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Den 1200 – E601

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ORAL HYGIENE IN PATIENTS WITH ORAL CANCER UNDERGOING
CHEMOTHERAPY AND/OR RADIOTHERAPY AFTER PROSTHESIS REHABILITATION:
PROTOCOL PROPOSAL

Introduction:

What is the author's central purpose? Is it clearly stated? The authors central purpose was to assess the importance and effectiveness of an oral hygiene protocol specifically for oral cancer patients undergoing chemotherapy or radiation therapy before and after treatment to reduce complications. This was clearly made evident in their introduction where they stated their aim was to highlight this issue. The title however, states the study includes the fact that it is after prosthesis rehabilitation. It is unclear if everyone had the obturator prosthesis that is explained in detail in this article or if they are referring to other dental prostheses. That part is not exactly clear, but I would assume that is the prosthesis they are referring to because it was defined in the methods and materials as to how to is used in oral cancer patients.

Write a 150- 200 word summary of the article that accurately conveys the content of the article. This longitudinal study begins by explaining the oral complications displayed by head and neck cancer patients that are possible. There is a control and an experimental group. The control group will receive “the usual care provided in a clinical setting”, whereas the experimental group will receive a specific protocol with numerous strategically planned visits over time. They outline the ratings and indices used to form the oral evaluation of the patients. The experimental group is assessed before their chemo/radiation treatment starts and any contraindications are addressed and are repaired. Oral hygiene motivation and education is thoroughly mentioned to be continuously instructed to the experimental group on each visit in addition to the specific needs and eradication of whatever complications that may arise with rinses and other treatments. Management is done on a case by case basis depending on what

complication may arise. The protocol explained and executed is seen with a 70% success rate in the experimental group with no complications and some minimal improvement. The control is shown to have multiple similar oral complications within their group that were seemingly not treated. The article on this study concludes by explaining patients discomfort and impairment that can arise from oral cancer. It asks for a multidisciplinary approach to alleviate this with proper protocol and changing patient behavior in their oral hygiene.

Does the work meet the standards to be considered an appropriate/academic/scholarly

source? Justify your choice. It is an original article, done within the past five years. The references used were extensive and up to date, although some being from 1996 most were 2004-2015 from recent, reputable sources. It was published in a quarterly, peer-reviewed open access, online journal which would mean the material is more likely to be up to date.

Are the qualifications of the author(s) appropriate for an academic article? Yes Briefly

describe the authors' qualifications: Rapone.B is a member of the Department of Basic Medical Sciences, Neurosciences and Sense Organs in University of Bari as well as

Interdisciplinary Department of Medicine. Nardi Gm, Department of Dental and Maxillofacial Sciences in university of Rome. DI Venere D, Interdisciplinary Department of Medicine.

Corsalini M Interdisciplinary Department of Medicine. Grassi FR, Department of Basic Medical Sciences, Neurosciences and Sense Organs, University of Bari. Pettini F, Interdisciplinary Department of Medicine (DIM) - Section of Dentistry, University of Bari. All authors have multiple papers published.

When was the work published? Oral and implantology Volume 9(Suppl 1/2016 to N

4/2016); Jan-Mar 2016 and online Feb 14 2017

Methods:

Is the experimental design clearly described? Describe the design in your own words.

Three-year, longitudinal, randomized control trial study comprised of 34 patients with primary oral cancer undergoing chemo and radiotherapy after prosthesis. The study was of a parallel design: 17 in the control group and 17 in experimental. The control group received regular clinic care, while experimental received extensive care for their specific conditions before and after treatment as outlined in their protocol. Protocol was as follows:

- 1st appointment: 2 weeks before radiation/chemo: Medical history reviewed, oral and clinical examination, radiographs, removal of bad teeth, fix poor fitting prosthesis, root canals and dentures care as needed. Explain OH practices to patient for at home care. Preliminary models taken for obturator if removal of cancerous tissue, prosthesis is adjusted as needed due to tissue changes over time.
- 2nd appointment: 5-6 days post radio/chemo: check teeth for deposits, plaque removal, dental cleaning, management solutions for xerostomia or osteoradionecrosis. Motivate, educate, reinforce.
- 3rd/4th appointment after 5/6 days: reassess, evaluate and reinterpreted on OH techniques.
- Twice a month for 3 months: periodontal assessment and continual reinforcement of oral hygiene motivation, also checking patients white blood counts

Hypothesis being it will reduce risk of complications and infection as well as long term problems.

Have the possible influences on the findings been identified and controls instituted?

Describe and evaluate the use of controls and possible influences

Control for this study were those who only received regular dental treatments while on radio/chemo – this does not explain what that entails. Do we know they don't have a dentist outside of this study? Are they using any other therapeutic drugs? Are they being meticulous about their oral hygiene regardless? There can be many biases we are unaware of we are not sure of other factors and if they were thoroughly controlled. They should have been more specific on what they did or did not do at the end of the study. Also, were the different types of radiation going to affect the complications that come with oral cancer? If possible, it should have been the same for all 34 patients selected.

Has the sample been appropriately selected (if applicable)? Describe the sample used in the study and evaluate its appropriateness. The sample used in this study was 34 people. They used just above the minimal amount for a study. The fact that these were cancer patients, they should have used a larger amount to accommodate for a possible loss of patients. The age group studied was an average of 60-70 with a mix of male and female with 10 males and 7 females. They ranged from partially edentulous or edentulous. No one had a full dentition. All cancers present were oral neoplasia type. Cancer treatment ranged from radiotherapy, surgery, chemotherapy, bone marrow transplant and post-operative radiation. Age, stage, type of cancer and complications are all similar in both groups. Other factors not used – general health, health of teeth/mouth prior, knowledge of oral hygiene, and OH habits. It was not completely appropriate, could have been more specific in oral hygiene knowledge and possibly used a quantitative approach and included those in the sample information.

Is the experimental therapy compared appropriately to the control therapy? Describe and evaluate the use of the control group. No, we have no real knowledge on what the control

therapy entails. The control group is not described in detail. We know the age, types of cancer, stage and type of cancer treatment in the control are relatively similar to the experimental group. We also are given the fact that they experienced many more oral complications than the other group receiving the protocol. However, we know nothing else, no other medical history or oral hygiene knowledge the patient had or received.

Is the investigation of sufficient duration? Evaluate, and explain your reasoning. Duration of experiment was significant with 3 years ranging from December 2012 to December 2015. Most studies for chemotherapeutic products need to be at least 6 months while this study was over several years, so I would conclude the effects of oral hygiene education and implementation would be enough with a 3-year span of research.

Results and Discussion:

Have the research questions or hypothesis been answered? Restate the research questions and/or hypotheses in your own words, and describe if or how they are answered. This study was conducted to show the effectiveness of an oral hygiene protocol on head and neck cancer patients who undergo radio/chemotherapy. Results of this study show 70% of the experimental group obtained positive results. Many patients experience xerostomia and oral hygiene helps them manage it. It can take up to 12 months to return saliva to adequate amounts and sometimes it never returns fully. It is evident that the rigorous care helped with minor improvements or preventing complications from arising in the first place within the experimental group while there was always a result of complications in the control group. The hypothesis was proved in

my opinion because I can't see how being provided with LESS oral hygiene care and education can ever help anyone regardless of their medical state.

Review the results in light of the stated objectives. Does the study reveal what the researcher intended? Yes, with instances 70% were positive: now the conclusion did state that this helps significantly. Proper and constant care is crucial to combat or prevent from arising altogether, complications from chemo/radiation which can be debilitating and cause additional issues.

Do you agree or disagree with the article and findings? Explain why? I agree with the findings because as an aspiring dental health care professional I can correlate the need of oral hygiene to improved health. The saying 'less is more' will not ring true when it comes to this topic.

What would you change in the article? Why? Think outside of the box. What would you add or delete. I would add more on each patient history and individual results as well as complications that arose in control group patients. Also, I would include the treatments done and instruction given to the control group. This was more to the point that a protocol would be helpful if implemented on oral cancer patients which I agree with but there is a lot missing. The article does go in depth in what the protocol entails but not a case by case conclusion to the study. What were the 70% positive findings? It's clear to see when comparing tables that there were more complications in the control group and less in the experimental but inquiring minds would like to know the specific outcome and why. I would remove extras not pertaining to oral hygiene. I'm not sure the prosthesis element was necessary to fully explain because it's not detailed in which patients have it or not. Hypobaric chamber recommendations were not

necessarily needed. This was educational for me but from a research aspect it was lacking and needed more additions rather than deletions.