5 Years Experience Of School Scoliosis Screening Program In Perak Population - A Clinical Evaluation Of Epidemiology, Effectiveness And Limitation Of Scoliosis Screening From 2011 To 2015

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Study Design.
Population based, retrospective cohort study of school scoliosis screening program (SSSP) in Perak, Malaysia involving more than 100 primary schools.

Objective.
The aim of this study was to assess current prevalence and distribution of adolescence idiopathic scoliosis (AIS) in school children and to compare with the results of other studies done in Malaysia and neighbouring country studies.

Summary of Background Data.
Data collected from SSSP from 2011 to 2015. A total of 42,866 school children with age of 11 to 12 were screened. However, due to several factors such as in first 2 years of the programs the nurses still in learning process of doing the screening, inadequate tools such as scoliometer, no proper place to do screening in school and problems in referrals we drop the first 2 years of the program screened school children. In the later 3 years, 34638 school children screened.

Methods.
School children were initially screened by visual inspection of clinical signs, such as shoulder and pelvic imbalance, abnormal spinal alignment, the forward-bending test, and the measurement of the angle of trunk rotation (ATR) by scoliometer. The diagnosis and treatment were based on the Cobb angle. The personal information, demographic information, and results of tests performed were recorded and analysed.

Results.
Around 1.08% (374) of children screened were referred for radiological assessment, however only 258 turn up to the scoliosis clinic. 132 of them had confirmed diagnosis. The corrected prevalence rate is 0.574%. Prevalence according to severity of cobb angle 10° to 20°, 21° to 40° and 41° above are 0.286%, 0.092% and 0.017% accordingly. The prevalence of AIS in need of treatment (brace or surgery) was 0.11%. Positive predictive value (PPV) of screening program is 57.5%.

Conclusion.
The school scoliosis screening program in Ipoh Perak is effective with a good PPV of 57.5%. The prevalence rate of AIS was 0.574% in our study. Screening of standard 6 girls yielded a significant benefit from preventive treatment.

References.