

## **To explore the application value of control chart in the management of nosocomial infection in intensive care unit (ICU) by using quality control chart to monitor the infections in ICU” Cheng et al (2017).**

Abstract:

**OBJECTIVE:** To explore the application value of control chart in the management of nosocomial infection in intensive care unit (ICU) by using quality control chart to monitor the infections in ICU.

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**METHODS:** From October 2011 to June 2016, ventilator-associated pneumonia (VAP), central line-associated bloodstream infection (CLABSI) and catheter-associated urinary tract infection (CAUTI), namely the three catheters, occurred in ICU of the Affiliated Hospital of Guizhou Medical University were monitored and recorded monthly, then the data was input into the Excel, and the data was analyzed using SPSS. According to the properties of the data, control chart was derived for monitoring nosocomial infections, finding out problems and for taking actions on time.

**RESULTS:** From October 2011 to June 2016, the numbers of new patients in ICU were 23-103 cases per month and the median was 45.00 (39.00, 55.50) cases per month. The numbers of new VAP patients were 0-7 cases per month which median was 3.00 (1.00, 4.00) cases per month and the VAP rates were 0-22.58 cases per 1 000 ventilation-days which median was 8.62 (3.28, 12.10) cases per 1 000 ventilation-days. The numbers of new CLABSI patients were 0-3 cases per month which median was 0.00 (0.00, 1.00) cases per month and the CLABSI rates were 0-14.82 cases per 1 000 catheter-days which median was 0.00 (0.00, 5.38) cases per 1 000 catheter-days. The numbers of new CAUTI patients were 0-8 cases per month which median was 1.00 (0.00, 2.00) cases per month and the CAUTI rates were 0-14.06 cases per 1 000 catheter-days which median was 3.02 (0.00, 5.86) cases per 1 000 catheter-days. 57 points of the three catheter-associated infections incidences were continuously monitored monthly, in which some data points overstepped the warning

limit, only 1 CAUTI infection incidence overstepped the control limit, the other monthly three catheter-associated infections incidences were in the control range and had no abnormal arrangement occurred, so all of them were in a controlled state. By using the control chart, the situation of nosocomial infections were analyzed scientifically and intuitively, the existing problems were discussed in time, the improvement programs were made, and the three catheter-associated infections were in a controlled state.

CONCLUSIONS: Control chart has the characteristics of simple operation, intuitive results, and finding problems on time, so it can be used in daily monitoring of nosocomial infection and is worthy of generalization.

Reference:

Cheng, Y., Liu, Y. and Wang, D. (2017) Application of quality control chart in quality control for nosocomial infection in intensive care unit. *Zhonghua Wei Zhong Bing Ji Jiu Yi Xue.* 29(2), p.172-176. .

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