

**EDU WORLD 2018**  
**The 8<sup>th</sup> International Conference**

**ENHANCING KNOWLEDGE AND SKILLS IN THE FIELD OF  
HYGIENE AMONG DENTISTRY STUDENTS**

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***Abstract***

Dentistry students attend during their medical studies at Faculty of Dental Medicine from Cluj-Napoca, Romania a module of Hygiene, field of Preventive medicine which includes subjects regarding health promotion and disease prevention, nutrition and food hygiene, environmental health and hospital hygiene. The faculty offers education in Romanian as well as in English and French. This paper presents tools used for enhancing knowledge and skills in the field of Hygiene among students from English section of the Faculty of Dentistry from Cluj-Napoca. It includes lectures and practical activities comprised of presentations, case studies, demonstrations, individual and group work. Moreover, one activity includes the work in groups in order to collect information, organise and make a presentation in front of the colleagues about a subject in the field of Hygiene. A process evaluation of this approach of involving students in preparation and presentation of a subject was performed by means of anonymous questionnaires among 43 dentistry students from the third year in 2017/2018. The results show that the majority of participants considered useful and very useful the involvement in finding information about a subject of preventive medicine as well as the working in groups, while more than two thirds considered useful or very useful the preparation and making the presentations in front of the colleagues. The active involvement of students in activities related to subjects of Hygiene stimulates their awareness, knowledge and skills in this field which covers several important domains highlighted in the Sustainable Development Goals adopted by the United Nations.

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**Keywords:** Dentistry students, educational tools, Hygiene.



## 1. Introduction

The United Nations was adopting in 2015 a plan of action for people, planet and prosperity: Transforming our world: the 2030 Agenda for Sustainable Development Goals (United Nations, 2015). It contains the following goals:

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 13. Take urgent action to combat climate change and its impacts
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

## 2. Problem Statement

Medical students and doctors could be involved in several actions of education and counselling of patients for healthy lifestyle promotion as well as activities of health promotion and disease prevention in different settings, support for public health and preventive medicines programs and policies (Bartholomew, Parcel, Kok, & Gottlieb, 2006; World Health Organization, 2007; World Health Organization, 2013; World Health Organization, 2017). Several studies from Romania underline the need of people and communities for such approaches and the medical university curricula should play an important role in stimulating knowledge and skills in these fields (Lotrean, 2008; Vigu, Stanciu, Lotrean, & Campian 2018; Lotrean, Ailoaiei, & Torres- Mejia 2013; Florea, Țalu, & Țalu, 2009).

Dentistry students attend during their third year of medical studies at Faculty of Dental Medicine from Cluj-Napoca, Romania a module of Hygiene, field of Preventive medicine which includes subjects

regarding health promotion and disease prevention, nutrition and food hygiene, environmental health, as well as hospital hygiene, covering several important domains highlighted in the Sustainable Development Goals adopted by the United Nations. The faculty offers education in Romanian as well as in English and French.

### **3. Research Questions**

The research questions rely on what kind of educational methods could be used to enhance knowledge and skills in the field of Preventive Medicine as well as how they are perceived by the target group-dentistry students.

### **4. Purpose of the Study**

The present paper presents tools used for enhancing knowledge and skills in the field of Hygiene among dentistry students from English section of the Faculty of Dental Medicine from Cluj-Napoca and assess the opinions of the students with regard to approaches used during the educational process.

### **5. Research Methods**

Educational tools included lectures (14 hours/university year) as well as practical activities (14 hours/university year) comprised of presentations, case studies, demonstrations, individual and group work. Moreover, in the period 2013-2018 in each university year students were involved in one activity which included the work in groups in order to collect information, organise and make a presentation in front of the colleagues about a subject in the field of Hygiene. A process evaluation of this approach of involving students in preparation and presentation of a subject was performed by means of anonymous questionnaires among 43 dentistry students from the third year in the academic year 2017/2018. All students from the third year participating in the module of Hygiene were asked immediately after performing this activity to fill in the questionnaire; the response rate was 86%.

### **6. Findings**

The lectures and practical activities presented to students during the module of Hygiene included themes regarding several issues:

1. Health promotion and disease prevention
  - Health and its determinants
  - Health promotion and disease prevention
  - The role of Hygiene in the era of Sustainable development goals
2. Food and Nutrition Hygiene
  - Basic issues of Nutrition
  - Nutritional value of several food groups
  - Health effects of several food groups
  - Nutrition and oral health
  - Promotion of a healthy nutrition
3. Environmental health

- Main concepts and challenges in environmental health
- Water quality and its effect on health
- Air quality and its effect on health
- Ionizing radiations
- Non-ionizing radiations
- 4. Hospital hygiene
- Nosocomial infections-definition, factors which influence them, their effects
- Hand hygiene in dental practice
- Use of protective equipments in dental practice
- Cleaning and disinfection in dental practice
- Sterilization in dental practice
- Monitoring air and water quality in health care facilities
- Waste management in health care facilities

Table 1 presents examples of the subjects of the presentations prepared and presented by the students during 2013-2018.

**Table 01.** Subjects presented by students

Main theme	Examples of subjects
Health promotion and disease prevention	Health education in schools Smoking prevention and cessation in different countries Alcohol use and illicit drug use prevention in different countries Health promotion in hospitals Injury prevention Healthy lifestyle promotion and chronic disease prevention Measures for oral health promotion
Food and nutrition hygiene	Promotion of healthy nutrition in different countries Dietary habits in different countries Gastronomic culture in different countries Nutrition habits in different countries of Europe Mediterranean diet Nutritional status of different population groups in different countries Gastronomy and nutritional habits in different countries Sport nutrition Promotion of healthy nutrition among children and adolescents Diets for weight management
Environmental health	Air quality in different countries Water quality and its relationship with health-data from different countries Global warming and its effects on health Climate change
Hospital hygiene	Prevention of nosocomial infections Infections of concerns in dental practice Programs for promoting hospital hygiene

The results of the process evaluation performed in 2017/2018 show that the majority of participants considered useful and very useful the involvement in finding information about a subject of preventive medicine as well as the working in groups for the activity, while more than two thirds considered useful or very useful the preparation and making the presentations in front of the colleagues (see Table 2). Working in group was the issue which was considered very useful by most students. Making the presentations in front of the colleagues was the issue which was creating the most diverse evaluation among students, with around 30% considering it very useful, around 40% indicated it as useful, while almost one out of five students considered it not useful.

The students were also asked to grade the activity on a scale from one to five (5 being the maximum score), the mean score which was obtained from the whole sample being 3.82.

**Table 02.** Process evaluation

Items	Very useful %	Useful %	Not useful %	I do not know %
1. How did you evaluate the involvement in finding information about a subject of preventive medicine?	25.6	62.8	4.7	6.9
2. How did you evaluate the working in groups for this activity?	46.5	51.1	0	2.4
3. How did you evaluate the preparation and making the presentations in front of the colleagues?	30.2	41.8	21.1	6.9

## 7. Conclusion

During the module of Hygiene, the dentistry students from English section of Faculty of Dental Medicine from Cluj-Napoca, Romania learn several issues related to health promotion and disease prevention, nutrition and food hygiene, environmental health and hospital hygiene. There are used several educational tools in order to stimulate students' awareness, knowledge and skills in this field which covers several important domains highlighted in the Sustainable Development Goals adopted by the United Nations. They include lectures as well as practical activities comprised of presentations, case studies, demonstrations, individual and group work.

Evaluation of students' opinions about educational approaches and materials give insights which are helpful for the guidance of the educational process (Florea, 2018). This paper presents content and educational tools used during the module of Hygiene for dentistry students and give a special attention to the process evaluation of an educational activity comprising the involvement of students in group work for finding information, preparing and making a presentation about a subject in the field of preventive medicine. The results show that students appreciated positively this approach; this underlines the opportunity to continue it in the future, together with other activities which stimulate active involvement of students in activities related to subjects of Hygiene, as a way of enhancing not only their knowledge, but also their vision, interest and skills in this field.

## References

- Bartholomew, L.K., Parcel, G., Kok, K., & Gottlieb, N. (2006). *Planning Health Promotion Programs : Intervention Mapping*. USA : Willey and Sons.
- Florea, M., Țalu, S., & Țalu, M. (2009). Patient simulation experience in family medicine residents education. In S. Vlad, R. Ciupa & A. Nicu (Eds.), *International Conference on Advancements of Medicine and Health Care through Technology* (pp 25-28). Berlin, Heidelberg: Springer.
- Florea, M., Lotrean, L., Suciuc, S., Lupșor-Platon, M., Mureșan, D., & Buzoianu, A. (2018). International students' perception of the educational environment in a romanian medical school. *Transylvanian Review of Administrative Sciences*.
- Lotrean, L. M. (2008). Effects of comprehensive smoke free legislation in Europe. *Salud Publica de Mexico*, 50(supl3), 292-298. Retrieved from [https://scielosp.org/scielo.php?script=sci\\_arttext&pid=S0036-36342008000900005&lng=en&nrm=iso&tlng=en](https://scielosp.org/scielo.php?script=sci_arttext&pid=S0036-36342008000900005&lng=en&nrm=iso&tlng=en)
- Lotrean, L.M., Ailoaiei, R., & Torres- Mejia, G. (2013). Health risk behavior of Romanian adults having relatives with cancer. *Asian Pacific Journal of Cancer Prevention*, 14, 6465-6468. Retrieved from <http://journal.waocp.org/?sid=Entrez:PubMed&id=pmid:24377551&key=2013.14.11.6465>
- Vigu, A. L., Stanciu, D., Lotrean, L. M., & Campian, R. S. (2018). Complex interrelations between self-reported oral health attitudes and behaviors, the oral health status, and oral health-related quality of life. *Patient Preference and Adherence*, 12, 539-549. <https://dx.doi.org/10.2147/PPA.S159621>
- United Nations. (2015). *Transforming our world: 2030 Agenda for Sustainable Development*. Retrieved from <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>
- World Health Organization. (2007). *The International Network of Health Promoting Hospitals and Health Services: Integrating health promotion into hospitals and health services Concept, framework and organization*. Copenhagen: WHO.
- World Health Organization. (2013). *Global Action Plan for the prevention and control of non-communicable diseases 2013–2020*. Geneva: WHO.
- World Health Organization. (2017). *Health promotion in the sustainable development goals*. Retrieved from [http://www.wpro.who.int/about/regional\\_committee/68/documents/wpr\\_rc68\\_6\\_health\\_promotion.pdf](http://www.wpro.who.int/about/regional_committee/68/documents/wpr_rc68_6_health_promotion.pdf)