THE IMPORTANCE OF NEWBORN IDENTIFICATION TO THE DELIVERY OF SAFE PATIENT CARE

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ABSTRACT: A cross-sectional, observational and documentary study with a quantitative approach, performed at a Neonatal Unit of a University Hospital of Rio de Janeiro, from May to August 2016. Identification of neonatal patients through the use of bands was assessed. For this purpose, 200 observations were made. It was found that 155 (77.5%) newborn infants had identification bands. As for the place, 91 (58.7%) of the bands were around the ankles or wrists of the infants. Regarding the legibility of the information on the ID bands, this requirement was met in the ID bands of 76 (83.5%) newborn infants. In 46 (89.3%) observations, the ID band was not checked before the newborn was handed to a parent, nor was it checked prior to procedures in 45 (88.3%) of the cases. The patients’ medical records included no information regarding identification bands in 174 (87%) cases, and its place in 179 (89.5%) of the cases. It was concluded that the referred neonatal unit failed to provide appropriate identification of the patients, and the implementation of strategies for improving safe care is urgently needed.

DESCRIPTORS: Neonatology; Patient safety; Risk management; Nursing.
INTRODUCTION

The population of newborns (NB) admitted to hospital units is exposed to numerous adverse events due to errors in the patient identification process. The Brazilian and the international media often report cases of baby switching in hospitals, with serious psychosocial consequences for the families involved. Also situations in which medications and procedures are not administered and/or performed on the right patients, usually because of identification errors.

The way of identifying pediatric patients is still a matter of concern, since there are few studies on the subject, especially because it concerns a specific area with various peculiarities. Thus, the development of further studies on patient safety is highly recommended (1).

This issue is intrinsically linked to health care quality and has been widely discussed by health services and occupational associations as well as by government agencies (2). All patients admitted to hospital units are at risk of experiencing adverse events (3) and, when it comes to pediatric patients, the risks are even greater, since this population has its specific physical and morphological characteristics.

Extremely low birth weight infants or premature newborns are at higher risk of facing adverse events, because of the following factors: they are handled by several professionals and exposed to several diagnostic procedures and treatments, in addition to remaining for a longer time in the hospital setting (4). Proper patient identification is essential to ensure safe care to hospitalized patients and more effective results (1).

Given the importance of patient safety measures in Brazil’s health care facilities, the Ministry of Health issued Ordinance No. 529, which established the National Program of Patient Safety (PNSP). The ordinance came into force in 2013 aiming to contribute to the improvement of care in all health facilities in Brazil (5).

Therefore, identification newborn infants through the use of bands was the object of investigation of this study. It aimed to investigate whether the newborns of a Neonatal Unit of a University Hospital of Rio de Janeiro were correctly identified, in accordance with the standards of the PNSP.

METHOD

This is a cross-sectional, observational and documentary study with a quantitative approach. Analysis of the study population involved observations and records over a delimited period of time (6-7) to collect information. The study also used specific sources to obtain additional data (records) that were valuable to the research (8).

The study was conducted at the Neonatal Unit of a University Hospital located in the city of Rio de Janeiro. This unit has 24 beds distributed as follows: eight beds for semi-intensive care and 16 beds for intensive care. NBs are cared for by a multidisciplinary team, which includes residents, professors and undergraduate and graduate students in several health areas.

The newborns assisted in the referred unit usually have diseases such as perinatal asphyxia, extreme prematurity, low birth weight, respiratory distress and/or heart failure, liver or renal failure, and genetic syndromes. The parents of the newborns are allowed to stay as long as they want with their babies during their entire hospitalization.

All the infants admitted to the NICU during the data collection period were included in the study. Those infants who were not in the NICU because they were undergoing procedures such as ultrasound transfontanelar examination, echocardiogram, and surgeries were excluded from the study.

Data was collected with the use of two questionnaires/forms: one tool for NB observation with information on presence, place, integrity and legibility of information on ID bands, in accordance with regulations issued by the Ministry of Health (9) and items related to the risk of skin damage caused by ID bands in newborns. The first questionnaire was also used to record the attitudes of health professionals regarding the checking of ID bands prior to handing the infant to the mother and/or other
family member and before any procedures. The other tool was a questionnaire for assessing nursing documentation in patients' medical records, with questions related to daily records of presence, place, integrity and legibility of the information on ID bands, as well as information related to the need for changing the band or to requests for a new band.

Data collection was performed in 25 days at random unspecified times, during the day, between May and August of 2016. A total of 200 observations were made, in average eight observations per day.

The collected data was tabulated, and descriptive statistics was used to demonstrate quantitative data, with calculation of absolute (n) and relative frequencies (%).

The present study met the ethical requirements of Resolution No. 466, of December 12, 2012, of the National Health Council, and was submitted to the Research Ethics Committee of the institution (10). The legal representatives of all the newborn infants involved received the TCLE, as well as the professionals who agreed to participate in the survey, signed the free informed consent form (TCLE) authorizing the observation of their actions and the professional practices concerning the check of identification bands. Anonymity and confidentiality of the information was guaranteed, according to the legislation. The study was approved on March 3, 2016 by the referred Committee, under statement no 1,436,450.

RESULTS

Two hundred (200) observations were made during data collection. Sometimes there were repeated observations, on the same day, of the same newborn at the NICU.

Repeated observations of the participants did not bias the study, since one patient identified on a given day might not be present on another day, as identification bands are frequently removed for procedures and sometimes are not replaced on the infant. Likewise, infants who were not identified on a particular day might be properly identified in another moment.

At first, data on the observation of identification bands on the newborns was presented and subsequently data related to nursing documentation on patients' medical records concerning identification bands was described.

Data related to identification bands on newborn infants

Of the 200 observations made, in 155 (77.5%) of them, the newborn babies had one or two identification bands (from the Obstetric Center (OC) or from the hospital admissions department). Each identification band was placed on one of the upper or lower limbs of the newborn or attached to the patient's bed (Table 1).

Table 1 – Identification band on newborn infants. Rio de Janeiro, RJ, Brazil, 2016

<table>
<thead>
<tr>
<th>Identification band on the newborn</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Identification band on the newborn</td>
<td>155</td>
<td>77.5</td>
<td>45</td>
</tr>
</tbody>
</table>

Of the 155 observations in which the newborns had an identification band, 91 (58.7%) of them were placed on the limbs of the child (ankles or wrists), and the remaining 64 (41.3%) were attached to the patient's bed (Table 2).
Table 2 – Place of ID bands on newborn infants. Rio de Janeiro, RJ, Brazil, 2016

<table>
<thead>
<tr>
<th>Place of ID band</th>
<th>On the newborn (ankles or wrists)</th>
<th>On the bed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Place of ID band</td>
<td>91</td>
<td>58.7</td>
<td>64</td>
</tr>
</tbody>
</table>

According to the Standard Operating Procedure (SOP) of the institution, all newborns admitted to the NICU must be identified with two bands: one from the admissions department and one from the Obstetric Center, which are placed on the patient’s ankle and/or wrist.

Regarding the 91 observations in which the newborn babies had identification bands on their upper and lower limbs, it was found that 29 (31.9%) of them had both ID bands, according to the recommendation of the health institution on the subject (Table 3).

Table 3 – Types of identification bands on newborn infants. Rio de Janeiro, RJ, Brazil, 2016

<table>
<thead>
<tr>
<th>Types of bands</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only ID bands from the Obstetric Center</td>
<td>35</td>
<td>38.4</td>
</tr>
<tr>
<td>Only ID bands from the admissions department</td>
<td>27</td>
<td>29.7</td>
</tr>
<tr>
<td>ID bands from the Obstetric Center + admissions department</td>
<td>29</td>
<td>31.9</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100</td>
</tr>
</tbody>
</table>

Of the 91 ID bands placed on one of the limbs of the newborn infants, 76 (83.5%) of them were legible, and there was no type of wound or “tourniquet syndrome” on the limbs of newborns where ID bands were placed.

In 40 (21.9%) observations the nursing professionals were unable to check ID bands because simultaneous procedures were being performed in different newborns at the time of the observation. In the remaining observations (51), it was found that the identification band was not checked before the newborn was handed to the mother or to another relative (n = 46 / 89.3%), 45 / 88.3%).

Data on identification bands recorded by nurses on the patients’ medical records

In the 200 assessments of the patients’ medical records, in 174 (87%) of them there was no daily documentation of the presence of ID bands by nursing professionals. Regarding the place of the identification band, 179 (89.5%) of these patients’ records did not include this type of information. There was no information on the integrity of the ID band in 195 (97.5%) patients’ medical records assessed. There was also no reference to the legibility of the information in 197 (98.5%) of the daily records made by nurses on the patients’ medical records (Table 4).

Table 4 – Nursing information on ID bands recorded on the medical records of newborn patients. Rio de Janeiro, RJ, Brazil, 2016

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>N</th>
<th>%</th>
<th>No</th>
<th>N</th>
<th>%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>26</td>
<td>13</td>
<td>174</td>
<td>87</td>
<td>200</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td>21</td>
<td>10.5</td>
<td>179</td>
<td>89.5</td>
<td>200</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Integrity</td>
<td>5</td>
<td>2.5</td>
<td>195</td>
<td>97.5</td>
<td>200</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Legibility of the information on ID bands</td>
<td>3</td>
<td>1.5</td>
<td>197</td>
<td>98.5</td>
<td>200</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
In 196 (98%) assessments there was no nursing documentation on the need to change ID bands. And in those cases such need was recorded on the patients’ medical records, there was also a request for a new ID band. However, there was no information on the effective placement of a new ID band in 163 (81.5%) of the assessments, as described in Table 5.

Table 5 – Nursing information on the need to change ID bands or request and place new ID bands on newborns. Rio de Janeiro, RJ, Brazil, 2016

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Need to change ID band</td>
<td>4</td>
<td>2</td>
<td>196</td>
</tr>
<tr>
<td>Request of a new band</td>
<td>4</td>
<td>2</td>
<td>196</td>
</tr>
<tr>
<td>Placement of the new band</td>
<td>37</td>
<td>18.5</td>
<td>163</td>
</tr>
</tbody>
</table>

**DISCUSSION**

In 77.5% of the observations, the newborns had identification bands, and in 58.7% of these observations the bands were placed on the limbs of the infants, as recommended by the Ministry of Health (9). Regarding the observations that included information on the placement of ID bands on one limb (ankle or wrist), 29 (31.9%) of the newborns had two ID bands, according to the recommendations of the institution.

Identification is the first international target in patient safety (11). And, the application of ID bands in addition to be easily done, is an effective, financially accessible method that can prevent serious failures/adverse events in the delivery of nursing care.

Lack of proper patient identification can lead to serious adverse events such as errors in the administration of medications or blood products, procedures on the wrong patients and/or in inappropriate places, baby switch, among others (12).

One possible explanation for the low adherence to this safety measure could be the fact that some newborn babies remain hospitalized for a long time. Such situation can generate, in nursing professionals, the false sensation of being capable to identify the newborn at any moment, and thus neglecting the presence and the checking of the identification band.

According to the WHO, between November 2003 and July 2005, the United Kingdom National Patient Safety Agency reported 236 incidents related to absence or error in identification bands (13). On the other hand, in a study conducted in a neonatal unit with 540 observations, involving the identification protocol of newborns, 82.2% were in accordance with the referred protocol (14).

In the present study, based on the 200 observations, 155 (77.5%) newborn infants had identification bands. Regarding the place, 91 (58.7%) of them were on the ankles or wrists, and regarding the legibility of the information, 76 (83.5%) met the legal recommendations. However, in 46 (89.3%) observations, the ID band had not been checked before the newborn was handed to a family member, nor before the newborn was submitted to medical procedures in 45 (88.3%) cases. There was also no nursing documentation in patients’ medical records regarding the presence of ID bands in 174 (87%) of the cases, and the place of ID bands in 179 (89.5%) of the cases. Hence, the newborns admitted to the investigated unit were exposed to a high risk of adverse events.

In the past decades, hospital care was less complex than today, and there was less concern with patient safety. Now the use of complex health care technologies involves greater risk (15). In order to provide efficient and safe health care to the population, health services and professionals must adapt to this new scenario.
The similarity between newborn babies may lead to inadequate identification of these patients before they are submitted to medical procedures. Another important factor that may induce to errors is the fact that, unlike adult patients, these patients cannot communicate verbally with the health staff, making it difficult to confirm their identification. It should be stressed that failure to associate the right patient with the appropriate action is ever present, and can involve any health organization and anyone on the patient’s healthcare team.

In 2012, a study carried out in a maternity hospital in northeast Brazil found that of the 218 newborn infants participating in the study, 183 (84%) face some type of adverse event. The same study found that 76% of the cases of adverse events resulted in temporary damage and/or prolonged hospital stay. The study revealed that 87% of the investigated adverse events were preventable, considering the recommendations of the current literature regarding patient identification to promote safe care.

The present study found that most ID bands on the newborn infants were placed on the babies at the Obstetric Center. This can be explained by the fact that the Obstetric Center routine includes infant identification soon after birth.

Regarding the legibility of the information, it was observed that it was adequate in 76 (83.5%) of the cases. A study conducted in 2012 on the same variable in newborn patients found that 93.1% of the ID bands were adequate corroborating the results of this study.

Some explanations for the good legibility of the information on ID bands include limited mobility of newborns, especially of preterm infants, which reduces friction and increases the durability of the band and the fact that most newborns are not frequently handled, which also reduces friction.

No injury related to the use of ID bands was identified in this study. The Neonatal Unit where it was conducted had a large team of nurses, which allowed them to provide more customized care.

The patient identification protocol defined by ANVISA recommends that the information contained on ID bands is checked every time the newborn is handed to the mother or legal guardian. However, in 58 (89.3%) of the cases this has not occurred. Failure to check this information exposes both the child and the family to unnecessary risk for serious social and emotional problems.

During the observations, in 68 moments (88.3%) the ID band was not checked before the infant was submitted to procedures. This is a matter of concern, since in most cases, newborns were exposed to a considerable risk for adverse events, such as medications errors, unnecessary epicutaneous catheterization, surgery on wrong patient, among other situations.

Regarding patient identification errors, a study conducted in São Paulo analyzed 74 medication error in internal medicine practice and found that 2.7% of medication administration errors were caused by patient misidentification prior to drug administration. Another study, conducted in a pediatric unit of a Teaching Hospital of Santa Catarina, found that in 81 (36.32%) of the 223 drug administration procedures no type of patient identification was performed.

Corroborating the importance of proper patient identification, all professionals should actively participate in this process, including in pre-discharge and transfer stages, or prior to any procedure. However, daily checking of patient ID bands is sometimes neglected by health professionals, especially for long-stay patients.

Therefore, the need to guide health professionals on compliance with patient safety protocols is getting increasingly important. Proper patient identification allows the delivery of safer care and less damage to patients. As stated earlier, RN have some specificities, such as the immaturity of organ systems, which increase their risk for adverse events related to drugs.

The adverse events related to the newborns in the investigated NICU can be serious and even fatal. The newborns admitted to that NICU are generally premature, have low weight and/or are in severe conditions, are handled by several professionals, stay in hospital for a long time and are exposed to several procedures, which increases the possibility of adverse events.

There were few nursing notes on the need to change ID bands, and regarding the documentation in the patients’ medical records, in 81.5% of the cases there was no information about the placement.
of ID bands. Information on place, legibility, integrity or need for change of ID bands was also scarce.

In addition to the lack of ID bands and their incorrect use during hospitalization observed in this study, there was also scarce documentation on the presence of ID bands indicating that the NICU health team might not be sufficiently aware of the importance of this safety measure.

Some records obtained came from other units, such as the Obstetric Center and Joint Housing, which seem to have another perception about the use of the identification bracelet. Moreover, in Rooming-in facilities, daily documentation of the presence of ID bands is part of a routine and integrates the Systematization of Nursing care (SNC), recommended by the Resolution of the Federal Nursing Council under no 358 of October 15, 2009 (20).

The establishment of institutional routines can improve adherence to the use of ID bands. Regarding nursing documentation on the patients’ medical records, these professionals should be guided and be made aware of the importance of recording information on placement, legibility, integrity and place of the ID bands on newborns.

The place of ID bands on the newborns was the most frequently recorded item in nursing documentation in the patients’ medical records, and there was no information on the presence of the two identification bands, according to the institutional routine. It should be stressed that few studies have been published in Brazil regarding the identification of pediatric patients and the checking of such identification by health care professionals prior to medical procedures (3).

One limitation of this study is the reduced number of pediatric hospitalizations, as a result of the reduction in the total number of beds in the health facility where the study was conducted.

● CONCLUSION

The nursing professionals of the investigated unit faced some difficulties regarding proper patient identification. It is urgent that these professionals receive more guidance and become more aware of the importance of newborn identification, through the use of strategies that facilitate this process.

The establishment of institutional routines in the SNC, with focus on the proper identification of newborns with ID bands improves care practices, and despite the availability of a patient identification protocol, the nursing professionals were apparently unfamiliar with its use.

Our findings show the importance of enhancing the process of permanent education in health, regarding proper patient identification, especially in neonatal units, where the risk of errors is great, and adverse events are potentially serious. Identifying pediatric patients through the use of bands is an effective, inexpensive and easy to implement process.

The complexity of the process of identification of neonatal patients involves much more than attaching the ID band to the infant soon after birth. Identification comprises daily checking of the presence and integrity of ID bands, legibility of the information, and systematic checking of the band prior to performing any procedure.

It is necessary and urgent to foster a safety culture in hospital organizations, involving the entire healthcare team responsible for providing care to newborns, aimed to the prevention of adverse events. The more accurate the definition of the work flows related to this process and the greater the number of professionals involved in the identification of newborns, the better and safer the healthcare provided to these patients.

● REFERENCES


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