Analysis of Pneumonia Assessment Tool and its Possible Usefulness in Paediatric Population, Children's Clinical University Hospital, Latvia

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Introduction. Pneumonia remains as one of the leading causes of mortality in paediatric population; rapid assessment for possible pneumonia is crucial.

Aim, Materials and Methods. The aim of this study is to retrospectively determine possible diagnosis of pneumonia and respective patient management according to pneumonia assessment tool.

The study was conducted in Children's Clinical University Hospital (CCUH) from January–December, 2015. Altogether, 600 children with diagnosis of J18.x were enrolled into the study. Every case was evaluated with the pneumonia assessment tool.

Results. Overall, 600 children were included into the study; 44.8 % (n = 269) of them were female and 55.2 % were male (n = 331). In most cases, 70.7 % (n = 424), patients were aged from 3 mo till 5 years, mean age 47 mo, median age 34 mo.

Predominantly, in 77.6 % (n = 466) of the cases, children were treated in hospital rather than ambulatory and most of them 19.7 % (n = 118) were hospitalized on the third day of illness and mean hospitalization time was 4 days, median 3 days. Upon admission mainly children were sorted into "green" 49.7 % (n = 298) and "yellow" 40.0 % (n = 240) priorities.

In total, 66.7 % (n = 400) evaluated by assessment tool corresponded to diagnosis of pneumonia and 8.75 % (n = 35) of them did not have pneumonia as final diagnosis. Further assessing the tool, 61.8 % (n = 371) were evaluated to have a mild case of pneumonia, 27.2 % (n = 163) moderate pneumonia 3.7 % (n = 22) severe pneumonia. Those having a mild case of pneumonia in 66 % (n = 245) of cases were hospitalized, their mean hospitalization time was 4.9 days, median 4 days; 6.2 % (n = 15) had their blood analysis and CRP taken, 14.9 % (n = 36) received chest X-ray and 75.9 % (n = 183) had all three investigations performed, only 2.9 % (n = 7) had no additional examinations made.

There was no significant correlation between age and length of hospitalization (Spearman, p = 0.729). Positive correlation was observed between severity of pneumonia and length of hospitalization (Spearman, p = 0.00).

Conclusions. Pneumonia assessment tool could reduce the count of unnecessary investigations as pneumonia primarily remains clinical diagnosis.

More than half of the patients with mild pneumonia that received hospitalization potentially could be managed ambulatory, thus decreasing health care costs. In these cases the use of the pneumonia assessment tool could be economically effective.