

Implementation of the surgical safety checklist for pediatric operations: compliance assessment



Execução da lista de verificação de segurança cirúrgica em operações pediátricas: avaliação da conformidade

Ejecución de la lista de seguridad quirúrgica en operaciones pediátricas: evaluación de la conformidad

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How to cite this article:

Almeida RE, Rodrigues MCS. Implementation of the surgical safety checklist for pediatric operations: compliance assessment. Rev Gaúcha Enferm. 2019;40(esp):e20180270. doi: <https://doi.org/10.1590/1983-1447.2019.20180270>.

ABSTRACT

Objective: To evaluate compliance with the surgical safety checklist.

Methods: Evaluative, observational, cross-sectional and descriptive study with a quantitative approach, performed in 431 pediatric surgeries, in a public hospital in the Federal District, between August 2017 and February 2018. Data were collected by non-participant observation and analyzed by descriptive statistics.

Results: The checklist was performed in 90.3% of the surgeries, however, the completeness of the instrument and the verbal adherence to all the items were not observed in any procedure. 95.4% of the surgeries continued even with the identification of failures in safety processes. Inappropriate checks, inaccuracy of timing, performance in the absence of key professionals, and lack of active participation were observed.

Conclusions: The study showed the existence of nonconformities in the adherence to the checklist and in the execution of safe practices, being an alert for the systematic risk suffered by the surgical patient and for the need for immediate interventions.

Keywords: Patient safety. Checklist. Surgicenters. Advance directive adherence.

RESUMO

Objetivo: Avaliar a conformidade da execução da lista de verificação de segurança cirúrgica.

Métodos: Estudo avaliativo, observacional, transversal e descritivo, com abordagem quantitativa, realizado com 431 cirurgias pediátricas, em hospital público do Distrito Federal, entre agosto de 2017 e fevereiro de 2018. Os dados foram coletados por observação não participante e analisados por estatística descritiva.

Resultados: O checklist foi realizado em 90,3% das cirurgias, no entanto, a completude do instrumento e a adesão verbal a todos os itens não foram observadas em nenhum procedimento. 95,4% das cirurgias prosseguiram mesmo com a identificação de falhas em processos de segurança. Observou-se checagens inapropriadas, inexistência do momento de aplicação, execução na ausência de profissionais essenciais e falta de participação ativa.

Conclusões: O estudo revelou inconformidades na adesão ao checklist e na execução de práticas seguras, configurando um alerta para o risco sistemático sofrido pelo paciente cirúrgico e para a necessidade de intervenções imediatas.

Palavras-chave: Segurança do paciente. Lista de checagem. Centros cirúrgicos. Adesão a diretivas antecipadas.

RESUMEN

Objetivo: Evaluar la conformidad de ejecución de la lista de verificación de la seguridad de la cirugía.

Métodos: Estudio evaluativo, observacional, transversal y descriptivo, con abordaje cuantitativo, realizado con 431 cirugías pediátricas, en un hospital público del Distrito Federal, entre agosto de 2017 y febrero de 2018. Se recolectaron los datos a través de la observación no participante y estos se analizaron por medio de la estadística descriptiva.

Resultados: El checklist se realizó en 90,3% de las cirugías, sin embargo, no se pudo observar el uso total de la herramienta, así como la adhesión verbal a todos los elementos en ningún procedimiento. 95,4% de las cirugías prosiguieron aún con fallas en los procesos de seguridad. Se pudo observar controles inapropiados, inexactitud del momento de uso, ejecución en ausencia de profesionales cruciales y falta de participación activa.

Conclusiones: El estudio reveló inconformidades en la adhesión al checklist y en la ejecución de prácticas seguras, configurando una alerta para el riesgo sistemático sufrido por el paciente quirúrgico y para la necesidad de intervenciones inmediatas.

Palabras clave: Seguridad del paciente. Lista de verificación. Centros quirúrgicos. Adhesión a las directivas anticipadas.

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INTRODUCTION

Adverse events (AE) in surgical centers (SC) or related to surgery are among the most frequent, accounting for up to 20% of damages in hospitalized patients and a mortality rate of up to 10%, and about half of these events are considered avoidable⁽¹⁻²⁾.

The World Health Organization (WHO), aimed at promoting safe surgeries and anesthesia, reducing mortality rates and surgical complications and improving communication in the operating room (OR), established the "Safe Surgeries Saves Lives" campaign and established the Surgical Safety Checklist. It is a tool for checking safety items in three phases of the operation, i.e. before anesthetic induction or sign in, before the surgical incision or time out and at the end of the surgery, before the patient leaves the room or sign out⁽²⁾.

The benefits of the WHO Surgical Safety Checklist are demonstrably associated with reduced mortality and surgical complications⁽²⁻⁴⁾. Systematic review and meta-analysis of six studies that evaluated the effect of the tool in postoperative complications, revealed a strong correlation between the reduction of these AEs and the use of the checklist. The relative risk (RR) for any complication was 0.59 and for mortality it was 0.77⁽⁵⁾.

Improvements in surgical safety procedures, such as increased airway assessment rates, use of the pulse oximeter, planning for blood loss, antibiotic prophylaxis, confirmation of patient and surgical site identity, and count of compresses are other benefits of the instrument⁽²⁾. In addition, the use of the checklist increases the effectiveness of communication in the OR and improves teamwork⁽⁴⁾.

Satisfactory repercussions of the surgical safety procedure may be related to the conformity of the checklist application in health services, the completeness of its completion and the way of implementation⁽⁵⁻⁶⁾. The introduction of the checklist in the OR routine is only an advent for surgical safety, since studies that analyzed its execution point to unsatisfactory levels of adherence to the instrument^(3,7-11). A review study on the checking of the checklist items in Brazilian hospitals identified that the practice is inadequate in the country, with a mean of measuring most safety items less than 80%⁽¹⁰⁾.

The great challenge of the "Safe Surgeries Saves Lives" campaign is the active participation of the surgical team in the checks and the true incorporation of the tool into daily practice. The correct use and complete fulfillment of the instrument is essential for the process to become effective⁽¹²⁾.

The conformity assessment of the checklist application, as measured by adherence to this resource, is as rel-

evant as the study of its results⁽⁵⁾. The WHO recommends that all items in the three steps of the list be systematically checked in a verbal way, in addition to the interruption of the surgical procedure until all the elements are in congruence with patient safety⁽²⁾.

Despite the constant disclosure of the employment of the checklist in different health services, little is known about the quality of its execution and about the follow-up to the safety processes recommended by the WHO. In view of this, the present study sought to answer the following guiding question: Is the surgical safety checklist used according to WHO recommendations?

Considering the importance of obtaining and providing systematized situational information for OR managers and professionals, as well as contributing knowledge in the area, the necessary evaluation of the execution of the WHO Surgical Safety Checklist, the completeness of its completion and the adherence of the surgical team – the latter, examined as the complete verbal check of the items of the instrument. In addition, the execution of safety procedures by the surgical team should also be verified.

Thus, the objective was to evaluate the conformity of the execution of the surgical safety checklist.

METHOD

This research was extracted from a master's thesis presented to the Postgraduation Program in Nursing of the University of Brasilia⁽¹³⁾. This is an observational, cross-sectional and descriptive study, with a quantitative approach, carried out in a public teaching hospital, in Brasilia, Federal District (DF), Brazil, between August 2017 and February 2018.

The hospital where the research was developed is classified as highly complex, dedicating all its beds to the Unified Health System, and pediatric surgery is a reference specialty in the hospital for the whole DF. Its OR is composed of five surgical rooms and annually performs 1,500 pediatric surgeries. The surgical team involved in pediatric procedures at the time of data collection consisted of 75 professionals, 31 nursing assistants, 5 nurses, 17 pediatric surgeons, 17 anesthesiologists and 5 pediatric surgery residents.

The surgical safety checklist was implemented in the study hospital in 2013, and its obligation was instituted after the team's training. The checklist used by the institution was adapted to the local reality by the leadership of the OR, and, for the adequacy of the instrument, two items from the time out were excluded, which are: "presentation of staff by name and function" and "confirmation of patient identity".

Included in the study were surgical procedures of the pediatric emergency and elective surgery, performed during the daytime from Monday to Friday, and who had as members of the surgical team professionals who accepted the invitation to participate in the research. We excluded procedures not performed by pediatric surgery, that is, surgical operations of other specialties, procedures with teams composed of at least one professional who did not accept the invitation to participate in the research, as well as procedures performed at night and at weekends. As the principal investigator is a member of the team studied, it was also excluded surgeries in which the same was present in the operating room as a member of the surgical team.

In order to establish a minimum representative sample, the pediatric surgical population attended in the one-year period prior to the investigation was considered. Thus, with a population of 1,421 patients, the estimated incidence of 20% of patient safety events, according to published literature⁽¹⁻²⁾, a 5% sample error, a 95% confidence level and a 10% increase to compensate for data loss resulted in 431 surgeries observed.

Prior to the beginning of the observation phase, professionals were invited to participate in the study and signed a Free and Informed Consent Form. Data were collected through systematic and non-participant observation. Two research assistants, who underwent previous theoretical-practical training, performed systematic observations. With this, it was intended to blind the principal investigator in this phase of the study, to avoid bias and reduce the Hawthorne effect which is the change of attitude of the professional when he knows he is being observed. The research assistants were nursing residents in the OR and did not cause strangers to professionals because they are usually present in the sector.

Data were collected through non-participant observations. An observation script elaborated from the WHO Surgical Safety Checklist and its recommendations for the execution of the check in health services was used.

The following variables were observed: stage accomplished; time of application; professional driver; complete filling; verbal adherence to all items; inappropriate filling; professionals present in the OR; active participation of each professional; execution of safety procedures (patient confirmation by two identifiers, surgical site demarcation, signed consent form, planning for blood loss, availability of anesthetic safety materials, surgical pause, prophylactic antibiotic administered 60 minutes before the incision, availability of imaging tests, instrument count, gauzes and compresses, correct identification of surgical specimens).

The data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) version 2.0. The descriptive statistical analysis of the results was performed using the absolute and relative frequencies of the checklist.

The study was submitted to the Research Ethics Committee of the Foundation of Education and Research in Health Sciences – CEP/FEPECS, registered with CAAE 70583217.9.0000.5553 and endorsed by Opinion 2.166.891/2017.

■ RESULTS

A total of 431 surgeries were performed, and the surgical safety checklist was applied in 389 operations (90.3%). The three steps were performed in 86 procedures (19.9%). Completing the checklist in full and verbal adherence to all items on the list were not observed in all operative procedures. The frequency of application, full completeness and adhesion per step are given in Table 1. For the calculation of the level of adhesion, it was considered verbal verification of all the items of each step of the checklist.

The sign in was performed in 257 (66.1%) surgeries per nursing technician, 131 (33.7%) times per nurse and in one procedure (0.2%) by pediatric surgeon. The time out was conducted by a nursing technician in 193 (59.1%) surgeries and by nurse in 134 (40.9%). The sign out was performed by nurse technician 73 (82.0%) times and per nurse in 16 (18.0%) operative procedures.

The frequency of the presence of each professional in the OR at the time of application of the checklist and their active participation (verbal adherence) in the process is presented in Table 2.

Although the sign in was employed more frequently, when considering the moment of application, this was also the phase with greater inaccuracy. The period of execution of each step is presented in Table 3.

Constant marking of items on the instrument was observed without being confirmed verbally. Table 4 shows the average of the frequency of adhesion (verbal verification) and the inappropriate filling (marking without verification) of each item, per step.

In all the surgical operations observed, at least one safety procedure was not in compliance, however, almost all the procedures were continued without the problem being solved. In only 20 cases (4.6%), the surgical procedure was interrupted or suspended due to a finding of failure in safety procedures.

The frequency of execution of safety procedures recommended by WHO for surgical safety is presented in Table 5.

Table 1 - Frequency of application, complete filling and adhesion of each stage of the checklist (n=431). Brasília, DF, 2018

Checklist Stage	Application		Complete filling		Full adhesion	
	N	%	N	%	N	%
Sign In						
Yes	389	90.3	370	85.5	175	40.6
No	42	9.7	61	14.2	256	59.4
Time Out						
Yes	327	75.9	0	0.0	0	0.0
No	104	24.1	431	100.0	431	100.0
Sign Out						
Yes	89	20.6	138	32.0	5	1.2
No	342	79.4	293	68.0	426	98.8

Source: Research data, 2018.

Conventional signal used: 0 and 0.0: numerical data not resulting from rounding.

Table 2 - Relative frequency of the presence of the professionals in the OR and of the verbal adhesion to the checking, by professional category, in each stage of the checklist. Brasília, DF, Brazil, 2018

Professional	Presence % (SD)	Adherence % (SD)
Sign in		
Resident of pediatric surgery	92.1 (±5.3)	84.2 (±4.5)
Anesthetist	86.3 (±21.0)	60.8 (±27.9)
Nursing Technician	84.7 (±24.2)	29.6 (±18.7)
Nurse	71.0 (±11.9)	20.8 (±17.7)
Pediatric Surgeon	49.4 (±15.9)	18.4 (±12.6)
Time out		
Resident of pediatric surgery	95.2 (±4.02)	71.5 (±5.9)
Anesthetist	91.7 (±16.9)	78.9 (±18.4)
Nursing Technician	88.3 (±21.3)	41.5 (±21.3)
Pediatric Surgeon	76.4 (±15.1)	42.4 (±14.4)
Nurse	49.7 (±22.9)	16.7 (±19.6)
Sign out		
Anesthetist	82.8 (±26.6)	38.5 (±27.1)
Resident of pediatric surgery	81.4 (±9.2)	49.2 (±16.8)
Nursing Technician	63.0 (±26.7)	27.1 (±22.8)
Nurse	25.6 (±17.6)	29.8 (±25.2)
Pediatric Surgeon	12.4 (±9.2)	8.73 (±11.0)

Source: Research data, 2018.

Caption: SD: standard deviation

Table 3 - Moment of accomplishment of each stage of the checklist. Brasilia, DF, Brazil, 2018

Moment of procedure	N	%
Sign in		
Before induction	199	46.2
After induction	190	44.1
Not performed	42	9.7
Time out		
Immediately prior to incision	281	65.2
After the incision	46	10.7
Not performed	104	24.1
Sign out		
After surgery and before leaving the operating room	62	14.4
After the patient leaves the operating room	27	6.3
Not performed	342	79.3

Source: Research data, 2018.

Table 4 - Average frequency of adhesion and inappropriate filling of the checklist items, by stage. Brasilia, DF, Brazil, 2018

Checklist Stage	Adherence (%)	Inappropriate filling (%)
Sign in	71.7	23.4
Time out	35.1	40.7
Sign out	9.9	84.7

Source: Research data, 2018.

Table 5 - Frequency of execution of safety procedures in pediatric surgical procedures. Brasilia, DF, Brazil, 2018

Security Process	N	%
Patient identification		
Not identified	10	2.3
Identified only by name	215	49.9
Identified by two identifiers	206	47.8
Demarcated surgical site (when needed)		
Yes	58	31.7
No	125	68.3
Consent Term		
Yes	69	16.0
No	362	84.0
Planning for large blood loss (when needed)		
Yes	29	53.7
No	25	46.3

Material availability for anesthetic safety

Yes	420	97.4
No	11	2.6

Realization of the “surgical pause”

Yes	0	0.0
No	431	100.0

Prophylactic antimicrobial in the last 60 minutes before incision (when necessary)

Yes	129	82.7
After the incision	21	13.5
More than 60 minutes before the incision	6	3.8

Available imaging tests (when needed)

Yes	68	48.9
No	71	51.1

Counting of gauzes and compresses

Yes	57	13.2
No	374	86.8

Correct identification of surgical specimen (if present)

Yes	163	90.5
No	17	9.5

Source: Research data, 2018.

DISCUSSION

The surgical safety checklist was used in 90.3% of the surgeries observed, which could indicate a positive result in the implementation of the protocol of safe surgery in the SC when compared with other outcomes of national studies^(9,11). In this respect, the results were like those presented in developed countries, such as Spain, France and Switzerland^(7,14-15). Higher frequency of application was observed in sign in, and smaller in sign out, a result like that already presented previously⁽¹⁶⁾.

Greater consistency in the first stage of the checklist may be related to the presence of elements related more directly to the risk of death to the patient. In addition, in the last two steps, the items are duplicated or refer to the transoperative period, presenting answers considered obvious⁽¹⁷⁾. Greater disagreement in the sign out is attributed to the fatigue of the team and to the absence of the surgeon at that moment, as was demonstrated in this study when pointing out that the surgeon was in the OR in only 12.4% of the procedures⁽¹⁴⁾.

Despite the apparent good implementation of the surgical safety checklist, when the completeness of the instrument was analyzed, there was a significant inade-

quacy of the process, since all the lists were not fully filled, revealing results inferior to those obtained in other countries, however, like Brazilian reality^(9,11,14-15). Corroborating this finding, an integrative review of Brazilian hospital researches, identified nonconformities in all included studies, through the incompleteness of the surgical safety check instrument. None of the studies presented 100% completion of the list items, which was related to the limited acceptance of the professionals⁽¹⁰⁾.

In addition to the unfinished filling, considering the adherence to the safety items, that is, verbal verification, in none of the surgeries observed all the elements were verbalized. The lack of articulation in the checks has already been reported in previous studies⁽⁶⁻⁸⁾. This practice denotes a limitation in the quality of the procedure.

Although studies show that the use of checklist makes the communicative process more effective in OR, the practice of nonverbal verification refers to the insufficiency in the interdisciplinary communication in OR^(3,6). The team discussions ensure greater patient safety, since professionals explain relevant topics about the client and the surgical planning. In addition, the oral verification expresses that the attendees agree with what has been said

and represents a commitment of all the professionals that the surgery can begin with safety^(2,8). It is thought that, especially in pediatric procedures, effective communication among team members is even more important because of the inability or poor ability of these patients to communicate and because they are more vulnerable, requiring specific care.

Communication increases teamwork, however, surgical teams tend to be strongly hierarchical and their members are reluctant to communicate between hierarchical levels⁽²⁾. The existing segmentation among the professional categories in the SC is a barrier to adherence to the checklist and constitutes risk of AE to the patient^(8,15).

Worse conformity in completeness and adherence to the checklist was found in the time out. The complete incongruity in this step is attributed to the fact that the items "presentation of the team by name and function" and "confirmation of the patient's identity" do not compose the list used in the institution. The WHO recommends adapting the instrument to local reality, therefore, it can add essential items to each service, but not the exclusion of items already recommended⁽²⁾. Other health services also extracted safety items while adapting the list to their reality^(6,9,11).

In addition to the incompleteness and reduced verbal verification of the items, it was observed impertinence in the process through the conduction of the list without professionals essential for the confirmation of security elements were present in the OR. The WHO determined that the presence of the nursing and the anesthesiologist is indispensable in all the stages, already the surgeons, are necessary for the application of the time out and sign out, despite the importance of their participation in the sign in⁽²⁾. It is assumed, with the implementation of the checklist with partial presence of the surgical team, the lack of interest of the absentees and carelessness of the driver with the adequacy of the procedures performed.

In addition to the absence of professionals, the lack of active participation of the team was notable when it was observed that sometimes even when they were present in the OR, the professionals did not respond to the questions pointed out by the driver of the list, which suggests a lack of involvement, which may result in increased patient risk⁽¹²⁾.

Non-compliance with the checklist was also certified for the delay of execution. The three steps correspond to the normal flow of a surgical procedure, and the check confirms that the next task is performed safely⁽²⁾. The conference of the item after the accomplishment of the activities pointed to the nonsense of the checks⁽⁸⁾.

Greater inaccuracy observed at the time of application of the sign in may be related to the surgical specialty of the

study. Children are usually agitated when entering the SC, demanding more attention and care from the professionals, and because they are busy, they delay the checklist.

In addition to the delay in the application of checklist, the inopportune performance of the team was revealed from the inappropriate completion of the list, with record of items in the instrument without having been verbally checked. The inadvertent marking has been previously verified, and indicates unthinking, mechanical and instinctive posture, that go against that determined by WHO^(7-8,14). All items in the list refer to elements important to patient safety and non-verification puts you at risk for a surgical incident⁽²⁾. The third stage was the most problematic moment regarding the reprovable filling, referring to the greater care of the team with the stages that precede the operative surgical procedure and inattention with the continuity of the safe assistance in the postoperative period.

The inadvertent check revealed professionals who act only as executors of a routine of the service, in order to comply with the protocol of the institution and leads to questioning the trustworthiness of the information registered^(2,14). In view of this, it is important to evaluate the implementation of checklist by observing the way it is practiced, evidencing the strengthening of the results presented in this study. The evaluation of adherence to the instrument based on the analysis of its record in medical records, or the simple verification of the frequency of its execution, can provide imprecise and obscure results.

Another inadequate practice was the continuation of the surgery without the correction of failures detected during the checklist application. At each stage, the list driver must confirm the safety of each item and prevent the team from moving to the next phase of surgery until each step is satisfactorily done. However, the authority of the coordinator of the list may dissatisfy other team members⁽²⁾.

As the checklist was conducted by nursing staff, it is believed that team hierarchization has influenced the attitude of the professional driver, since the possibility of limiting medical authority and autonomy, historically rooted in health services, may intimidate the list coordinator⁽²⁾.

We advocate the use of a "stop" and "follow" model. Finding any item in disagreement with security, the team must stop and seek the solution of the problem; when all items comply the team follows the procedure⁽¹⁸⁾. The follow-up of the surgical operation with all safety items completed, in addition to minimizing the risks, represents the commitment and responsibility of all with patient safety.

Regarding failures in the execution of safety procedures, the observed surgical team was displeased with these practices and unconcerned with the prevention

of incidents in pediatric surgical patients. In Brazil, from March 2014 to January 2018, 1,723 incidents were reported involving surgeries⁽¹⁹⁾. The implementation of the standards reviewed is recommended by WHO to prevent these AEs⁽²⁾.

Confirmation of the patient with two identifiers and demarcation of the surgical site, especially in cases involving laterality or multiple structures, prevent the performance of procedures in patients or in the wrong places. Checking for the availability of materials required for anesthesia, such as those used to establish a patent airway, oxygenation, monitoring and medication, as well as checking the correct planning for major blood loss are important for anesthetic safety. The consent term, besides supporting the professionals in carrying out any procedure, is necessary for the clarification of the patient and their relatives. The "surgical pause", which refers to the moment before surgery to share information about the procedure and the patient, promotes communication and teamwork, and allows the early identification of risks to the patient. Checking for the availability of imaging tests is important, since they assist in decision making in the intraoperative period. Surgical antimicrobial prophylaxis, performed 60 minutes before the incision, prevents surgical site infection. The counting of instruments, compresses and gauzes avoids inadvertent retention of materials in the patient's cavity. Finally, the checking the correct identification of surgical specimens prevents diagnostic errors and delays in the treatment⁽²⁾.

It is assumed that practitioners are not sufficiently committed to WHO recommendations, or are unaware of the importance of such procedures, since it is believed that the performance of professionals is subject to their perception about the relevance of the technique. Employee empowerment intervenes in the conformity of the process, considering the extended importance to its activities. It is important for practitioners to know the purpose of their practices and each issue of the checklist, avoiding baseless judgments and incoherent attitudes^(9,11).

Although the observed professionals have been trained for the new routine, adequacy depends on the continuity of the implementation strategies. Constant audits, reviews and improvements are required. Studies show the discontinuity of the checks months after the institution of the checklist, and reinforce the need for continuing education for professionals, aiming to correct the observed failures^(6,11-12).

Inappropriate surgical team behaviors may involve ethical aspects. Failure to perform the check is an omission, an inaction, and involves professional negligence. Inadequate

execution of the list is a hasty attitude that exposes the patient to unnecessary risks and involves recklessness⁽²⁰⁾.

The limited conformity of the use of the surgical safety checklist according to the WHO determinations, revealed the low quality of said work process. The results presented may be related to the implementation of the checklist in the institution. The instrument, which is compulsory, was instituted by the leadership of the SC, and although there was concern about the training of the team, the professionals were not involved in the articulations and did not participate in the adaptation of the list to the local reality. The imposition of mandatory checks is related to increasing the frequency of use of the list⁽⁹⁾. Consequently, the tool was applied in 90.3% of the surgeries observed. On the other hand, the articulated implementation with the team and the involvement and awareness of the employees increases the quality of the procedure⁽⁹⁾.

The results pointed to the non-consolidation of a culture focused on patient safety in the SC. The checklist, although it seems simple and inexpensive, is a difficult tool to implement effectively, since it involves organizational and cultural aspects of the institution and individuals, who have different beliefs and values⁽¹¹⁾. It is necessary to change this panorama, with teams more engaged, sensitized and that value and take responsibility for the safety of the surgical patient.

As the conformity of the surgical safety process determines the outcomes for patient safety, the present evidence inferred the need for immediate intervention, with precise initiatives that seek to improve adherence. In the case of pediatric patients, repairs must be expressed, since they are complex patients, who have specific diseases and clinical manifestations, besides not being able to decide on their health, being more susceptible to risks.

It is hoped that the frailties conceived can guide the decisions of managers and leaders. It is suggested the combination of educational, motivational and empowering activities of the team, with the establishment of constant norms and audits⁽⁹⁾.

It is also proposed in the search for greater commitment and awareness of the team, that the implementation of the list is not only an imposition, but also seeks to involve professionals at all stages, especially in the adaptation of the tool to the local reality. It is recommended to implement from the theory of the four "A": awareness, accountability, ability and action⁽⁹⁾. It is assumed that motivated and trained professionals proceed more adequately, and the checklist routinely grant him more authority and autonomy.

As a positive aspect of this research, it is worth noting the true agreement of the follow-up to the protocol of safe

surgery, measured not only by its application rate or completeness, but also by the explanation of the precision of its execution. In addition, it was concerned with reducing the Hawthorne effect which gives greater reliability to the results obtained. In other studies of compliance in the checklist application, the team knew that it was being observed and changes in behavior may influence the assessment^(3,7).

■ CONCLUSIONS

The findings of this study revealed that the checklist is not used as expected in the SC under consideration. Its application, although recurrent, was not absolute, its completion was not complete and, especially, its execution was not qualified. It was hoped, with the permanent dissemination of the topic since 2009, as a national and international goal of patient safety, a progressive improvement in the use of the instrument, however, the procedure still presents important inconsistencies. Insufficient adherence to the guidelines recommended by WHO may lead to a reduction in the efficacy of the process and an alert for the systematic risk suffered by the pediatric surgical patient.

Regarding the limitations of the study, it is pointed out that the use of the checklist was only observed in pediatric surgeries, which occurred during the day and during the week, with the use of the list adapted to the local reality, which limits the generalization of the performance of its execution to other SC. Also, the impact of nonconformities found in the safety of the surgical patient was not evaluated. Thus, it is necessary to evaluate the more effective methods of implementation of the protocol of safe surgery in the service, besides a study that investigates the professionals' perception about the process, their knowledge about the recommendations of use and the barriers to adherence.

In this perspective, the implications of this study turn to service management, changes in work processes, supervision, training and teamwork, with the use of practices that improve performance and promote the quality of safety care performed in pediatric surgical patient care.

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Received: 08.14.2018
Approved: 11.08.2018