

## **Meeting summary for Nemuel Fajutagana's** Zoom Meeting (02/26/2025)

### **Quick recap**

The meeting began with informal greetings and multilingual conversation, followed by presentations on research designs for comparing adhesive techniques in orthodontics and the effects of e-cigarette smoking on tooth movement in rats. The team also discussed a study on nonalveolar molding for cleft lip and palate patients and a proposal for a study on the effectiveness of operating room teaching in the Department of Surgery. The conversation ended with discussions on the progress of research projects, the need for further clarification and exploration, and the possibility of conducting a meta-analysis.

### **Next steps**

1. Ellaine to standardize bracket, wire, and cement types to control variables in her adhesive study
2. Mohammadreza to explore the possibility of conducting meta-analysis on NAM (Nasoalveolar Molding) research and check if acceptable with college
3. Mohammadreza to add comparative before/after pictures of cases without NAM treatment for next presentation
4. Derek to implement mixed method approach combining focus group discussions and quantitative analysis for operating room teaching study
5. All students to look into sampling and sample size calculation for next discussion on March 12
6. All students to start writing annotated proposal versions of their research
7. Carla to research rat tooth movement rates and timing compared to humans
8. Carla to determine proper smoke exposure control methods for rat study

### **Summary**

The meeting begins with informal greetings and multilingual conversation. Nemuel announces that they will start with Simbulan's presentation of answers to a group of questions, and Ellaine begins to share her slides about intervene or toes, though the content of her presentation is not captured in this segment.

## **Orthodontic Adhesive Techniques Randomized Trial**

Ellaine presents her research design for comparing two adhesive techniques in orthodontics using a randomized clinical trial. Nemuel helps clarify that true experimental design requires randomization of both control and experimental groups, and they agree to control for confounding variables by using the same type of brackets, wires, and cement across all subjects, with only the adhesive type varying between groups. They discuss that while patient diet and oral hygiene can be documented but not fully controlled, the study will accept all types of orthodontic cases to maintain true randomization rather than limiting to specific case types.

## **E-Cigarette Effects on Rat Tooth Movement**

Carla presents a research proposal studying the effects of e-cigarette smoking on tooth movement in rats. The study design is a randomized control trial where rats will be randomly assigned to experimental and control groups after matching for age and weight. Nemuel raises several methodological concerns, including the need for precise measurement techniques given the small scale of rat tooth movement, the cost implications of using CT scans, and the importance of controlling the e-cigarette vapor delivery system to ensure consistent exposure across subjects. The discussion concludes with an agreement that careful control of exposure levels will be crucial for valid interpretation of results.

## **Nonalveolar Molding for Cleft Lip/Palate**

Mohammadreza presents his research on nonalveolar molding (NAM), a non-surgical intervention for cleft lip and palate patients performed during the first 6 months of life. The technique uses a custom-made acrylic appliance and tapes to reshape nasal cartilage and align alveolar segments before surgical repair, with the goal of improving facial aesthetics and reducing nasal deformity. While Mohammadreza initially planned to do an interventional study, he decides to conduct an observational study using data from craniofacial centers due to limited patient access, with the research focusing specifically on pre-NAM and post-NAM results within the first year of life rather than long-term surgical outcomes.

## **Meta-Analysis of Treatment Effectiveness**

Nemuel suggested that Mohammadreza could conduct a meta-analysis of existing research to determine the effectiveness of a certain treatment. Nemuel also proposed that Mohammadreza could look into the natural movement and repair of a certain anatomical structure, and compare it to the results of using a device that guides the tissues towards

the ideal position. Mohammadreza agreed to consider these suggestions and potentially present his findings to the class.

### **Treatment Effectiveness and Surgeon's Role**

Nemuel discussed the importance of conducting a thorough literature review and meta-analysis to better understand the effectiveness of a treatment. Mohammadreza agreed, noting that while the treatment has shown promising results, its long-term effectiveness is still being studied. Nemuel also emphasized the role of the surgeon's skill in the treatment's success. Derek reported issues with uploading cell phone numbers, but no other updates were provided.

### **Operating Room Teaching Study**

Derek discussed a study on the effectiveness of operating room teaching in the Department of Surgery. The study aims to describe the perceptions, challenges, and attitudes of undergraduate medical students towards the operating room. The study will use a mixed-methods approach, including focus group discussions and quantitative data. The study population will be medical interns rotating in the Department of Surgery. The study aims to evaluate the effectiveness of the teaching-learning activity in the department and potentially influence curriculum and policy changes.

### **Research Project Progress and Future Steps**

Nemuel discussed the progress of the research projects, emphasizing the need for further clarification and exploration. He suggested a pause for a week to delve into sampling and proposed that the team could start writing their proposals. Nemuel also mentioned the possibility of conducting a meta-analysis, which would require knowledge of statistics and literature selection. He encouraged the team to consider using mixed methods to make their research more acceptable for MAPHEd. The team agreed to meet again on March 12 to continue their work.

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