ABSTRACT

Objectives: analyzing the knowledge of institutionalized elderly on the prevention of tetanus and verifying the upgrade of tetanus immunization. Method: this is an exploratory-descriptive study of a qualitative nature, conducted with 11 subjects of both sexes, lucid and residents of an institution for the Aged (LTCF) in Teresina, Piauí, and Northeast of Brazil. The data production was conducted in September 2012, through semi-structured interviews and by document collection of the historical of the participants’ vaccination. In the analysis were used the techniques of content analysis and documentation. The project was approved by the Research Ethics Committee, protocol 8660/2012. Results: subjects had some knowledge of tetanus, others had wrong knowledge and the majority reported feeling fear in relation to the aggravation. Some correctly, but empirically, and some question the reported measures for the prevention of disease. The majority (70%) did not have updated tetanus immunization. Conclusion: it turns out that there are deficiencies in the clarification of the injury and the tetanus immune-prophylaxis for this population.

Descriptors: Nursing; Tetanus; Aging Health.

RESUMO


PREVENTION OF ACCIDENTAL TETANUS IN INSTITUTIONALIZED ELDERLY

PREVENCIÓN DE TETANO ACIDENTAL EN ANCIANOS INSTITUCIONALIZADOS

Helony Rodrigues da Silva¹, Teresinha de Jesus Sepúlveda Sales², Maria Delnides de Sousa Azevedo³, Mayara Lino dos Santos⁴

Nurse, Master in Nursing, Center Unified School Teresina/CEUT, Teresina (PI), Brazil. Email: helonySilva@ceut.com.br. ²Nurse Egress. Center Unified School Teresina/CEUT. Teresina (PI), Brazil. Email: teresinha.sepulveda@hotmail.com. ³Nurse Egress. Center Unified School Teresina/CEUT. Teresina (PI), Brazil. Email: marladelnides@uol.com.br. ⁴Nurse Egress. Center Unified School Teresina/CEUT, Teresina (PI), Brazil. Email: maylino@hotmail.com
INTRODUCTION

The growth of the elderly population is configured as a global phenomenon. Brazil follows this trend of aging radical and accelerated manner, as can be seen by the numbers of elderly in the country, which went from three million in 1960 to seven million in 1975 and to 20 million in 2008, representing an increase of almost 700% in younger than 50 years old.1 According to projections by the World Health Organization (WHO), by 2025, Brazil will be the sixth country in the world with the highest number of elderly.2

Another outstanding feature of the process of aging Brazilian population is that it is occurring in the midst of great social, cultural, economic, institutional, changes in individual and collective values and family structure itself. It is what would be contributing to the strengthening of the tendency to institutionalize the elderly, an action that was hitherto not considered common in the country.3

A survey by the Institute for Applied Economic Research (IPEA) in all Brazilian regions in the period 2007 to 2009 found that overall, 84.000 seniors were institutionalized in the country. Getting the participation of 92.8% of the 3549 identified NHS, the survey estimated that the number of residents in NHS in Southeast equivalent, the study, 0.8% of the elderly population in the region period, the South and the Midwest 0.7%, in the Northeast, 0.2%, and North, 0.1%.4

The outlook presented arouses the need for a thorough reflection on the speed of the demographic and epidemiological transition process experienced by the country in recent decades and the challenges that this situation demands. The new population above scenario requires the rapid formation of a health system that is geared toward the elderly population. Feature that could be observed in the majority of reported cases occur among individuals idosos.10 Brazil follows the trend of developed countries, as can be confirmed by studies on the topic.9

A study conducted in the period 1980-1991, through the Mortality Information System (SIM) analyzed the behavior of the age distribution of tetanus in Brazil. It was found that over the years, all regions of the country showed a significant reduction in the mortality rate for tetanus in all age groups except the elderly.11

In Minas Gerais, in a survey from 2001 to 2006, there were evaluated cases of tetanus confirmed in the state during the study period. To be analyzed the distribution of cases by age group, it was observed that most of them, a total of 37.3%, also occurred in people aged 60 and older.9

Research from Pernambuco10 and Ceará12 demonstrated that the Northeast region has slightly more than a third of the cases of tetanus in the country. In Piauí, cases of tetanus reported in the period 2007 to June 2012, 18.7% of them were 60 or older.13

Studies show that the elderly are at higher risk of dying due to tetanus. The mortality rate from tetanus is six times higher in children than in those aged 60 years older, compared to the rest of population.9 It was identified in Minas Gerais and in São Paulo State, a study basing on the Information System for Notifiable Diseases (SINAN) from 1991 to 2012 showed that the mortality from tetanus remained eerily stable in the state, around 35%, and we get older, it easily reached 100%.14

It is imperative to note that the elderly in a state of institutionalization have characteristics that make them even more vulnerable to acquiring tetanus. They are: a greater tendency to fall compared to non-institutionalized elderly15, which allows the infection continuity solutions by Clostridium tetani and low tetanus immunization of this population. Feature that could be observed in a study conducted in Belo Horizonte, where the level of anti-tetanic antibodies in generating high human, economic and social costs, such as tetanus.9

The tetanus is a universal grievance and despite the progressive reduction in the incidence of the disease and there is almost a century the discovery of the tetanus vaccine is still considered a serious public health problem, getting to be responsible for about 500.000 deaths/year underdeveloped countries. Already in developed countries, where the disease has become relatively rare, the majority of reported cases occur among individuals idosos.10 Brazil follows the trend of developed countries, as can be confirmed by studies on the topic.9

It is imperative to note that the elderly in a state of institutionalization have characteristics that make them even more vulnerable to acquiring tetanus. They are: a greater tendency to fall compared to non-institutionalized elderly15, which allows the infection continuity solutions by Clostridium tetani and low tetanus immunization of this population. Feature that could be observed in a study conducted in Belo Horizonte, where the level of anti-tetanic antibodies in...
institutionalized elderly population was less than 20%.\textsuperscript{14}

Given the above scenario, the objective is to analyze the job knowledge of institutionalized elderly on the prevention of tetanus, as well as check their vaccination status, so that from these data, it is possible to know the situation in which they are about preventing this disease, since statistically, being elderly and institutionalized, have a higher chance of getting sick and dying from tetanus.

**METHOD**

Article compiled from Labor Course

Conclusion << Prevention of Tetanus Accidental >> Institutionalized Elderly, presented to the Center Unified School Teresina/CEUT, Teresina (PI), Brazil, 2012.

This is an exploratory-descriptive study of a qualitative nature, with the realization of semi-structured interviews with elderly residents in a LTCF and documentary analysis of its historical vaccination.

The subjects were 11 elderly subjects of both sexes who presented lucid and willing to respond to the survey questionnaire and agreed to participate just by reading and signing the informed consent form (ICF). To prove the clarity was requested ILPI a medical opinion indicating the residents who were able to answer the questionnaire.

The research scenario was a philanthropic LSIE in Teresina, Piauí, chosen by having an old profile with the inclusion in this study population and may participate in the research effectively.

Data production occurred in two stages during the month of September 2012. The first consisted in the document collection of historical vaccination of participants, represented by vaccination card provided by the institution. The record of the information gathered was through an instrument with own fields, developed by the researchers.

The second stage was performed by an individual interview, using a semi-structured pre-tested. The questionnaire inquired about some identification data: (age, marital status, occupation and education), associated with two main questions: “What do you know about tetanus?” and “What is your knowledge about prevention of this disease?” The interviews were recorded in MP4 after approval of the deponents and then transcribed for analysis in the literature. The identification of the participants took place through a numbering order.

For analysis from vaccination of participants analysis of documentary type was chosen and used as a parallel source, the immunization schedule of the elderly, recommended by the National Immunization\textsuperscript{17} Program, which allowed the contextualization of the information contained in the documents.\textsuperscript{18}

It was held later the content \textsuperscript{19} thematic analysis focused on the interpretation of the knowledge of the institutionalized elderly on the prevention of tetanus that emerged in the speech of the subjects during the interviews. This analysis was divided into three stages: Reading all interviews seeking familiarity in the data; coding and inductive identification of emerging themes, recurring patterns and native categories; which included: the lack of seniors on tetanus, tetanus as a dangerous disease that arouses fear; tetanus and relationship with injuries and rusty objects, tetanus prevention knowledge, and finally, interpretation of speeches in the light of the theoretical framework on theme.

The completion of the study in LTCF was requested by letter and authorized by his direction on April 4\textsuperscript{th}, 2012. The project was approved by the Ethics Committee in Research CEP/CEUT having fulfilled all requirements of Resolution n. 196/96.

**RESULTS AND DISCUSSION**

- **Characterization of interlocutors**

  Of the 11 elderly who participated in the study, 06 were female and 05 were male. Participants’ age ranged between 60 and 85 years old, but the age group with the highest concentration of subjects was to 66-75 years old. None of the participants had elderly spouse, the majority of them, 72,7% had never having married. Observation is corroborated by the fact that the absence of a spouse be understood as a determinant for the institutionalization.\textsuperscript{20}

  All respondents were retired. This feature is considered very important because philanthropic NHs, as in the chosen field of study, owns part of the retirement of the elderly in order to provide them the necessary care as determined by the Elderly.\textsuperscript{21}

  The education of most frequently concentrated to track the incomplete primary education (72,7%), which revealed a low level of formal education of the participants. It is believed that low educational level in institutionalized elderly is related to social organization in the past that culturally difficult access to school, a factor that is commonly associated with negative health
outcomes of the elderly, as increased frailty, mental health problems and increased load illnesses.\textsuperscript{20}

It was identified that one of the participants had no vaccination history. It was observed by analyzing the vaccination of other card that only 70 % had updated influenza vaccination, 20% had a history of vaccination against influenza updated, yellow fever, diphtheria and tetanus, and 10% of participants showed update of influenza vaccines, MMR, and diphtheria and tetanus. Then it was found that only 30% of the participants, who had vaccination historic, had an updated tetanus shot.

The finding is contrary to what the Ministry of Health (MOH) determines as a form of control for tetanus, maintenance of adequate vaccination coverage. For this purpose, is defined as one that adequately vaccinated person took three doses of tetanus toxoid (DPT, DT, dT or TT), having been the last dose no less than ten years.\textsuperscript{12} Therefore, it can be stated that most elderly subjects who participated as subjects in this study were susceptible to preventable diseases, high incidence and mortality in their age group, such as tetanus, due to measures appropriate active immunization disabilities.

Characterized subjects present themselves then the categories that emerged from the analysis, discussion and interpretation of the interviews. Tetanus as a dangerous disease that arouses fear; tetanus and relationship with injuries and rusty objects and knowledge of prevention of tetanus lack of seniors on tetanus: they are.

\textbf{Lack of seniors on accidental tetanus}

In the interviews it was possible to identify the knowledge of some of the elderly on the tetanus, which can be given in the statements below.

\textit{Tetanus? I do not know the meaning of it. I heard... already... because it is a disease right? [...] (Witness 01)}

\textit{Tetanus? I have heard... but do not know what is not [...] (Witness 04)}

\textit{I do not know. I heard most do not remember. (Witness 05)}

In this category we observed that although the subjects had heard about the appeal, said that they have knowledge about the same. This lack of awareness may be related to the limited disclosure of tetanus in the media for campaigns\textsuperscript{22} and lack of clarification of the grievance on the part of health professionals, who mostly neglect the disease or are not prepared to deal with its prophylaxis and treatment.\textsuperscript{23}

The lack of national campaigns for tetanus vaccination for adults is related to the fact of the tetanus vaccination program focus on the control of neonatal tetanus, at the expense of low vaccine coverage to adult and, in particular, the elderly, people who do not even, would be included group on occupational risk.\textsuperscript{22}

The scope for improvements in the elimination of tetanus is therefore associated with higher incentives to upgrade and improvement of healthcare professionals. Thus, it intensified the development of supportive and preventive practices against tetanus associated with health education, making the population more aware and prepared against this disease.\textsuperscript{24}

In some depositions was also observed one wrong, incipient knowledge of different definitions of state of the art regarding tetanus, as can be seen below:

\textit{[...] I have the impression that it is communicating with each other, communicating with each other should get [...] (Witness 2)}

\textit{It is a communicable disease because tetanus sometimes picks right? She is transferable! [...] (Witness 8)}

In the speeches, one can identify that a deficiency of information and clarifications regarding tetanus, and culminate in ignorance of the disease in the population awakens, equivocal knowledge about it.

The respondents claim that tetanus is a disease communicable from person to person. This is knowledge contrary to scientific knowledge, as tetanus is not contagious. And yes, gained by introducing the bacillus Clostridium tetani in a body liable for an injury of any nature associated with favorable conditions for developing the disease, and the presence of devitalized tissue, foreign bodies and existence of anaerobic medium. We also emphasize that the bacillus, spore-forming, can be found throughout the environment.\textsuperscript{24}

It identifies the long road to be traveled by bodies responsible for improving the guidance and assistance to the elderly with regard to the management and prevention education from a secular disease of microbiological agent causing widespread throughout the environment, such as tetanus.

\textbf{Tetanus as a dangerous disease that arouses fear}

After analysis of the initial category which showed the ignorance of some seniors on the subject, we proceed to a second phase in which the testimony of the subjects converged to a different from that found in the previous item regarding tetanus result, which can be given to following:

\textit{[...] So it's a disease that has no [...] has no result, ie, the person dies. Because it is very...}
dangerous attacking and suddenly the person dies [...] There is more ease to die than to live. (Witness O1)

Tetanus? It is a very dangerous disease. As if it were one... is... Malignant... is a? What is, ... says it is incurable. [...] It... incurable. (Witness O3)

[..] He says he has no remedy right? It's close to home because there died still a young, very young boy with tetanus [...] (Witness O7)

[..] Many people died of tetanus. [...] I've always been afraid of tetanus. It is a disease that I fear. (Witness O8)

In the speeches delivered, we can identify that the elderly demonstrate fear the disease by understanding that it is dangerous without treatment and leading to death. This knowledge has presented a foundation with regard to its lethality, since tetanus is a severe disease, which despite having treatment, has high incidence of mortality, especially in the elderly.

This panorama of illness in the elderly settles due to the physiology of aging that makes the elderly more susceptible to accidents caused by instrumental and falls due to reduced reflexes, motor skills, visual and auditory acuity, leading the way, the more likely to get continuity solutions, which are gateways to the tetanus bacillus that lives in the environment in spore form.12

Other factors that make the elderly a population at risk for acquiring the tetanus, can be identified, they are: the linear decrease in serum levels of tetanus antitoxin with advancing age, low immune-defense with the injury of T-helper activity and neglect for booster doses of tetanus vaccine.11

The high lethality of tetanus is due to the severity of cases and their complications, especially as bad prognostic factors: age, short incubation periods and progression of the disease, presence of concomitant diseases and poor quality of care during disease.21

It is necessary therefore that the disclosure Tetanus is a serious disease but who may be prevented and which has treatment. Health professionals, among them nurses, must be substantiated to act in preventing tetanus, taking every possible opportunity to clarify and immunize the population. Such efforts should be further intensified with the elderly because they have higher chances of getting and dying from the disease.

Tetanus and the relationship with injuries and rusty objects

Pursuant to the investigative process, new information has been added by the deponents who made the association with some tetanus situations encountered in everyday life as can be evidenced by the statements below:

Prevention of accidental tetanus in...

[..] Handle to a wound, the person gets hurt, then transforms such tetanus [...] (Witness O3)

I know well, tetanus attacks the person who has an injury right? [...] Transfers a thing with an injury... with little time attacking tetanus. (Witness O6)

Tetanus handles by a microbe, for broadcast over, for example a whole nail rusted, its full microbe. [...] Handle to any device is not rusty? More terrible is nail... the person takes and step up. [...] (Witness O7)

[..] I know that if we step on a rusty nail tetanus turns [...]. (Witness O9)

Through the testimonies of this category, it is observed that the elderly to tetanus associated injuries and rusted appliances, which confer with state of the art. However, it is important to note that not only these types of instruments the disease bacillus lodges.

The bacillus Clostridium tetani are widespread throughout the environment, surviving in spore form for several years, not only in rusty objects, but also in glass, metals, plastics, dust, soil, feces, rotting water, and even in human skin. Infection occurs through superficial or deep wounds of any nature. 24

Knowledge about the tetanus prevention

This analysis section with a discussion of the latter category which presents knowledge of prevention of tetanus is concluded.

[..] I am a midwife [...] I washed the wound was healing right? (Witness O8)

In this talk, we identify that the interviewee reported as state of the art, care for wounds, as a preventive measure against tetanus.

The care of wounds is essential for the prophylaxis and cure of tetanus. Any injury, however innocent it may be, can be tetanus focus. There tetanus-genic lesions less power, and other when associated with anaerobic medium, foreign bodies, infection and necrosis for example, have a higher severity.23

The power of tetanus-genic injury and vaccination status of the individual will determine the management of the wound.24 It is, therefore, nurses and other health professionals at any level of attention that they are operating, be prepared to perform in front of an injury, the measures appropriate tetanus prophylaxis.

Another proposal for the prevention of tetanus was raised by the respondents, the following:

With the vaccine right? I vaccinated me. I have the membership card, tetanus, yellow fever an... of the vaccine. The tetanus seems that is 10 to 10 years, yellow fever is 10 in 10 years... now is that the shaft is every year. [...] (Witness O7)

[..] Ah, have the tetanus vaccine, tetanus. But every elderly person has to take anti-tetanus serum to avoid... when one cuts the fields we avoid. (Witness O8)
Oh, it is not a vaccine? I have already been vaccinated, but I think now ta is already passing of time. Any time is what I did. (Witness 9)

Taking the injection, which is good to take to avoid. (Witness 11)

In the statements above, it is observed that the expression of empirical knowledge of the subject has scientific rationale for the prevention of tetanus. Since they reported being active immunization by tetanus vaccine a way of preventing disease, and one of the respondents also highlighted the passive immunization by tetanus antitoxin serum for prevention after an injury.

The main way to prevent tetanus is through vaccination. MS recommends to the full immunization schedule against the injury is three doses given within the first year of life, with boosters at 15 months and 4-6 years of age. From that age, a booster should be done every 10 years after the last dose, or five years, pregnant women. Note also that immunization should be taken also in those who have had tetanus, because the disease does not confer immunity.24

The tetanus prophylaxis in the elderly and institutionalized elderly should gain special attention due to the increased risk of this population develop the disease due to several factors, among them are: the tendency to fall and natural decrease immunogenic protection against injury.16

To achieve better anti-tetanus vaccination coverage, it is suggested that nurses along with other healthcare professionals are embedded in social mobilization actions and devise strategies to facilitate community access to health services by, for example, the promotion annual vaccination campaigns, geared primarily for elderly and men, the offering of vaccination programs in chronic diseases such as hypertension and diabetes and when issuing personal documents.12

We also highlight the need for improved communication between Basic Health Units and NHzs, still seen as deficient. Such a partnership could intensify adequate immunization of this population as subject to diseases like tetanus.26

CONCLUSION

After ascertaining the updated record of tetanus immunization and conduct a discussion about the knowledge of a group of institutionalized elderly on the prevention of tetanus is possible to say that the objectives proposed in the study were achieved.

It was found that most respondents did not have updated tetanus immunization and, predominantly incomplete elementary school education. On the pathology under study, it was expressed ignorance, wrong knowledge and the feeling of fear in relation to the offense. However, a few associated with the cause of disease and injury rusted materials and there are still those who cited the care of wounds, active and passive immunization as prevention of disease.

Respondents mostly showed themselves susceptible to tetanus by little knowledge about its prevention and for not being immunized against this disease. It is necessary, therefore stimulating the continuing education of health professionals through the promotion of updating and improvement, so that they can act based on care and tetanus prophylaxis form, emphasizing strategies that achieve the highest risk groups such as the elderly.

Nursing professionals should promote both for the disclosure of all information about the injury, making this common knowledge; must also act in the prophylaxis of tetanus, both in its primary form, tetanus through immunization campaigns and other strategies to increase their immunization coverage, as in the secondary, through the proper management of injuries.

It is hoped that the findings of this study contribute positively to the planning and research measures to prevent tetanus by health professionals and the elderly, adding the information of existing studies, thus contributing to the care, management, research and future work.

ACKNOWLEDGEMENTS

To the institution in which the field study and the elderly participants in the survey was held.

To the Professor MS in Nursing Geandra Batista Lima Nunes for supporting the review of the data analysis and writing of this article.

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Doi: http://dx.doi.org/10.1590/S0104-11692007000600014
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