Surviving Oral Cavity Radiation: Evaluating Nurse-Sensitive Outcomes to Promote Dental Preservation

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OBJECTIVE
• State three reasons that may contribute to patient non-adherence in a nurse-led program aimed to promote dental preservation in patients receiving oral cavity radiation.

BACKGROUND & SIGNIFICANCE
• Worldwide estimates predict 500,000 people will be diagnosed with head and neck cancer in 2012.
• Nearly two-thirds receive curative radiation to the oral cavity.
• Survivors are at risk for long-term effects:
  • Caries
  • Trismus
  • Infection
  • Osteoradionecrosis
  • Compromised nutrition


• Sample: 38 patients receiving oral cavity radiation
• Setting: Radiation department at large midwest health system
• Intervention: Nurse-led patient assessment on previous teaching about dental preservation, including daily use of fluoride
• Results: Only 10.5% (n=4) reported regular fluoride use.

ASSESSMENT CONDUCTED BY RADIATION NURSE (2008)
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PURPOSE
• Results from the 2008 assessment warranted a change in patient teaching
• A nurse-led patient education program was designed to improve fluoride adherence in patients receiving curative oral cavity radiation for cancer

PILOTED INTERVENTION
• Nurse-led patient instruction portion remained unchanged
• Radiation nurse provided patients with a letter to give to their dentists
• Letter requested the dentist to forward the patient’s treatment plan to the radiation oncologist using the pre-addressed postage paid envelope
CONTENT OF LETTER TO DENTISTS

- Possible complications from oral radiation
- Recommendation for pre-treatment work-up
- Need for long-term surveillance
- Request for custom-made fluoride trays

CUSTOM-MADE FLUORIDE TRAY

EVALUATION & DISCUSSION

- At one year, 34% (n=4) response rate of requested letter by dentist associated with the first 100 patients.
- Despite improved fluoride adherence, outcome was lower than anticipated.
- Review of medication-adherence research and personal conversations with patients offered insight into possible barriers that have influenced outcomes.

POSSIBLE ADHERENCE BARRIERS TO EXPLORE: INVOLVES PATIENT, NURSE, AND DENTIST

- Patient inability to pay for dental services
- Poor understanding regarding impact on dentition
- Patient fear of dentists
- Lack of motivation
- Dentist lack of response to oncologist request
- Problems with recommended treatment regimen
- Dental preservation may not be patient priority
- Timing of patient teaching

CONCLUSION

- Nurse-led survey identified lack of adherence to dental preservation
- Inter-professional collaboration led to improved adherence, but results were disappointing
- Additional nursing research questions necessary to improve survivorship outcomes

NURSE-SENSITIVE OUTCOMES

- Radiation oncology nurse played crucial role in designing creative strategy to assess, implement and evaluate inter-professional intervention that improved adherence to dental preservation
- Future nurse-led research is needed to identify practice guidelines and measures to evaluate nursing sensitive outcomes aimed to improve quality of life for oral cavity radiation survivors