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Fissure sealing - overtreatment or preventive need?

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Date/Event/Venue:

13.-14. September 2002
 7th Annual conference of the European Association of Dental Public Health
 Athen, Greece

Objectives

Differentiated assessment of pits and fissures in permanent molars to get information regarding their need of preventive care during a follow-up of 2 years of 8-year-old Westphalian children

Material and Methods

STUDY POPULATION

- 369 Westphalian children born in 1989
- First examination at the age of 8 years in 1997
- Second examination at age of 10 years in 1999

METHODS

- Scoring of caries lesions - dft/s/ DMFT/S - according WHO criteria (1997)
- Scoring of Brown spots, White spots and Microcavities on fissures and pits of the first permanent molars
- Evaluation of the quality of fissures/pits sealants

Results

Fig. A - G

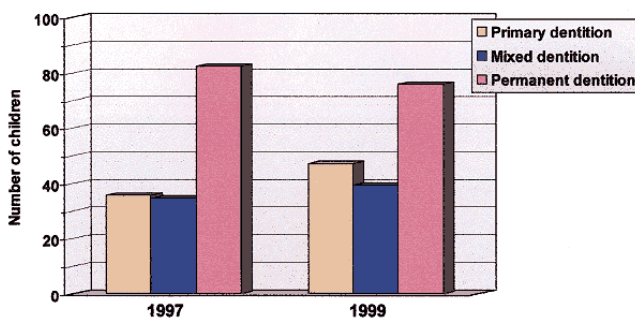


Fig. A:
 Number of caries-free children

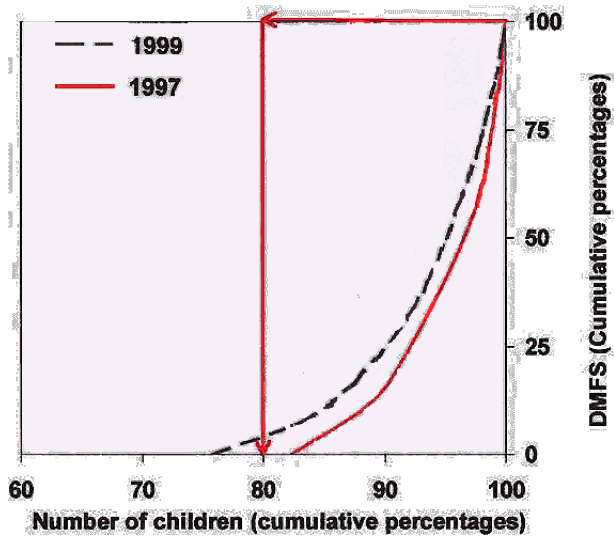


Fig. B:
Lorenz curves revealed that nearly 100 % of all cariously affected surfaces were concentrated in 20 % of the children

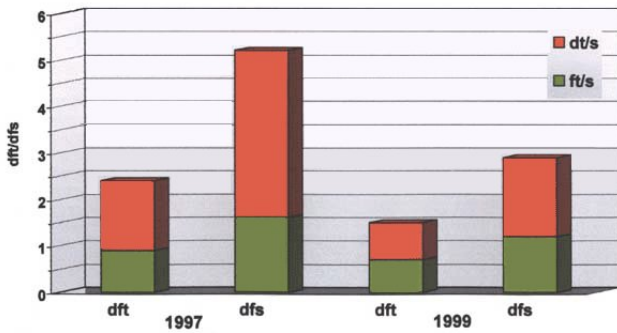


Fig. C:
Caries prevalence in the primary dentition 70 % of all carious lesions were not restored in 8-yr-olds in 1997 58 % of all carious lesions were not restored in 10-yr-olds in 1999

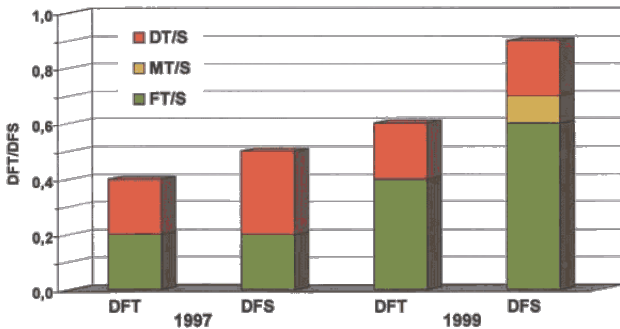


Fig. D:
Caries prevalence in the permanent dentition 50 % of all carious lesions were not restored in 8-yr-olds in 1997 24 % of all carious lesions were not restored in 10-yr-olds in 1999

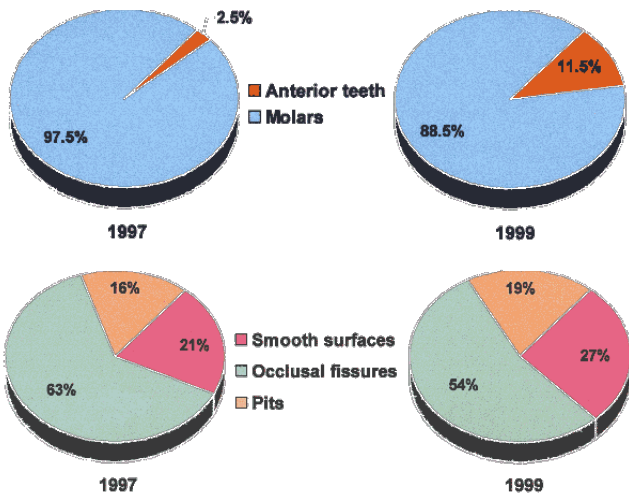


Fig. E: Concentration of caries experience on fissures and pits of the first molars

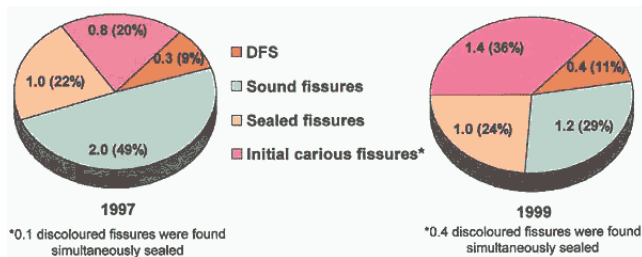


Fig. F: Clinical status of occlusal surfaces in first molars Initial carious lesion increased up to 36 % in children of 8 to 10 years of age

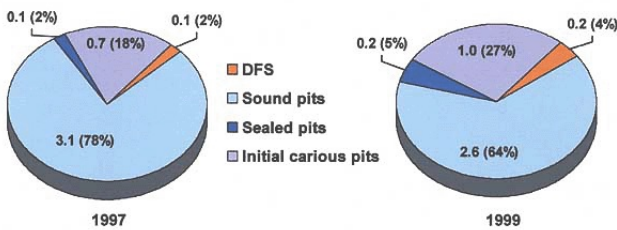


Fig. G: Clinical status of upper palatal/ lower buccal pits in first molars Initial carious lesion increased of 18 % in the 8-yr-olds to 27% in the 10-yr-olds, sealed pits were hardly found

Conclusions

- Carious lesions in the primary and permanent dentition should be restored.
- According to increasing numbers of non-cavitated lesions sealants should be applied more frequently in pits and fissures.
- Sealant application financed by insurance companies since 1993 for 6- to 17-yr-olds are highly needed to prevent a further carious attack of pits and fissures.

This Poster was submitted by *Dr. Jan Kühnisch*.

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AIM

Differentiated assessment of pits and fissures in permanent molars to get information regarding their need of preventive care during a follow-up of 2 years of 8-year-old Westphalian children

STUDY POPULATION

- 369 Westphalian children born in 1989
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METHODS

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Scoring of

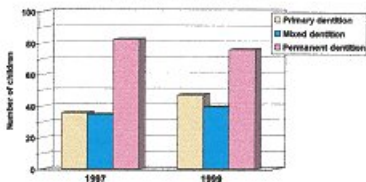
- Brown spots
- White spots
- Microcavities

on fissures and pits of the first permanent molars

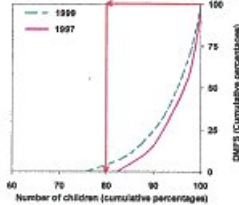
- Evaluation of the quality of fissures/pits sealants

RESULTS

Number of caries-free children

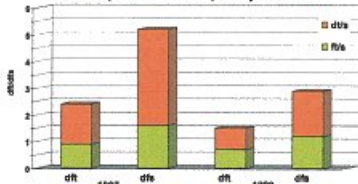


Lorenz-curves



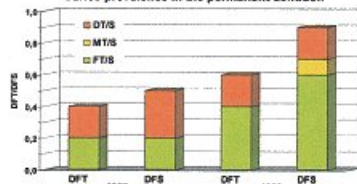
Lorenz curves revealed that nearly 100 % of all cariously affected surfaces were concentrated in 20 % of the children

Caries prevalence in the primary dentition



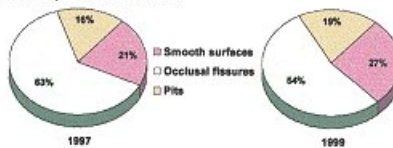
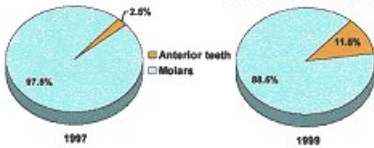
70 % of all carious lesions were not restored in 8-yr-olds in 1997
58 % of all carious lesions were not restored in 10-yr-olds in 1999

Caries prevalence in the permanent dentition

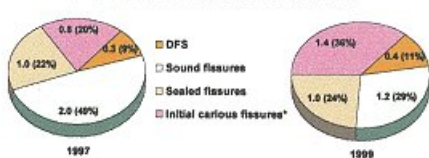


50 % of all carious lesions were not restored in 8-yr-olds in 1997
24 % of all carious lesions were not restored in 10-yr-olds in 1999

Concentration of caries experience on fissures and pits of the first molars

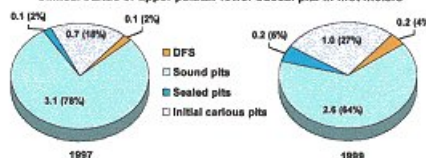


Clinical status of occlusal surfaces in first molars



*0.1 discoloured fissures were found simultaneously sealed
Initial carious lesion increased up to 36 % in children of 8 to 10 years of age

Clinical status of upper palatal/ lower buccal pits in first molars



Initial carious lesion increased of 18 % in the 8-yr-olds to 27% in the 10-yr-olds, sealed pits were hardly found

CONCLUSION

- Caries lesions in the primary and permanent dentition should be restored.
- According to increasing numbers of non-cavitated lesions sealants should be applied more frequently in pits and fissures.
- Sealant application financed by insurance companies since 1993 for 6- to 17-yr-olds are highly needed to prevent a further carious attack of pits and fissures.