TRIAGEM E ATIVAÇÃO DA VIA VERDE DO ACIDENTE VASCULAR CEREBRAL: DIFICULDADES SENTIDAS PELOS ENFERMEIROS

TRIAJE Y ACTIVACIÓN DEL PROTOCOLO CÓDIGO ICTUS: DIFICULTADES QUE SIENTEN LOS ENFERMEROS

TRIAGE AND ACTIVATION OF THE CODE STROKE PROTOCOL: DIFFICULTIES EXPERIENCED BY NURSES

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RESUMO

Enquadramento: O processo de triagem contribui para o tratamento precoce do Acidente Vascular Cerebral (AVC) reduzindo a mortalidade e a incapacidade.

Objetivo: Analisar as dificuldades dos enfermeiros na realização da triagem e ativação da via verde do AVC.

Método: Estudo descritivo e transversal. Os dados foram colhidos através de questionário, por amostragem de conveniência, num serviço de urgência médico-cirúrgica.

Resultados: A amostra incluiu 21 enfermeiros (39,7±7,4 anos), a maioria mulheres (71,4%). O tempo médio de serviço em urgência era de 9,5 (±6,2 anos).

A violência verbal e física de utentes ou familiares foi a dificuldade mais referida relativamente à triagem. Cerca de 29% concordam parcial e 19% totalmente que a informação inadequada sobre a hora de início dos sintomas constitui uma dificuldade aquando da ativação da via verde do AVC.

Conclusão: A triagem e o protocolo da via verde são vistos como facilitadores na assistência ao AVC, com dificuldades pontuais em algumas fases do processo.

Palavras-chave: acidente vascular cerebral; triagem; serviço de urgência; avaliação em enfermagem

RESUMEN

Marco contextual: El proceso de triaje contribuye al tratamiento precoz del ictus, reduciendo la mortalidad y la discapacidad.

Objetivo: Analizar las dificultades en el triaje y activación del protocolo de Código Ictus.

Método: Estudio descriptivo y transversal. Los datos fueron recolectados a través de cuestionario, por muestreo de conveniencia, en un servicio de emergencia médico-quirúrgico.

Resultados: La muestra incluyó 21 profesionales de enfermería (39,7±7,4 años), la mayoría mujeres (71,4%). El tiempo promedio de trabajo en urgencias fue de 9,5 (±6,2 años).

La violencia verbal y física de pacientes y familiares fue la dificultad más mencionada, en cuanto al triaje. Alrededor del 29% coincide parcial y el 19% totalmente en que la información inadecuada sobre el momento de inicio de los síntomas constituye una dificultad para activar el Código Ictus.

Conclusión: El triaje y el protocolo Código Ictus se consideran facilitadores asistenciales, con dificultades esporádicas en algunas fases del proceso.

Palabras clave: accidente cerebrovascular; triaje; servicio de urgencia en hospital; evaluación en enfermería

ABSTRACT

Background: The triage process contributes to early stroke treatment, reducing mortality and disability.

Objective: To analyze nurses' difficulties in triaging and activating the Stroke Code protocol.

Method: Descriptive and cross-sectional study. The data were collected, by convenience sampling, in an emergency medical-surgical unit through a questionnaire.

Results: The sample included 21 nurses (39.7±7.4 years), mostly women (71.4%). In terms of professional experience, the working time in emergency department was 9.5 (±6.2) years.

The verbal and physical violence of patients and family members was the most mentioned difficulty regarding triage. About 29% partially and 19% fully agree that inadequate information about two symptoms at the time of onset constitutes a difficulty in activating the Stroke Code.

Conclusion: Triage and the Stroke Code protocol are considered facilitators of care, with sporadic difficulties in some phases of the process.

Keywords: stroke; triage; emergency service hospital; nursing assessment

INTRODUCTION

In recent decades there has been an increase in the life expectancy of the world population and the main causes of morbidity and mortality, once characterized by infectious diseases, have gradually given way to chronic non-communicable diseases, including cerebrovascular diseases such as stroke[1,2]. This disease is considered the second leading cause of mortality worldwide and the leading cause of neurological disability[3]. On the other hand, people who survive a stroke present great frailty, limitation in the performance of activities of daily living and a lower life expectancy[4,5].

In Portugal, the incidence of stroke is one of the highest among European countries, and it is the main cause of mortality in the country, causing about 11,000 deaths per year[6]. Considering the high mortality and possible sequelae resulting from the stroke, early recognition of symptoms and agility in care in emergency services contribute to better prognosis[1].

Taking into account the efficiency of the care process, in 1994 a priority triage protocol in emergency departments was developed, called Manchester Triage System (MTS), implemented in Portugal from 2005 onwards[7]. Through this system, it is possible to identify priorities in care and the subsequent definition of recommended time limits until clinical evaluation. The MTS has been used in many countries and can be performed by qualified doctors or nurses - most often nurses[8,9]. According to some authors, these last professionals, when directing their assessment to the person with signs and symptoms and not to a possible clinical diagnosis, are the ones that best suit this tool[10]. In the same line, the holistic view of the nurse allows the establishment of an empathic relationship, valuing not only the biological aspects, but also the social and psychological ones[10].

Among the difficulties encountered by professionals who perform the screening process, dissatisfaction resulting from the task stands out; the high number of patients in relation to the capacity of the service; changes in the patient's health status as a result of the waiting time; the medical questioning of the assessment performed by the nurse; the difficulty in describing complaints by patients and also physical and/or verbal violence by companions and patients[11-14]. A study carried out in Portugal on the difficulties perceived by triage nurses and their degree of satisfaction with the triage process concluded that nurses perceive more difficulties in dealing with patients' complaints regarding the waiting time for care and the fact that physicians question their performance in screening[15].

The initial assessment of the patient with suspected stroke also includes the possibility of activating a specific emergency protocol, in Portugal called Via Verde do AVC (VV-AVC) and in the Anglo-Saxon literature by Stroke Code[16]. VV-AVC aims to provide all patients with ischemic stroke access to rapid diagnosis and, in eligible cases, early reperfusion treatment[17]. Reperfusion therapies (fibrinolysis and thrombectomy) improve cerebral blood flow, contributing to the viability of ischemic tissue in areas peripheral to the lesion, improving functional recovery from ischemic stroke, and their clinical benefits are supported by an A level of evidence[18].

From the above, we conclude that the initial assessment and screening of people with stroke who use an emergency service is extremely important, and this process can influence health outcomes and the final outcome, in terms of mortality, functionality and quality of life. Considering that this initial assessment is most often performed by nurses, it is important to understand their difficulties and limitations in carrying out this activity. However, and as far as the bibliographic knowledge from the authors of the present investigation goes, there are few studies that addressed the perceptions and difficulties felt by nurses in emergency care for people with stroke, namely with regard to the processes inherent to the MTS and VV-AVC. Thus, the investigation presented here had the general objective of analyzing the difficulties experienced by nurses working in an emergency department during the process of screening and activation of the VV-AVC.

METHOD

Bearing in mind the general objective, a descriptive and transversal study was designed, with a quantitative approach, which was carried out in a hospital in the north of Portugal that serves a resident population of more than 135,000 inhabitants.

The study sample consisted of all nursing professionals who work in the Medical-Surgical Emergency Service of the target institution of the study and who, having specific training, met the inclusion criteria of routinely performing screening and thus being able to activate the VV-AVC (n= 21).

Data collection took place through the application of a structured questionnaire developed by the researchers, after a previous survey of bibliographic data about the main difficulties faced by professionals on the screening process, especially stroke.[11,12,15,16,19] Then, it was reviewed by three specialist nurses (one in medical-surgical nursing, another in community nursing and yet another in rehabilitation nursing), who independently evaluated the instrument and made grammatical and content adjustments necessary for the better understanding of respondents.

The data collection instrument was divided into two parts; the first part included demographic data, the training process and professional experience, while the second part included aspects related to the

screening process, totaling 20 Likert-type questions. Of these questions, 16 addressed the difficulties encountered by professionals in the screening process using the MTS, while the others addressed the specifics in screening patients with suspected stroke. For each question, five answer alternatives were presented: (a) Strongly disagree (b) Partially disagree (c) Neither agree nor disagree (d) Partially agree (e) Strongly agree. Such alternatives make it possible to identify the different levels of intensity of opinion regarding a certain theme[20].

In order to minimize errors, the data collection instrument was applied by the same researcher to all nursing professionals, following a prior appointment, before the start of work shifts. All participants signed the Free and Informed Consent Term, and their anonymity was preserved. The study project was submitted to the Ethics Committee of the ULSNE, having obtained a positive advice with appraisal number 2017/1094.

The collected information was electronically stored in a data file of the SPSS (Statistical Package for Social Sciences) version 19 program, where the statistical processing was carried out, obtaining the absolute and relative frequencies of the variables.

RESULTS

Twenty-one questionnaires applied to nurses with experience in the MTS and VV-AVC protocols were analyzed. Among the respondents, 71.4% were female and the remaining 28.6% were male. Regarding age, the mean was 39.7 years-old (with a standard deviation of 7.3). Regarding professional experience, nurses had an average length of service of 10.5 years (for a standard deviation of 6.0 years).

Specifically in the medical-surgical emergency department, and in average terms, the length of service was 9.5 years (standard deviation 6.2 years). As for the time elapsed since the last training or recycling in the MTS flowcharts, the average was 7.4 years (standard deviation 4.3 years).

As for the results obtained in the aspects related to the screening process, they are described in Table 1. As shown, a significant percentage of nurses partially agree (28.6%) or totally agree (33.3%) with the statement they feel comfortable performing the screening activity. In the opposite direction, 8 elements reported feeling some discomfort with the screening activity.

The screening process does not seem to be a difficulty for most study participants, as we can see from the results obtained in relation to the second statement. On the other hand, the fear of delaying the user's access to the service obtained partial agreement from around 24.0% of nurses. We also emphasize the fact that there are high levels of agreement, partial (38.1%) or total (19.0%), that the statement of verbal and physical violence from service users and their families is a difficulty for the triage nurse.

Table 2 presents the data regarding the degree of agreement with statements about the VV-AVC protocol for stroke. Most participants (71.4%) totally disagreed that the activation criteria of this protocol constituted a difficulty for them. In the same way, the severity of the patient's condition (57.1%) or the possible complications of the clinical condition (61.9%) do not seem to be a difficulty for most respondents at the time of triage. On the other hand, about 29.0% partially agree and 19.0% totally agree that inadequate information about the time of onset of symptoms constitutes a difficulty in the process of activating the VV-AVC.

DISCUSSION

Regarding the profile of the participants, most were female, with an average age of 39.7 years-old. A similar profile was described in a survey carried out in the northern region of Portugal that aimed to assess nurses' satisfaction with the MTS, in which 68.1% of professionals were female and whose average age was around 41 years-old[21]. It is known that nursing is a profession where the female gender still prevail and this rate of feminization is mainly linked to historical and cultural matters[22].

We are faced with a sample whose elements have high professional experience in emmergency, translated by the average time of 9.5 years in which they work in this department. The triage nurse must be a qualified professional as he plays a fundamental role in the evaluation, prioritization of care, identification and referral of patients. Professional experience can contribute to improving decision-making at the time of screening. A previous study concluded that when the experience time increases, the perception of triage difficulties tends to decrease[15]. It is also known that the role of this professional in the screening process can impact the clinical outcome. Therefore, it is recommended that this activity be performed by professionals with experience, in order to perform the screening safely and quickly[14].

Table 1 *– Difficulties encountered by professionals in screening users by the Manchester Protocol*

Difficulties encountered by professionals	Agreement Rate				
	*A	**B	***C	#D	##E
	n (%)	*n (%)*	*n (%)*	*n (%)*	*n (%)*
I feel comfortable performing the triage activity	3 (14.3)	5 (23.8)	0 (0.0)	6 (28.6)	7 (33.3)
The triage process by the Manchester Triage System is difficult for me	10 (47.6)	9 (42.9)	0 (0.0)	2 (9.5)	0 (0.0)
The computerized triage process is a challenge for me	13 (61.9)	5 (23.8)	2 (9.5)	1 (4.8)	0 (0.0)

Performing tasks other than triage is difficult for me	13 (61.9)	4 (19.0)	3 (14.3)	1 (4.8)	0 (0.0)
The insecurity I feel in performing the triage is a difficulty for me	11 (52.4)	6 (28.6)	2 (9.5)	2 (9.5)	0 (0.0)
My inexperience in triage is a difficulty for me	14 (66.7)	2 (9.5)	2 (9.5)	3 (14.3)	0 (0.0)
The fear of delaying a user's access to the service is a difficulty for me	9 (42.7)	4 (19.0)	3 (14.3)	5 (23.8)	0 (0.0)
The clinical profile of users is a difficulty for me	8 (38.1)	4 (19.0)	6 (28.6)	3 (14.3)	0 (0.0)
The high number of users in relation to the real capacity of the service is a difficulty for me	5 (23.8)	4 (19.0)	6 (28.6)	3 (14.3)	3 (14.3)
Questioning the classification by the medical professional is a difficulty for me	7 (33.3)	2 (9.5)	10 (47.6)	1 (4.8)	1 (4.8)
Questioning the classification by users is a difficulty for me	5 (23.8)	7 (33.3)	8 (38.1)	1 (4.8)	0 (0.0)
Questioning the classification by other nursing professionals is a difficulty for me	4 (19.0)	4 (19.0)	10 (47.6)	3 (14.3)	0 (0.0)
The questioning of users about the delay in service and the lack of information about the classification assigned is a difficulty for me	5 (23.8)	6 (28.6)	6 (28.6)	4 (19.0)	0 (0.0)
The non-specific complaints presented by users are a difficulty for me	3 (14.0)	9 (42.7)	2 (9.5)	6 (28.6)	1 (4.8)
The worsening of a patient's health status as a result of the waiting time is a difficulty for me	4 (19.0)	10 (47.6)	0 (0.0)	7 (33.0)	0 (0.0)
Verbal and physical violence from users and their families is a difficulty for me	1 (4.8)	5 (23.9)	3 (14.3)	8 (38.1)	4 (19.0)

** A-Strongly Disagree **B-Partially Disagree ***C-Neither Agree nor Disagree #D-Partially Agree ##E-Strongly Agree*

Table 2 *– Difficulties encountered by professionals in activating the VV-AVC protocol*

Difficulties encountered by professionals	**Agreement Rate**				
	***A**	****B**	*****C**	**#D**	**##E**
	n (%)	***n (%)***	***n (%)***	***n (%)***	***n (%)***
The VV-AVC criteria is a difficulty for me	15 (71.4)	1 (4.8)	0 (0.0)	4 (19.0)	1 (4.8)
The severity of the situation of patients with stroke is a difficulty for me	12 (57.1)	5 (23.8)	1 (4.8)	2 (9.5)	1 (4.8)
The possible complications of a stroke are a difficulty for me at the time of triage	13 (61.9)	3 (14.3)	2 (9.5)	2 (9.5)	1 (4.8)
Inadequate information regarding the time of onset of symptoms is a difficulty for me	6 (28.6)	3 (14.3)	2 (9.5)	6 (28.6)	4 (19.0)

** A-Strongly Disagree **B-Partially Disagree ***C-Neither Agree nor Disagree #D-Partially Agree ##E-Strongly Agree*

In our study, the average time elapsed since training or recycling in screening was 7.4 years. A study carried out at the Centro Hospitalar Universitário de Coimbra found that 58.5% of nurses had completed the screening course for more than 10 years and 39.6% between 5 and 10 years[23]. It is important to mention that the professionals responsible for the reception and triage of patients in emergency departments need to continuously improve their knowledge and skills with a view to improve the evaluation and classification of priorities. It should be noted, on the other hand, that the MTS is subject to regular audits whose objective is not limited to the identification of failures and problems but also to promote communication, welcoming doubts and suggestions, thus also assuming a formative character[23].

Regarding the performance of the screening, it was observed that most professionals (61.9%) reported being partially or completely satisfied with the task. However, 38.1% of respondents reported discomfort in performing the activity. The activity of nurses in risk classification is complex, requiring agility, clinical reasoning, dexterity and good communication skills with users and family members. Therefore, in certain scenarios, some level of dissatisfaction is observed from screening nurses[10,21].

In relation to screening through the MTS, it was evident that most professionals do not perceive the tool, even in a computerized way, as a hindrance in risk classification. This finding corroborates with other studies that show high acceptance of the MTS by nurses, recognizing it as a reliable method for classifying care priorities[10,21,24]. Previous studies highlight an excellent rate of interobserver agreement when triage is performed by nurses, proving to be a very effective tool in prioritizing health care, identifying patients at greater risk[24].

Most participants in our study do not feel that insecurity and inexperience are factors that hinder the screening process. These findings are in agreement with the literature that indicates that nurses with experience in triage are generally confident in their conduct and decisions[10,21,24]. Some authors refer the safety felt by professionals during triage comes from intrinsic characteristics of the Manchester protocol, namely its discriminators and flowcharts, which support the classification performed by the professional[10,21,24].

Regarding the questioning of other health professionals about the classification assigned, it is noteworthy that in the present study this situation was not identified as a complicating factor in the screening process for most nurses. However, it is known that the disagreement between the assigned classification is a persisting problem in emergency services, sometimes resulting in conflicts. In this regard, teamwork and good interdisciplinary communication emerge as organizational strategies that facilitate conflict resolution and care activity[16], since the triage system must enhance the consistent uniformity of criteria over time[13].

In the present study, physical or verbal violence by users or companions was reported as a significant difficulty. Previous studies indicate that violence, especially verbal, is frequent in emergency departments, especially directed at the triage professional. The conflicts and violence experienced by nurses can result in stress, insecurity, fear, anxiety and absenteeism[25,26].

Regarding the criteria for activating the VV-AVC, these are not a difficulty for most nurses. Activation of the VV-AVC is done independently of the priority ranking assigned by the MTS. A plausible explanation for the low difficulty in activating the VV-AVC by the participants may lie in the fact that it is consolidated in Portugal, more than a decade later, since its implementation in 2007[27]. Previous studies carried out in the north of Portugal point to a high rate of VV-AVC activation, reaching 16.3% of all stroke patients[27] and specifically 35.9% of all strokes of ischemic origin[16].

Neither the severity of the stroke nor the possible complications constitute a difficulty for most triage nurses. The activation of the in-hospital protocol is performed by the triage nurse, when the inclusion criteria are met, and after evaluating the symptoms presented[16]. Decision making is facilitated by the classic signs of the Cincinnati Scale and the criteria contained in the specific protocol (age over 18 years-old, onset of symptoms less than 4.5 hours ago and no previous dependence)[17,18]. Of the signs on the Cincinnati Scale, a 2013 study points to *lack of strength in one of the limbs as the most prevalent sign, followed by difficulty speaking and mouth to the side*[27].

In the present study, inadequate information regarding the time of symptoms manifestation was the most mentioned difficulty by nurses when activating the VV-AVC protocol for stroke. It is known that the effectiveness of reperfusion therapies for ischemic stroke are time-dependent, and one of the goals of the green path is precisely to reduce assistance times[17,18]. In the emergency department, the effectiveness of triage and the rapid activation of the VV-AVC protocol influence the door-to-needle time. However, the time from onset of symptoms to arrival at the emergency department depends on multiple variables, such as the rapid recognition of the situation and the request for differentiated help by activating pre-hospital emergency services. These variables largely depend on the patient, their families and the general public, who must be able to recognize the severity of the situation and the warning signs of a stroke[17,18].

This study has some limitations that should be considered when reading and interpreting its results. The main one is the fact that it was carried out based on a limited sample of nurses and only in an emergency medical-surgical service. Despite this limitation, and as far as the bibliographic knowledge of the authors goes, studies carried out on this topic are scarce in Portugal, so the present work could constitute an added value, stimulating the development of other research works on evaluation and triage of stroke.

CONCLUSION

The nursing team plays a central role in the screening and initial assessment of stroke patients upon arrival at the emergency department. The main objective is to provide fast and adequate assistance, contributing to the reduction of mortality and disability.

The present study concluded that, in general, nurses who perform triage do not have significant difficulties in the assessment and triage of stroke patients. A more detailed analysis reveals that in certain particular issues there may be some discomfort during this activity, namely to balance this process with the fear of delaying access to care and physical and verbal violence from the users and family members. Specifically, in activating the VV-AVC, the lack of knowledge regarding the time of onset of symptoms was the most mentioned difficulty by nurses, so more health education is suggested in order to make the general public aware of the warning signs of stroke and bet on improvement of pre-hospital notification and communication processes.

We recommend carrying out multicenter studies on more representative samples to better understand the difficulties and limitations in the assessment of stroke at the time of screening, remembering that, particularly in ischemic stroke, *time is brain*, and that currently available reperfusion therapies are key elements for the improvement in survival, functionality and quality of life after the cerebrovascular event.

BIBLIOGRAPHIC REFERENCES

1. Pannain GD, Ribeiro CC, Jacob MB, Pires LA, Almeida ALM.

Relato de experiência: Dia Mundial do Acidente Vascular Cerebral. HU Rev. 2019;45(1):104–8.

2. Virani SS, Alonso A, Benjamin EJ, Bittencourt MS, Callaway CW, Carson AP, et al. Heart disease and stroke statistics—2020 update: A report from the American Heart Association. Circulation. 2020. 139–596 p.
3. Wang Y, Rudd AG, Wolfe CDA. Age and ethnic disparities in incidence of stroke over time: The South London stroke register. Stroke. 2013;44(12):3298–304.
4. Preto L, Dias Conceição M, Amaral SI, Figueiredo T, Ramos Sánchez A, Fernandes-Ribeiro AS. Fragilidad en ancianos que viven en la comunidad con y sin enfermedad cerebrovascular previa. Rev Cient la Soc Esp Enferm Neurol. 2017;46(c):11–7.
5. Oliveira A, Silva A, Sá N, Brandão S. Consulta de enfermagem de reabilitação ao doente pós evento cerebrovascular: Que desvios encontrados ao plano delineado à alta pelo enfermeiro de reabilitação? Rev Enferm Reabil. 2020;3(2):5–13.
6. INE. Instituto Nacional de Estatística - Causas de Morte : 2017 [Internet]. Causas de Morte 2017. 2019 [citado 25 de Outubro de 2020]. Disponível em: https://www.ine.pt/xurl/pub/358633033
7. DGS. Protocolo de Triagem de Prioridades em Urgência [Internet]. Despacho nº. 19124/2005 de 17 de Agosto. Circular Informativa Nº 52/DSPCS. 2005. Disponível em: http://www.grupoportuguestriagem.pt/
8. Camilo DGG, de Souza RP, Frazão TDC, da Costa Junior JF. Multi-criteria analysis in the health area: selection of the most appropriate triage system for the emergency care units in natal. BMC Med Inform Decis Mak. 2020;20(1):38.
9. Oliveira JL, Gatti AP, Barreto S, Junior JA, Góes HL, Matsuda LM. Acolhimento com classificação de risco: Percepções de usuários de uma unidade de pronto atendimento. Texto Context Enferm. 2017;26(1):1–8.
10. Duro CLM, Lima MAD da S, Weber LAF. Nurses' Opinion on Risk Classification in Emergency Services. REME Rev Min Enferm. 2017;21:1–9.
11. Moreira DA, Tibães HBB, Batista RCR, Cardoso CML, Brito MJM. O Sistema de Triagem de Manchester na atenção primária à saúde : Ambiguidades e desafios relacionados ao acesso. Texto Context Enferm [Internet]. 2017;26(2):1–8. Disponível em: http://dx.doi.org/10.1590/0104-07072017005970015
12. Carmo BA, Souza G. Atuação do enfermeiro na classificação de risco através do protocolo de manchester: uma revisão da literatura. Rev Eletrônica Acervo Saúde. 2018;11 (supl):1081–8.
13. Chabudé T, César G, Santana C. Acolhimento e Classificação de Risco em Unidade de Urgência: Relato de Experiência da Implantação do Sistema de Triagem de Manchester. Ensaios e Ciência. 2019;23(2):121–5.
14. Hermida PMV, Jung W, Nascimento ERP, Silveira NR, Alves DLF, Benfatto TB. Classificação de risco em unidade de pronto atendimento: Discursos dos enfermeiros. Rev Enferm. 2017;25(1):7–12.
15. Freitas MM. Dificuldades percecionadas e grau de Satisfação dos Enfermeiros que fazem Triagem de Manchester nos Serviços de Urgência. Instituto Politécnico de Leiria; 2014.
16. Barreira I, Martins MD, Silva NP, Preto P, Preto L. Resultados da implementação do protocolo da via verde do acidente vascular cerebral num hospital português. Rev Enferm Ref [Internet]. 2019;IV(22):117–26. Disponível em: https://doi.org/10.12707/RIV18085
17. Powers WJ, Rabinstein AA, Ackerson T, Adeoye OM, Bambakidis NC, Becker K, et al. Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines for the early management of acute ischemic stroke a guideline for healthcare professionals from the American Heart Association/American Stroke A. Vol. 50, Stroke. 2019. 344–418 p.
18. Jauch EC, Saver JL, Adams HP, Bruno A, Connors JJB, Demaerschalk BM, et al. Guidelines for the early management of patients with acute ischemic stroke: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2013;44(3):870–947.
19. Pereira MSM, Guedes HM, Oliveira LM, Martins JC. Relação entre o Sistema de Triagem de Manchester em doentes com AVC e o desfecho final. Rev Enferm Ref [Internet]. 2017;13(IV):93–102. Disponível em: https://doi.org/10.12707/RIV16079
20. Hill MM, Hill A. Investigação por Questionário. 2ª Edição. Sílabo E, editor. 2012.
21. Salgueiro ACV. Triagem de Manchester : satisfação dos enfermeiros [Internet]. Instituto Politécnico de Viseu; 2019. Disponível em: http://hdl.handle.net/10400.19/5649
22. Donoso MTV. O género e suas possíveis repercussões na gerência de enfermagem. Rev Min Enf. 2000;4(1/2):67–9.
23. Amaral PMF. Qualidade da Triagem de Manchester e fatores que a influenciam. Escola Superior de Enfermagem de Coimbra; 2017.
24. Souza C, Araújo FA, Chianca TCM. Scientific literature on the reliability and validity of the manchester triage system (MTS) protocol: A integrative literature review. Rev da Esc Enferm da USP. 2015;49(1):144–51.
25. Correia JAC. Violência no trabalho dos enfermeiros no serviço de urgência. Instituto Politécnico de Viana do Castelo; 2016.
26. Martins HG. Violência contra os profissionais de saúde nos serviços de urgência. Instituto Politécnico de Viseu; 2018.
27. Moutinho M, Magalhães R, Correia M, Silva C. Avaliação da Via Verde do Acidente Vascular Cerebral no Norte de Portugal: Caracterização e Prognóstico dos Utilizadores. Acta Med Port. 2013;26(2):113–22.