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Session: *Epidemiology and Public Health III*

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Time: 12:45-14:15

Room: Ballroom

Mortality and risk factors among patients hospitalized for tetanus in CHNU Fann, Dakar



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Background: To evaluate the mortality and associated risk factors among patients hospitalized for tetanus at the National University Hospital of Fann in Dakar.

Methods & Materials: Retrospective cohort study examining mortality among patients aged ≥ 16 years hospitalized for tetanus CHNU of Dakar Fann, between January 2000 and December 2008. The effect of epidemiological and clinical factors on mortality before and after 10 days of hospitalization (TDH) was assessed using the Cox proportional hazard model in univariate and multivariate analysis, the probability of survival was calculated by using Kaplan-Meier method. The significance level was set at $p < 0.05$.

Results: Of 383 patients hospitalized for tetanus, 74% were male, the median values were: age, 34 years [interquartile Range (IQR): 21-51]; and the length of hospital stay (LOH), 10 days [IQR: 3-18]. 180 patients (32.38%) had died, 114 (92%) versus 10 (8%) ($p < 0.001$) respectively before and after TDH. In univariate analysis, risk factors associated with mortality in the first TDH were, age groups of 20-59 years [Hazard Ratio (HR): 1.58 (confidence interval 95% (95% CI): 1.07-2.35)], delay to hospitalization of more than 3 days [HR: 3.99 (95% CI: 2.47-6.47)] the existence of a gateway [HR: 2.59 (95% CI: 1.71-3.93)] generalized tetanus [HR: 0.36 (95% CI: 0.13-0.97)], presence of paroxysmal tonic-clonic [HR: 0.39 (95% CI: 0.24-0.62)], infectious complications [HR: 2.57 (95% CI: 1.07-6.20)].

Age ≥ 60 , male gender, existence of a defect, the invasion period less than 2 days (IP < 2) were associated with the occurrence of death after the TDH. In multivariate analysis, the paroxysmal tonic-clonic [AHR: 0.22 (95% CI: 0.06-0.82) $p = 0.025$], infectious complications [AHR: 4.01 (95% CI: 1.03-15.65) $p = 0.046$] were mortality risk factors in the first TDH and the IP < 2 [AHR: 4.10 (95% CI: 1.04-16.16)] after TDH. The probability of survival between the 9th and 10th day of hospitalization was 53.79% (95% CI: 48.66-56.63).

Conclusion: Tetanus mortality remains high in hospital settings. Paroxysmal tonic-clonic, infectious complications, invasion period less than 2 days stay the main risk factors.

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Cost analysis of healthcare associated infection in a training hospital



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Background: Hospital acquired infections are of important wide-ranging concern in the medical field. Hospital acquired infections result in excess length of stay, mortality and healthcare costs. In our study; we investigated the effect of the hospital acquired infections in Gulhane Military Medical Faculty (GMMF) Training Hospital, in Turkey, on hospitalization period, mortality, and additional cost caused by these infections. Additionally; we tried to define the hospital infections types having the highest cost. With the data achieved, we also intended to constitute the database to lead the cost-effectiveness studies required for logical, efficient, and proper use of resources.

Methods & Materials: Ninety patients with hospital acquired infection were included in the study. Ninety patients without hospital acquired infection one to one matched and having similar characteristics with study group were chosen as control. The hospitalization, diagnostic and therapeutic interventions, drugs, consultations, nursing care services and all expenditures for consumables were assessed in cost analysis.

Results: In our study; it was detected that, the hospital acquired infections developed averagely on 18th day of hospitalization, and that, the hospitalization duration increased 16.1 days due to these infections and the mortality was 14.5% higher. The additional cost per patient was approximately calculated 4435\$. It was detected that, patients with hospital acquired infection caused 83.4\$ of additional expenditure daily, and for these patients the highest cost were for consumables and drugs used.

Conclusion: It was calculated that, 84% of increase in the drug cost was caused by additional antibiotics used. It was appointed that, the cost increase in ventilation association pneumonia, in blood stream infection and in urinary system infection were more than that of other types of hospital acquired infections.

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