USER EMBRACEMENT WITH RISK RATING: ASSESSMENT OF DIMENSION ‘OUTCOME’ IN THE PROFESSIONALS’ PERSPECTIVE

Gelena Luncineia Gomes da Silva Versa*  
Dagmar Willamowius Vituri**  
José Aparecido Bellucci Junior***  
Amanda Cristina Pires Zampieri****  
Sidnei Roberto Alves*****  
Laura Misue Matsuda******

ABSTRACT
A cross-sectional and quantitative study, conducted from August to November 2011, aiming to evaluate the dimension ‘outcome’ of User Embracement with Risk Rating (ACCR) in Emergency Hospital Services (EHS). Nurses, doctors, social workers, and operational, administrative and security agents from four hospitals participated answering the questionnaire called User Embracement with Risk Rating. Data were treated through descriptive statistics. Among the 314 subjects, most of them (217 – 69.1%) evaluated the dimension ‘outcome’ of the ACCR implementation as precarious, mainly due to the difficulty in humanizing the care, and difficulty in performing referrals of low complexity cases to primary health systems, and lack of support from leaders in case of difficulties and doubts about the ACCR guidelines. Conclusion: the investigated sites requireservice network structuring and investment in staff sensitization and qualification.

Keywords: Classification. User Embracement. Emergency Nursing. Outcome Assessment.

INTRODUCTION

In Brazil and many other countries around the globe, the Emergency Hospital Services (EHS) are characterized by overload, overcrowding, inadequate accommodation of users and delayed healthcare(1). EHS overcrowding occurs especially due to long time the user remains in this place, the lack of hospital beds and delayed diagnosis and treatment. Another aggravating factor is the culture of the people leading to seek healthcare straight from the EHS, and not from the primary attention service(1). In this context, besides delayed healthcare, the high demand causes tension and stress in the healthcare team and users, which may affect the healthcare quality(1-2).

To improve the EHS attention, the Ministry of Health, through its ministerial Directive 2048/GM of November 5, 2002(3), launched, as the HumanizaSUS guideline, a tool called User Embracement with Risk Rating (ACCR), whose purpose is to organize and resolve EHS challenges.

User Embracement is considered one of the guidelines of greatest political, ethical and esthetical relevance of the Brazilian National Policy of Humanization of the Unified Health System Care and Management (HumanizaSUS, in Portuguese)(3). In this perspective, “embrace”, understood as “be with” or “be near”, represents, in User Embracement, a change in the professional–user relationship and in the social network of professionals, as they know users as the active subject of the health production process, an action to be conducted in all sites and moments of health service provision(3).

In turn, the Assessment with Risk Rating accelerates the service based on an evaluation of severity, risk potential, health complications and degree of patient/user suffering, supported by a predetermined protocol that aims to provide attention focused on the complexity level, and not on the order of arrival(3-4).

The Risk Rating is a dynamic process, in

* Nurse. Master, University Hospital of the West of Paraná (HUOP), Cascavel - PR, Brazil. Email: gelenaenfermagem@yahoo.com.br  
** Nurse. Doctor, University Hospital of the Londrina (HUL), Londrina - PR, Brazil. Email: dagvituri@gmail.com  
*** Nurse. PhD student, Northern Paraná State University (UNOPAR), Bandeirantes - PR, Brazil. Email: bellucci@uenp.edu.br  
**** Nurse. Specialist, Hospital Israelita Albert Einstein, São Paulo - SP, Brazil. Email: amanda_pzamp@hotmail.com  
***** Nurse. Master, University Hospital of the West of Paraná (HUOP) e State Department of Education (SEED), Cascavel - PR, Brazil. Email: sidneiunioeste@yahoo.com.br  
****** Nurse. Doctor, State University of Maringá (UEM), Maringá - PR, Brazil. Email: lauramisuem@gmail.com
which a health professional, e.g., a nurse, classifies the user’s risk level using colors that indicate the maximum waiting time, which are: Red (emergency) – the user will be seen in max. 15 minutes, for cases with risk of death; Yellow (urgency) – the user will be seen in max. 30 minutes, for patients ready stabilized but who still require special care (critical or semi-critical patients); Green (lower urgency) for patients without risk of death, but who should be seen in max. one hour; and Blue (no urgency) for patients without risk of death who should be seen according to the order of arrival or referred to the primary health service.

The ACCR tends to speed up the work flow, as it allows greater problem resolution which, when considering all complexity of health/disease phenomena and prioritizing timely care, reduces the number of preventable deaths, sequelae and hospitalization. In addition, this tool seeks to ensure humanization of care and accessibility, with a more embracing and quality care, and which may become a guide for health attention and management in EHS.

When addressing the concept of Quality, it is inevitable not to relate it with evaluative processes, since both involve the attribution of value judgment to certain products and processes, allowing actions for improvement. In this perspective, and in its essence, Quality is directly linked with the idea of evaluation, as it is considered a strategy to achieve quality and match services to proposed standards.

Specifically in health evaluation, the Donabedian triad model is considered by many quality experts as the foundation for service/care improvement. In this model, the three components or dimensions (structure, process and outcome) are interconnected and their purpose is to facilitate, organize and guide the evaluation processes.

Among the dimensions mentioned above, the healthcare outcome assessment is the most difficult to be conducted, due to the complexity in establishing a precise relation between the attention delivered and the changes to a patient’s health status, leading to absence of studies on this theme. In addition, the outcome assessment may include other elements, such as: knowledge of the disorder, conduct changes that promote well-being, improvement of health level indicators for a certain population, and patient satisfaction, which are not easy to assess.

Based on the considerations above, this study aims to assess the ACCR in EHS through professionals working in this service, and then, it is very important to seek data about this tool implementation, which is considered a strategy for healthcare qualification.

Considering the importance of collecting information to allow future investigation, this study is justified because scientific studies about the dimension ‘outcome’ of the ACCR, particularly in the perspective of professionals, can contribute to the development of strategies for the organization of services, work processes and improved quality of services provided by EHS.

The question that guided this investigation was: How does the dimension ‘outcome’ of the ACCRs viewed in the professionals’ perspective? Then, the purpose is to assess the dimension ‘outcome’ of services provided by EHS units based on the ACCR.

METHODOLOGY

A cross-sectional, quantitative, evaluation study, conducted from August to November 2011, in four EHS units (EHS I; EHS II; EHS III and EHS IV).

EHS I and II comprise the structure of Public State Hospital Schools in the State of Paraná. EHS I has 31 beds and treats on average 47,000 patients/year, 90 patients/day. It is open 24 hours a day, and implemented the ACCR system in December 2010.

EHS II has 45 beds and treats on average 40,000 patients/year; it is the reference in this state for high-complexity patients, and it is part of the State System of Urgency and Emergency Services, classified as a Type III Hospital. It is open 24 hours a day, and implemented the ACCR system in 2007.

EHS III belongs to a philanthropic hospital, it is located in the county area of the State of São Paulo, treats about 100,000 patients/year, and it is a reference for 27 cities in its region. It is open 24 hours a day, and implemented the ACCR system in 2007.

Lastly, EHS IV is part of a public municipal hospital, located in the country area of the State of Paraná. It has 20 beds and treats on average 5,400 users/year. It is a reference for the
municipal primary health units (UBS). It is open 24 hours a day, and implemented the ACCR system in 2008.

In the four EHS units analyzed in this study, the ACCR system was implemented after in loco team training. In EHS I, III and IV, user embracing and initial evaluation of patients were conducted by nurses, but in EHS II, it was conducted by nursing technicians. Today, the ACCR system in this institution is also conducted by nurses, incorporated into the EHS staff especially for this task. The ACCR model used in the four institutions is the model proposed by the Ministry of Health (3), adapted to each institution.

Random and stratified sampling was conducted, with 5% sampling error, that is, a 95% confidence interval. For sample selection, the population was stratified by professional category, and 60% of each group was selected by drawing, from a numbered list with names of all EHS professionals in alphabetical order and by professional category. When a professional refused to participate in the study or was not found after three attempts, the subsequent name on the list was selected and, so on, until the end of the list, to ensure the sample was comprised of at least 60% from each professional category.

The inclusion criteria were: professionals of direct operation in the EHS (Nursing, Medicine, Reception, Security, Hospital Hygiene and Social Care); length of service in the EHS of three months or more, considering the professional had experienced an adaptation period, with conditions to answer about his/her work routine.

Before data collection, the researcher provided the professionals with information related to the study and handed them the informed consent term for reading and signature, followed by the questionnaire Instrument for the Assessment of User Embracement with Risk Rating, developed and validated by Bellucci Júnior (2010)(9). This questionnaire has two parts. The first part is for sociodemographic data collection and the second part has a Likert scale, with 21 items, structured according to the Donabedian dimensions for healthcare assessment: structure, process and outcome, with five-level answers: (1 – Strongly disagree; 2 – Disagree; 3 – Neither agree nor disagree; 4 – Agree; and 5 – Strongly agree). For the purposes of this study, the analysis was limited to the questions related to the assessment of dimension ‘outcome’ contained in the ACCR assessment instrument.

All requirements contained in Resolution 466/2012(10) were observed, and this study was approved by the Human Research Ethics Committee from the State University of Maringá (UEM), under protocol nº 325/2011.

Data were treated and analyzed through descriptive statistics, with mode and weighted mean calculation. The answer classification used the Table of Categories and Scores from the Assessment Instrument for Health Facilities and Centers(11), which determines minimum score of 7 and maximum score of 35 (Chart 1) for the assessment of dimension ‘outcome’.

**RESULTS AND DISCUSSION**

The sample had 314 (98%) professionals from the EHS units, distributed as follows: 66 (21%) from EHS I; 94 (30%) from EHS II; 122 (39%) from EHS III and 32 (10%) from EHS IV; these professionals were 5 (1.6%) social workers; 26 (8.2%) nurses; 61 (19.4%) physicians; 150 (47.7%) nursing technicians; 31 (9.9%) operational agents (janitors and drivers); 30 (9.6%) administrative agents; and 11 (3.5%) security agents.

According to Table 1 below, regarding school attainment, 67 (21%) had completed higher level and 70 (23%) had a postgraduate program. Among the respondents, 92 (29%) were from professional categories of higher level (social worker, nurse,
physician), and it should be highlighted that 63 (20%) of them had a higher level graduation but worked in functions requiring a lower level. This condition may occur due to function deviation caused by competitiveness and/or lack of opportunities for the professions in question. It may also be an incentive to training, as EHS I and II belong to public hospital schools, with a career and wage planning.

In terms of professional experience in emergency medical situations, the mean length of service in all EHS units was 7.10 years, ranging from 2.90 (EHS IV) to 8.60 years (EHS II). The experience in emergency medical situations is an important variable to be considered when collecting the workers’ opinion about the ACCR implementation outcome, because the professional experience and the ability to handle internal work processes are factors that influence their opinion (12).

The professionals who had been working in the EHS unit for more than eight year were able to compare the service before and after the ACCR implementation, while those who had been working in the EHS unit for only two years started there during the ACCR implementation. Then, these people certainly presented different opinions, which enriched the discussion about the ACCR implementation and application process.

Table 1. Sociodemographic characteristics of EHS professionals, according to the institution. Maringá, Paraná; Londrina, Paraná; Ourinhos, São Paulo; 2013.

<table>
<thead>
<tr>
<th>Variables</th>
<th>General</th>
<th>EHS I</th>
<th>EHS II</th>
<th>EHS III</th>
<th>EHS IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>N=200</td>
<td>64%</td>
<td>40%</td>
<td>60%</td>
<td>64%</td>
</tr>
<tr>
<td>Male</td>
<td>N=114</td>
<td>36%</td>
<td>26%</td>
<td>39%</td>
<td>34%</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 40 years</td>
<td>N=150</td>
<td>48%</td>
<td>24%</td>
<td>36%</td>
<td>42%</td>
</tr>
<tr>
<td>≥ 40 years</td>
<td>N=164</td>
<td>52%</td>
<td>42%</td>
<td>64%</td>
<td>51%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>N=084</td>
<td>26%</td>
<td>17%</td>
<td>26%</td>
<td>24%</td>
</tr>
<tr>
<td>Married</td>
<td>N=186</td>
<td>60%</td>
<td>37%</td>
<td>56%</td>
<td>55%</td>
</tr>
<tr>
<td>Divorced</td>
<td>N=044</td>
<td>14%</td>
<td>12%</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>School attainment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary level</td>
<td>N=015</td>
<td>05%</td>
<td>-</td>
<td>-</td>
<td>04%</td>
</tr>
<tr>
<td>High school</td>
<td>N=162</td>
<td>52%</td>
<td>43%</td>
<td>65%</td>
<td>27%</td>
</tr>
<tr>
<td>Higher level</td>
<td>N=067</td>
<td>21%</td>
<td>14%</td>
<td>21%</td>
<td>17%</td>
</tr>
<tr>
<td>Postgraduate program</td>
<td>N=070</td>
<td>23%</td>
<td>09%</td>
<td>14%</td>
<td>46%</td>
</tr>
<tr>
<td>Length of service in EHS (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>7.10</td>
<td>4.40</td>
<td>8.60</td>
<td>8.50</td>
<td>2.90</td>
</tr>
</tbody>
</table>

Chart 2. Assessment of dimension ‘outcome’ of the ACCR system in EHS. Maringá, Paraná; Londrina, Paraná; Ourinhos, São Paulo; 2013.

<table>
<thead>
<tr>
<th>Questions of dimension ‘outcome’</th>
<th>Level of agreement</th>
<th>Mode</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with severe issues have priority.</td>
<td>Strongly agree</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Provide user with information about waiting time.</td>
<td>04 – Agree</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Initial service according to severity.</td>
<td>04 - Agree</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Support integrated with the user’s needs.</td>
<td>04 - Agree</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Low complexity patients are referred to primary health system.</td>
<td>04 - Agree</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>The professionals are supported by leaders when they have doubts and difficulties related to the ACCR system.</td>
<td>02 - Disagree</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Humanization in all healthcare phases.</td>
<td>02 - Disagree</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>
When analyzing Chart 2, the items with higher scores were: Patients with severe issues have priority; Information about waiting time; Initial service according to severity; and Support integrated with user’s needs. On the other hand, the questions related to Humanization in all healthcare phases; The professionals are supported by leaders when they have doubts and difficulties related to the ACCR system; and Low complexity patients are referred to primary health system had the worst assessments.

Patients with severe issues have priority had the best score from the professionals. This result can be considered encouraging, because 36% of the respondents answered it is fully compliant after the ACCR implementation, showing improved quality of attention, especially related to patient safety, which is the main focus of the ACCR system and part of the proposal of HumanizaSUS (13, 14).

Provide user with information about waiting time presented the second best score in the assessment: 47% agreement. It is considered a critical component, as it indicates whether users are treated according to the ACCR system proposal (11), which foresees the provision of estimated waiting time to all users. In this aspect, some people say this item is somewhat important, making the patient feel safer and confident regarding the health system (3).

On the other hand, 30% disagreed with The professionals are supported by leaders when they have doubts and difficulties related to the ACCR system. It indicates that there is a problem in the flow and quality of communication and information between leaders and the team members of studied EHS and/or a work culture that inhibits communication by centralizing information. Situations of this type are obstacles to team cohesion and growth, especially in the service process proposed by the ACCR system, in which the combined work of the multiprofessional team is important and necessary (12). Moreover, the commitment of leaders with the quality of service should be an aspect in common among them (15), positively impacting the team.

Considering the managers should develop skills to improve the behavior and habits of their team (12), this study suggests the leaders of studied EHS units should promote actions to improve interpersonal relations and team communication, so that all professionals would feel co-responsible for the care process, contributing to achieve the objectives of the ACCR system.

Initial service according to severity presented the third best score among the top scores, with 41% agreement. It indicates most patients are primarily selected according to the protocols defined by the institutions and the Ministry of Health.

In this aspect of prioritization according to the patient severity and complaint, data show the importance of nurses in EHS, in particular in those units with implemented ACCR, since this nursing consultation conducted by this professional when the patients arrives at the EHS allows to identify cases of greater urgency (3).

Therefore, data from prior studies agree with the ACCR system, which aims to embrace, classify the risk and guide the patient to healthcare provision, according to the his/her severity. In addition, they also agree with the results of investigations that highlight the ACCR in the prioritization of severe cases and organization of services (9).

Regarding the nurse performance in the ACCR, promoting the EHS service quality is essential, because beside the primary evaluation of patients and prioritization of severe cases, the nurse also organizes the service flow focused on problem resolution (16, 17).

Lastly, regarding the fourth question to be evaluated, Support integrated with the user’s needs, it presented 40% agreement. This result, despite reflecting a positive answer from less than half the respondents, shows an initiative of professionals in holistic and humanized service provision to minimize attention process fragmentation of the team (14, 16) by making professionals accountable for providing proper answers to the patient’s needs (17).

Despite the agreement with Support integrated with the user’s needs, Humanization in all healthcare phases was the item with the second worst evaluation among the professionals. This and other items presented in the Chart may be related to the great demand of low complexity patients who, when coming straight to the EHS, generate circumstances the dehumanize users and professionals (16).
The challenge to humanize the care provided by EHS agrees with other studies on this theme, which shows problems such as: incorrect sizing of human resources, high work load, work discontentment, difficult relation of multiprofessional team and precarious work environment\(^\text{(16)}\). Work environments with problems may affect the psychological and emotional dimension of workers, causing obstacles to the implementation of humanization actions.

Regarding the high demand of non-urgent cases treated at EHS, the lack of access to specialized outpatient attention in the primary health networks is considered one of the main problems\(^\text{(14,18)}\). This fact is unreasonable, as it restricts the attention in large centers and promotes the unorganized flow of patients who many times are not from counter-referral, and by themselves, seek attention in places they consider of high problem resolution, such as the EHS\(^\text{(16, 18)}\).

Aiming to reduce the waiting time between a medical visit scheduling and the arrival to a specific center, the population, used to a 20th century cure-focused service model, tends to seek attention in emergency rooms, whose services are for urgent cases\(^\text{(18,19)}\). In the view of this question, to minimize the high demand of users who do not require urgent attention, the Ministry of Health suggests a pact between the EHS units and the primary health system\(^\text{(9)}\) so that this type of service is provided to the population through referral systems.

Low complexity patients are referred to primary health system had the worst evaluation (28% agreement). This result involves again the problem of hospital attention and is controversial in terms of ACCR, because the lack of a pact, or any compliance with an existing pact, among the various levels of attention, results in increased demand in EHS units and, in long waiting periods, patients with complications that could be resolved by the primary health system\(^\text{(16)}\).

Data presented in Table 2 confirm the aspects discussed in Chart 2, in which the professionals, through their answers to items from the dimension ‘outcome’, classified them as ‘precarious’, with mean percentage of 69.1%. The score of this dimension was correlated to the many challenges specified in Chart 2, such as: lack of humanization in the healthcare, lack of support from leaders to professionals and challenges in referral of low complexity patients to the primary health system.

Table 2. Assessment of the dimension ‘outcome’ of the ACCR system in EHS, by institution. Maringá, Paraná; Londrina, Paraná; Ourinhos, São Paulo; 2011.

<table>
<thead>
<tr>
<th>Institution</th>
<th>N</th>
<th>Insufficient</th>
<th>Precarious</th>
<th>Satisfactory</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>EHS I</td>
<td>066</td>
<td>04</td>
<td>6.1</td>
<td>043</td>
<td>65.2</td>
</tr>
<tr>
<td>EHS II</td>
<td>094</td>
<td>08</td>
<td>8.5</td>
<td>067</td>
<td>71.3</td>
</tr>
<tr>
<td>EHS III</td>
<td>122</td>
<td>07</td>
<td>5.7</td>
<td>086</td>
<td>70.5</td>
</tr>
<tr>
<td>EHS IV</td>
<td>032</td>
<td>-</td>
<td>-</td>
<td>021</td>
<td>65.6</td>
</tr>
<tr>
<td>General</td>
<td>314</td>
<td>19</td>
<td>6.0</td>
<td>217</td>
<td>69.1</td>
</tr>
</tbody>
</table>

The relatively low score of ‘excellent’ ACCR classification (4.8%) shows a great gap between the work conducted and the ACCR implementation proposal. Then, a pact for urgent services\(^\text{(19)}\) should be set up, so that, once the service flow is established, according to the ACCR proposal, the waiting lines are reduced and the services is faster and more focus on problem resolution.

The ACCR is one of the potentially decisive interventions in the reorganization and application of humanized and equilibrarian healthcare. This way, the assessment of ‘precarious’ of the dimension ‘outcome’ of the ACCR implementation shows the need to conduct further detailed investigations of the factors impacting this process so that strategies for improvement are developed and effective changes are implemented in the work process of studied EHS units.

**CONCLUSION**

For most professionals (217 – 69.1%) working in the investigated EHS units, the dimension ‘outcome’ of the ACCR system is
‘precarious’, especially due to the lack of healthcare humanization, few referrals of low complexity patients to the primary health system and lack of support to professionals from their leaders. On the other hand, the minority of these professionals (15 – 4.8%) classified it as ‘excellent’, which indicates the importance of investment from leaders and managers in sensitization, qualification and involvement of all service professionals in the ACCR implementation process.

The results of this study can contribute to new ACRR assessment processes, for the development of strategies to promote improvements in the health team performance and, consequently, the quality of healthcare provided to users.

One limitation of this study refers to the fact that the ACCR had not been implemented long enough in the investigated units (two and a half years was the longest period observed – in EHS IV), so, according to the information from local leaders, this tool was still in adjustment phase, which may have caused a bias in the results. To eliminate, or minimize, this gap, new investigations should be conducted of, for instance, qualitative and longitudinal approach, to obtain more detailed and contextualized information about the ACCR application in Brazilian EHS units.

This study was focused on the dimension ‘outcome’ of healthcare provided by EHS units with implemented ACCR, in the perspective of their professionals; thus, the healthcare outcome should also be evaluated before and after the ACCR implementation, in the perspective of the health team and/or users.

ACKNOWLEDGEMENT

We would like to thank the professionals and leaders from the EHS units that participated in this study.
REFERENCES


Corresponding author: Gelena Lunicineia Gomes da Silva Versa. Visconde do Rio Branco Street, 3511. Center, ZIP code: 85810-180, Cascavel/PR. Brasil. E-mail: gelenaenfermagem@yahoo.com.br.

Submitted: 08/07/2014
Accepted: 11/12/2015