IMPACT OF EARLY MICROBIOLOGIC CULTURE IN THE ECONOMIC BURDEN OF CARE FOR PATIENTS WITH INFECTED DIABETIC FOOT ULCERS AT A MODEL OF SECONDARY LEVEL IMSS' HOSPITALS IN MEXICO.


1. OBJECTIVE
Estimate the economic impact of the early microbiological culture in the cost-reduction associated to the attendance process of the infected ulcers in diabetic foot through an economic model based on a Monte Carlo simulation.

2. METHODS
Economic model of Monte Carlo simulation in two steps: The first step was a descriptive and longitudinal study. Were included diabetic subjects with infected ulcers in diabetic foot, patients were initially treated in Emergency Room of Mexican IMSS' secondary level hospital in a period from January 1st to April 30th 2010.

3. - MICRO-COSTING ANALYSIS RESULTS
Total costs for the sample were $502,438.04 USD, the mean cost per patient was $7,177.69 (±$5,043.51) USD, the median cost was $6,422.99 ($25 $3,502.93; $75 $9,298.33). 72.75% ($365,527.45) of the total cost was related to hospital stay.

4. - RESULTS
We include data from 69 patients with diabetic foot infected ulcers, were studied in a 16 months period, the sample has 95 confidence and health care cost were the most important outcomes in the research.

4.1. Monte Carlo Modelling Results
1. Antibiotic cost analysis showed: If the physician considers a secretion sample in the first 48 hours of the patient admission in emergency room and began the empirical antibiotic treatment, and modifies the criteria according microbiological results from the culture, the cost will be reduced (through antibiotic expenditure) 9 to 15%

5. - DISCUSSION:
A group of Swiss and French researchers evaluated in 2010 the economic impact derived from the use of treatment guidelines in infected diabetic foot. The results on microbiology results and health care cost were the most important outcomes in the research.

Related to the microbiologic culture is important to consider realize it early, at the hospital admission moment previous to begin empirical antibiotic treatment, with this measure is probably, how we observed through Monte Carlo modelling, the health system can obtain a reduction in the total cost of the treatments, considering in the median time new diagnostic methods based on molecular biology techniques to identify early contamination, bacterial colonization in diabetic foot wounds.

6. - CONCLUSION:
According Monte Carlo Modelling results the early microbiological culture as the base of antibiotic selection can reduce treatment cost in more than 30%.