# Prevalence of Dental Caries on Permanent First Molars of 7-Year Old School-Aged Children: Basis for the use of Pit and Fissure Sealants

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**Abstract:** Dental caries is the leading cause of oral diseases in young children all throughout the world. It occurs as a result of the dissolution and destruction of the enamel surface by the microorganisms. The purpose of the study is to compare the prevalence of first permanent molar caries among sever year old school-aged children as a basis for the use of pit and fissure sealants. Specifically were to answer the following: 1) What is the number of 7 year old children with fully erupted first permanent molars?; 2) What is the prevalence and degree of existing caries on all the first permanent molars using ICDAS II method of caries assessment, in terms of: a)Sealable non-carious/ ICDAS II code 0, b)Sealable carious/ ICDAS II code 1 & 2, and c)Non-sealable carious/ ICDAS II code 3-6 ; and 3) Is there a gender predilection in the development of dental caries. The descriptive research design was used to utilize the ICDAS II caries index to assess the prevalence of the caries on the permanent molars. A total of 36 respondents were examined in this study. Data was analyzed using frequency, distribution and Chi-square test. Initially, there were 47 participants or the proposed study ages 7 years old, but only 36 (76.60%) of them met the inclusion criteria of having their first permanent molars fully erupted. Results showed that out of 144 teeth of the respondents, there were 121 sealable non-carious, 14 sealable carious, and 9 non-sealable carious teeth. There was no gender predilection. The study showed that there is a high percentage of sealable non-carious permanent molar, which is the appropriate age to strongly implement the application of pit and fissure sealant. This would significantly benefit in preventing and/or inhibiting the occurrence of caries in 1st permanent molars.

**Keywords:** Dental caries; permanent first molars; pit and fissure sealants; ICDAS II