

Nursing Professional's Working Load Given to the Elderly at the Intensive Unit Care

ORIGINAL

Karoline de Lima Alves¹, Mônica Rocha Rodrigues Alves¹,
Célia Maria Cartaxo Pires de Sá¹, José Alves Xavier Junior¹, Kilma da Cunha Barros¹,
Larissa Maria Rocha Rodrigues Alves¹, Mateus Rocha Rodrigues Alves¹,
Janaina Araujo da Cunha Bezerril¹, Romeika Barboza Cartaxo Pires de Sá¹,
Rafaela Pires de Sá Leite¹, Luciano Igor Albuquerque de Freitas¹,
Simone Rose Silva de Oliveira Cabral¹, Katiany Mendonça Evangelista¹

Abstract

The natural aging process accelerates the appearance and the installation of diseases and symptoms characteristic of the age in which the physical and cognitive aspects are compromised progressively. Increasing the necessity of specialized cares and intensive accompaniment. This study aimed to evaluate through the Nursing Activities Score appliance, the nursing team's working load, destined to elderly people assisted at intensive unit care and subsidize the personal sizing according to what advocates the legislation. It is about a descriptive and documental study of quantitative approach. It was used as data basis 50 patient records of elderly users admitted at a public intensive unit care from João Pessoa, Paraíba, Brazil. It was determined that 56% (28) of the elderly in his first hospitalization day at the Intensive Unit Care, required a nursing high working load while 44% (42) a nursing low working load. Through the sum of the Nursing Activities Score average score, we can achieve the total of hours at the nursing assistance necessities to the elderly patient care during the hospitalization. The average scores obtained by the total score, corresponded to 59.2 ± 7.8 , transforming in hours according to the conducted calculus, correspond to 14.47 hours of nursing assistance turned to the elderly people. It is waited that the results can contribute to quantify the expended assistance time and also evidence the real necessity of the people to ensure safe and quality assistance practices to the elderly people.

¹ Federal University Paraíba. Integrant at the International Group on research about the aging and social representations from the Paraíba Federal University, João Pessoa, Paraíba, Brazil.

Contact information:

Karoline de Lima Alves.

Address: Federal University Paraíba, João Pessoa, PB, Brazil. CEP: 58059-900.

Tel: (83) 3216-7248.

✉ krol_lima_17@hotmail.com

Keywords

Workload; Nursing; Aged; Intensive Care Units.

Introduction

The aging natural process is characterized by the wear of the functional reserves, increasing of the morbidities, inabilities and decreasing of the independence and autonomy, where the number of elderly patients at Intensive Care Units (ICU) expands more and more, needing a specialized attendance and a qualified people [1].

Therefore, the evaluation of quality and used resources at the provided assistance to the elderly population becomes relevant ad a management tool. The nursing professionals' demand and workload are more and more used at the organization of the provided services [2].

Above all at the Intensive Care Unit (ICU) where the clinical experience of the nurses has evidenced the lifting of number of elderly in agreement with the increasing of the working load lately at the hospital area, mainly the nursing [3].

Thereby, a study [4] with 600 patients hospitalized in ICU, where 53.5% were elderly, in São Paulo/SP, from 2006 to 2007, it was determined that the mortality rate was of 20.0%, seen that the mortality prevailed significantly on the elderly individuals in relation to the others that comprised the adults group aging from 18 to 59 years old.

The nursing assistance at the ICU is associated to the technology, seen that at the profession exercise execution the utilization of knowledge in a technical and scientific way based in laws and theories is indispensable, becoming them able to provide quality services on the assistance, as well as the utilization of technological means to better assist the patient [5].

At the necessity to quantify the provided assistance to the hospitalized patient at ICU, it is indispensable the utilization of some instruments to subsidize the evaluation of the provided assistance quality, being this the demand of people who provides such services to the patient health, especially the elderly population.

That way, the nursing professional's workload attributed to the elderly patient at the ICU is represented by the Nursing Activities Score (NAS) from the sum of scores of items that correspond to the necessities of assistance turned to the patients; this instrument was of large importance mainly to existent determinants at the Brazil's reality [6].

Following the Resolution-RDC Number 7, from February 24th, 2010 [7], that disposes about the minimum requirements to the Intensive Care Unit operation and gives others providences. It determines the health teams sizing at the ICU, where it should be at least 01 (one) nursing professional to each 08 (eight) bed or fraction, in each shift.

Thus, the Nursing Federal Council Resolution (NFCR) number 293/2004 [8], sets and establishes parameters to the nursing professional staff sizing at the health institutions assistance unities and similar, considers that it is up to the nurse to establish the nursing quantitative staff, necessities to the nursing assistance provision, thus as at the Art. 4th, settles that at the intensive assistance shall be determined 17.9 nursing hours per patient considering as nursing hour per bed, during the 24 hours.

Bearing in mind that the elderly patient requires specific cares, the nursing team must be provided by an adequate personal quantitative. In this sense, it is interesting to know how the nursing workload is given to the interne elderly, as well as the nursing sizing [9] needs discussions about the professional adequacy to a quality assistance and improvement at working conditions.

Given the above, the study aimed to analyze the nursing workload at the ICU to the elderly patient critically sick to subsidize adequacy to the quantitative and qualitative human resources sizing of the studied unity, such as increase the scientific discussion about a very important theme.

Method

It is about a descriptive and documental study with quantitative approach, followed as study line the elderly health and the evaluation of the necessities of caring provided to this population, and consequently, the nursing demand and work.

The data collection was conducted in an Intensive Care Unit at the public network from João Pessoa, Paraíba, Brazil. Due to the size of the Intensive Care Unit (ICU) and the attendance diversities. Considering the total population of 57 elderly that were hospitalized at this ICU from January to March, 2015, it was conducted the sample calculus with the confidence level of 95% and error margin of 5%. The calculus was conducted through the Epi Info Software, version 7.1.4, resulting in 50 elderly patient report.

It was inclusion criteria the elderly patient report of both genders, above 60 years old and being hospitalized more than 24 hours, at the respective studied hospital. Were excluded all the ones that aren't adequate to the cited terms.

The instrument was constituted by socio demographic data: Age and Gender; and clinical data; hospitalization and exit of the ICU, provenience (chirurgical center, semi-intensive, chirurgical clinic and other to the others options that wasn't cited), kind of hospitalization (clinic, urgency surgery and elective-surgery), diagnostic, hospitalization reason, interventions of the first 24 hours, exit date, kind of date (discharge, death, semi-intensive, transference). All the data described in this instrument were found on the reports of patients who were hospitalized at the Intensive Care Unit from the hospital referent to the research.

To evaluation of nursing workload, it was used the instrument Nursing Activities Score (NAS) [10], being the collection conducted according to the interventions described on the patient reports, where the index filling based on the register of nursing activities performed during the first 24 hospitalization hours at the ICU.

The proposed instrument [10] is composed by 23 items referring to the interventions conducted by the nursing team on the first hospitalization day at the unities, are following described:

Item: 1. Monitoring and controls; 2. Laboratorial investigations; 3. Medication, except vasoactive drugs; 4. Hygiene procedures; 5. Drainage caring; 6. Mobilization and positioning; 7. Support and care to familiar and patients; 8. Administrative and management job; 9. Respiratory support; 10. Artificial airway caring; 11. Treatment to improve the pulmonary function; 12. Vasoactive medication; 13. Replacement of fluid great losses; 14. Monitoring of the left atrium; 15. Cardio pulmonary resuscitation; 16. Techniques of hemofiltration/ dialytic; 17. Quantitative measure of the urinary debit; 18. Measure of the intracranial pressure; 19. Treatment of the metabolically acidosis/ alkalosis; 20. Total parenteral nutrition; 21. Enteral feeding; 22. Specific interventions at the ICU; 23. Specific interventions out of ICU. The items 1, 4, 6, 7 and 8 are composed by sub-items, differentiated according to the gradual time expended at the basic activities, being them mutually excluding.

To the final result of the nursing workload was used the total score calculus on NAS, where was made following the recommendations of the authors already cited, through the sum of scored items.

The collected data were inserted at electronic sheet on Microsoft® *Windows Excel-2013*. Posteriorly, were analyzed using the statistical software *Statistical Package for the Social Science (SPSS)* version 21.0. The data were presented in descriptive analyzes, indicating the sample found on the patient reports.

According to the Resolution 466/12, regarding the Guidelines and Norms regulatory of researchers evolving human beings from the Health National Council, the date were collected median approval of the Ethics Committee in Nursing College Research from the University of João Pessoa – UNIPE, (CAAE: N°05866012.9.0000.5176). It is saluted that

the Term of Consent wasn't necessary, considering that are old patient reports, don't being possible the local of the research individuals to obtain the Term of Consent.

Results

The results originating from the reports of the elderly hospitalized at the Intensive Care Unit, pointed that they were 76.6 ± 10 years old, being 60% (30) female, while 40% (20) male. The socio demographic characterization of the studied individuals in described on the **Table 1**.

Table 1. Socio demographic and clinical characteristics on the 50 reports of the elderly hospitalized at the Intensive Care Unit at the public network from João Pessoa, Paraíba, Brazil, 2015.

Variables	N	%
Gender		
Female	30	60
Male	20	40
Hospitalization period		
1 to 15 days	36	72
16 to 30 days	6	12
31 to 59 days	6	12
Over 60 days	2	4
Provenience		
Hospital	21	42
Residence	17	34
Surgical center	4	8
Nursing Ward	7	14
Urgency	1	2
Kind of hospitalization		
Clinic	45	90
Urgency surgery	3	6
Elective surgery	2	4
Clinical outcome		
Death	23	46
Discharge	18	36
Transference	9	18
Total	50	100

Source: Research data, 2015.
N: Values are frequency; %: percentage.

Referring the sample characterization, regarding the elderly provenience data, it is observed that the most part of the individuals 42% (21), came from other hospital, probably due to the hospital characteristics, following by 34% (17) from residence, others 8% (4) from the hospital nursing ward where were collected the data and only 2% (1) from the urgency.

Referring to the individuals kind of hospitalization, in frequency values and average percentage, prevailed the clinical hospitalizations, presenting 90% (45), following by the urgency surgery with only 6% (3), in relation to the elective surgery, only 4% (2) of elderly.

As for the clinical outcome, it was observed that the majority of the elderly died 46% (23), others 35% (18) was discharged, and only 18% (9) was transferred from the unity to other section. As for the hospitalization time, the elderly remained hospitalized at the ICU from 1 to 15 days 72% (36), others from 16 to 30 days 12% (6), from 31 to 59 days 12% (6) and only 4% (2) over 60 days of hospitalization.

The data about the nursing workload measure on the intervention conducted with the elderly patient at the investigated ICU are following described on the **Table 2**.

Table 2. Nursing activities distribution according to the items of Nursing Activities Score (NAS) from the 50 reports of the elderly hospitalized at the Intensive Care Unit at the public network from João Pessoa, Paraíba, Brazil, 2015.

Basic activities	N	%
1. Monitoring and controls	50	100
2. Laboratory investigations	-	-
3. Medication	46	92
4. Hygiene procedures	50	100
5. Drainage care	37	74
6. Mobilization and position	37	74
7. Support and care to the familiars and patients	3	6
8. Administrative and management job	50	100

Basic activities	N	%
9. Respiratory support	26	52
10. Artificial airways caring	22	44
11. Treatment to improve the pulmonary function	22	44
12. Vasoactive medication independent of the kind and dosage	-	-
13. Intravenous replacement of fluid great losses	-	-
14. Left atrium monitoring	-	-
15. Cardio respiratory reanimation	3	6
16. Hemofiltration techniques	-	-
17. Quantitative measure of the urine output	36	72
18. Intracranial pressure measure	-	-
19. Treatment of the acidosis/ alkalosis	-	-
20. Intravenous hyper-feeding	-	-
21. Enteral feeding	32	64
22. Specific interventions at the ICU	32	64
23. Specific interventions out of the ICU	-	-
Total	50	100

Source: Research data, 2015.
N: Values are frequency; %: percentage.

Regarding the nursing activities performances, registered on the report of the elderly patient hospitalized at the Intensive Care Unit, it is observed: monitoring and controls 100% (50); medication 92% (46); hygiene procedures 100% (50); drainage caring 74% (37); mobilization and position 74% (37); support and care to familiar and patients 6% (3); administrative and management job 100% (50); respiratory support 52 % (26); artificial airway caring 44% (22); treatment to the pulmonary function improvement 44% (22); cardio respiratory reanimation 6% (3); quantitative measure of the urinary output 72% (36); enteral feeding 64% (32); specific interventions at the ICU 64% (32).

In relation to the total score at the *Nursing Activities Score* (NAS) scale, conducted on the first hospitalization hours of the elderly patients, present as measure 59.2 ± 7.8 . Therefore to a more adequate distribution of this score, from the presented measure, this was classified in Nursing Low

Workload, those that achieve a value of $40 < 59$ and High Workload the scores over 60 on the NAS total sum. It is verified that 56% (28) of the patients in their first hospitalization day at ICU, required a Nursing High Workload while 44% (42) Nursing Low Workload, as shows the **Table 3**.

Table 3. Total score distribution of the *Nursing Activities Score* (NAS) according to the 50 reports of the elderly hospitalized at the Intensive Care Unit of the public network from João Pessoa, Paraíba, Brazil, 2015.

Workload score classification	N	%
Low: $40 < 59$	42	56%
High: 60 or over	28	44%
Total	50	100

Source: Research data, 2015.
N: Values are frequency; %: percentage.

In this context, through the NAS average score sum we can achieve the total of nursing assistance hours necessities to the elderly patient care during the hospitalization at the ICU. The average score obtained by the NAS total score at the sample corresponded to 59.2 ± 7.8 transformed to hours according to the conducted calculus, correspond to 14.447 nursing assistance hours performed at the first 24 hospitalization hours found on the reports.

Discussion

Opposing to this study results, a research conducted with 100 patients, at the Intensive Care Unit (ICU) at a college hospital from Parana Northeast from November, 2007 to May, 2008, detected that the majority of the patients were men (66%) aging 60 years old or older (40%) [11].

Another performed study at a Cardiology ICU with 20 beds, in a general private hospital, also with 100 patients, from August to September, 2006. It affirmed that the age determined at the study is linked to the main affections, prevailing coronary diseases from which affected elderly patients [12].

In this context, a study performed at a college hospital ICU, where is provided tertiary and quaternary attendances, with 156 patients, who kept hospitalized for 10.32 days, where 50% of the patients were older than 60 years old [13]. This is due, to the major disease grievance, with presence of morbidities, to the bad general status and to a lower capacity of the elderly recovery.

Consequently, aiming to evaluate the nursing care demands at ICUs, a studied developed in two general adults ICUs at a public hospital, with 8 hospitalization beds each one, totalizing 16 beds, in Teresina-PI, with 45 patients, where presented a prevalence of hospitalizations originating from others hospitalization unities from the own hospital, opposing to the results found in this research that the majority of individuals proceeded from others hospitals or from their own residence [14].

Corroborating with the study cited previously [11], determined that in the case of the kind of hospitalization, it is, the treatment, the great majority of the individuals were hospitalized for clinical reasons. Thus as the hospitalization reasons predominated the respiratory dysfunctions as well as the neurological.

In this perspective, performed [15] in an adult ICU in a college hospital in the interior of São Paulo state, with 107 patients, from May to June, 2008, the average hospitalization time was of 6.5 ± 8.9 days with the majority of hospitalized patients at the ICU till 5 days.

In this perspective, a study performed aiming to evaluate the nursing workload at the ICU, once it will serve as subside to promote the allocation of nursing human resources, adapting to the caring demands, aiming a quality, human and safe assistance. It was highlighted that the patients who died demanded a larger workload than the ones discharged, confirming thus the statistic association [5].

Therefore, in other study, whose studied unity contains 36 beds, divided in two center and attends patients of different medicals specialties, was used

the *Nursing Activities Score* (NAS) to evaluate the workload percentage per bed, affirm that obtained a higher average, those patients who demanded a more complexity care, because they need high technology equipments, as the mechanical fan, multi parameters monitor and infusion pumps [13].

Analyzing the data referring to the care during the cardio pulmonary arrest, it was verified that despite of the elderly grievance, only 6% (3) needed such intervention, a study [16] performed in two general adults ICU from a public hospital, with 8 hospitalization beds each one, totalizing 16 beds, in Teresina- PI, with 44 patients, caveat that nine cases came to death, this item was scored only to three patients, it is still reported the frequency of the cardio respiratory arrest at the intensive therapy ambient.

The item referring to the support and care to familiar and patients, presented only 6% (3) of the sample, can be by the fact of at the first 24 hours is prioritized the direct care to the patient, with all the efforts turned to ensure the life. The patient monitoring required more the nursing team time, what can have contributed to the NAS elevated average found in this study.

However, describe [15] that the support and care to familiar and patients, is a frequent activity, since the familiars need information about their hospitalized relatives, being the accommodation an activity even more conducted by the ICU professionals.

For that matter, saluted [11] in their study cited previously that the patients coming from surgical centers requires more caring, independent of the kind of surgery, whose the continuous monitoring and the conduction of procedures direct to the patient, corroborate to the NAS score increasing, it is highlighted also the permanence time as determinant to the total score of the cited instrument.

Corroborating with the results, a study conducted with 45 patients, aiming to evaluate the nursing care demands at ICUs, it was determined that the NAS percentage was the total average of 67.3%, it

is also saluted that the applicability of the NAS, subsidizes a better nursing staff sizing, since the conducted activities, described at the instrument, serves as planning mean to the assistance [16].

Therefore, the classification of the nursing assistance hours required by the patients, offers help at the determination and caring demand. Although, it was determined [17] in their study performed at an ICU from a university hospital from Parana, with 30 patients, during June 2012, that the average value required was of 23.9 hours per patient/day (99.6% at NAS), with a coefficient of variation of 10.1%.

Aiming to help at the nursing professionals adequacy evaluation with assistance turned to the elderly regarding the nursing workload average measure in a qualitative and quantitative manner, it was of great relevance the utilization of an instrument to classify the patients in relation to their nursing necessities as well as to quantify the nursing assistance expended time.

Conclusion

The activities that the nursing team dedicated to the patient had as priority focus the direct caring, with all the efforts turned to ensure the life. To analyze the workload exercised by the nursing at the Intensive Care Unit (ICU) before the critical elderly patient is of great importance at the nursing team adequacy to a systematic process and to determine the number of professional category required at the nursing care promotion that guarantees the quality, previously established.

We must be prepared to care of our elderly population that more and more increase in our country, and consequently will increase the number of their hospitalization at the ICU.

In this context, the permanence at the ICU depends of many factors that come from the disease severity, elevated, as the therapeutic exigencies caused by the complications, till economical questions. The individuals provenience, can be said that, pro-

bably arise from the hospital characteristic, maybe being the grievance, of the clinical conditions or the necessity of a more severe control, from the moment that the risk to worsening the clinical situation has been detected by the nursing team.

The morbidities can influence at the disease severity, the hospitalization time and prognostic, because in this study was observed that the great part of the elderly came to die. Where from those data, the nursing team can provide assistance based on evidences, to be prepared professionals, aiming that the number of death from the hospitalized patients can decrease in each new admission independent of the grievance or chronicle pathology.

Due to the anxiety and to the fear generated by the hospitalization at the ICU, the time dedicated to the emotional support necessities and information to the patient and familiar is an important aspect to the critical patient attendance, a good communication with the family establishes a better caring. In this study was observed little demand related to the emotional support to the patient family, maybe for the necessity of intensive care at the first 24 hours, with all the effort turned to ensure the life.

From the *Nursing Activities Score* (NAS) summation we can achieve the nursing total hours necessary to the patient caring during all his hospitalization at the ICU. In relation to the NAS total score, it is verified that the patients require a high nursing workload.

Without doubt, the existence of this instrument facilitates and subsidizes the calculus and the human resources distribution at nursing destined to the elderly people care. It can bring important gains to the nursing personal sizing at ICU.

Finally, the finality to help at the nursing professionals adequacy evaluation had a great relevance in relation to the necessities turned to the elderly person, as well as to quantify the nursing assistance expended time and thus to promote good practices.

It is waited that with this investigation results, we can contribute to the deepening of the health

professional's knowledge and above all, at the nursing outlining as science. It is emphasized as limitation of this research the sample size, due to the size and quantity of given beds at the ICU and to the attendance diversity, that in the future those limits can be solved with next studies on this thematic.

Interests' conflict

The authors declared absence of interests' conflicts

Author's contribution

KLA, MRR, CMCPs, JAXJ, LMRRA, MRRA, KCB, JACB, RBCPS, RPSL, LIAF, SRSOC and KME worked in all the article elaboration steps, since the conception, outlining, analyzes and data interpretation, hand written wording; KLA, MRR and CMCPs, SRSOC and KME prepared the data basis; KLA, MRR, CMCPs, JAXJ, LMRRA, MRRA, KCB, JACB, RBCPS, RPSL and LIAF conducted critical review of the hand written; KLA, MRR and CMCPs, conducted the guidance of the hand written and province of the final version to be published.

References

1. López-Soto, A.; Sacanella, E.; Castejón, M. P.; Nicolás, J. M. E. anciano en la Unidad de Cuidados Intensivos. *Rev Esp Geriatr Gerontol.* 2009; 1; 27-33.
2. Ducci, A. J. Zanei, S. S. V. Whitaker, I. Y. Nursing workload to verify nurse/patient ratio at a cardiology ICU. *Rev Esc Enferm USP, São Paulo.* 2008; 42(4):673-80. Apund. Girardello, D. T. F. Nicola, A. L. Fernandes, L. M. Assistência de enfermagem: horas requeridas para o cuidado do paciente crítico. *Rev Rene. Paraná.* 2013; 14(6):1084-91.
3. Gracês, A. C. R. Causas de Internação de Idosos em Unidade de Terapia Intensiva – UTI. *Revista do Hospital Universitário/UFMA.* 2009; 10(3); 18-23.
4. Oliveira, V. C. R. Nogueira, L. S. Andolhe, R. Padilha, K. G. Sousa, R. M. C. Evolução clínica de adultos, idosos e muito idosos internados em Unidade de Terapia Intensiva. *Rev. Latino-Am. Enfermagem.* 2011; 19(6); 1-8.
5. Leite, I. R. L. Silva, G. R. F. Padilha, K. G. Nursing Activities Score e demanda de trabalho de enfermagem em terapia intensiva. *Acta Paul Enferm.* 2012; 25(6):837-43.
6. Queijo, A. F. Padilha, K. G. Nursing Activities Score (NAS): adaptação transcultural e validação para a língua portuguesa. *Rev Esc Enferm USP.* 2009; 43;1018-25.
7. Brasil. Resolução - RDC Nº 7. Dispõe sobre os requisitos mínimos para funcionamento de Unidades de Terapia Intensiva e dá outras providências. Brasília/DF, 24 de fevereiro de 2010.
8. Brasil. Resolução COFEN- 293/2004. Fixa e estabelece parâmetros para dimensionamento do quadro de profissionais de enfermagem nas instituições de saúde e assemelhados. In: Conselho Regional de Enfermagem de São Paulo, 2004.
9. Inoue, K. C. Matsuda, L. M. Dimensionamento da equipe de enfermagem da UTI-adulto de um hospital ensino. *Rev. Eletr. Enf. Paraná.* 2009; 11(1); 55-63.
10. Miranda, D. R. et al. Nursing activities score (NAS). *Crit Care Med.* 2003; 31(2);374-82.
11. Inoue, K. C. Kuroda, C. M. Matsuda, L. M. Nursing activities scores (NAS): carga de trabalho de enfermagem em UTI e fatores associados. *Cienc Cuid Saude, Paraná.* 2011; 10(1); 134-140.
12. Coelho, F. U. A. Queijo, A. F. Andolhe, R. Gonçalves, L. A. Padilha, K. G. Carga de trabalho de enfermagem em unidade de terapia intensiva de cardiologia e fatores clínicos associados. *Texto Contexto Enferm, Florianópolis.* 2011; 20(4); 735-41.
13. Brito, A. P. Guirardello, E. B. Carga de trabalho de enfermagem em uma unidade de internação. *Rev. Latino-Am. Enfermagem, São Paulo.* 2011; 19(5); 1-7.
14. Menezes, M. O. Souza, C. S. Barreto, S. M. S. S. Alves, K. A. Nunes, M. S. Vaez, A. C. Determinantes da carga de trabalho em unidade de terapia intensiva de um hospital público. *Cadernos de Graduação - Ciências Biológicas e da Saúde. Aracaju.* 2013; 1(17); 103-112.
15. Panunto, M. R. Guirardello, E. B. Carga de trabalho de enfermagem em Unidade de Terapia Intensiva de um hospital de ensino. *Acta Paul Enferm.* 2012; 25(1); 96-101.
16. Feitosa, M. C. Leite, I. R. L. Silva, G. R. F. Demanda de intervenções de enfermagem a pacientes sob Cuidados intensivos: nas - nursing activities score. *Esc Anna Nery (impr.).* 2012; 16 (4); 682-688.
17. Girardello, D. T. F. Nicola, A. L. Fernandes, L. M. Assistência de enfermagem: horas requeridas para o cuidado do paciente crítico. *Rev Rene.* 2013; 14(6); 1084-91.

Publish in International Archives of Medicine

International Archives of Medicine is an open access journal publishing articles encompassing all aspects of medical science and clinical practice. IAM is considered a megajournal with independent sections on all areas of medicine. IAM is a really international journal with authors and board members from all around the world. The journal is widely indexed and classified Q2 in category Medicine.