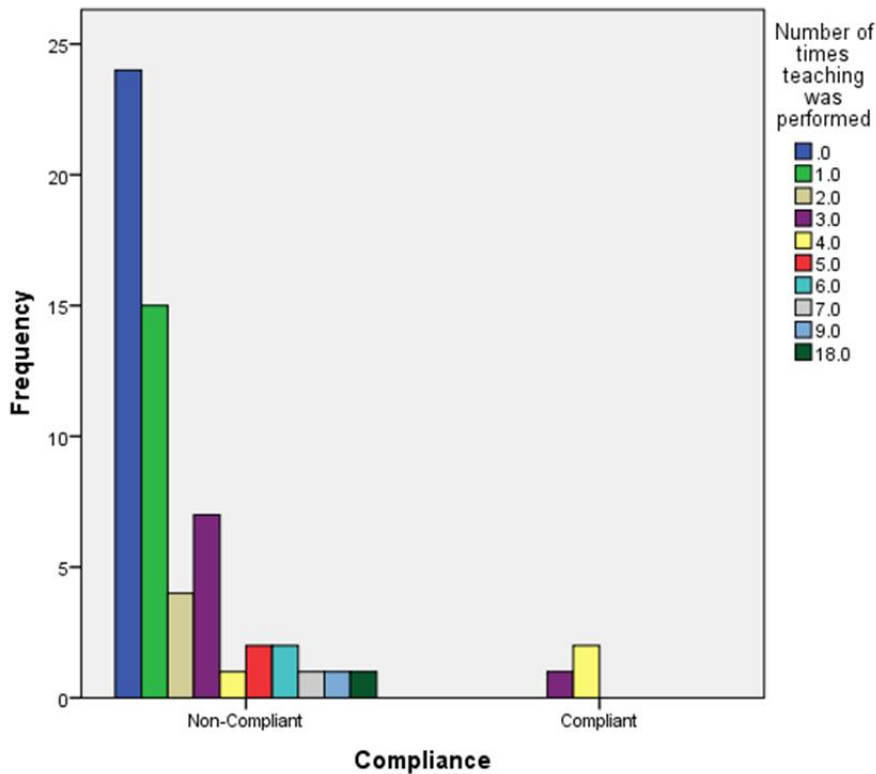


Figure 1-3: Shows the frequency of the numbers of times safe sleep teaching was performed and whether these fell within compliance or non-compliance. (ex. The first bar {blue bar} shows that 0 teachings were performed a total of 24 times and fell within the area of non-compliance).

Every incident of teaching documentation was also recorded as a number to depict whether it was done on day or night shift. This was then used to determine which shift the larger percentage of safe sleep teaching occurs on. This will help to better determine the circumstances surrounding the existence of compliance versus non-compliance with the department’s Safe Sleep teaching policy.

While the majority of the time safe sleep teaching was not documented at all, it was found that when it was done the majority occurred during the day shift. This is followed closely by safe sleep education being documented during both shifts. However, there was significantly less safe sleep education done at night while the teaching could have been related to the child’s present and actual sleeping position. A chi square test for association was completed between shift of documentation and compliance with the documentation policy. Four cells had values less than 5. There was a statistically significant association between shift of documentation completed and compliance with the documentation policy, $\chi^2(3) = 9.676, p=0.022$. There was a moderately strong association between shift of documentation and compliance with the safe sleep documentation with the safe sleep documentation policy, $\Phi=0.398, p=0.022$. Table 1-3 shows the percentages of safe sleep documentation per shift. There was statistically significant evidence to support that safe sleep teaching documentation falls within the category of

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compliance more often when it is done on both the day and night shift than when done during only the day or only the night shift. Figure 1-4 shows the frequency of safe sleep education documented per shift and whether or not it fell within compliance or non-compliance.

Table 1-3: Table shows the shift of documentation as a percentage of the whole sample

SHIFT	PERCENTAGE of WHOLE
Safe Sleep Education NOT DONE	37%
Day shift (7a-7p)	27%
Night shift (7a-7p)	11%
Safe Sleep Education Done on Both Shifts	24%

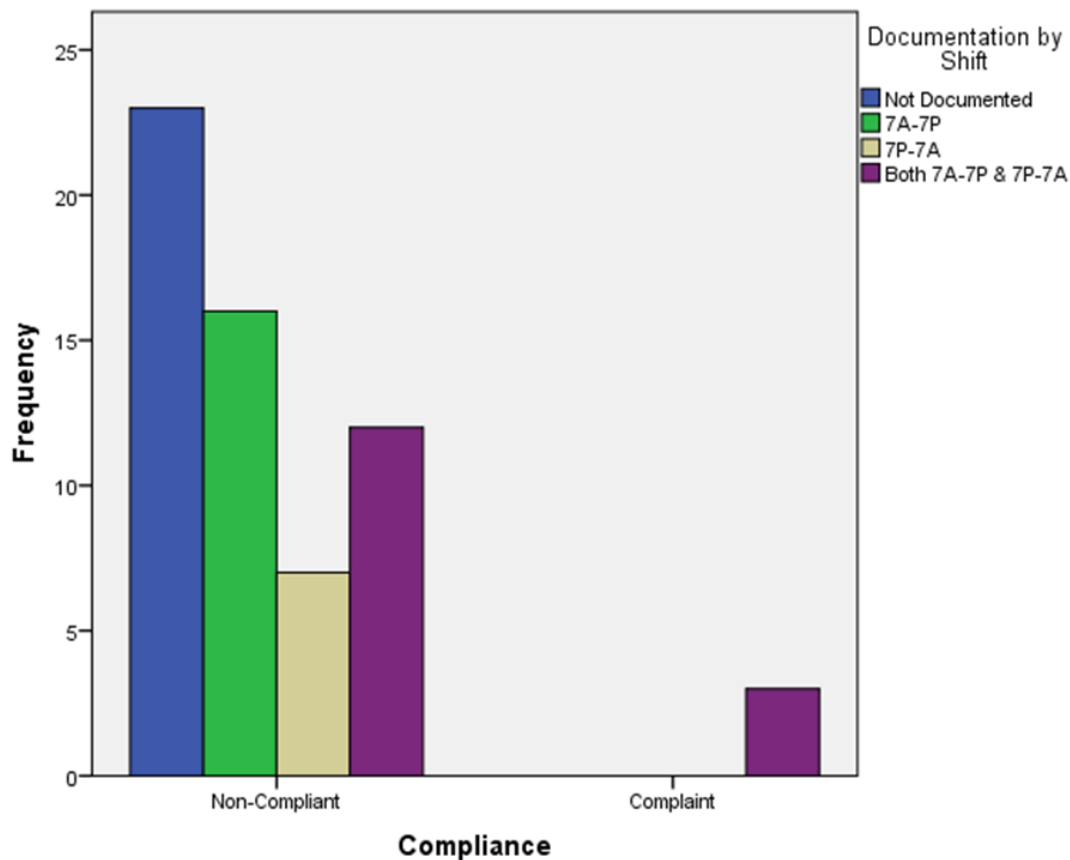


Figure 1-4: Shows the frequency of safe sleep education documentation per shift and whether it fell within compliance or non-compliance (ex. The blue bar shows that safe sleep education was not documented at all 23 times and it fell within the area of noncompliance while the purple bar shows that safe sleep education was documented on both shifts 12 times that fell in the category of non-compliance and 3 times that fell in the category of compliance).

Another aspect that was explored was the pre- and post- education surveys. One of the questions on this survey asked if the nurses regularly completed a Safe sleep environment

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assessment for their patients. On the pre-education survey 50% answered that they completely agreed with this statement, 30% somewhat agreed, and 20% neither agreed nor disagreed.

On the pre-education surveys the nurses were asked to report whether they thought that Safe Sleep Practices were followed consistently by their colleagues. To this question 30% answered that they completely agreed, 40% answered that they somewhat agreed, 20% reported that they neither agreed nor disagreed, and 10% said that they somewhat disagreed. This report was important because it showed how the nurses perceived each other’s success in safe sleep modeling and education within the unit.

The nurses were asked on both the pre and post education surveys to report whether implementation and providing education to caregivers and families on the importance of a safe sleep environment for infants was a high priority. The rankings were as follows: (1) completely disagree, (2) somewhat disagree, (3) neither agree nor disagree, (4) somewhat agree, (5) completely agree. Both Table 1-3 and Chart 1-6 show the changes in these rankings after the implementation of mandatory staff education. There was an increase in the ranking of Safe Sleep education as a high priority after the mandatory staff education.

Table 1-4: Table shows the frequency of rankings of safe sleep as a high priority pre and post staff education.

Ranking pre-survey	Frequency	Ranking post-survey	Frequency
1-Completely disagree	0	1-Completely disagree	0
2-somewhat disagree	0	2-somewhat disagree	0
3-neither agree nor disagree	1	3-neither agree nor disagree	0
4-somewhat agree	1	4-somewhat agree	1
5-completely agree	8	5-completely agree	9

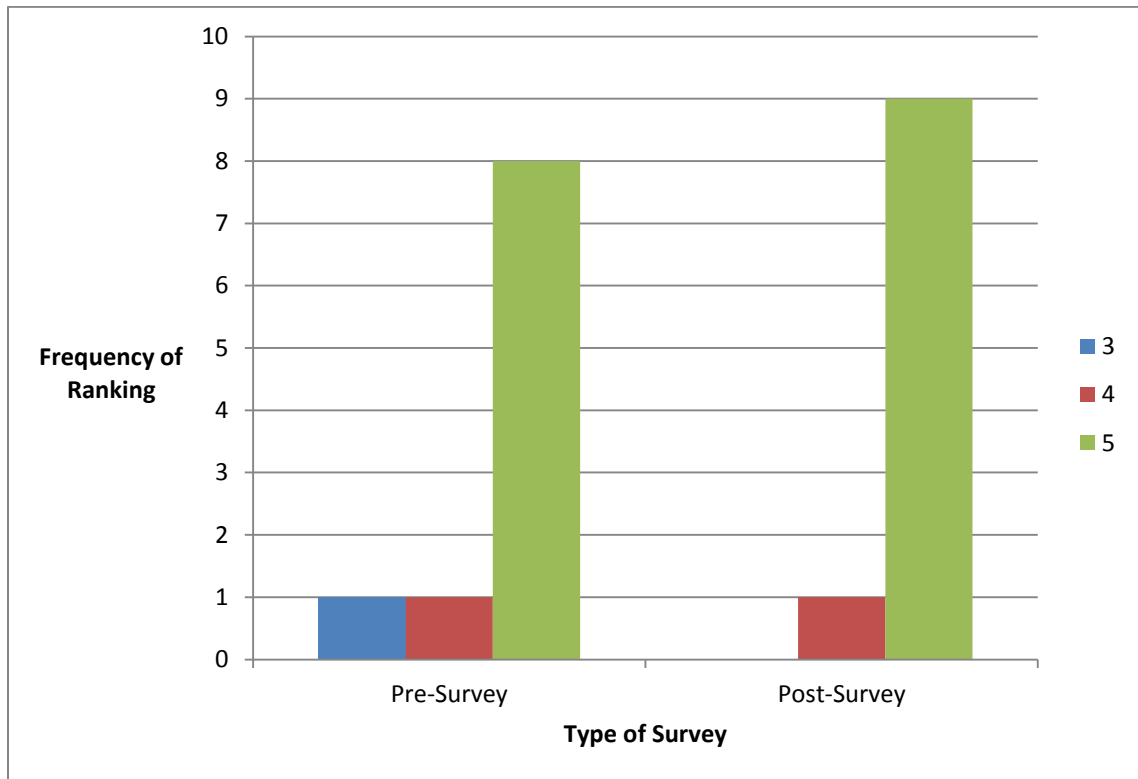


Chart 1-6: Chart depicts the frequency of rankings of safe sleep education as a high priority pre and post education.

These surveys also gave a picture of the confidence levels of the nurses that participated in the mandatory education classes. Though there was no way to track the change in individual nurses’ confidence levels, I was able to track changes in the confidence levels as a whole. The nurses were asked to answer the statement “I feel confident in providing education and role modeling for caregivers/families about Safe Sleep practices” with a number 1-5. The rankings were as follows: (1) completely disagree, (2) somewhat disagree, (3) neither agree nor disagree, (4) somewhat agree, and (5) completely agree. This question was present both prior to the staff education and at its conclusion. Both Table 1-5 and Chart 1-7 show the answers to this question pre and post staff education. There was an increase shown in the reported confidence of the nurses in providing safe sleep education as well as role modeling safe sleep education after the mandatory staff education.

Table 1-5: Table shows the frequency of rankings of self-reported confidence in providing safe sleep education to families/caregivers pre and post education.

Ranking Pre-Survey	Frequency	Ranking Post Survey	Frequency
1-completely disagree	0	1- completely disagree	0
2-somewhat disagree	0	2-somewhat disagree	0
3-neither agree nor disagree	2	3-neither agree nor disagree	0

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4-somewhat agree	1	4-somewhat agree	2
5-completely agree	7	5-completely agree	8

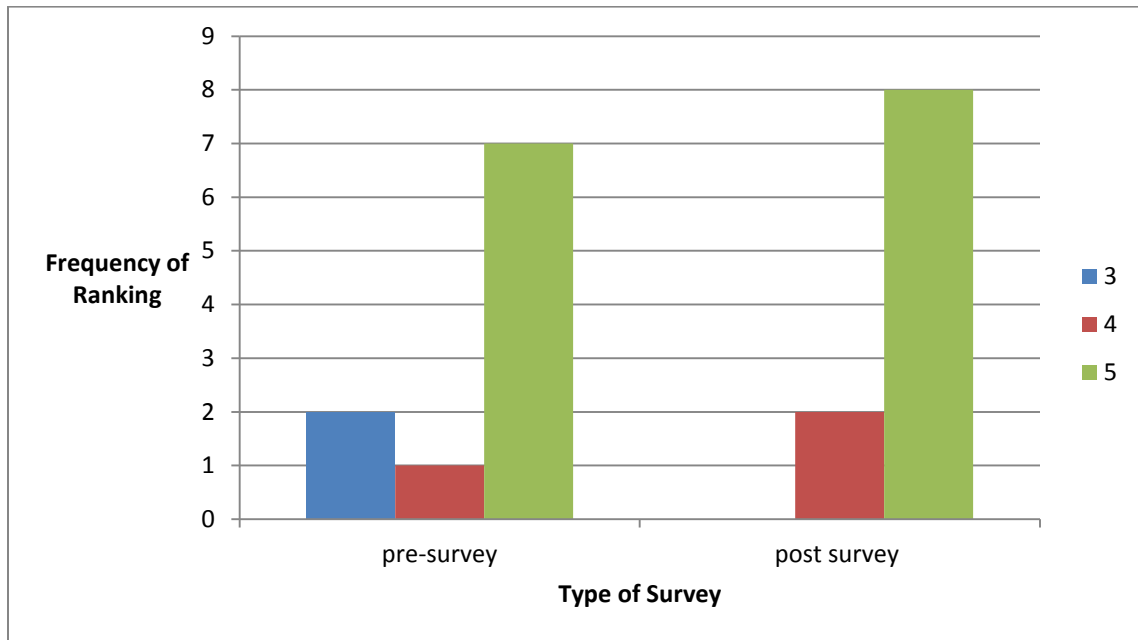


Chart 1-7: Chart depicts the frequency of rankings of self-reported confidence in providing safe sleep education to families/caregivers pre and post education.

There was a final question posed after the mandatory education that depicted the expected effectiveness of the mandatory staff teaching is given on the post-education survey. The question states “After reviewing the AAP guidelines and recommendations, are you more confident to model safe sleep practices for our families”. The question was designed to determine if the staff education made the nurses feel more confident in providing safe sleep education and modeling safe sleep practices than they felt before the education was implemented. This question was also answered with a ranking of 1-5 and the rankings were as follows: (1) completely disagree, (2) somewhat disagree, (3) neither agree nor disagree, (4) somewhat agree, and (5) completely agree. Table 1-6 and Chart 1-8 depict the frequencies of the answers to this question. There was a reported increase in confidence among the nurses that attended the mandatory Safe Sleep staff education session. The percentage of nurses reported that they completely agreed that they felt more confident after the staff education is 80%. The percentage of nurses that reported that they somewhat agreed that they felt more confident after the education is 20%

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Table 1-6: Table depicts the rankings of self-reported gain of confidence in providing safe sleep education and modeling safe sleep practices after mandatory staff education.

	Frequency
1-completely disagree	0
2-somewhat disagree	0
3-neither agree nor disagree	0
4-somewhat agree	2
5-completely agree	8

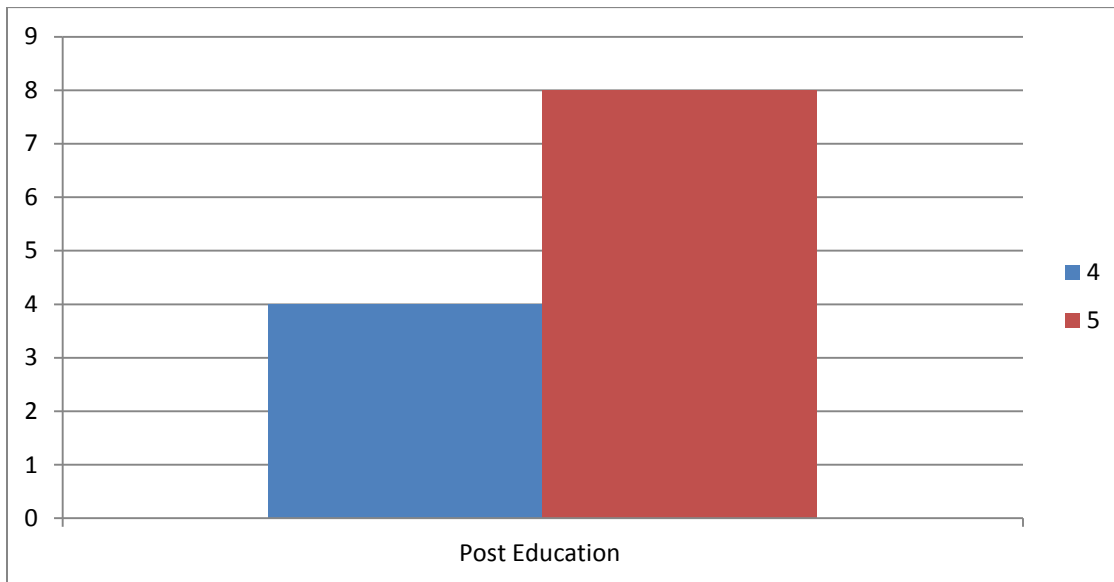


Chart 1-8: Chart depicts the rankings of self-reported gain of confidence in providing safe sleep education and modeling safe sleep practices after mandatory staff education.

This study had several limitations. One being that the sample size and date range was limited. It would have been more beneficial to have more charts spanning a longer period of time. There were 62 charts reviewed with the first admission being September 6, 2014 and the last discharge being February 1, 2015. A longer date range with more charts would have given us a more complete picture of the effects of the staff education over time rather than for a short 5 month period.

Another limitation of this study was that there was not a policy book available for review on the pediatric unit. They were in the process of creating their new policy book for the unit. The policy that was currently being used on the pediatric unit was the policy from the maternity unit. It was reported that the policies would be similar in nature if not exact. Therefore, the policy that was used to determine compliance for this study was that policy of safe sleep teaching being done and documented every shift.

The facilitator of the project also left during the early stages of launching the project; these changes in nursing management during the project may have affected compliance. This change in hands of the project made the collection of data from both the charts and the education sessions-more difficult.

Conclusion

According to this study, there was no statistical evidence to support that staff education regarding the importance of safe sleep education and documentation of that education increases the incidence of compliance in safe sleep education documentation. This means that the incidence of safe sleep documentation was not increased by the introduction of mandatory staff education regarding safe sleep education though the self-report by nurses of confidence in providing the education increased. While safe sleep education was documented 61% of the time, compliance was only reached 5% of the time. The other 95% of the time safe sleep education was documented it was below the level of compliance. This means that although it was being done over half of the time, it was very rarely being done at a level that was considered compliant with the policy of the department to document safe sleep teaching once per shift.

Not only was there evidence of increased nurse confidence in presenting and modeling safe sleep education, there was also an increase in the belief that safe sleep teaching is of a high priority with everyone stating that they somewhat agreed or completely agreed that it was of a high priority. This increase in importance of safe sleep teaching to the nurses personally is very important to future compliance with safe sleep teaching and documentation policies. This increase in ranking safe sleep as a high priority means that nurses are understanding how crucially important the act of teaching safe sleep to families and caregivers really is. This is a crucial first step in raising the compliance within the nursing staff to document the safe sleep teaching per policy. Further investigation is needed to determine why this increase in confidence and increase in the ranking of safe sleep as a high priority did not lead to an increased incidence of staff compliance with the safe sleep teaching documentation policy.

There was also a difference in which shifts had more safe sleep documentation completed. Though more documentation occurs during the day shift (7a-7p) there was statistically significant evidence that suggest that compliance is reached more often when safe sleep teaching is done and documented on both the day and night shift. Documentation must be completed every shift to be considered compliant and patients are rarely admitted for a single shift unless it is strictly for observation purposes. Further investigation is needed to determine why more safe sleep documentation is completed during the day shift instead of there being equality between day and night shift or more teaching being completed during night shift when there are opportune teaching moments regarding safe sleep environments.

Compliance was found more often in the charting regarding patients who were admitted during the night shift (7p-7a). It was found that compliance was reached 3 times more often when the patient was admitted during the night shift and 0 times when the patient was admitted during the day shift. This means that nurses were more likely to complete safe sleep teaching at the level of compliance when their first encounter with a patient was during the night shift. This could have been due to the fact that the teaching is related predominantly to sleep environments. Further investigation is needed to determine the reasoning behind this increase in compliance when patients are admitted during the night shift.

There was, however, not sufficient evidence to suggest that safe sleep teaching is done and documented more for either inpatient or observation patients. There was only a 1% difference between compliance in the two in this study. However, there was evidence that safe sleep education is done and documented at least some of the time in both types of hospitalization. Though this was not the goal it is a foundation on which to build higher levels of compliance in both types of hospitalizations. Further investigation is needed to determine how to increase the rates of compliance for both inpatient and observation patients, as safe sleep education is important no matter the type of hospitalization.

There was also no statistically significant evidence to support that longer hospital stays lead to higher levels of compliance with safe sleep documentation. This means that whether the patient was admitted to the hospital for 1 day or 1 month the incidence of compliance did not change. It was just as likely for the patient who is admitted for 1 month to have received a compliant level of safe sleep teaching as it was for the patient who is admitted for one day. Further investigation is needed to determine why this happens.

Recommendations

Based on the information and evidence gathered from this project, there are several recommendations to improve staff education which will in turn hopefully impact compliance among the nursing staff. There are also recommendations to strengthen the safe sleep education taught to families and caregivers in the hopes that increasing its effectiveness will increase the nursing staff compliance with providing the safe sleep education and documenting said education.

In order to increase the effectiveness of the education provided and in turn increase the feeling the nurses have of their providing education being worthwhile it is recommended that the pediatric department implement several steps to ensure effectiveness of safe sleep education. These recommendations focus on getting the information out there in a way that will resonate with the families and be at its fullest effective potential. One such recommendation is that informational pamphlets be handed out to every family with a child 1 year of age or younger (14). There are some pamphlets at the nurses' station but it is unclear if they are being handed

out and explained to every family that meets the criteria for being at risk for SIDS. These pamphlets could be supplemented with posters containing safe sleep information posted in the patient rooms and in the hallways of the hospital (14). These will ensure that the information is readily available everywhere the parents look while in the hospital. The institution of Safe Sleep classes for not only parents, but grandparents could be beneficial as well (14). In this way all members of the infant's caregiver team, so to speak, will be exposed to this valuable and potentially life-saving information. Finally, regarding the educational materials and programs, families could be followed up with a phone call once they are home (14). This phone call would include a survey about their safe sleep education experience in the hospital as well as reinforce the ideas of that education (14). Though the reference project in which this phone call and survey were implemented was a labor and delivery project, the time line on the phone call could be 4-6 weeks after discharge instead of after delivery (14).

Effectiveness of education given to families and caregivers could also be increased by seizing the opportunities afforded by observing the families' nighttime routines and sleeping arrangements. If unsafe situations such as co-sleeping are observed on the pediatric unit the nurses could take the opportunity to reinforce safe sleep teaching (14). Something that could be used in conjunction with this reinforcement of education would be an Against Medical Advice form that must be filled out by the family to continue unsafe sleep practices within the hospital (14). Not only does this free the hospital of liability but it also makes it more apparent to the family how seriously the provision of a safe sleep environment should be taken (14).

Staff education remains our focus in increasing compliance with safe sleep education and documentation. There are several ways to increase the incidence and effectiveness of mandatory staff education on the pediatric unit regarding safe sleep practices and the education of caregivers and families about those practices and guidelines. Nurses must understand how important safe sleep education really is. Currently nurses are only required to attend one session of safe sleep education. Though this is better than not at all, attending more sessions with varying content could help to solidify the importance and details of safe sleep with the nurses. Those sessions could come with the incentive of one CEU credit for every session they attend (14). This will help make the sessions feel more worthwhile to the nurses in attendance. In addition incentives could be offered for the nurses including safe sleep and SIDS prevention as additional CEU credits. This will help ensure that additional learning about Safe sleep and SIDS prevention is occurring outside of the hospital organized in-services. Another way to reach more of the nurses in a more effective way would be the implementation of computer modules along with the face-to-face teaching sessions (14). This would allow the nurses to complete education when it is convenient for them and would encourage more compliance with the mandatory education requirements.

Ensuring that both new nurses as well as nurses that have been employed since before the implementation of the project are fully aware of the changes is crucial. Not only should safe sleep and SIDS prevention be included in new employee orientation, there should also be a sort

of mini orientation for the nurses that have been employed since before the implementation of the charting changes and mandatory staff education. Both groups of nurses need to be familiar with the changes in the patient charting system to include safe sleep teaching in the patient charts. This recommendation is based on the observation that safe sleep teaching is sometimes included in the plan of care for the patients but is then never documented in the chart. This could be due to disconnect between the way things have always been done and the way they are now. Veteran nurses may not fully grasp the new charting routine yet and a mini orientation may help to reiterate the importance of this aspect of charting.

Though safe sleep teaching was done at least once in 61% of the reviewed charts, there is still a large gap between safe sleep teaching being done at all and reaching compliance with the policy. To remedy this, nurses need to first be reminded of the policy. Safe sleep education should be documented at least once per shift. There were several charts in which safe sleep education may be done multiple times during one shift and then completely neglected in others. Though the circumstances surrounding this are unknown it is important that the nurses be reminded of the importance of complying with the education documentation policy. Another thing that was seen when reviewing the charts was that if a patient was admitted late in a shift, safe sleep education was often not documented for that shift. It is important that nurses are reminded that safe sleep education should be completed once per shift regardless of at what point during that shift the patient was admitted. These simple reminders could help to increase the incidence of compliance with safe sleep education in the pediatric department.

Summary

Though there was no statistically significant evidence that staff education regarding safe sleep education and the importance of completing and documenting it increases the staff compliance with actually teaching and documenting safe sleep, there were many good pieces of information that will facilitate further investigation into increasing staff compliance. There were differences in shifts as far as documentation though they were small with more documentation being done during the day shift (7a-7p). There was also evidence that nurses are completing safe sleep teaching just not at a rate that is compliant with the policy of the unit. This makes for an easy suggestion that nurses could simply increase the rate at which they complete Safe Sleep education. Overall, this project has laid a foundation for further research in the correlation between staff education and Safe Sleep education and documentation compliance.

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