



To

The chairman of the scientific jury,
determined by Order № P - 66 / 18.01.2021
of the Rector of Medical University - Plovdiv
15A V. Aprilov Blvd., 4002 Plovdiv

Pursuant to Art. 30 of the Regulations for application of the Law on Dental Medicine and in connection with the procedure for awarding the educational and scientific degree "Doctor of Philosophy - PhD" to Dr. Elitsa Veneva - Raychinova, PhD student in self-study at the Department of Pediatric Dentistry, Faculty of Dental Medicine, MU – Plovdiv, for the developed dissertation on the topic:

„ Non-pharmacological strategies for control of pain and anxiety associated with local analgesia in children"

with scientific supervisor Prof. Dr. Ani Belcheva, PhD

Attached I hereby present: **An opinion**

In connection with the procedure for awarding the educational and scientific degree "Doctor of Philosophy - PhD" of Dr. Elitsa Veneva - Raichinova, PhD student in self-study at the Department of Pediatric Dentistry, Faculty of Dental Medicine, MU-Plovdiv

Prepared the opinion:

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AN OPINION

Assoc. Prof. Dr. Radosveta Stoyanova Andreeva, PhD, D.M.Sc.,

Subject: Project of dissertation work for acquiring educational and scientific degree "Doctor", scientific specialty "Pediatric Dentistry", field of higher education 7. "Health and sports", professional field 7.2. "Dental Medicine".

on "Non-pharmacological strategies for pain and anxiety control associated with local analgesia in childhood."

Author: Dr. Elitsa Romanova Veneva-Raichinova, PhD student in self-study at the Department of Pediatric Dentistry, Faculty of Dental Medicine, Medical University - Plovdiv.

The dissertation presented to me to opine is written on 193 pages. It is illustrated with 17 tables, 37 figures and 7 appendices. The bibliography includes 214 literature sources, of which 18 are in Cyrillic and 196 in Latin. The bibliography is up-to-date, 68% of the titles are from the last ten years. The structure, design and technical implementation of the dissertation work comply with the procedural requirements.

1. Topicality of the dissertation

The topic of the dissertation is extremely relevant. Anesthesia for dental procedures in children is critical to the successful completion of treatment and gaining the trust of the child patient. The relevance is confirmed in the introduction, which describes the various modern options for controlling pain and anxiety associated with local analgesia in children. The literature review is well structured, informative and comprehensive enough. The classification of modern methods, means and techniques for local analgesia in childhood for the purposes of the review is aptly based primarily on the nature of anesthetics - physical or chemical, and secondarily on the mechanism of action of the introduced chemical anesthetic agent - diffuse or vascular diffuse.

The good practices in pediatric dentistry in relation to international organizations established in the field are described in detail. The possibility of replacing the injection technique with a non-invasive one by laser analgesia is considered. The level reached by modern laser dentistry regarding laser analgesia is summarized. The mode of operation of injectable pain reduction devices based on passive distractions is described in detail. Vibrotactile devices are considered for the first time in Bulgaria and are little studied in the world. The use of virtual reality devices during treatment in children, and especially when injecting, is a new approach to dental treatment. The study of these new technologies would contribute to the development of pediatric dentistry.

The practical and fundamental significance of the problem is indisputable. Its research can serve dentists to build trust in the relationship between the patient and the dentist, to control fear and anxiety and to create a positive dental attitude.

The results of the studied literature in this aspect are contradictory, the data from studies involving children are insufficient, which gives grounds for a detailed examination of non-pharmacological strategies for pain control in childhood.

2. Knowledge of the problem

The doctoral student is well acquainted with the state of the problem and evaluates the creatively presented literary material.

3. The aim is clearly stated and precise. The main objectives logically follow the aim. The number of participants in each of the tasks is sufficient to achieve statistical reliability of the results. The inclusion and exclusion eligibility criteria in the individual objectives are set correctly according to the nature of each task.

4. The materials and methods are precisely selected and adequately focused on each of the objectives. The protocol for conducting the clinical tasks is described in detail, as well as the chronology of participation in the trials. The methods used are close between the three clinical trials, and completely comparable in the first and second task. The applied techniques are explained in detail and duly.

5. Characteristics and evaluation of the dissertation and contributions.

The results from the set objectives are well presented and accompanied by tables and figures. The data from the used statistical analyzes and methods by primary and secondary endpoints are described in detail. The statistical methods are correctly selected, which is a prerequisite for the reliability of the conclusions. Special attention has been paid to the relationship between dental fear before a visit and the pain experienced during a injection in trials involving infiltrative local analgesia. The relationship between the physiological state of the pediatric patient, his perception of pain and the behavior related to pain that he shows is considered in aspects. Specific, comprehensive and clear recommendations are made to the children's parents, dentists, professional organizations and the faculties of dentistry.

The discussion of the results logically compares the data from the doctoral student's research and the results found from the literature. The contradictory nature of the scientific reports in this area is a basis for extensive research.

The conclusions are clearly formulated both separately for each task and in general for the studied topic of the dissertation.

The contributions are appropriately and precisely divided into scientific-theoretical, methodological, scientific-applied contributions and contributions of a confirmatory nature.

6. Evaluation of the publications and personal contribution of the doctoral student

In connection with the topic of the dissertation, the doctoral student has promoted her research by 3 publications and 11 scientific reports in international and national forums. An intra-university project on the topic of the dissertation has been successfully completed.

Dr. Elitsa Veneva – Raychinova thoroughly studies the problems of local anesthesia in children. Her research is detailed and examines the non-pharmacological possibilities for reducing pain in injectable analgesia and the possibility of performing non-injectable anesthesia with a laser. The studied strategies for local anesthesia in children outline the current and applied nature of the presented project of dissertation.

7. Conclusion

The presented by Dr. Elitsa Veneva - Raychinova dissertation is relevant, well-formed and with original contributions to science, demonstrating in-depth theoretical knowledge and professional skills in the scientific specialty Pediatric Dentistry. The author has the skills to conduct independent research and presents the required publishing activity.

In conclusion, I give my **positive assessment** and opinion about the dissertation of Dr. Elitsa Veneva on the topic - "Non-pharmacological strategies for pain and anxiety control associated with local analgesia in childhood." I will confidently **vote "YES"** and propose to the esteemed scientific jury to **award the educational and scientific degree "Doctor of Philosophy - PhD"** to Dr. Elitsa Veneva - Raychinova in a doctoral program in "Pediatric Dentistry".

Assoc. Prof. Dr. Radosveta Stoyanova Andreeva, PhD, D.M.Sc.

Varna

18.01.2021

