RESPIRATORY DISORDERS IN OLD ADULTS TREATED IN EMERGENCY DEPARTMENTS

AFECÇÕES RESPIRATÓRIAS DE IDOSOS ATENDIDOS NO PRONTO ATENDIMENTO DE EMERGÊNCIA

TRASTORNOS RESPIRATORIOS EN ANCIANOS ADMITIDOS EN SALAS DE EMERGENCIA

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ABSTRACT

Objectives: to investigate the respiratory disorders prevailing in hospitalized old adults; identify the destination of such patients; and characterize them. Methodology: descriptive and retrospective cohort study with analysis of electronic medical records. For data collection, we used an instrument with closed questions. The parameters studied were demographic data: sex, color, as well as reason and length of hospitalization, discharge and death of patients. The universe studied was composed of 54,497 medical records of patients treated in the emergency care units, of which 11,930 were old adults treated at the emergency care unit of a university hospital in São José do Rio Preto, SP; from January to December 2009. However, 1520 were analyzed because they were old adult patients admitted with respiratory problems, after the research project had been approved by the Committee of Ethics in Research of FAMERP, under Protocol No. 2628/2010. Results: from 1520 medical records, 51.2% were male and 67% aged between 60 and 79 years, 90.3% were whites, 45.3% married and 42.3% had incomplete elementary school. As to the profession, the prevalence was farmers, with 35.6% among men and housewives with 81.5% among women; 71.3% of the patients were hospitalized. The time spent by 38% of the patients was more than seven days, and 67.9% of patients hospitalized were discharge after hospitalization. The most prevalent disease for hospitalization (63.5%) and death (22.4%) was pneumonia. Conclusion: from the results obtained, it is possible to develop a differentiated service and provide quality care to these old adults, especially in emergency care units, where the recovery and maintenance of the respiratory function are of great importance. Descriptors: emergency; deaths; old adults; respiratory problems.

RESUMO

Objetivos: investigar as afecções respiratórias que prevalecem nos idosos hospitalizados; identificar o destino de tais pacientes e caracterizá-los. Metodologia: estudo descritivo e de coorte retrospectivo, de análise de prontuário eletrônico. Na coleta de dados foi utilizado um instrumento com perguntas fechadas. Os parâmetros estudados foram os dados demográficos: sexo, cor, como também motivo e tempo de internação, alta e óbito dos pacientes. O universo estudado foi constituído de 54.497 prontuários de pacientes atendidos no Pronto Atendimento, dos quais 11.930 estavam em idosos atendidos no Pronto Atendimento da Emergência de um Hospital Escola de São José do Rio Preto/SP, no período de janeiro a dezembro de 2009. No entanto, 1520 foram analisados após se tratar de pacientes idosos admitidos com problemas respiratórios, após o projeto de pesquisa ter sido aprovado pelo Comitê de Ética em Pesquisa da FAMERP com protocolo n° 2628/2010. Resultados: dos 1520 prontuários, 51,2% eram de sexos masculino, 67% com idade entre 60 e 79 anos, 90,3% brancos, 45,3% casados e 42,3% com ensino fundamental incompleto. Quanto à profissão, predominou a de agricultor com 35,6% entre os homens, e dona-de-casa com 81,5% entre as mulheres. Destes pacientes 71,3% foram internados. O tempo de permanência com 38% foi de até sete dias e 67,9% dos pacientes hospitalizados tiveram alta médica após a internação. A doença de maior prevalência de internação (63,5%) e de óbito (22,4%) foi a pneumonia. Conclusão: a partir dos resultados obtidos, é possível elaborar uma assistência diferenciada e prestar um atendimento de qualidade a estes idosos, principalmente nas unidades de pronto atendimento, onde a recuperação e manutenção da função respiratória são de grande importância. Descriptors: emergência; óbitos; idosos; problemas respiratórios.

RESUMEN

Objetivos: investigar los trastornos respiratorios que prevalecen en ancianos hospitalizados; identificar el destino de dichos pacientes; y caracterizarlos. Metodología: estudio descriptivo y de cohorte retrospectivo con análisis de historiales clínicos electrónicos. Para la recopilación de datos se utilizó un instrumento con preguntas cerradas. Los parámetros estudiados fueron los datos demográficos: sexo, color, así como motivo y tiempo de hospitalización, alta y muerte de los pacientes. El universo estudiado estaba compuesto por 54,497 historiales clínicos de pacientes tratados en unidades de emergencia, de los cuales 11,930 eran ancianos atendidos en la unidad de emergencia de un hospital escola de São José do Rio Preto/SP, en el período de enero a diciembre de 2009. Sin embargo, 1520 fueron analizados por tratarse de pacientes ancianos admitidos con problemas respiratorios, después de que el proyecto de investigación hubiese sido aprobado por el Comité de Ética en la Investigación de FAMERP, en virtud del Protocolo N° 2628/2010. Resultados: de los 1520 historiales clínicos, 51,2% eran de sexos masculino, 67% con edad entre 60 y 79 años, 90,3% eran blancos, 45,3% casados y 42,3% con ensino fundamental incompleto. A respecto de la profesión, predominó la de agricultor con 35,6% entre los hombres, y de casada con 81,5% entre las mujeres. Destes pacientes, 71,3% fueron internados. El tiempo de permanencia con 38% fue de más de siete días y 67,9% de los pacientes hospitalizados fue dado de alta después de la hospitalización. La enfermedad con mayor frecuencia de hospitalización (63,5%) y de muerte (22,4%) fue neumonía. Conclusión: a partir de los resultados obtenidos, es posible desarrollar un cuidado diferenciado y proporcionar una atención de calidad a los ancianos, especialmente en unidades de emergencia, donde la recuperación y el mantenimiento de la función respiratorio son de gran importancia. Descriptores: emergencia; muertos; ancianos; problemas respiratorios.
Population ageing was a phenomenon which originally took place in developed countries; however, it has been occurring in developing countries in a more pronounced way, due to the decrease in the birth rate and increasing life expectancy. In Brazil, the number of old adults has suffered an increase of 500% in the last forty years, reaching 14 million in 2002. It is estimated that this number will reach 32 million in 2020.\(^1\)

Increased physiological and immunological susceptibility\(^2\) occurs with ageing and the older population becomes ill more often. Studies have shown that among the main causes of hospital readmissions of old adults include diseases of the respiratory system (36.4%).\(^3\) Such diseases are also among the main causes of deaths ranked in third place, preceded only by circulatory system diseases and neoplasias.\(^4\)

The major anatomical changes related to respiratory aging affect lungs, chest and respiratory muscles, showing a reduction of elasticity and atrophy of accessory respiratory muscles, decreased chest expansion, reduction of elasticity and increase pulmonary compliance. Such changes lead to decreased ventilatory response, partial pressures of oxygen (pO\(_2\)) and carbon dioxide (pCO\(_2\)) in the blood, reduction of the vital capacity, among other changes that impair lung functions.\(^5\), \(^6\)

Other factors can also affect lung functions, exacerbating the aging process, such as smoking, environmental pollution, progressive lung diseases or from another origin, occupational exposure, and social, constitutional and racial differences.\(^6\)

Regarding diseases, the following stand out: bronchitis, pulmonary emphysema, asthma, pneumonia, chronic obstructive pulmonary disease and unidentified pulmonary and respiratory disorders.\(^7\)

Asthma is characterized by obstruction, inflammation and increased responsiveness to various stimuli of the airways. Reversibility of airways obstruction in old adults is smaller, which can lead to an irreversible serious chronic obstruction of the airways in some patients. This can be triggered by allergies, air pollution and respiratory viroses.\(^8\)

Pneumonia is an acute infection of the lower respiratory tract. It is due mostly to anatomo-physiological changes of the respiratory system related to age.\(^9\) It can lead to the prolongation of hospital stay and the need for intensive care.\(^10\)

Chronic obstructive pulmonary disease (COPD) is characterized by chronic obstruction to the air flow due to the association of emphysema with chronic bronchitis.\(^11\), \(^11\) In chronic bronchitis, there is inflammation and scarring of the bronchioles, while in emphysema there is increase and destruction of pulmonary alveoli. The main cause of COPD is smoking.\(^11\)

Infections by the influenza virus and their complications also stood out in recent decades. The main strategy for prevention of these diseases is vaccination of old adults against the influenza virus, which can lead to a decrease of up to 70% of hospitalizations due to influenza and pneumonia.\(^14\)

With this in mind, we decided to conduct this exploratory research in order to investigate the respiratory disorders that most affect hospitalized old adults, since we believe that these disorders can be prevented and treated if diagnosed early.

**OBJECTIVES**

- To characterize old adults treated in the Emergency Care Unit (ECU) of Hospital de Base (HB).
- To identify respiratory diseases that affect old adults treated in this unit.
- To check the destination of these patients (discharge, hospitalization or death).

**METHODOLOGY**

This research is an analysis of electronic medical records, performed through a descriptive and retrospective cohort, in order to verify the cause of discharge, death and length of stay of patients treated in the ECU of the hospital above mentioned.

The research was conducted in the emergency care unit of the university hospital in São José do Rio Preto, SP, which serves clinical and surgical patients in the emergency care unit. The emergency service is located in the basement of this hospital, which is a reference center for the local population and people from other states. It has leading-edge technology materials for caring patients.

The universe of this study consisted of patients treated in the ECU of the hospital and the sample consisted of all adults treated from January to December 2009. The parameters studied in the medical records were demographic data, such as age, sex, color, as well as reason and length of hospitalization, discharge and death of...
patients. For data collection we used an instrument with closed questions.

Before the start of the study, the project was submitted to the Committee of Ethics in Research of FAMERP. Data collection started after approval, receiving assent under Protocol No. 2628/2010 and Opinion No. 100/2010.

RESULTS

This study identified 54,497 medical records of patients treated in ECUs. We found that 11,930 patients were old adults treated in the Emergency Unit of the University Hospital in São José do Rio Preto/SP, from January to December 2009, and 1,520 were analyzed because they were old adult patients admitted for presenting respiratory-type problems.

Regarding the 1,520 medical records, we found that 778 (51.2%) were male and 742 (48.8%) female. As to the age of patients, the highest frequency observed was between 60 and 79 years, representing 67%. In relation to ethnicity, 1,372 (90.3%) were whites and with respect to marital status, the prevalent were married and widowed patients, with 688 (45.3%) and 576 (37.9%), respectively.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 to 69</td>
<td>438</td>
<td>28.8</td>
</tr>
<tr>
<td>70 to 79</td>
<td>580</td>
<td>38.2</td>
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<tr>
<td>80 to 89</td>
<td>406</td>
<td>26.7</td>
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<tr>
<td>90 to 99</td>
<td>87</td>
<td>5.7</td>
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<tr>
<td>100 or more</td>
<td>9</td>
<td>0.6</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>778</td>
<td>51.2</td>
</tr>
<tr>
<td>Female</td>
<td>742</td>
<td>48.8</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1372</td>
<td>90.3</td>
</tr>
<tr>
<td>Negro</td>
<td>48</td>
<td>3.2</td>
</tr>
<tr>
<td>Mulatto</td>
<td>90</td>
<td>5.9</td>
</tr>
<tr>
<td>Others</td>
<td>9</td>
<td>0.6</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>89</td>
<td>5.9</td>
</tr>
<tr>
<td>Married</td>
<td>688</td>
<td>45.3</td>
</tr>
<tr>
<td>Widower</td>
<td>576</td>
<td>37.9</td>
</tr>
<tr>
<td>Divorced</td>
<td>70</td>
<td>4.6</td>
</tr>
<tr>
<td>Others</td>
<td>97</td>
<td>6.4</td>
</tr>
</tbody>
</table>

It can be observed that the schooling level with greater frequency was from first to fourth grade of elementary school, with 643 patients (42.3%). The most prevalent profession among men was farmers, with 277 patients (35.6%) and housewives among women, with 605 patients (81.5%). Out of 1,520 patients treated, 1,083 (71.3%) were hospitalized; 430 (28.3%) were discharged; and two (0.1%) died during the first medical care.

The greater frequency length of hospitalization among patients treated was more than seven days (38%), followed by up to three days (30.4%). It was also possible to observe that 67.9% of hospitalized patients...
were discharged after admission, followed by 26.8% who died.

Table 2. Destination of the in-hospital patients, Sao Jose do Rio Preto/SP, 2009.

<table>
<thead>
<tr>
<th>Destination of the in-hospital</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Discharge</td>
<td>736</td>
<td>67.9</td>
</tr>
<tr>
<td>Readmission Discharge</td>
<td>55</td>
<td>5.1</td>
</tr>
<tr>
<td>Death</td>
<td>290</td>
<td>26.8</td>
</tr>
<tr>
<td>Hospital Transfer</td>
<td>1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Figure 2. Most prevalent reasons for hospitalization, Sao Jose do Rio Preto/SP, 2009.

The results show that the main causes of hospitalization were: pneumonia (63.5%), in first place, followed by dyspnea (6.8%), COPD (6.3%), asthma (2.7%), airway infections (2.6%), among other (18.2%). Among the others causes are: pulmonary edema, respiratory tract neoplasias, bronchitis, respiratory failure and those caused by the influenza virus. Regarding deaths in the first care, one had pneumonia and the other cardiorespiratory arrest. As the main cause of death among old adults hospitalized are pneumonia (22.4%), followed by dyspnea (2.0%) and COPD (1.9%).

DISCUSSION

As well as found in recent studies, it can be observed that the percentage of men is higher than that of women; however, with little variation, as there is a great growth of the female old adult population. In relation to ethnicity, there is predominance of white patients, which corroborates with literature data.15,6 Another study carried out with old adults confirms the low schooling level of the population, since the majority had not completed primary school or was illiterate. This data is important for the proper planning of nursing care, which must be drawn up with language as accessible as possible to these old adults, thus enabling a better understanding of the information obtained and proper completion of care.17

Population of old adults is concentrated at the age of 60 to 79 years, as shown by a study held in the northeast of Brazil, in which average age was 69 years. This demonstrates the predominance of a young old adult population.18,19 Old adults studied were mostly married or widowed, which corresponds with the data found by other researchers.20 This is due to the gradual increase of the average life expectancy of old adult population in Brazil, mainly women.21

The activities carried out by the population studied, both men and women, were based on domestic and manual activities. This aspect was also observed in a study conducted by the geriatric neurology care at the outpatient department of Hospital de Clínicas in Porto Alegre (HCPA).22 For the most part, permanence of patients treated at this hospital was greater than seven days, which is consistent with other researches. This variable allows the assessment of the level of gravity of these patients and the attention provided by nursing.23

Most treated patients had medical discharge or died. As can be observed in research works conducted previously,14,5 respiratory diseases are among the leading causes of death. The main cause of hospitalization and deaths among old adults found in our study was pneumonia. This data can be also observed through data collected by other researchers, especially at seasonal
times like winter months.26,27

Another frequent disease among old adults is COPD. With the increase in life expectancy the population spends more time exposed to smoking, causing old adults to be more susceptible to developing the disease and hospitalization.28 Some chronic diseases such as COPD, significantly influence people's quality of life leading them to a daily struggle for a better life.29

The most common causes of hospitalization among old adults correspond to diseases whose occurrence and damages can be minimized by changing lifestyle habits, such as reduction of tobacco and alcohol consumption, low-fat diet, physical activity, educational activities, vaccination campaigns against flu, and home care, among others.30

CONCLUSION

With data analysis, it was possible to observe that the majority of old adults with respiratory problems treated in the emergency unit of the university hospital above mentioned were male, whites, married, aged between 60 and 79 years and had not completed elementary school. The profession more exercised by the population studied was housewives among women and farmers among men.

A large segment of the old adult population studied was discharged from hospital. The rate of hospital stay of these patients was more than seven days and pneumonia was the main cause of hospitalizations and deaths.

From the results obtained, it is possible to develop differentiated assistance and provide quality care to old adults, especially in emergency care units, where the recovery and maintenance of respiratory functions are of great importance.

REFERENCES


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Respiratory disorders in old adults treated in...