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# REZUMAT

Premise. Practica consumului de alcool în cantități crescute la tineri a devenit în ultimul timp frecventă în mai multe țări. Problemele derivă nu neapărat din faptul că ei încep să consume alcool, ci datorită cantităților de alcool pe care le consumă. Acest tip de comportament reduce autocontrolul și promovează și alte comportamente cu risc. Metodologie. Metoda de lucru a fost studiul populațional transversal bazat pe folosirea chestionarului CORT 2004 privind comportamentele cu risc pentru sănătate la adolescenți și tineri. Eșantionul reprezentativ de studenți care a fost luat în studiu a totalizat 2076 de studenți de la instituții de învățământ superior din județul Timiș. **Rezultate.** Cel mai puternic predictor al statusului de consumator de alcool în cantități crescute la o ocazie, în cazul tinerilor este sexul masculin, băieții având de 2,5 ori mai multe șanse de a practica acest comportament, comparativ cu fetele. La vârsta de adult tânăr o influență puternică o are grupul de prieteni. Tinerii ai căror prieteni au obiceiul de a consuma alcool, au de 2 ori mai multe sanse de a practica binge drinking, iar cei care au prietenii care se îmbătă cel puțin o dată pe săptămână au de 1,3 ori mai multe șanse de a fi consumator de alcool în cantități crescute la o ocazie. Concluzii. Cunoa terea unor caracteristici ale anturajului adolescen ilor contribuie la promovarea programelor de sănătate la popula ia tânără.

Cuvinte cheie: tineri, consumul de alcool, binge-drinking, influen a anturajului

# ABSTRACT

**Premises.** The practice of alcohol drinking in high quantities in youngs has lately become frequent in many countries. The major problem does not start from the fact that they start drinking alcohol but because of the quantities of drinking. This tipe of behaviour reduces self control and promotes other risky behaviours. **Methodology.** The working method has been the transversal populational study based on using CORT 2004 questionary about the risky behaviours for health in adolescents and teenagers. The representative sample of students was made of 2076 students from different highschools from Timis county. **Results.** The most important predictor of the status of alcohol consumption in high quantities with different occasions in teenagers` case is the male gender, boys have 2.5 times more chances for practicing this behaviour than girls. At the age of young adult the most powerful influence is comming from the group of friends. Teenagers with friends that drink alcohol have the chance of practicing binge drinking doubled, while those whose friends get drunk at least once a week have 1.3 times more chances of becoming an alcohol drinker in high quantities

with differnt occasions. **Conclusions.** Becomming aware of some of the items of teenagers' behaviour leads to the promotion of health programes in young population.

Keywords: young, alcohol consumption, binge-drinking, the influence of the entourage

# INTRODUCTION

The practice of alcohol drinking in high quantities in young people has lately become frequent in many countries. This type of behavior reduces self control and promotes other risky behaviors. It is the main cause in producing injuries, car accidents, violence and especially domestic violence, and also early deaths [1].

The major problem does not start from the fact that they start drinking alcohol but because of the quantities of drinking. It has been proven that teenagers lead to drinking high quantities of alcohol at the end of their adolescent period till the age of 25 [2,3].

Young adults usually practice bingedrinking [4]. The results of NESARC study has shown that 46% of the young adults that drink alcohol have overcome the minimum quantity of alcohol daily recomanded in the last year [5].

This behaviour sample usually leads to bad consequences, car accidents most of the time [6]. A third of the teenagers with ages between 16 - 20 that have passed away in car accidents in USA, have detectable levels of alcohol in their blood sample, and for those between 21 - 24 years the procentage raised to 51% [7].

# **MATERIAL AND METHOD**

We have chosen the students poulation from Timis county for the study of risky behaviours in young adults. Using Epiinfo programe version 6.04, 2001 we have established a representative sample. We have chosen nest samples. The primary sample unit was the nest, the group of students [8].

The used working method was the transversal populational study based on using CORT 2004 about risky behaviours for health in adolescents and teenagers. The used representative sample was made of 2076 students comming from highschools from all over Timis county. In the sample the gender distribution was: 62.49% (1296) girls and 37.51% (778) boys.

From the age point of wiew the participants in this study were young adults with ages between 18 years (0.3%) and 25 years (3%). The most common age was 21 years reported by 564 participants (27.2%).

# **RESULTS AND DISCUSSIONS**

#### • Parent's school level

35.08% (718) of the participants have reported that the last school graduated by their father was university while 26.67% (546) of them said that the last school graduated by their father was highschool. 2.64% (54) of the participants have said that the last school graduated by their father was highschool or less (Figure 1).



Figure 1. The procentual distribution of the students from their father's level of education

From all the participants of the study, almost half 41.57% (856) have declared that the last school graduated by their mother was highschool. 27.83 % (573) declared that

university was the last school graduated by their mother, while 4.61% (95) said that the last school graduated by their mother was highschool or less (Figure 2).



Figure 2. The procentual distribution of students from their mother's education point of view

Hofferth [9] made account and reported that the study level of the parents has been a predictor of the sexual experience more important that the family income. Santelli and asociates [10] have reported that the parenteral level of education, especially highschool, is associated with a prevalence of sexual relationships of 40% to 80%.

# • The paretnteral limits and monitoring teenagers

#### If parents establish strict rules in what indoor and outdoor behaviour of their kids is concerned

Half of the teenagers 50.7% (1046) have declared that their parents establish only sometimes rules in what indoor and outdoor behaviour is concerned. 29.7% (614) parents do not establish any rules indoor and outdoor, 7.1% (147) always establish rules (Figure 3).



# Figure 3. The procentual distribution of students in what indoor and outdoor rules established by their parents are concerned

There have been no differences between the strenghth of the parents' rules for boys or girls, p > 0.05.

*If the indoor and outdoor rules established by parents are obeyed* 

In what the rules established by parents are concerned 31.8% (650) by teenagers' answer that they obey the rules: 35.0% (715) sometimes, 26.8% (548) almost always. 6.5% (132) never respect the rules established by parents (Figure 4).



# Figure 4. The procentual distribution of students among respecting their parents` rules indoor and outdoor

We found out that girls respect more often their parents' rules U = 463665.5, z=-2.19, p < 0.05.

If the parents know where and with whom their kids spend their time Teenagers answer that 94.3% (1946) their parents know where and with whom their kids spend their time: 45.8% (945) almost always, 25.2% (520) sometimes, 23.3% (481) often. 5.7% (118) parents almost always do not have any information (Figure 5).



Figure 5. The procentual distribution of the students about knowing where and with whom their kids spend their time

We found out that girls' parents know more often where and with whom their kids spend their time U=359217.5, z=-11.45, p < 0.001.

As kids grow up they gain more independence and parents reduce the grade of supervising them for gaining more liberty in taking decisions [11]. Earlier reaserch have proven that comunication between teenagers and their parents and limits imposed by parents for monitoring are essential for reducing risky behaviours [12-15].

# • The level of teenagers' satisfaction towards the financial level of the family

43.7% (902) of the teenagers from the study have reported that they are satisfied towards their financial family status, 26.8% (554) are not satisfied or satisfied. 4.8% (100) are not satisfied by their financial status (Figure 6).



# Figure 6. The distribution of students number about the satisfaction grade of the family financial status, on gender

We found out that girls are more often not satisfied by their financiar status than boys U=468898.5, z=-2.47, p < 0.05.

Ku and parteners [16] found out that the increased family income asociated with a high rate of emploiment in adolescents is associated with a high rate of unexpected pregnancy during adolescence.

Out of a study made in USA [17] the prevalence of taking part in violent

circumstances was high in adolescents that came from families with a lower income, no matter the age or gender.

#### • Risky behaviours in entourage

The prevalence of alcohol drinking is the highest in the study in what risky behaviours in familiy members: 63.6% (1271) for fathers. Followed by drinking in brothers 34.81% (610) than mother's behaviour for drinking 19.4% (403) (Figure 7).

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The prevalence in binging was 23.1% (455) for fathers, 13.2% (234) for brothers and 1.9% (38) for mothers (Figure 8).



Figure 8. Prevalence of binging in students`family members

Jessor [18] said in 1987, that alcohol consumption is a learned behaviour after the laws of the entourage but also from the particular experiences of the teenager. In a meta-analysys of 30 teenagers Foxcroft and Lowe [19], that followed the influence of familial socialisation upon alcohol consumption in adolescents they found a negative relation between family support and alcohol consumption, also between the control of parents upon kids and alcohol consumption in adolescents. The low parenteral support and parenteral control has

been associated with the high rate of alcohol consumption. Also they have underlined a negative relationship between the familial structure and alcohol consumption; adolescents with unorganised families have the tendency to drinking more alcohol.

Almost a third of adolescents 30.6% (630) have most of their friends that drink alcohol and 5.2% (106) say that all their friends drink alcohol. 10.1% of those who were asked say that their friends do not drink alcohol (Figure 9).



# Figure 9. The procentual distribution of the students conected with their friends that drink alcohol

We found out that boys have more friends who drink alcohol than girls U= 379988.5, z=-9.79, p < 0.001.

Most of teenagers, 48.6% (992), say that they have no friend that gets drunk at least once a week. For 6.3% (129) getting drunk at least once a week is a habbit for their friends and for all of their friends 1.1% (22) (Figure 10).



Figure 10. The procentual distribution of students taking into consideration the number of friends that get drunk at least once a week

We found out that boys have more friends that get drunk at least once a week than girls U=383230, z=-9.05, p < 0.001.

In a study that was supposed to underline the impact of close friends and the group of friends upon smoking and drinking in adolescents [20], we found out that close friends friends had a big influence on smoking and drinking. In what drunken stages are concerned the authors have found out that adolescents are more influenced by the group of friends and less by the close friends.

# • The influence of entourage upon smoking

The logistic regression test has been applied in order to determine the impact of many factors from the entourage upon alcohol consumption more than 5 units for an occasion in teen agers. The sample has 18 independent variables (age, gender, last school graduated by the father, last school graduated by the mother, the frequency with which parents have established behaviour

rules, the frequency with wich these rules are obeied, parents that are aware of how their kids spend their time out of the house, the grade of satisfaction towards family income, the number of friends that drink alcohol, the number of friends that get drunk at least once a week, the status of alcohol consumption of the father, mother and brothers, the state of getting drunk of the father, mother and brothers, the satisfaction towards the relation between parents and brothers) the sample that contains these statistically predictors is important  $\chi^{2}(18)=255.32$ , p<0.001, meaning that this proposed sample can differenciate the kids that do not have this kind of behaviour and those who have. The sample can exemplify between între 16.3 și 26.1% from the variation of the status of drinking high quantities in different occasions and can clasify corect 82.7% of the cases.

The most poweful predictor of the status of alcohol consumption in high quantities in different occasions in case of teenagers is male gender, boys having more than 2.5 chances of practicing such behaviour than girls. In young adults the most powerful influence is the group of friends. Teenagers who have friends that have the habbit of drinking alcohol have twice chances of practicing binge drinking and those who have friends that get drunk at least once a week have 1.3 chances of becomming alcohol consumers in high quantities at differnt occasions. Other statistically

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semnificative predictors are: the establishment of the parents of some behaviour rules, the age of participants, the level of graduation of the father, the level of satisfaction towards the relation between parents and brothers, the status of alcohol consumption in father's, mother and brothers' behaviour, the habbit of getting drunk of the father, mother, brothers (Table 1).

							95% C	.I. for
Independent variables							0	R
	D	C F	***	10	<b>.</b>	0.0		Max
	В	S.E.	Wald	đt	Sig.	OR	Min	
Age	-,066	,051	1,656	1	,198	,936	,847	1,035
Gender (1)	,903	,158	32,664	1	,000	2,467	1,810	3,363
The last school graduated by father	-,048	,078	,389	1	,533	,953	,818	1,109
The last school graduated by mother	-,193	,085	5,139	1	,023	,824	,698	,974
The esablishement of rules	,117	,096	1,499	1	,221	1,124	,932	1,357
The frequency with wich these rules are obeied	,268	,084	10,131	1	,001	1,307	1,109	1,542
The awareness of parents upon the way that their kids spend their time	,273	,084	10,634	1	,001	1,314	1,115	1,549
The satisfaction grade towards the financial status	-,169	,083	4,152	1	,042	,845	,718	,994
The satisfaction towards the relation with parents	,142	,163	,759	1	,384	1,152	,838	1,585
The satisfaction towards the relation with brothers	,026	,152	,029	1	,866	1,026	,762	1,381
Father drinks alcohol(1)	,240	,183	1,709	1	,191	1,271	,887	1,821
Father gets drunk(1)	,273	,196	1,943	1	,163	1,314	,895	1,928
Mother drinks alcohol(1)	-,312	,208	2,251	1	,134	,732	,487	1,100
Mother gets drunk(1)	,143	,554	,066	1	,797	1,154	,389	3,417
Brothers drink alcohol(1)	,297	,182	2,660	1	,103	1,345	,942	1,922
Brothers get drunk(1)	,258	,227	1,292	1	,256	1,294	,830	2,019
The number of friends that drink alcohol	,711	,120	34,937	1	,000	2,036	1,609	2,578
The number of friends that get drunk	,273	,120	5,142	1	,023	1,314	1,038	1,663
Constant	-2,757	1,166	5,587	1	,018	,063		

Table 1. The logistic regression for predicting the binge-drinking benaviour in student	Table 1. The logistic reg	gression for predi	icting the binge-dri	inking behaviour	in students
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# CONCLUSIONS

Out of all participants in the study 35.08% have reported that the last graduated school of their father was university and 26.67% said that highschool. Almost a half 41.57% have declared that the last school graduated by their mother was highschool. 27.83 %, have declared that university was the last school graduated by their mothers.

In 29.7% of the cases parents do establish rules almost never and in 7.1% of the cases parents impose rules. 6.5% of the students never respect the rules imposed by their parents. Girls respect more often the rules imposed by their parents.

Teenagers say that 45.8% their parents know where and with whom their kids spend their time and in 5.7%, of the cases parents do not know anything. Girls`parents know more often where and with whom their kids spend their time.

Most of the teenagers that were questioned 43.7% said that they are satisfied with the financial status of their family while 26.8% were not satisfied or satisfied. Girls are more often unsatisfied with the financial status of their families. Alcohol consumption is higher at fathers 63.6%,

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followed by the consumption in brother's cases 34.81% and than mothers with 19.4%. The prevalence of getting drunk were 23.1% at fathers, 13.2% in brothers and 1.9% in mothers.

Almost one third of the youngsters friends, 30.6% are alcohol consummers and 5.2% say that all of their friends drink alcohol. Boys have more friends that drink alcohol than girls. Almost all friends get drunk every week in 6.3% and 1.1% all friends. Boys have more friends who get drunk every week than girls.

The most powerful predictor of the state of alcohol consumer in high quantities at one occassion in the young case is male gender, boys having 2.5 times chances of practicing this behaviour than girls. At the age of young adult a great influence has the group of friends. Youngs with friends that drink alcohol, have twice chances of bingedrinking, those who have friends that get drunk at least once a week increase their chances with 1.3 of becomming an alcohol consumer in high quantities in one occassion.

Knowing some of the characteristics of the adolescents`entourage leads to promoting health programes in young poulation.

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# **EVALUATION OF PATIENTS' LIFE QUALITY AFTER SURGICAL TREATMENT OF ORAL AND MAXILO-FACIAL MALIGNANT TUMOURS**

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#### REZUMAT

Aspectele legate de calitatea vieții corelată cu sănatatea orală și cu cancerul oral și maxilo-facial, constituie o preocupare crescândă mai ales în ultimii ani, fapt dovedit de numărul crescând al cazurilor de cancer, a numărului de studii si articole cu această temă, dar i a instumentelor de evaluare din ce în ce mai elaborate și complexe (chestionare elaborate de World Health Organization Quality of Life sau European Organization for Research and Treatment of Cancer, EORTC QLQ-H&N35). Constatând că în România mai puțin de 30% din cazurile de cancere orale și maxilo-faciale sunt depistate de medicul dentist și îndrumate către specialist, șansele de diagnosticare precoce și de identificare a leziunilor cu potențial de malignizare cu siguranță ar contribui la scăderea cazurilor avansate care sunt mult mai dificil de tratat. Articolul de față își propune evidențierea multiplelor modalități și instrumente care pot fi utilizate pentru identificarea tulburărilor profunde ale calității vieții corelate cu sănătatea orală a pacienților în general și în special, celor supuși tratamentelor chirurgicale de extirpare a tumorilor maligne orale si maxilo-faciale.

*Cuvinte cheie:* calitatea vieții, cancerul oral, instrumente de evaluare, chestionare

# ABSTRACT

Aspects related to life quality correlated with the oral health, oral and maxilo-facial cancer are constituting in the late years an increasing concern, proven by the increasing number of cancer diagnosis, the number of trials and articles with this theme, but also the evaluation instruments which are more elaborate and more complex, offered by World Health Organization Quality of Life or European Organization for Research and Treatment of Cancer, EORTC QLQ-H&N35. In Romania less than 30% of all oral and maxilo-facial cancers are detected in the dentist's office, the early diagnosis and the identification of potentially malignant lesions would contribute to a reduction in the diagnostic of advanced tumors, which are more difficult to treat. This article wants to highlight the multiple identification modalities and instruments for the identification of life quality reduction associated with oral health of patients undergoing surgical treatment for oral and maxilofacial malignant tumours.

Keywords: life quality, oral cancer, evaluation instruments, questionnaires

# **GENERAL ASPECTS**

The life quality is given by the individual perception on social aspects in the context of their cultural value system and in connection to their own needs, standards and aspirations [1]. More specific, through life quality we understand the physical, psychical and social wellbeing and the capacity of patients to do their daily chores.

A utilitarian definition was proposed by Revicki & Kaplan (1993) [2]: the life quality is reflecting preferences for a health status that allows the improvement of morbidity and mortality and that is expressed through a index – standardized life years, based on the life quality.

The analysis of life quality is extremely useful for medical practice for the evaluation of physical, physical and social effects of sickness and medical treatments on individual's everyday life. In the analysis of the treatment or diseases effects, from the patients' point of view, but also the determination of patients' needs for physical, physical and social support while sick. The usage of instruments for the evaluation of patients life quality is helpful for medical staff in the decision to choose treatment alternatives, to inform the patients on possible adverse events of different procedures. medical to monitor the evolution of treatments from the patient's point of view and finally to be able to offer efficient medical services.

The quality of life is a concept with complex significations which is concerning specialists from different fields: sociology, medicine, finances, psychology, epidemiology, politic science, etc. Through the term life quality we understand the way and level of covered needs, reported to the subjective perception of the reference collectivity members.

You cannot talk about quality of life without including health, the supreme value in contemporary axiology. Health is a human endeavor, is a necessary and also their right. The modern state assumes responsibility for social protection and health protection. To achieve this goal, the state needs substantial funds. Economic sustainability is crucial in ensuring these needs. In contemporary society, communities that have a high living standard and a GDP of at least \$ 10,000 per capita can provide coverage of health care needs consistent regulations in accordance with the requirements for general health and oral able to influence positively life. In Romania, the interest and funds allocated to the assessment of oral health and keep them in as good condition are reduced [3].

Concerns with health related quality of life have increased consistently in recent years. Thus in PubMed database National Library of Medicine, USA, in 1990 there were 1479 published articles on health related quality of life. In 2005, there were 8160 registered articles on this topic. Also in 2005, reached a total of 70,481 articles published between 1950-2005, a situation illustrated in Table 1 [4].

Years	Number of published articles	Percents %
1950 - 1960	1	0,001
1961 - 1970	10	0,01
1971 - 1980	1674	2,38
1981 - 1990	7346	10,43
1991 - 2000	30841	43,79

 Table 1. Statistical summary of articles published until 2005 [4]

2001–may 2005	30550	43,38
1960–1965	1	0,001
1966–1970	9	0,01
1971–1975	285	0,40
1976–1980	1383	1,96
1981–1985	2242	3,18
1986–1990	5104	7,25
1991–1995	10597	15,05
1996–2000	20244	28,75
2001–may 2005	30550	43,38
1990	1479	2,10
1991	1553	2,21
1992	1820	2,58
1993	2130	3,02
1994	2351	3,34
1995	2743	3,90
1996	3125	4,44
1997	3490	4,96
1998	3976	5,65
1999	4592	6,45
2000	5111	7,26
2001	5678	8,06
2002	6257	8,89
2003	7248	10,29
2004	8160	11,59
may 2005	70481	100%

An update in PubMed database National Library of Medicine, USA, revealed the existence of a number of 26 867 articles in 2011 with the theme of health related quality of life, and this could be considered a significant increase in interest in this subject [5].

A definition of quality of life known in the literature should be: quality of life is given by individuals about their social perceptions in the context of cultural value systems in which they live and, depending on their own needs, aspirations and standards [1].

Much more complex is the definition offered by Mărginean I. (2002) [5], and according to it, "the quality of life can be defined by all the evidence that relates to the physical, economic, social, cultural, political, health conditions in which people are living, the content and nature of the activities they carry, the characteristics of social relations and processes involved, goods and services they access, patterns of consumption, and lifestyles, the assessment of circumstances and outcomes of activities that meet people's expectations and subjective states of satisfaction/dissatisfaction, happiness, frustration".

The conclusion of the definition is that the whole health and oral health in particular are apparently a small place in this set of needs. However, the statements of subjects show a much greater importance to health in the assessment made by patients, even if it is subjective.

V. Henderson [4] identified 14 needs of an individual. They are:

- Normal breathing
- ➢ The capacity to eat
- > The elimination of bodily excretions
- Movement and maintenance of a desired body positions.
- > Sleep and rest
- Selection of appropriate clothing dressing and undressing
- Maintaining a normal body temperature by adapting clothing and changing environment
- Maintaing a personal hygiene and skin protection
- Avoiding hazards in the living environment and avoid injury or other trauma
- Communicating with others by expressing emotions of needs, fears and opinions.
- Religious cult to which it belongs
- Work, what gives life meaning and value
- Game and participate in fun activities
- Learning, satisfying curiosity, discovery and use of medical services accessible / available.

A definite prerequisite for the growth of oral health related quality of life is the motivation by convincing arguments of the dentists to perform currently preventive oncology control. We found that only 30% of oral cancer cases are detected by dentists and advised to specialists. In the U.S., 70% of oral and maxillofacial cancers are found by dentists [6].

The training of Romanian doctors is appropriate and competent enough to perform preventive oncological control. However this check is not performed either correctly oncology or current. What are the causes? As noted above, physicians need to be motivated.

We believe that the ways useful to change the physicians approach is a focus of research with practical applications and positive consequences on quality of life. We identified the following objectives:

- ✓ the awareness of dentists of the importance of social care and cancer screening actions oro-maxillo-facial
- dispensary and monitoring of premalignant lesions in patients discovered in competent centers organized for this purpose
- ✓ preparation of a national action for informational purposes in order to raise cognitive and behavioral health education of the population
- ✓ the involvement of the College of Dentists in Romania
- ✓ material incentives to doctors by rewarding the confirmed detections of cancer [7].

For oral and maxillofacial cancer prevention the following actions have been taken:

- Knowledge and avoidance of predisposing factors and determinants
- The detection of precancerous lesions and cancer in situ
- Health education and regular medical check.
- Early detection of oral and maxillofacial cancer [8].

When it comes to patients with confirmed cancer, the issues regarding the quality of life become more complex. We consider the quality of life related to oral health as being determined not only by disease but also treatments that deal with invasive malignant tumors. The main means of treatment are: surgery, radiotherapy and chemotherapy. In practice, there may be all possible combinations between them. Treatments can be applied with radical or palliative intent.

After surgery the following consequences could happen: mutilation or obvious physiognomic damage, functional disorders, neurological sensory or motor changes, changes in taste and smell. All are debilitating and overwhelm the patient quality of life altering. in the presence of cancer (a serious loss of health through disease) or other determinants of quality of life are not fulfilled. The patients concerned may not enjoy aspects of life which are not directly affected by the disease [9-12].

Chemotherapy affects the patient by: immunosuppression, hematological disorders, nausea and vomiting, damage to appendages. In addition, the patient is susceptible to complications of bleeding and septic complications following accidents or surgery. Radiation is inducing acute, subacute and chronic changes. Acute side effects mainly interested in mucous, glands and appendages. Chronic changes are present in virtually all the patient's life. Irradiated patient remains a patient at risk for life. Surgery in the irradiated area must be made with some caution, based on specific protocols. Wounds should be protected with bone flaps after any tooth extraction and antibiotic prophylaxis is always performed [7,11,12].

To assess the quality of life related to oral health, some of the hundreds tools work in practice and the existing literature can be adapted. More careful study of them reveals that they are not suitable for estimating some aspects of oral and maxillofacial cancer. The population of the studied group should have an adequate level of culture and education in order to respond correctly and useful proposed questionnaire [13,14]. Location of cancer at the oro-maxillo-facial level can be superficial, tegumentar, on the face or deep level, oral cavity and nasopharynx. Deep localizations are more dysfunctional than the superficial, with the exception of physiognomy. But the loss of physiognomy integrity scares patients more than other functional disorders [8,11,12].

Rehabilitation of the aesthetic and functional defects are beneficial and highly appreciated by patients. Oral rehabilitation for individuals with oro-maxillo-facial cancer is extremely useful to patients and significantly improves their quality of life. After resections of the maxilla defects with functional consequences on phonetic, eating, chewing, swallowing and physiognomy are being produced. Communications oronazale and oro-antrale make direct links between natural cavities or between a natural cavity and a pathological cavity. Surgicals shutters have a temporary or lasting blocking role of pathological communication between natural cavities or between a cavity and a pathological nature. There are shutters for small or large gaps of substance. Depending on the time of their application, they can be immediate secondary and final prosthesis. Immediate prosthesis are applied intraoperatively or postoperatively within 48 hours. Secondary prosthesis are applied within a time frame of up to 6 months postoperatively and lasting prosthetic obturators are manufactured only after prosthetic field has a certain stability, ie after about 6 months after surgery [8,9,12].

The application of prosthetic obturators has the following benefits:

• Control of tumor bed is possible, thus having direct visual access to the area operated at any time, recurrences may be discovered in time and biopsies can be done whenever necessary.

- There are affordable prosthetics from technology, cost and biocompatibility point of view.
- Functional rehabilitation is very good, higher than the surgical techniques.
- Ability of adjustments while prosthetic obturators.
- The possibility of lining of the prosthesis.
- Possibility of beneficial association with epitessis when needed.

Appling a prosthetic obturator in a patient has a major positive impact by improving function and quality of life declared by patients is higher. There are quite spectacular improvements in phonetics and facial aesthetics and immediately after the use of oral and maxillofacial surgery prosthetic devices [9,12].

From the foregoing it appears that major adverse impact on quality of life of cancer can be controlled in two directions: on the one hand, organized pragmatically effective prophylaxis in a representative geographic area and on the other hand, complex oral rehabilitation of patients with malignant tumors. Both activities are part of a national or regional requirements funded by government and research funds.

# **MATERIAL AND METHOD**

In international literature there are many opinions on the concept of quality of life related to health and in particular types of instruments that can be used for a more realistic and detailed assessment of the situations studied.

The most commonly used tools for assessing quality of life related to oral health are numerous and use a large variety of items. Thus, Lupu I. [4] and DeVita [12], are propsing the use of following questionnaires presented in Table 2.

No.	Questionnaire and authors	Aspects of oral health quality	No. of
crt.		evaluated	items
1.	Sociodental scale (Cushing et al.,	Talking, chewing food, smiling,	14
	1986)	laughing, pain, physical appearance	
2.	RAND Dental Index (Dolan et al.,	Pain, anxiety, conversation	3
	1991)		
3.	General Oral Health Assessment	Chewing, eating, social contact,	12
	Index (Atchison and Dolan, 1990)	physical appearance, pain, anxiety,	
		shyness or social embarrassment	
4.	Dental Impact Profile (Strauss and	Physical appearance, eating, speech,	25
	Hunt, 1993)	confidence, happiness, social life,	
		interpersonal relationships	
5.	Oral Health Impact Profile (Slade and	Functional limitation, physical pain,	49, or a
	Spencer, 1994)	psychological discomfort, physical	shorter

Table 2.	Questionnaires used t	to assess	quality of li	fe related	to oral	health	[4,12	1
	<b>C</b>		1 1					

		disability, mental disability, social	version
		disability, handicap	of 14
			items
6.	Subjective Oral Health Satus	Chewing, speech, symptoms,	42
	Indicators (Locker D.,Miller Y.,	nutrition, communication with peers,	
	1994) [15]	social relationships	
7.	Oral Health Quality of Life Inventory	Oral health, nutrition, oral health	56
	(Cornell et al., 1997)	self-assessed patient quality of life	
		overall	
8.	Dental Impact to Daily Living (Leao	Physical comfort, physical appea-	36
	and Sheiham, 1996)	rance, pain, daily activities, food	
9.	Oral Health-Related Quality of Life	Daily activities, social activities,	3
	(Kressin et al., 1996)	conversation	
10.	Oral Impact on Daily Performance	The ability to eat, talk, oral hygiene,	9
	(Adulyanon, et al., 1996)	sleep, physical appearance, emotion-	
		nal state	
11.	UK Oral Health Related Quality of	Nutrition, physical appearance,	16
	Life Questionnaire (McGrath and	speech, breath odor, social life,	
	Bedi, 2001)	romantic relationships and trust in	
		themselves, sleep, mood	
1			

There are instruments dedicated to specific aspects of the clinical features of maxillofacial cancer. This can be evaluated separately: mucositis, stomatitis, xerostomia, radiation and others.

Cancers are a group of debilitating illness with reserved prognosis. These two fundamental features of the disease often alters the body's major functional capabilities, that affect the quality of life. with modified Patients are anxious, behavior. Revolt and initial frustration turns into changed attitudes towards life. In severe forms of anxiety, concern may arise for a potential suicide.

Patients often tend to separate the biological body to the soul, the psyche. The body

affected by the disease becomes an impediment to the desire to survive the disease. Localization on the face and oral cavity are even more difficult. These are sufficient reasons to give full attention to early detection of potentially recognized malignant lesions.

Quality of life in localized head and neck cancers can be assessed by QLQ H & N35 questionnaire [4,10,12]. Type EORTC QOL questionnaires have been used in over 3.000 studies and has already been translated into 81 languages [12,16,17]. Thus, one can evaluate the quality of life reported in oral health because it has a specific option for this area but there is no official translation into Romanian of it. According to the culture and homogeneity of a population there may be adjustments to the questionnaire.

For the Romanian population, some adaptations for accessibility to respondents could be discussed by experts [4,5].

Quality of life has multiple determinants. They could be (A. Carr, 2001) [14]:

- The degree to which people's hopes and desires are fulfilled according to their tunes;

- How individuals are considered successful and fulfilled in axiological and cultural context in relation to the goals, aspirations, standards and concerns;

- Self subjective health according to the felt needs for health care;

- Everything that is considered important in people's lives in their vision.

Quality of life related to oral health is an aspect of life with the multidimensional implications and value.

For cancer are currently used:

**A. Rotterdam Symptom Checklist** (author Johanna de Haess, 1990), with 39 items and 3 subscales.

The questionnaire consists of 30 + 8 + 1 = 39 items and three main subscales:

Scale of physical suffering caused by cancer (with 22 items, ex.: I felt tired. I had muscle pain. I felt no energy / weak) [4,18].
Scale of mental suffering caused by cancer (8 items, eg.: I was very nervous and irritable. I was depressed (angry and sad). I was filled with nervous tension states).

- Scale of daily activities / daily living (8 items, eg.: To climb the stairs of the house; To make longer trips away from home, to shop for the family).

The general health assessment consists of answers from a scale from 1 (very poor) to 7 (excellent).

Each item can have a score value between 1-4 points except the daily activities scale,

where values are in the range 1-7. One can calculate a global score of the entire questionnaire, which can range from 39-155 points. If the scores are higher in the first two scales, the patient's health condition is more severe or unfavorable. The scale-scale assessment of daily activities and general health status, higher scores indicate better function of the patient.

The questionnaire is anonymous and apply self-administration, possibly with minimal technical assistance from medical personnel and lasts an average of eight minutes.

**B.** EORTC QOL-C30 (European Organization for Research and Treatment of Cancer Quality of Life C30, Aaronson et al. 1993, 1996), designed to assess quality of life of patients with malignant neoplasms, composed of 30 items, which explores 15 areas:

Physical functionality (5 items, eg.: it is hard to do a longer ride?, you need someone to help you eat, to dress or use the toilet?)

- Fulfilling social roles (2 items, eg: You can meet normal daily service obligations?; Are you able to carry out your favorite hobbies and leisure activities?)
- Functionality mental, emotional (four items, eg.: Have you felt tense (s)?; Have you felt depressed, sad, melancholic?)
- Functionality cognitive (two items, ex.: Did you have difficulty to focus on some things (reading a newspaper, books, TV monitoring, etc)?, you had difficulties to remember things?)
- Social functionality (two items, ex.: The condition or medical treatment you have affected family life?, physical condition or medical treatment you have affected social activities (to take visiting friends, going to church, cinema, etc)?)
- The patient's general health status (two items, with 7 choice; How do you evaluate in general your health in the last week?; How would you

rate your overall quality of life in the last week?)

- Fatigue (3 items, ex.: Have you felt the need to rest during the day?; Have you felt tired?)
- Nausea and vomiting (two items, ex.: You threw up?, Did you have nausea?)
- Pain (2 items, ex.: Did you have pain, you feel bad?; pain you have disturbed their daily work?), and 6 with single item scales, dyspneea, insomnia, decreased appetite, constipation, diarrhea and financial difficulties.

The 15 scales are grouped into three categories: functional scales (1-5), scales of symptoms (7-9) and single-item scales (10-15). The general health status scale can be added(6). The functional scales and the scale 6, higher scores indicate better quality of life, and the symptom scales and single items, higher scores indicate poorer quality of life of patients [4,10,12].

The individual scores are calculated on each scale. It can compute a partial score for each scale which is converted into a scale with values from 0-100 points, as follows: the total score minus the minimum score, the result is divided by the size dispersion range and scale scores multiply by 100. The higher the score, the patient's health status is better. Standardized T scores can be calculated with mean 50 and standard deviation of 10 points (Norm-Based Scoring) [4].

# CONCLUSIONS

Health is an essential dimension, and oral health is important for at least the following perspectives: aesthetic (appearance) of the comfort dento-maxillary patient, pain, specific functions (mastication, phonation, swallowing, self-cleaning), social integration, professional fulfillment and not last the accessibility to health care services with dental specific. The complexity of these dimensions makes it difficult to the relevant dimensions choose and especially the choice of items.

We believe the most important aspects of quality of life must be retained from the patient perspective. For inquiries on items of interest, variants of option should be simplified in accordance with the Romanian vocabulary and comprehension level or ability of the interviewed subjects. Oral and maxillofacial oncological pathology has not received the same attention and interest from dentists as other diseases such as dental caries and periodontitis. Social and economic importance of malignant pathology is doubled by the major impact on patients, respectively the quality of their lives.

In Romania, there is a lack of studies and papers on this subject. Also, an evaluation program for the needs of treatment and of disease impact in view of increasing the life expectancy as an area of interest is required for a competent multicenter approach.

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# **RISK MANAGEMENT IN HIGH RISK GENOTYPES OF HUMAN PAPILLOMA VIRUS INFECTIONS**

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#### REZUMAT

Virusurile papilloma umane, parte a genului Papillomavirus, se regăsesc în mai mult de 90% din cancerele cervicale ale femeilor active sexual. Se cunosc mai mult de 100 de genotipuri HPV, din care aproximativ 40% infectează mucoasa genitală. În perioada 01.03.2007 – 19.09.2009, Laboratorul Bioclinica a testat 9245 de femei pentru detec ia infec iei HPV. 38,27% au fost pozitive pentru cel pu in un genotip, iar dintre acestea, 66,31% au fost infec ii cu genotip cu risc crescut. Extrac ia ADN-ului s-a făcut în sistem automat (Magna Pure Roche), iar genotiparea cu ajutorul LINEAR ARRAY HPV Genotyping Test (Roche). Un argument important pentru utilizarea testului-HPV în screeninul primar este faptul că sensibilitatea și valoarea prognostică a rezultatelor negative permit mărirea intervalului de screening pentru femeile HPV-negative.

Cuvinte cheie: HPV, genotipare, risc crescut, management

# ABSTRACT

Human papilloma viruses (HPV), part of Papillomavirus genus, are found in more than 90% of cervical cancer in sexual active women. There are more than 100 known genotypes of HPV, of which approximately 40% infect genital mucosa. During 01.03.2007 – 19.09.2009, Bioclinica Laboratories, tested 9245 women for detecting HPV infection. 38.27% were positive for at least one genotype, from which, 66.31% were high risk genotypes. DNA extraction was automated performed (Magna Pure Roche) and genotyping by LINEAR ARRAY HPV Genotyping Test (Roche). Using HPV-detection as a primary screening method is a key factor, due to sensibility and prognostic value of negative results, which allow enhancement of screening lane for HPV negative women.

Keywords: HPV, genotyping, high risk, management

# INTRODUCTION

Human Papilloma viruses (HPV) are widely distributed, producing epithelial and mucous tumors and are involved in malignant genital pathogenesis. Are present to a numerous vertebrates, posses species specificity, not even in experimental conditions crossinfections cannot be detected [1].

Cervical cancer is second place (after breast cancer) as a malignant tumor, representing 6% of total number of female's cancer [2].

In Romania, cervical cancer is up to 15% of total number of malignancies, being first as a genital cancer (aprox. 67% of genital cancers) and second place as cancer death among women [3].

Main etiology of cervical cancer and preneoplasic lesions is due to human papilloma virus infection. Detected by molecular biology methods, HPV is present among 90% of total number of invasive cervical cancer and precursor lesions [4].

HPV infection is acquired at the beginning of sexual life. Approximate 80% of women will suffer a transient HPV infection, without developing a dysplasia and will eliminate the virus. To almost 20% of infected women, a dysplasia will occur. Most of these women will eliminate the virus and the dysplasia will regress. For a dysplasia to be able to develop into a neoplasia, the HPV infection must be persistent [5].

Cervical cancer has an overall good prognosis; survival at 5 years is 100% in phase 0, 91% in phase I, 83% in IIA phase, 66% in IIB, 45% in IIIA, 36% in IIIB, and 10-14% in phase IV. Due to this, the main aim of cervical cancer treatment is a curative (local control), except phase IV, where the treatment is palliative [6].

Because cervical cancer has a long period of evolution as precursor lesions, detecting and

treating the last represent a very effective preventive measure of invasive cervical cancer.

#### **MATHERIAL AND METHOD**

The samples for this study were obtained from female patients who addressed themselves at Bioclinica Laboratory for HPV-DNA detection, during 01.03.2007– 19.09.2009. 9245 cervical samples were analyzed, from 8858 patients, age varying from 12 to 73 years old.

Cervical samples were collected in specialist's office, with the kit provided by the laboratory. Exfoliated cytology was used to obtain the samples, this being a noninvasive collection method for screening in a normal gynecology check, collection is not based on the presence of a lesion. The sample's quality depends on collector's type and the anatomical site, for women, cervical samples being the most reliable.

DNA extraction was performed automatically (MagnaPure Roche) and genotyping by LINEAR ARRAY HPV Genotyping Test (Roche).

LINEAR ARRAY HPV Genotyping Test is a qualitative in vitro assay for detection of HPV in clinical samples. The test uses polymerase chain reaction for amplifying the target DNA, followed by hybridization, detecting 37 anogenital genotypes of HPV Researcher's reviews [7], realized to appreciate the diagnosis characteristics of cytology and HPV testing reveals:

- Sensibility of HPV testing (88-100%) is higher than cytology (66-86%)
- Specificity of HPV testing (68-97%) is less than specificity of cytology (78-99%)
- Sensibility and prognosis importance of a negative HPV testing, associated with negative cytology exam is almost 100%.

the following:

From 2003, in USA, double screening: cytology exam + HPV testing represents an alternative to classical cytology for women above 30 years old.(5). If both are negative, a next exam after 3 years is to be considered. If cytology is negative, but HPV positive, then both tests should be repeated over 6-12 months, and if at least one of it will be positive, colposcopy is indicated.



RESULTS

Figure 1. Positive and negative sample distribution

Identified DNA-HPV genotypes were 66.31% high-risk one's, 10.44% low-risk,

and the rest, 23.25% - other HPV genotypes (Figure 2).

Now, more than 100 HPV genotypes are

known. LINEAR ARRAY HPV Test detects

45, 51, 52, 56, 58, 59, 66, 68

From 9245 tested samples, 3538 were

positive for at least one genotype (38.27%) and 5107 were negative (61.73%)(Figure 1).

Low – risk: 6, 11, 42

IS39, CP6108.

High – risk: 16, 18, 31, 33, 35, 39,

Other: 26, 40, 53, 54, 55, 61, 62, 64,

67, 69, 70, 71, 72, 73, 81, 82, 83. 84,



Figure 2. HPV-DNA genotypes distribution

From the high-risk one's, type 16 was	genotypes 31 (13.89%), 51 (12.39%), 33
detected the most (20.68%), followed by	(8.75%), 66 (7.96%), 18 (6.78%), 52

30

(5.87%),	58	(5.37%),	68	(3.70%),	45
(3.55%),	39	(3.08%),	56	(3.05%),	59

(2.85%) and 35 (2.06%)(Table 1).

<b>Genotype HR - HPV</b>	Number of detections	Percent
16	704	20.68%
31	473	13.89%
51	422	12.39%
33	298	8.75%
66	271	7.96%
18	231	6.78%
52	200	5.87%
58	183	5.37%
68	126	3.70%
45	121	3.55%
39	105	3.08%
56	104	3.05%
59	97	2.85%
35	70	2.06%
Total	3405	100%

#### Table 1. High risk genotypes of HPV detected

#### DISCUSSIONS

In Europe, the status regarding implementation of HPV testing as a primary screening is in discussion. (8) In countries where cytology screening is widely and successfully used, HPV testing is not included, because it has a lower prognosis rate, especially to young women (less than 30 years old). This is due to the transient character of infection at this age. Nevertheless, women above 30 years old, spontaneous elimination rate of the virus is

lower than to teen-agers and young women, thus the prognosis value of HPV testing increases.

Using HPV-detection as a primary screening method is a key factor, due to sensibility and prognostic value of negative results, which allow enhancement of screening lane for HPV negative women.

Figure 3 represents the algorithm of primary screening for HPV-18 testing [9,10].



Figure 3. Algorithm of primary screening for HPV-18 testing (modified Cuzick J. Role of HPV testing in clinical practice. Virus Res 2002; 89:263-9)

The frequency of oncogenic types DNA-HPV detection in case on grade I cervical intraepithelial neoplasia (CIN) is 25 %, and in case of grade II and III – 80, respectively 88%. Researches based on retrospective studies of patients with CIN show that regression occurs in 57% of cases, persistency – in 32%, tumor growth in 11%, and developing invasive cancer in just 1%. At the same time, in CIN III cases, malignant process occurs in more than 12% and regression in just 32% of the cases.

Developing cervical neoplasia depends first on the type of virus involved. Most of the cases are associated with type 16 and 18 of the virus. All existent guides for cervical cancer prophylaxis recommend dividing screening groups due to practical reasons. There are differences of screening methods between countries. For example, in USA, the screening begins earlier and the testing is more frequently than recommended by OMS, or European countries [8,11]. Even in Europe, the target groups for screening are very different. Most of the recommendations suggest it must be used a external quality control of screening programs.

Optimal age for beginning of screening is different due to factors considered by various authors:

- From 25 years of old [12];

- From 21 years of old, or after 3 years from the sexual life debut [13];

From 18 years of old because of the high frequency of sexual activity at this age [13];
From 30 years of old for new programs based on HPV-DNA testing; from 25 years for existent programs (classical cytology) [14].

Now, there are no scientific arguments to establish the optimal age for screening start [12].

The age from which the screening is no longer justified:

- From 60 years [15];

- From 65 if by this age a proper screening was performed, the results were negative and the woman did not belong to any risk groups [13];

- From 70 years old if there are three successive negative cytology results and no positive results in the last 10 years. At the same time, testing is recommended for older women if before they were not tested or there are no results from previous testing [8].

- Patients more than 70 years old, DNA-HPV positive, must continue testing in the recommended screening program

- From 65 – if the last two smears were negative [16]

- there are no limits in age for screening [12].

Screening should be performed every 3-5 years, but no less than once every 3 years, if the procedure is based on classical smears, or every 2 years if the liquid based cytology is used. The period can be prolonged to 2-3 years for patients above 30 years old, considering the associated risk factors and the result from previous cytology exam [13]. This recommendation is based on sensibility of cytology exam.

In order to increase the specificity of HPV testing, a group of molecular markers for dysplasia are to be considered: integration of DNA-HPV genome in the host cell,

expression of viral oncogens E6 and E7, expression of human proteins which normally are not produced by cervical cell epithelia. but their synthesis grows considerably based on not-controlled expression of viral oncogens. Future studies of viral and human genes will modify these criteria. Use of those markers for clinical purposes requires a very good clinical exam of the patient.

HPV testing has a key role in primary screening of cervical adenocarcinoma - rare neoplasia, but very aggressive. Although is not yet established the role of HPV in developing those diseases, it has been practical demonstrated that in all adenocarcinoma cases, oncogenic types, especially 18 of HPV were present. Considering that cytology exam is limited in detection of atypical cells of cervix, implementation of HPV testing in screening programs may raise clues to detect cervical adenocarcinoma and precursor lesions.

A study conducted in USA, in order to assess the algorithm management of patients with ASC-US, showed that HPV testing is much as effective as immediate as colposcopy and more than repeated cytology based on sensitivity. The authors revealed that in a real clinical situation, HPV testing for women with ASC-US is capable of detecting all CIN II+ cases, reducing to half the cases in which colposcopy is recommended. In United States it was officially approved HPV testing for ASCthe US patient's management, base argument being that a negative result for HPV will be assumptive for a minimum risk of developing CIN II+ for those patients [17].

#### CONCLUSIONS

Showing the viral origin of cervical cancer was a base to include this disease in the category which can be prevented by vaccination. Obviously, this procedure is considered only for those type of viruses which are most associated with neoplasia, mainly types 16 and 18.

Bivalent vaccine (against types 16 and 18) is able to prevent at least 70.7% from all infectious cases. The tetravalent vaccine (against types 16, 18, 31 and 45) will be

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able to prevent around 80% of the cancers. Including more types of virus in the vaccine will increase the results, but also the costs.

Scientific data today allow considering vaccination as a real method of fighting against cervical cancer. Being an effective measure for prevention of acute and persistent infections, cytology alterations and of CIN, vaccination is able to reduce considerably the morbidity associated with cervical cancer.

screening, 2nd draft of 15 December 2003

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# **RISK FACTORS FOR DEVELOPMENT OF BREAST CANCER**

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# REZUMAT

În ultimii ani s-au produs importante îmbunătă iri în ceea ce prive te cauzele și prevenția cancerului mamar. Vârsta, antecedentele heredo-colaterale de cancer mamar, precum și evenimentele vie ii reproductive au fost demult cunoscute ca fiind asociate riscului de cancer mamar. Mai recent, au apărut noi factori, precum obezitatea, activitatea fizică scăzută, consumul de alcool și de hormoni exogeni; dintre acești factori noi, unii par a avea legatură cu perturbări ale nivelelor hormonilor estrogeni - care pare a fi cauza majoră a cancerului mamar. Deși unii dintre factorii de risc nu pot fi modifica i, alții pot fi modificați substan ial - chiar dacă schimbarea stilului de via ă are loc târziu. În acest articol, prezentăm pe scurt cei mai importanți factori implicați în dezvoltarea cancerului mamar.

Cuvinte cheie: factori de risc, cancer mamar, epidemiologie

# ABSTRACT

Important improvements have occurred in the past several years in our understanding of the causes and prevention of breast cancer. Age, family history of breast cancer, and experiences of reproductive life have long been known to be associated with breast cancer risk. More recently, new factors have emerged, including obesity, low physical activity, alcohol intake, and exogenous hormone use. Of these new factors, many appear to be related to perturbations in circulating estrogens, which are believed to be the major cause of breast cancer. Although some of the factors that increase risk are not amenable to change, many are meaningfully modifiable, even when change is undertaken later in life. In this article we present briefly the most important risc factors involve in development of breast cancer.

Keywords: Risk factors, Breast cancer, Epidemiology

#### **INTRODUCTION**

The rapidly increasing and high incidence of breast cancer over the past few decades supports the hypothesis that factors determining breast cancer risk have changed. Some of this change can be directly attributable to a reduction of protective factors (increasing parity, early age at first birth) in a higher proportion of women. Other factors which are known to increase breast cancer risk (obesity, low physical activity, and the use of exogenous hormones) have become more common. In addition to these changes in risk factors, breast cancer screening has impacted disease incidence. Mammography artificially increased breast cancer incidence in the short-term by advancing the lead time for prevalent disease and possibly in the long-term by identifying lesions with limited malignant potential. In general, greater lifetime exposure to estrogen, influenced by endogenous and exogenous risk factors, increases risk of breast cancer. Although many exposures that increase risk are not readily modifiable, some behaviors can be adopted to decrease risk.

A risk factor is anything that increases the probability of the development of a disease process. An individual's risk can be expressed in a number of ways: lifetime risk, 5-year risk, absolute risk and relative risk.

# **DEMOGRAPHIC FACTORS**

# Gender

The number one risk factor for breast cancer is gender. Less than 1% of all breast cancers are

found in men and the mean age at diagnosis for men is 60 to 70 years. The lifetime risk for being diagnosed with breast cancer is 0.11% for American men, in contrast to 13.5% for women, that means a 120-fold ratio [1].

# Age

Age is the strongest risk factor for breast cancer in women. The incidence of breast cancer increases steeply with age with the greatest rate increase in postmenopausal women, where the risk doubles with each decade of life up to age 80. The decline in incidence rates after age 80 may reflect lower rates of screening leading to incomplete detection [1].

# Race

There are differences in breast cancer incidence according to race and ethnicity. The incidence of breast cancer is highest in white women, followed by black and Hispanic women, with the lowest rates in Asian women. These disparities might reflect multifactorial inherited factors, genetic differences in the biology of the tumors, or cultural differences (e.g., maternal age at first birth) [2].

# **GENETICS**

# **Family History**

Breast cancer tends to cluster in families. Women with a family history of breast cancer, particularly in a first-degree relative, have approximately double the risk of developing breast cancer compared to women without such a history. Risk of breast cancer is higher if the relative was diagnosed at a younger age (diagnosed at <40 years old, relative risk or RR = 6) or if more than one relative was affected (RR = 3-4) [3].

# **BRCA1 and BRCA2**

In the 1980s, studies of high risk families provided evidence of an autosomal dominant inheritance of breast cancer. Gene linkage studies pointed to loci on chromosomes 13 and 17, and cloning identified two genes, BRCA1 (on chromosome 17) and BRCA2 (on chromosome 13), that appear to be associated with the majority of inherited breast cancers, which account for 2-5% of all breast cancers. Depending upon the populations considered lifetime risk of disease ranges from 20 to 80%. BRCA1 and BRCA2 are tumor suppressor genes with numerous important cell functions. including transcription, regulation of cell cycle checkpoints, genomic stability, and DNA repair [1].

# **Other Genes**

Other genes are also involved in breast cancer risk. Women with the rare Li-Fraumeni syndrome have a very high risk of early onset breast cancer and other cancers, which is caused by mutations in the p53 tumor suppressor gene. Women who are autozomal recessive for the very rare ataxia telangiectasia gene (ATM) are at nearly 100-fold greater risk for cancers, including breast cancer. The number of ATM heterozygotes is much larger, about 1% of the population, and they have a fourfold increased risk of breast cancer. Women with Cowden's disease have a mutation in the PTEN tumor suppressor gene. Nearly 50% of women with this disease develop breast cancer by age 50 [1].

# **REPRODUCTIVE AND HORMONAL FACTORS**

Reproductive events, including menarche, pregnancies and live births, lactation, and menopause all mark important and sustained changes that can influence breast cancer risk [4].

# Menarche and Menopause

Increasing age at menarche is associated with decreasing breast cancer incidence; with each one year increase in age at menarche, risk of breast cancer decreases by 5%. Concomitantly, increasing the reproductive period with a late age at menopause increases the risk of breast cancer, presumably through greater lifetime exposure to circulating hormones [4].

#### Parity

Parity, specifically at an early age, is associated with a decreased risk of breast cancer. Compared to nulliparous women, parous women are at 17–41% decreased risk of breast cancer, depending upon their age and parity [4].

# Age at First Birth

The timing of first pregnancy is an important determinant of breast cancer risk, reflecting the benefits of final maturation of terminal ducts of the breast at an early age with hormonal exposures for the first pregnancy. Compared to women under age 18 at the time of first pregnancy, women whose first birth occurred at age 35 years or older had a 60% increased risk of breast cancer [4].

# Lactation

Lactation further decreases risk of breast cancer in parous women, although the overall reduction in risk varies substantially within the population studied. Based upon the pooled re-analysis of 51 observational studies, the relative risk for breast cancer decreases by 4.3% for every 12 months of breastfeeding. The risk reduction appears to be greatest among women with high parity, the risk reduction due where to breastfeeding may be as great as 50%, and among premenopausal women with lactation durations  $\geq 2$  years, where the breast cancer risk reduction may be 30% [5].

# **Oral Contraceptive**

Multiple studies were unable to demonstrate an increased risk, although a large metaanalysis has calculated a small but significant increase in the relative risk (RR 1.24). The risk appears to decrease after stopping the use and by 10 years after stopping is back to normal [1].

# **Postmenopausal Hormone Therapy**

World-wide epidemiologic data confirm now that postmenopausal hormone therapy use is associated with increased breast cancer incidence. The Collaborative Group on Hormonal Factors in Breast Cancer pooled and reanalyzed the data from most observational studies and they reported a modest increase in the risk of breast cancer associated with ever use of hormone therapy compared to never use (RR= 1.14), with evidence of an increasing risk with increasing duration of use. The risk of breast cancer was increased among current users (RR = 1.21), but not among past users (RR = 1.07) [6].

# **Benign Breast Disease**

Benign lesions can be categorized as proliferative or nonproliferative. Nonproliferative lesions are not associated with an increased risk for breast cancer, whereas proliferative lesions may be associated with an increased risk of either noninvasive or invasive disease. The risk associated with proliferative lesions depends upon the

degree of atypia associated with the lesion. Proliferative lesions without atypia include fibroadenoma. moderate or florid hyperplasia, sclerosing adenosis, radial scar, and intraductal papillomas. In these women, the relative risk of breast cancer is approximately 1.3 to 2 times that of other women. This varies with the specific lesion and the features of that lesion. For example, the presence of a fibroadenoma appears to be associated with an overall risk of breast cancer of 1.4 to 1.7 that of the general population. However, the risk is not uniform among all fibroadenomas. The majority of the elevated risk is among women with fibroadenomas exhibiting a complex histology or hyperplasia or those that occur in women with a first-degree relative with breast cancer (a risk above that of the family history alone). The remainder of women with a fibroadenoma (about 70%) are left without an apparent increased risk. When atypia is present in a proliferative lesion, the risk of breast cancer is significantly increased. The relative risk of developing breast cancer in a patient with atypical hyperplasia is increased 4.5 to 5 times. The risk of breast cancer associated with benign breast disease differs by menopausal status.

Among premenopausal women, the relative risk of breast cancer associated with atypical hyperplasia is 5.9. By comparison, among postmenopausal women, the risk of breast cancer associated with atypical hyperplasia is 2.3, suggesting that atypia is more important in premenopausal women [7].

Histological type of the benign lesion may influence risk. The risk of breast cancer associated

with atypical hyperplasia appears to be stronger among women who had lobular compared to ductal lesions. In the Nurses Health Study, women with benign breast disease who had atypical lobular hyperplasia had a fivefold increased risk of a breast cancer while women with atypical ductal hyperplasia had a 2.4-fold increased risk of breast cancer compared to women with nonproliferative benign breast disease. Other studies have detected similarly elevated risks between atypical lobular and atypical ductal hyperplasia [8].

In a nested case-control study in the National Breast Screening Study (NBSS) in Canada, Rohan and colleagues determined that women with benign breast disease who had overexpression of p53 had a 2.55-fold increased risk of breast cancer compared to women with benign breast disease but without p53 overexpression [9].

# **Breast Density**

Mammographic density is defined and measured by the amount of radiodense areas, which represent epithelial tissue and stroma. High mammographic breast density is considered one of the strongest risk factors for breast cancer. Among women with more than 75% breast density, the risk of breast cancer is more than four times that of women with much less dense breasts [10].

# Body Size and Physical Activity

Many aspects of body habitus influence the risk for breast cancer. Greater size as measured by height, weight, and the composite measurement of body mass index (BMI, kg/m<sup>2</sup>) are related to increased breast cancer risk after menopause [1].

# Height

Increasing height is associated with increasing risk of breast cancer, particularly in postmenopausal women. In a pooled analysis, the relative risk of breast cancer per increment of 5 cm increase in height was 1.02 in premenopausal women and 1.07 in postmenopausal women. These differences were confirmed by a large analysis from The European Investigation into Cancer and Nutrition (EPIC) [1,11].

# Obesity

Increasing BMI is also associated with an increased risk of breast cancer. In a pooled analysis from seven large prospective

studies, the authors suggest that increasing adult BMI is associated with an increased risk of breast cancer in postmenopausal women, but it shows evidence of no association or a possible decreased risk among premenopausal women. There is strong evidence that weight gain in adult life is associated with a greater risk of breast cancer. In a large population-based study, for each 5 kg weight gain since the lowest adult weight, breast cancer risk increased by 8%, 99 while weight loss, particularly at younger ages is related to decreased risk [1].

Obesity in girls and adolescents appears to be related to а reduced risk of premenopausal breast cancer. The most recent analysis from the Nurses Health Study II suggests that women reporting being the most overweight during childhood (<10 years) and adolescence (10-20 years) had a 52% reduced risk of premenopausal The suggested pathways breast cancer. involve the relationship between obesity and many hormones, especially at the time near the onset of puberty. For example, overweight girls have a younger age at menarche [12].

# **Physical Activity**

Obesity and physical activity are closely related. Numerous epidemiologic studies have observed a reduction in breast cancer risk with physical activity. Decreases are generally 20–40%, and observed in the most active compared to the least active women, both from occupational and recreational activities. Evidence indicates a greater consistency in a protective effect of physical activity on postmenopausal breast cancer; studies are limited regarding an effect in premenopausal women [13].

# **BEHAVIORAL FACTORS**

# Alcohol

Alcohol consumption at all ages is consistently associated with an increased risk of breast cancer. A pooled-analysis of more than 50 studies showed that the risk of breast cancer was 1.32 for women consuming two to three drinks per day compared to non-drinkers. Risk is dosedependent, with risk increasing by about 7.1% for each additional 10 g of alcohol consumed per day. Subgroups of women may be at greater risk of disease because of other breast cancer risk factors. In one study, alcohol consumption was associated with a two-fold increased breast cancer risk in women with low BMI (<25). Although the mechanisms are not completely clear, it may be that alcohol increased circulating levels of estrogen and androgens, and increases the susceptibility to hormones, the effects of which may be mediated by folate metabolism [14].

# Diet

Epidemiologic studies comparing breast cancer incidence and dietary fat intake have shown a

strong positive correlation between the two, and for many years this was suspected to be the primary reason for the increased breast cancer risk seen in many Western countries. In the Nurses' Health Study, women who had the lowest fat intake had a decreased risk of breast cancer compared to those women with the highest fat intake. This was among premenopausal

women. A pooled analysis of more than 300.000 women, mostly postmenopausal, failed to demonstrate any connection between dietary fat and breast cancer. It may be that the influence of dietary fat is more significant in younger women, particularly in the prepubertal years. This may have more impact on age of menarche and subsequent BMI [15].

# Medications

The influence of regular use of several medications on breast cancer risk has been studied. Common non-steroidal antiinflammatory agents (i.e., aspirin, ibuprofen) have been associated with decreased risk of breast cancer in some, but not all studies. Other medications, such as statins, have been associated with increased
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risk of disease. Reports of other drugs, such as antidepressants, have not shown an association [1].

# Smoking

Researchers have demonstrated an increased risk of breast cancer associated with duration, intensity, cumulative exposure, and latency among long-term smokers. Exposure to passive smoking either from parents as children or a partner/spouse has not been associated with breast cancer [16].

# ENVIRONMENTAL AND OCCUPATIONAL FACTORS

The increases in breast cancer incidence with industrialization and urbanization suggest that there are environmental components to breast cancer risk. However, despite the investigation of numerous environmental or occupational exposures in association with breast cancer risk, few have beendemonstrated to be important etiologically.

# Pesticides

Much attention to environmental risk factors for breast cancer has focused on exposure to dichlorodiphenyl-trichloroethane (DDT). Recent studies have investigated women who develop breast cancer at a younger age or in populations where DDT has been used more recently and have shown some increasing breast cancer risk with increasing exposure based on blood levels [17].

### **Occupational Exposures**

Occupational health studies in women are difficult to accomplish given that few women are exposed to the agent of interest through their work and few women are working in a relevant occupation often leading to low statistical power to assess an outcome such as breast cancer.

Exposure to electromagnetic fields (EMF) is fairly common in occupational settings. Several studies have shown a slight but statistically significant elevation in risk of breast cancer in women with the highest levels of EMF exposure. Increased risks of breast cancer have been associated with employment as nurses, hairdressers, and flight attendants. Occupational exposures of textile workers has been speculated to increase breast cancer risk, but the largest cohort study on this topic did not detect a statistical association with textile hazards and breast cancer risk. Some occupations are associated with increased physical activity. Women with heavy activity occupations in a large case control study had a decreased risk of breast cancer compared to women with sedentary work. Working as a nurse has been associated with an increased risk of breast cancer. One hypothesis for this association is related to employment at night or shift work. Exposure to light at night suppresses the night surge of melatonin, and the reduction of melatonin is thought to result in increased circulating estrogen. Initial reports have suggested that women who have worked at night for longer durations have increased risks of breast cancer. In 2007, the International Agency for Research in Cancer classified exposures that involve circadian rhythm disruption as a probable human carcinogen (Group 2a) [1,18,19].

# Radiation

The breast is very susceptible to the damaging effects of radiation. In general, risk depends upon dose, age, and time since exposure. Radiation exposures in women are most common in the medical care setting. such as chest radiation for benign breast disease, scoliosis, and radiation for cancer treatment. The breast is particularly sensitive to the effects of ionizing radiation during puberty, even at low doses. Women living in Hiroshima who were under 20 years of age when the atom bomb was dropped had a nearly 15-fold increased risk compared to unexposed women. This increased risk was far greater than for older women in the same area [20].

#### **SUMMARY**

Many risk factors for breast cancer are inextricably tied to our modern lifestyle, and clearly there are causes for breast cancer that remain unknown. The frustration of breast cancer epidemiology has been that the strongest risk factors (i.e., known genetic or heritability syndromes) are rare, and some of the most common risk factors (i.e., age) are not amenable to change. The in toto proportion of explained population attributable risk from known factors ranges from 15 to 55%. These studies, however, include all established risk factors, yet the modifications of most reproductive and medical history factors are not consistent with the current goals of society. However,

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women who wish to reduce their risk, particularly since the incidence is highest in the later adult years, can substantially decrease their risk of disease by changing some behaviors, including reducing alcohol intake, maintaining a healthy weight, and pursuing regular physical activity. Such a purposeful change would result in a 41% reduction in breast cancer incidence in postmenopausal women.

The search for modifiable risk factors must continue, and should creatively examine the interplay of known factors to target women at greater risk to tailor risk reduction interventions

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# **STUDY OF CHRONIC MORBIDITY IN CHILDREN AND YOUTH COLLECTIVITIES FROM BIHOR COUNTY**

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# REZUMAT

Obiectivul acestui studiu a fost evaluarea morbidității cronice în cadrul comunităților de preșcolari, școlari și studenți prin intermediul examinărilor medicale de rutină ca aproximare a stării de sănătate, în perioada 2006-2009, în județul Bihor. Subiecții care au participat la examinările medicale de rutină în anii școlari 2006-2007, 2007-2008 și 2008-2009 au totalizat un număr de 81 384 subiecți, 68,35% în zonele urbane și 37,65% în zonele rurale. Calcularea prevalenței categoriilor specifice de afecțiuni cronice luate în studiu, investigarea anilor școlari și a mediului urban/rural, a permis definirea ierarhiei afecțiunilor cronice majore prezente la grupele populaționale de vârstă tânără. Categoriile de afecțiuni cronice diagnosticate au fost reprezentate cel mai frecvent de deformări dobândite ale coloanei, vicii de refracție și cazuri de obezitate non-endocrină. Rezultatele examenelor medicale au permis creearea unei baze de date care oferă suport pentru programe de pregătire pentru un stil de viață sănătos, pentru prevenirea și combaterea afecțiunilor cronice.

*Cuvinte cheie:* copii și tineri, examinări medicale de rutină, afecțiuni cronice

# ABSTRACT

The objective of this work was to evaluate the chronic morbidity in preschools, schools, and students collectivities through medical exams of balance as a proxy for health status, between 2006-2009, Bihor County. Participants in the medical exams of balance in the school years 2006-2007, 2007-2008 and 2008-2009 amounted to 81 384 subjects, 68.35% in urbanand 37.65% in rural areas. Calculating the prevalence of specific chronic disease categories of study, investigating school years and the urban / rural environment, allowed defining the hierarchy of major chronic diseases of the young age groups. Categories of diagnosed chronic diseases were most frequent spinal deformities won, refraction vices and non-endocrine obesity cases. Medical exams balance results allow the creation of a database which provides support for training programs within the meaning of a healthy lifestyle, of the prevention and fight against chronic diseases.

Keywords: children and youth, medical exam of balance, chronic diseases

# **INTRODUCTION**

Early detection of chronic diseases in communities of children, adolescents and young adults offers the possibility to track their in time after a well-established program including:

-regular monitoring by sending each disease specialist doctor once or twice a year, depending on disease

-establishment as a specific therapy to treat early disease where possible, or to prevent complications oracute exacerbation of underlying disease

-establishment of sanitary measures where necessary, such as avoiding exercise, hygiene and dietary regimen, drug-therapy, or surgical therapy

-sent to a specialist environment for detecting chronic stage

-making vaccinations mandatory by MS scheme for the prevention of infectious and contagious diseases on an existing chronic disease [1].

The objective of this work was to evaluate the chronic morbidity in communities of children, adolescents and students through medical exams of balance like health proxy.

# **METHODOLOGY**

# METHOD

Chronic morbidity in communities appreciated through medical exams of balance in 2006-2009 period, Bihor County.

Medical exams of balances carried during the development and maturation period, with major changes in the transition to a new form of institution, the following categories:

- preschool children: small, or the first entry in the community, before school

- school children: first grade for the event according to reorient school by school performance, sickness, deficiencies; fourth grade, prepubertal status, eighth grade, after puberty stage, to release medical records for admission to colleges, vocational schools, vocational guidance; twelve grade, to release medical records to enroll in universities, colleges, military service

- second year students, school children in professional schools in the last year, to assess health status.

For cases of chronic diseases diagnosed in the age groups participating to the annual medical exams of balance [2], morbidity indices were calculated by types of health problems on years of study, 2006-2009 time frame, and urban / rural environment.

# MATERIAL

Bihor County preschool and school children and students participants to medical exams of balance, from school years 2006-2007, 2007-2008 and 2008-2009, totaled 81384 subjects, 68.35% from urban and 37.65% from rural environment.

The study groups participating in the exam were mostly preschool children, 27.81%, followed by school children from I–IV–VIII-XII grades with percentage as follows: 17.21-17.49-18.17-15.38%.

Lower rates of participation were recorded for second year students, 8.47%, and second year school children in professional schools, 3.89%.

According to study groups and area of residence, the percentage was higher in urban compared to rural areas, the XIIth grade. The percentage of participation was higher in rural areas compared to urban areas, in preschool children and school children in I, IV, V-VIII grades.

# **RESULTS AND DISCUSSION**

The hierarchy of major chronic diseases defining the age groups participating to the medical exams of balance in the 2006 - 2009 time period, from Bihor County, is shown in Table 1.

# Table 1. Central situation of the main categories of chronic diseases diagnosed duringthe medical exams of balance at preschool, school children and students from BihorCounty, in the 2006-2009 time period

Categories of illness	Number of cases			
	Total	Urban	Rural	
Spinal deformities	5978	5912	66	
won				
Refraction vices	3757	3243	514	
Non endocrine	2667	2108	559	
obesity case				
Sequelae of rickets	2420	1824	596	
Chronic diseases of	1213	780	433	
tonsils and adenoids				
Low weight	1024	510	514	
Chronic iron	945	598	347	
deficiency anemia				
Short stature	733	342	391	
Behavioral disorders	714	475	239	
and School				
Adjustment				
Mild mental	614	286	328	
retardation				
Total	20065	16078	3987	

The most frequent categories of diagnosed chronic diseases were spinal deformities won, refraction vices and non endocrine obesity cases.

# 1. The specific dynamics of spinal deformities won prevalence

Spinal deformities won are on the first place, in terms of specific urban prevalence in all age groups participating to the medical exams of balance 0-2.04-5.53-6.60-5.42-5.76-0.92% for preschool children, school children first grade, IVth grade, VIIIth grade, XIIth grade, second grade from professional schools, students from II year to 0-0.09-0.22-0.45-0-3.00% in rural areasfor preschool children, school children first grade, IVth grade,VIIIth grade, XIIth grade and second grade from professional schools (Figure 1).



Scoliosis is a spinal disorder in the frontal plan is partially diverted, while the normal spine is straight. At the same time, the spine can be twisted, rotated around the axis. More commonly, scoliosis occurs in the spine (thoracic spine) or the lower back (lumbar spine). Scoliosis is when the deviation column is greater than 10 degrees. Scoliosis occurs in childhood or adolescence and is associated with genetic factors, being a family disease, but can also be acquired. The spine usually curves in the shape of letter S or C [3-5].

In childhood and adolescence, scoliosis does not cause symptoms and is not evident until the spine becomes severely deform.

A child with scoliosis is defined by:

- One shoulder may appear higher than other
- A hip may appear higher than other
- Baby's head is not centered on his body

- One shoulder blade may be more prominent than the other

- Ribs are higher on one side when the child is leaning forward from the waist

- Waistline can be a part payment.

In most cases, scoliosis does not cause pain in childhood or adolescence. Pain in adolescence for those who have scoliosis is due to other causes, such as bone tumors or tumors of the bone marrow.

Most cases of scoliosis have average degrees of severity, causing small curvature of the spine that do not worsen over time. Small curves do not cause pain or other problems. In cases of moderate or severe scoliosis, the spine curves continue to rise over time. During growth, such as rapid growth during adolescence, the curves get worse. Curves of less than 30 degrees often stop to develop with skeletal growth, while larger curves may worsen throughout adolescence, and progress can continue into adulthood, if not treated. Only about 10% of children diagnosed with scoliosis require treatment (surgery or corset).

Factors that may suggest a potential increase in curvature of the spine include:

- Child's age and stage of development or maturity of the skeleton when he was diagnosed with scoliosis; the less mature the skeleton is, the greater the chance of scoliosis to worsen over time; skeletal age as determined by the Risser sign is used to determine the risk of progression of the curvature

- The size of curvature: the greater the curvature, the greater is the risk of worsening over time

- Location and shape of the curve: the curves in the top of the spine is often worse than those in some other areas

- Girls are more likely to develop scoliosis with greater curves and more severe than boys [6-8].

As the scoliosis is severe, the vertebrae rotate to the inside ring curvature. If the upper spine is affected, ribs are crowded on one side and away on the opposite side. The curvature of the space between the vertebrae can cause narrowing. Vertebrae may be thinning on the outside of the curve. In case of severe curvature, deformation coast (humpback) can reduce the amount of air in the lung, while leading to the heart failure. If the result of school health screening program suggests a deformity of the spine, the next step is a medical consultation. Most of the deformation detected by school screening program are deviations in the normal spine, or average scoliosis, which normally require only careful follow-up [9,10].

# 2. Specific dynamics of refraction vices prevalence

Refraction vices are on the first place, in terms of specific urban prevalence in all age groups participating to the medical exams of balance 2.69-5.51-6.20-5.89-5.12-9.87-10.03% for preschool children, first grade school children, IVth grade, VIIIth grade, XIIth grade, second grade from professional schools, students from II year to 0.76-2.09-1.91-2.18-2.71-0% in rural areas for preschool children, first grade school children, IVth grade, VIIIth grade, XIIth grade and second grade from professional schools (Figure 2).

Refraction vices are disorders that share abnormal refraction of light in its passage through transparent media of the eye. In the normal eye, emmetropia, rays of light that permeates it is designed exactly on the retina. Refraction vices more common are nearsightedness, farsightedness, astigmatism [11-13].

Myopia involves imaging before the retina, either because the eye is elongated - axial myopia, the cornea's convergence is too high-myopic refractive. We talk about crystalline-myopia, and due to the increase refringence of the crystalline. Correction is accomplished with diverging lens, the minus, which are designed to move the image on the retina (either glasses or contact lenses). Myopia may be small, simple when no more than 3 diopters, average between 3-6 diopters, great between 6-9 diopters and forte when is more than 10 diopters. Evolution of myopia is slowly progressive. Some forms stop their progress to a certain amount, others progressing to high diopters. In general, over 10 diopters myopia is accompanied by significant damage to the retina, coroidoza myopia.

In these cases, visual acuity is significantly affected and is not corrected by either glasses or contact lenses or by surgery.



Hyperopia is a refractive abnormality where the image is formed behind the retina, either because the eye is too short - axial, or because the cornea is not sufficiently convergent - refractive.

Hyperopia may be small, up to 4 diopters; average, 4-6 diopters, or greater than these values. Correcting is accomplished with converging lens, plus, bringing the image on the retina (glasses or contact lenses). If not corrected, in time, from the age of 2-3 years, high or moderate hyperopia and sometimes small, can lead to a significant loss of vision called amblyopia, irrecoverable in older adults, either by glasses or by surgery.

Astigmatism means a spherical aberration of the cornea so that the cornea is not uniform throughout the diopter surface, is different from a meridian to the other. In this case, rays of light that passes through the retina will not design a single outbreak, but different outbreaks and so the resulting image will be blurred and distorted. Astigmatisms can be easily corneal simple myopia or hyperopia, when corneal deformation involving a single meridian may be compounded or mixed, myopia and hyperopia.

As with hyperopia, astigmatisms undetected and uncorrected at the right time, may lead to amblyopia with different degrees (irrecoverable loss of view). Astigmatism correction is made with cylindrical lenses, plus or minus, or combinations sferocylindrical, depending on their type.

Treatment of refraction vices. There is no medical treatment to correct refractive errors or stopping evolution. The treatment possibilities include optical and surgical treatment [14-18].

# **3.** Specific dynamics of non endocrine obesity cases' prevalence

Non endocrine obesity cases are on the first place in term of specific prevalence in urban areas for the age groups participating to the medical exams of balance preschool children, first grade school children, IVth grade, VIIIth grade, XIIth grade, second grade of professional schools, students in the II year 1.76-4.06-5.45-5.61-4.52-1.813% from 1.29-2.20-1.71-2.06-2.38% at preschool children, first grade school children,

IVth grade, VIIIth grade, XIIth grade from rural areas. Specific prevalence was higher in rural areas compared to urban areas for second grade professional schools 3.46% to 2.38% (Figure 3).



Eutrophic state is characterized by a balance between age, weight, size, perimeter, optimum appearance and function of all organs and apparatus of the growing body. The quantity and quality of food, the metabolism of nutrients, plus constitutional factors, infections, socio-economic conditions, determines the state of eutrophic or malnourished children and teens.

Obesity or overweight preferably, is the most common nutritional disease in childhood and adolescence, with increasing prevalence. Obesity is not a benign condition, and the longer the overweight period was during childhood, the higher is the risk of persistence in adolescence and adulthood. Obesity affects 10-15% of children and 10-14% are overweight with risk of becoming obese. Percentage of

overweight adolescents is averaging 14% [19-21].

The causes of obesity are genetic (Prader-Willi syndrome, Cohen, Bardet-Biedl etc), endocrine (hypothyroidism, Cushing syndrome, Growth hormone deficiency) and causes related to environmental factors (the most common cause - the imbalance of energy intake: excessive caloric intake and physical inactivity).

Diagnosis of increasing obesity in children is often difficult. The children's increased muscle mass, weight and size are not adequate to evaluate overweight. Identification of overweight children and adolescents is necessary because early therapeutic intervention is successful [22,23].

Although it varies by gender, race and degree of maturity, body mass index (BMI) is the most useful indicator for assessing overweight in these age groups. Children with a BMI greater than or equal to the 95th percentile are overweight and those with BMI between 85 and 95 percentiles are at risk of becoming overweight. Adolescents with a BMI greater than the 95th percentile or greater than 30 kg/m<sup>2</sup> are considered overweight, and those with BMI between 85 and 95 percentiles or less than 30 kg/m<sup>2</sup> are at risk of becoming overweight. Overweight in children is associated with cardiovascular risk of hypertension, insulin resistance, the genu valgum or varum, discrimination issues.

In obese adolescents, the prevalence of type 2 diabetes mellitus is increased. These adolescents are confronted with a certain degree of rejection and exclusion from social life, they learn less and remain lonely. In the long term, obesity in adolescence is associated with increased risk of atherosclerosis and coronary heart disease in both sexes, in men also with increased risk of colorectal cancer and gout, and in women with risk for TMD [24,25].

# CONCLUSIONS

Calculating the specific prevalence of chronic diseases on categories of study, investigated school years and urban/rural areas, allowed ranking of major chronic diseases defining age groups of young people participating to the medical exams of

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balance in Bihor County, in the 2006-2009 time period.

- Spinal deformities won are on the first place, in terms of specific prevalence in all age groups participating in urban areas, compared with rural areas,with higher values of 5.53-6.60-5.42-5.76% for school children from IVth, VIIIth, XIIth grades, professional schools II year in urban areas and the highest value of 3.00% for professional schools II year in rural areas.

- Refraction vices are on the first place, in terms of specific prevalence in all age groups participating in urban areas, compared with rural areas, with the highest values of 9.87 to 10.03% for professional schools II year and students from the II year in urban areas; with the highest values of 2.18-2.71-0% for school children from VIIIth, XIIth grades in rural areas.

- Non endocrine obesity case are on the first place in term of specific prevalence in urban areas in the age groups participating in the study, from the preschools, schools first, IVth, VIIIth, XIIth grades, students from the II year and with high values of 5.45-5.61% at the IVth and VIIIth grades. Specific prevalence was higher in rural areas in students from vocational schools in the second year, 3.46%.

Medical exams of balance results allow the creation of a databaseproviding support for training programswithin the meaning of a healthy lifestyle, in order to prevent and control chronic diseases.

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# AESTHETIC COMPONENT OF THE I.O.T.N. EVALUATION IN A GROUP OF YOUNG ADULTS FROM THE WEST REGION OF ROMANIA

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### REZUMAT

Scopul acestui studiu a fost realizarea propriei evaluări estetice in cadrul unui grup de pacienți tineri din vestul României prin intermediul componentei estetice (AC) a indicelui de tratament ortodontic (IOTN) și realizarea unei comparații cu percepția estetică a specialistului. În acest scop, un lot de 125 de pacienți, studenți în cadrul Universității de Medicină i Farmacie "V. Babeş" Timișoara au fost selectați pentru realizarea studiului. Pentru clasificare s-a utilizat componenta estetică (AC) a indicelui de tratament ortodontic (IOTN). Rezultatele analizei statistice au demonstrat că există o diferentă semnificativă (p<0,05) între percepția specialistului și a pacientului la nivelul gradului 1.

*Cuvinte cheie*:componenta estetică (AC), indicele de tratament ortodontic (IOTN), evaluare estetică

# ABSTRACT

The aim of this study was to assess the self-perception of malocclusion in a group of young patients from the west region of Romania using the esthetic component (AC) of IOTN (Index) and compare it with an investigator's rating. On this purpose, a group of 125 patients, students of the University of Medicine and Pharmacy "Victor Babeş" Timişoara, was selected for the study and the esthetic component of IOTN was applied. The results of the statistic analysis showed that there is a significant difference(p<0,05) between the specialist and patient's rating on level 1.

*Keywords:* Aesthetic component(AC), index of orthodontic treatment need(IOTN), esthetic evaluation

# **INTRODUCTION**

Orthodontic treatment is an elective treatment that depends on the perception of both the patient and the treating orthodontist [1].

Previous studies have shown differences between patients and professionals perception on orthodontic treatment need Burden and Holmes (1994), Mandall et al. (1999), Kok et al. (2004), Holmes and Willmot (1996), Norway (Stenvik et al., 1996; Birkeland et al., 2000), USA (Searcy and Chisick, 1994) Turkey (Ucuncu and Ertugay, 2001), Netherlands (Klages et al., 2004), Sweden (Josefsson et al., 2007) and Iran (Hedayati et al., 2007) [2].

Occlusal indices have been widely used as a method to achieve a more uniform evaluation of orthodontic treatment need for many years [3].

The IOTN is a scoring system for malocclusion, developed by Brook & Shaw (1989). It consists of two independent components; the DHC, which is a five grade index that records the dental health need for orthodontic treatment, and the AC that records the aesthetic need for orthodontic treatment using a ten grade standardized ranking scale of colored photographs showing different levels of dental attractiveness [4].

The Index of Orthodontic Treatment Need (IOTN), as described by British Orthodontic Society, has two components:

1. The Dental Health Component (DHC)represents the index of dental health and has 5 grades.

2. The Aesthetic Component(AC)- utilizes a scale of 10 photographs of dental attractiveness to assess the need of orthodontic treatment [3].

The Aesthetic component (AC) of orthodontic treatment need has a scale based on a series of 10 colored photographs of anterior teeth numbered 1-10, which represent a range of deteriorating dental aesthetics [5]. Photograph 1, represents the most attractive dentition, to photograph 10, representing the least attractive (Figure 1).



Legenda. The grades of photographs indicate four treatment categories: Grade 1-2 no treatment need Grade 3-4 mild need Grade 5-7 moderate need Grade 8-10 severe need

Figure 1. Ten photographs representing the Aesthetic Component of the IOTN index [6]

# MATERIAL AND METHOD

The motivation of this study was to assess the self-perception of patients toward their dental appearance using the Aesthetic Component (AC) of IOTN index compared with an investigator's rating.

On this purpose, a comprehensive esthetic evaluation in a group of patients from the West region of Romania using the Aesthetic Component of the IOTN index was requested in order to determine the relationship between the self esthetic evaluation and the investigator evaluation.

The study was performed in the Aesthetic Dentistry Department, Faculty of Dentistry, University of Medicine and Pharmacy "Victor Babes" Timisoara, Romania. A group of 121 patients (73 females and 48 males) aged between 23- 27years, students of the University of Medicine and Pharmacy "Victor Babeş" was selected. The patients with Class III Angle malocclusion and the ones already undergoing orthodontic treatment weren't incuded in the study.

Intraoral photography was performed by a specialist in order to determine the Aesthetic

Component (AC) of index (Normative Need) and one examiner estimated the treatment need of the patients.

Then, each patient was asked to self assess their dental appearance and rate according to the number of the photograph which most closely matched the attractiveness of their own teeth.

The results were processed and statistically analyzed.

#### RESULTS

Table 1 displays the distribution of the ten grades of the Aesthetic Component (AC) of IOTN (Index) after the analysis of the patient photos as allocated by the specialist. The highest scorings obtained (33.1% and 25.6%) were for the patients in grade 1 and 2, with no need of orthodontic treatment. 18.2% and 10.7% were the scorings for patients with grade 3 and 4 indicating a slight need of orthodontic treatment, 5.8%, 4.1% and 0.8% for the patients with grades 5, 6 and 7 had a moderate need of orthodontic treatment and 1.7% for grade 8 indicating no need of treatment. Grades 9 and 10 had 0% scoring.

		M&F	F	М	Percent
AC grade	1	40	24	16	33.1%
AC grade	2	31	26	5	25.6%
AC grade	3	22	11	11	18.2%
AC grade	4	13	8	5	10.7%
AC grade	5	7	5	2	5.8%
AC grade	6	5	3	2	4.1%
AC grade	7	1	1	0	0.8%
AC grade	8	2	0	2	1.7%
AC grade	9	0	0	0	0%
AC grade	10	0	0	0	0%
AC grade					
Total M&F		121	78	43	

 Table 1. Aesthetic Component (AC) grade distribution of patients as allocated by the specialist

In contrast (Table 2), the patients obtained for the own esthetic evaluation for the grades 1 and 2 scorings of 19% and 31.4%, indicating that there is no need of orthodontic treatment, 21% and 14% for grades 3 and 4 with moderate need of treatment and 4.5%, 0.8% and 5.8% for grades 5, 6, 7 with a moderate need. The grade 8 had a score of 2.5%, higher than the investigator's. Grades 9 and 10 had 0% scoring, with severe need of orthodontic treatment.

Figure 4 represents the graphic distribution of AC grades as allocated by the investigator and patient. After the analysis of the results, the conclusion was that the difference between specialist's and patient's scorings was statistically significant on grade 1(p=0.012762, S) and on grades 2-10 there were no significant differences(p>0.05).

 Table 2. Aesthetic Component (AC) grade distribution of patients as allocated by the patient

		M&F	F	М	Procent
AC grade	1	23	11	12	19,0%
AC grade	2	38	30	8	31,4%
AC grade	3	26	17	9	21,5%
AC grade	4	17	9	8	14,0%
AC grade	5	6	4	2	5,0%
AC grade	6	1	1	0	0,8%
AC grade	7	7	4	3	5,8%
AC grade	8	3	2	1	2,5%
AC grade	9	0	0	0	0%
AC grade	10	0	0	0	0%
Total M&F		121	78	43	



Figure 2. Comparative graphic distribution of AC grades as allocated by the investigator and the patient

#### DISCUSSION

The assessment of the aesthetic need for orthodontic treatment is complex, and that was clearly seen by the discrepancy in the opinion of dental attractiveness between the professional person and the patient's perception. The most different ratings were observed on grade 1 of the aesthetic component (AC).

The main difference between the number of female and male patients seeking orthodontic treatment may indicate that the level of interest in orthodontic treatment is higher in females than in males.

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Further, it seems that the IOTN is not sensitive enough to account for all types of malocclusion as Class III.

#### CONCLUSIONS

The study showed that the majority of patients were more specifically the females and scored themselves in grades 1 and 2, indicating no treatment need.

There was a significant discrepancy of dental attractiveness between professional assessment and patient's perception.

The significant disadvantage of AC is its lack of sensitivity regarding malocclusion types.

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# **ARYTENOID CHONDROMA – CASE PRESENTATION**

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#### REZUMAT

Condromul laringian este o tumoră rară, cu creștere lentă care ia naștere de obicei la nivelul cartilajului crycoid (70%) și mai rar de la nivelul cartilajului tiroid (20%) sau aritenoid (10%). În Clinica ORL Timișoara au fost diagnosticate în ultimii 30 de ani 6 cazuri cu condrom laringian. Pacientul al cărui caz îl prezentăm a acuzat la internarea în clinică disfonie persistentă, dispnee și odinofagie. Examinarea clinică ORL și examenul CT al regiunii cervicale au evidențiat o formațiune tumorală la nivelul aritenoidului stâng. Diagnosticul a fost confirmat de laringoscopia suspendată care a evidențiat o tumoră de consistență dură. În anestezie generală cu traheotomie tactică s-a efectuat laringotomie mediană cu excizia tumorii. Diagnosticul a fost confirmat de examenul histopatologic. Particularitatea cazului constă în raritatea acestei localizări, fiind necesar diagnosticul diferențial cu alte cauze de disfonie și dispnee.

*Cuvinte cheie:* condrom aritenoid, tumori benigne ale laringelui, tirotomie

# ABSTRACT

The laryngeal chondroma is a rare tumor, with slow growth that arises usually from the postero-lateral region of the crycoid cartilage (70%), and rarely from the thyroid cartilage (20%) or from the arytenoid (10%). In the last 30 years, 6 cases with laryngeal chondroma were diagnosed in the ENT Clinic in Timisoara. The patient whose case we present reported in the clinic with persistent hoarseness, dyspnoea and odynophagia. The ENT clinical examination and the CT scan of the neck showed a tumor arising from the left arytenoid. The diagnosis was confirmed by the suspended laryngoscopy that demonstrated a high consistency tumor. In general anesthesia with tactical tracheotomy median laryngotomy was performed, with excision of the tumor. The diagnosis was confirmed by the histopatological examination. The particularity of the case is that this location is very rare and the differential diagnosis with other causes for hoarseness and dyspnoea must be made.

Keywords: arytenoid chondroma, benign tumors of the larynx, thyrotomy

# INTRODUCTION

Laryngeal chondromas are benign tumors of the larynx. They represent less than 1% of the benign tumors and 70-75% of the cartilaginous tumors [1].

Laryngeal chondromas are slow growing tumors that most frequently involve the crycoid cartilage (70%). Seldom they can arise from the the cartilage (20%) or from the body of the arytenoid cartilage (10%) [2].

Due to the slow growth they have a good prognosis, but they can relapse or transform in chondrosarcomas with decreased rate of metastasis [3].

Laryngeal chondromas are more frequent in males (M/F= 3/1), in the third decade.

# **CASE PRESENTATION**

A 55 years old male patient reported in the ENT Department with dysphonia,

progressive inspiratory dyspnoea and odynophagia. These symptoms appeared 6 months ago and increased in the last month.

The indirect laryngoscopy revealed an endolayngeal mass in the posterior left hemilarynx, covered with smooth mucosa. The clinical examination didn't find any latero-cervical adenopathies.

The 70° rigid laryngeal endoscopy showed a tumoral mass of approximately 2.5 cm that arised from the left arytenoid, that occupied the posterior and middle thirds of the left hemilarynx, reducing the glotic space and and lifting the left false vocal fold. The mucosa covering the tumoral mass was smooth. The laryngeal mobility was preserved.

CT scan of the neck demonstrated a hypodense tumoral mass, well delimitated, involving the left arytenoid, that occupied the posterior and middle thirds of the left hemilarynx. The thyroid laminae and crycoid cartilage were of normal aspect. No adenopathies were present (Figure 1).



Figure 1. CT scan of the neck, showing a tumor located on the left hemilarynx

Suspended laryngoscopy showed the endolaryngeal tumoral mass arising from the left arytenoid, covered with smooth mucosa.

The high durity of the tumor didn't allow biopsy.

An operative procedure was undertaken in general anesthesia, with tactical tracheotomy. A median thyrotomy was performed, the mucosa covering the tumor was incised and a white tumor of cartilaginous consistency extirpated with margins (Figure 2).



### Figure 2. Aspects from the surgical procedure

Two days later the patient started oral feeding and three days later the tracheal canula was removed. Seven days later the patient leaved the hospital surgically healed.

The histopatological examination described multiple tissular fragments, grey-white, irregular, of shiny, with increased consistency, white and translucent on the section surface. The microscopic examination established the diagnosis of chondroma, without malignisation signs.

Three months after the surgical procedure, the laryngeal endoscopy a morphofunctional normal larynx, without relapse. The patient is in our evidences and followed-up periodically for the next 5 years.

#### DISCUSSIONS

Laryngeal chondromas are slow growing tumors which clinically manifest as progressive hoarseness, inspiratory dyspnoea, neck mass and dysphagia.

In order to establish a complete diagnosis, the clinical examination should include indirect laryngoscopy, fibroscopy and 70° rigid laryngeal endoscopy. They show a tumoral mass, the location depending on its origin. It may cause the narrowing of the glottic or subglottic spaces, particularly in the crycoid chondromas. The mucosa covering the tumor is always smooth, of normal aspect.

Suspended laryngoscopy shows a high consistency tumor and biopsy cannot be performed.

Prior the surgical procedure, the CT scan of the neck should be performed to establish the exact location of the chondroma and its size [4].

The differential diagnosis must be done with other tumors of the larynx, benign or malignant. The benign tumors include pseudomixomas and laryngeal papillomatosis. The differential diagnosis done particular must be with the condrosarcomas. Laryngeal chondromas are usually smaller (2-3 cm in diameter) and can appear both in adults and children. Histologically they present a homogenous hipocellular, architecture, the spaces between the chondrocytes are uniform and the chondrocytes don't show cellular atypia. The chondrosarcomas are larger than 3 cm and generally occur in older patients. They have a lobular architecture, invasive growth, high cellularity, nuclear pleomorphism and mitotic figures can be identified. They have a deceased differentiation degree and can be accidentally diagnosed as benign tumors [5,6].

The surgical treatment is performed according the location and size of the tumor. Small. well delimitated tumors have indication for endoscopic excision. Larger tumors are removed through translaryngeal surgical extralaryngeal procedures. or Radiotherapy and chemotherapy aren't efficient.

Because relapses may occur, these patients must be taken in evidence and followed-up periodically and histopatological examination must be undertaken from the limits of the surgical piece. The evolution and prognosis are favorable for this kind of tumors [7].

We took into consideration to present this case because the incidence of the cartilaginous tumors of the larynx is low and the arytenoidian location is very rare. The symptoms are according the location and can sometimes mislead the diagnosis. We encountered patients with crycoid chondroma treated for bronchial asthma because of the narrowing of the glottic space or for laryngitis because of the hoarseness.

The incidence of these tumors is low, between 1861 and 2001 there were only 250 cases reported in the literature. In the ENT Clinic in Timisoara we encountered only 6 cases in the last 30 years: 4 patients with crycoid chondroma (66.66%), 1 patient with thyroid chondroma (16.66%) and 1 patient with crycoid chondroma (16.66%). The patients diagnosed and treated in the ENT Clinic in Timisoara had a good evolution, without relapses.

### CONCLUSIONS

Laryngeal chondromas are benign tumors, with slow growth and low malignisation rate.

The diagnosis can be delayed, because the symptoms can suggest other diseases.

For a complete diagnosis there has to be performed a complete ENT examination, endoscopy, suspended laryngoscopy, CT scan and postoperative histopatological examination.

The treatment is done according the experience of the surgeon, the availability of the equipments in the clinic, but especially according the size and location of the tumor: endoscopic removal for the small ones, through translaryngeal or extralaryngeal surgical procedures for the larger ones.

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# FIRST EPISODE PSYCHOSIS AND THE PROBLEM OF THERAPEUTIC ALLIANCE

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### REZUMAT

**Obiective:** Evaluarea valorilor predictive ale unor factori identificați ca având importanță în formarea alianței terapeutice: funcționarea premorbidă, durata psihozei netratate, simptomele din cadrul episodului și insight-ul. **Material și metode:** Studiul a fost efectuat pe 38 de pacienți internați în Clinica Psihiatrică Timișoara în anul 2009, având diagnosticul de prim episod de psihoză. **Rezultate:** O durata mare a psihozei netratate se corelează cu o alianță terapeutică slabă. Simptomele (pozitive și negative) evaluate în prima saptămână după internare nu au fost identificate ca predictori. Insight-ul este legat de alianța terapeutică din ambele perspective – ale pacientului și ale clinicianului. Insight-ul prezent a creat aderență terapeutică bună, deși poziții mai uniforme ar trebui luate în considerare în cursul bolii. **Concluzii:** Alianța terapeutică este foarte importantă pentru conceptul general al primului episod de psihoză. Stabilirea unei bune aderențe terapeutice corelează cu un prognostic mai bun. În literatură există date limitate în ceea ce privește factorii care contribuie la formarea alianței terapeutice.

*Cuvinte cheie:* primul episod psihotic, alianța terapeutica, funcționare premorbidă, simptome, conștiința bolii (insight)

### ABSTRACT

**Objective:** Assessing the predictive value of some factors identified as having importance in the formation of therapeutic alliance (TA): premorbid functioning (PF), duration of untreated psychosis (DUP), symptoms in the episode and insight. **Material and methods:** The study was conducted on 38 patients admitted in the Timisoara Psychiatric Clinic in the year 2009, with a diagnosis of first episode psychosis. **Results:** A long DUP related to a weak TA. Symptoms (both positive and negative) measured in the first week were not identified as predictors. Insight has a link to TA for both perspectives – patient and clinician. Good insight created positive TA, though more uniform positions should be taken into consideration during the course of the illness. **Conclusions:** Therapeutic alliance (TA) is very important for the general construct of the first episode psychosis (FEP). Establishing a good TA is in relation with a better outcome. There is still limited information in literature regarding the factors that contribute to the formation of TA.

*Keywords:* first episode psychosis, therapeutic alliance, premorbid functioning, symptoms, insight.

# **INTRODUCTION**

The problem of therapeutic alliance (TA) is of very great importance for the general construct of psychosis and especially for the first episode psychosis (FEP).

In general the outcome of a therapeutic intervention depends largely on the capacity of the patient and the psychiatrist to build up and open, trusting and collaborative relationship [1].

Although there are studies in this direction there is still limited knowledge on therapeutic alliance (TA) in the treatment of FEP. Establishing a good therapeutic alliance is in relation with a better outcome[2].

In literature there is still limited information regarding the factors leading to the formation of a good, positive therapeutic alliance. Paucity of information is also regarding the relation of therapeutic alliance and the premorbid characteristics of patients with FEP. Some of the factors mentioned by the literature are: social functioning, vocational functioning, more overall problems.

The importance of the duration of untreated psychosis (DUP) in FEP is based on a lot of information from the literature [3].

Most of the studies showed a high correlation between DUP and outcome: long DUP correlates with poor outcome. There is also knowledge in the literature regarding the importance of DUP linked to insight and TA. The longer the DUP, the weaker the TA [4].

Regarding symptoms in the episode, patients with more overall psychiatric symptoms – especially negative symptoms showed difficulties in the formation of therapeutic alliance. Insight also plays a significant role in creating a good therapeutic alliance in FEP. Lower levels of insight developed a weaker TA.

One of the questions in insight analysis is to differentiate between results obtained from the clinician's rating scales (The Insight and Treatment Attitudes Questionnaire) and selfrating scales (The Self-Appraised Questionnaire).

Literature failed to show significant relation between those directions of insight measuring probably because there is no uniformity of the underlying constructs<sup>[5]</sup>.

It is therefore necessary to increase the understanding of the factors contributing to a positive TA in FEP.

The aim of the study is to examine the predictive value of the four factors identified in the literature as important in the formation of TA in patients with FEP. These factors are: premorbid functioning (PF), duration of untreated psychosis (DUP), symptoms in the episode and insight.

# **MATERIALS AND METHODS**

The sample consists of 38 patients admitted in the Timisoara psychiatric clinic for FEP in the year 2009. Evaluation has been made with the occasion of first admittance. In Table 1 we can observe the patient group characteristics.

The selected subjects were informed by their psychiatrist on the objectives and methodology of the study and provided his/her informed consent to participate.

There were analyzed demographical and clinical characteristics of the sample: sex distribution, mean at at the admission moment, diagnostic classification according to ICD-10.

For evaluation of the premorbid functioning we used GAF (Global Assessment of Functioning). According to the importance given in literature, DUP (duration of untreated psychosis) was also used as a very important factor for data analysis.

Sympthomatology was assessed by using PANSS (Positive And Negative Syndrome Scale) [6].

Insight was assessed from both perspectives: patient's and clinician's using an 8-item

self-report scale and the item PANSS-G12 [6, 7].

### RESULTS

Demographical and clinical characteristics of the sample (Table 1) shows a predominance of males (55.36 %). Mean age at admission was 24.5 years. According to the clinical diagnosis most cases were manic episodes with psychotic symptoms and schizophrenia, followed by acute psychotic episodes, persistent delusional disorder and schizo-affective disorder.

Sex distribution	Male $-21 (55.36 \%)$ Female $-17 (44.74 \%)$	
Mean age at	1 cmaic = 17 (44.74 70)	
admission	24.53 ( 4.07)	
M (SD)		10 (2( 22 0/)
	Schizophrenia	n=10 (26.32 %)
	Acute psychotic episode	n=9 (23.68 %)
Diagnostic	Persistent delusional disorder	n=5 (13.16 %)
classification	Schizo-affective disorder	n=3 (7.89 %)
according to ICD-10		
criteria	Manic episode with psychotic symptoms	n=11 (28.95 %)

### Table 1. Demographical and clinical characteristics

Premorbid functioning at baseline was assessed by using the Global assessment of Functioning Scale (GAF). Mean scores were 35.9 with a standard deviation of 9.5, respectively. Data analysis concludes that there is strong correlation between therapeutic alliance and global functioning: the stronger the therapeutic alliance the higher the GAF score (R=0.766; p=0.0001). The mean duration of the untreated psychosis was 26.4 weeks (SD = 38.09). A strong correlation between DUP and TA can be observed: the longer the duration of untreated psychosis, the weaker the therapeutic alliance (R=0.416; p=0.034).

Symptomatology was assessed by using the PANSS Scale: positive, negative, general and total score. The obtained results can be viewed in Table 2.

Table 2. PANSS -	- Positive,	negative, general	l and total score -	· M(SD)
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Positive	Negative	General	Total
25.4 (5.2)	17.1 (5.6)	27.0 (7.1)	69.5

Insight was assessed from two directions: with an 8-item self-report scale designed to

evaluate levels of illness and labeling of symptoms as pathological. An overall score

**66** 

of insight for the three dimensions was used. Need for treatment mean score was  $2.30 \pm 1.36$ , awareness of illness mean score represented  $2.31 \pm 1.26$ , whilst labeling of symptoms had a mean score of  $2.10 \pm 1.30$ .

Clinician's assessment used the PANSS-G12 "lack of judgment and insight" scoring from 1 to 7. PANSS-G12 mean score was  $2.70 \pm 1.46$ .

Spearman correlations coefficients between PANSS and insight measures where used for

further analysis. The insight levels in the sample of FEP was fairly good.

The three insight items showed different correlations with PANSS scores. Awareness of illness showed statistically significant correlation with positive, general and total PANSS scores. Awareness of illness and PANSS-G12 where significantly correlated (R=0.655, p<0.001). Results can be viewed in Table 3.

Insight		PANSS POS.	PANSS NEG.	PANSS GEN.	PANSS TOTAL
Need for treatment	Rho coefficient	0.290	-0.054	0.263	0.284
	Sig two-tailed	0.166	0.806	0.219	0.203
	n	-	-	-	-
Awareness of illness	Rho coefficient	0.401**	0.246	0.437**	0.572*
	Sig two-tailed	0.042	0.244	0.024	0.003
	n	-	-	-	-
Labeling of symptoms	Rho coefficient	0.119	0.074	0.127	0.108
	Sig two-tailed	0.585	0.723	0.492	0.649
	n	-	-	-	-
G12	Rho coefficient	0.362	0.055	0.189	0.295
	Sig two-tailed	0.065	0.790	0.339	0.165
	n	-	-	-	-

# Table 3. Awareness of illness and PANSS-G12 where significantly correlated

\* p < 0.01; \*\* p < 0.05

# DISCUSSIONS

The study has helped establish the predictive value of some factors identified in the literature on the TA of patients with FEP.

The best premorbid functioning (friendship, relations, leisure, good vocational functioning) the strongest is the therapeutic alliance. Studies from the literature also

show that factors which are linked with premorbid functioning can be predictors for TA. Svensson and Hansson's studies [8] suggest that there is a link between therapeutic alliance and cognitive dysfunctions which were attained during the person's development. Cognitive dysfunctions are surely a certain element for behavior and attitude dysfunctions. Hewitt's and Coffeym's studies [9] bring another important parameter regarding premorbid functioning into discussion, namely professional functioning as an indicator for therapeutic alliance.

The importance of professional performance and it's relation with TA is also brought into discussion by the studies of Davis and Lysaker [10].

DUP had also a strong correlation with TA: long DUP relates to a weak TA. Our findings fail to demonstrate the relation of a short DUP to a positive TA.

The problem of the duration of untreated psychosis is largely debated in the literature, available data being controversial. Although all studies confer it a predictive value, there are differences of opinion regarding the moment in time (short, medium or long follow-up moment). An inventory of "baseline" characteristics (including DUP) and the prediction for therapeutic alliance have been studied by Coutures, Roberts et al [11].

Kamali M et al. [12] studies the adherence to medication in cases with FEP.

Positive and negative symptoms measured in the first week of admittance were not identified as predictors for TA. Though negative symptoms per se where not identified as predictors, consequence of negative symptoms on social functioning suggest that it is more the social impairment than actual symptoms that improve the creation of TA. In literature, the importance of the symptomatology is brought into discussion by Witterdorf A et al [13]. Prince JD [14] studies therapeutic alliance in relation with the number of admittances (relapses). Insight was linked to therapeutic alliance from both perspectives - patient's and clinician's. A series of data from the literature differentiates between the insight assessed by the patient and the insight assessed by the clinician. The studies of Jovanovski D et al [15] are eloquent in that sense.

Insight is an important element for the first episode psychosis, as showed by McEvoy and his collaborators [16]. Insight must be viewed as a dynamic process which suffers changes during the course of the disorder, as Koren D's studies mention [17].

Good insight created positive TA. These findings differ from literature; many studies found that insight is negatively linked to TA. They suggest that solely promoting a medical model for psychosis does not help in creating a trusting bond and good TA.

The fact that we found links between insight and TA can be possible due to the time moment of measuring (last week before discharge). Different dimensions of the concept of clinical insight may converge towards a more uniform position during the course of illness.

The value of this study is of course limited by its cross-sectional design. Longitudinal studies are needed in order to better understand the predictive value of multiple factors.

Also, the study should be replicated on larger samples in order to ensure the statistical validity.

Future studies should investigate multiple factors because other factors may also play a role in creating TA. (for example : specific personality traits, social cognition, cultural models)

### CONCLUSIONS

Therapeutic alliance remains an important factor to be taken into consideration in the holistic therapeutical process of FEP. Therapeutic alliance (TA) is very important for the general construct of the first episode psychosis (FEP). Establishing a good TA is in relation with a better outcome.

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# A STUDY ABOUT THE PREVALENCE OF AORTIC SCLEROSIS IN PATIENTS WITH RECOMMENDATIONS OF ANGIOCORONAROGRAPHY

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#### REZUMAT

**Obiective.** Studiul nostru este focusat pe 2 elemente distincte: evaluarea ecocardiografică a leziunilor valvulare degenerative și fenotipul vascular al pacien ilor înrolați. **Material și metodă.** Am studiat 123 de pacienți diagnosticați angiograpic cu boală coronariană, pe care i-am evaluat demograpic, biologic, hemodinamic și ecocardiografic. **Rezultate.** Prevalența sclerozei aortice valvulare și a calcificării de inel mitral a fost ridicată. Analiza factorilor de risc cardiovascular tradiționali a arătat similitudini cu cei întâlniți în prezența sclerozei aortice valvulare. Prevalența sclerozei aortice a fost de 2,1 ori mai ridicată în absența calcificarilor de inel mitral. **Concluzii.** Grupul nostru de studiu se caracterizează printr-un profil vascular intens aterogen în prezența calcificării de inel mitral și a sclerozei valvulare aortice, lucru ce justifică utilizarea ecocardiografiei pentru stratificarea riscului cardiovascular.

*Cuvinte cheie*: profil vascular aterogen, factori de risc cardiovascular, scleroză valvulară aortică, calcificare de inel mitral, ecocardiografie

# ABSTRACT

**Objectives.** Our study focuses on two distinct issues: the ECHO detection of degenerative valvular lesions and the vascular phenotype of the enrolled patients. **Means and method.** We studied 123 patients with angiographycally diagnosed coronary artery disease; we evaluated them demographically, biologically, hemodynamically, and by using ECHO and angiocoronarography. **Results.** The prevalence of aortic valve sclerosis and mitral annulus calcification was high. The analysis of cardiovascular risk factors showed similarities regarding the risk factors of atherosclerosis and those identified in the presence of aortic sclerosis. The prevalence of aortic valve sclerosis was 2.1 times higher in patients without mitral annulus calcification. **Conclusions.** Our study group is characterized by a high prevalence of cardiovascular risk factors and degenerative valvular lesions; the highly atherogenic vascular profile in the presence of aortic valve sclerosis and mitral annulus calcification justifies the use of ECHO for the cardiovascular risk stratification.

*Keywords*: atherogenic vascular profile, cardiovascular risk factors, aortic valve sclerosis, mitral annulus calcification, echocardiography

# INTRODUCTION

The past few years have brought a higher interest in decoding the clinical importance of both vascular and valvular degenerative, atherosclerotic-like lesions [1-4].

Recent epidemiological studies [5] underline the higher incidence of cardiovascular risk factors in the presence of aortic sclerosis, thus raising this hypothesis: aortic sclerosis could be a new factor to enhance cardiovascular morbidity and mortality. Moreover, Honda et al [6] recommends a new perspective of the cardiovascular risk: aortic sclerosis should be considered a part of a multifactorial degenerative process, not just a marker for cardiovascular events.

With this study we want to determine the prevalence of degenerative aortic lesions (with no hemodynamic consequences, i.e. aortic sclerosis) in a subgroup of patients with recommendation for angiocoronarography.

# MEANS AND METHOD

We have used the data provided by The Echocardiography Laboratory of The Cardiovascular Diseases Institute Timisoara, Romania. The retrospective data collection was carried out from January 2008 until December 2010, using: the ECHO charts, the angiography charts and the patients' charts.

Study group: we included high risk patients which underwent echocardiography prior o angiocoronarography. We included a total of 792 patients.

The exclusion criteria were as follows: acute coronary syndrome, congenital heart disease, hemodynamically significant valvular heart disease, end stage renal failure and patients with poor echographic window. We therefore obtained a subgroup of 123 patients with typical/atypical angina pectoris, that had an indication for invasive evaluation of the coronary arteries.

Inclusion criteria: the first issue was that all the patients had to present to our Clinic with the recommendation for angiographic evaluation of the coronary arteries, having typical/atypical angina pectoris. Other criteria: myocardial ischemia proven on the rest-EKG or on the stress-EKG, normal myocardial necrosis markers (total creatinkinasis, MB-creatin-kinasis, T and I troponins), preserved ejection fraction and sinus rhythm.

Data collection: for each enrolled patient, the necessary information were extracted from the medical charts. The individual informed consent was attached to the each medical chart, and all the confidentiality boundaries were respected. Data about the height and weight of the patients were obtained through direct measurements. We considered the heart rates and blood pressures measured on admission. The biological probes for the biochemical study were taken within the first 24 hours from admission, a jeun.

Definitions: we used the standard definitions and guidelines recommendations.

- Body mass index 25-29kg/m<sup>2</sup>=overweight; 30-34 kg/m<sup>2</sup>=grade I obesity; 35-39 kg/m<sup>2</sup>= grade II obesity, > 40kg/m<sup>2</sup>= grade III obesity.
- Hypertension: systolic blood pressure at rest > 140mmHg, diastolic blood pressure at rest > 90mmHg or patients undergoing antihypertensive treatment.
- Hypercholesterolemia: total cholesterol > 200mg/dl or patients undergoing statin treatment.
- Type II diabetes mellitus: fasting plasma glucose > 126mg/dl, patients known to be diabetic or undergoing oral/insulin therapy.

Echocardiography: all the patients were evaluated using the General Electrics Vingmed Ultrasound System, a Vivid E9 and Vivid 7 machines, MS5 and MS4 transducers.

The aortic valves were evaluated from several views: parasternal long axis, parasternal short axis-section at the level of the great vessels, apical 3 and 5 chambers. 2D and M-mode were used to assess the aortic valve appearance, the aortic orifice aria and the aortic valve opening. Continuous and pulsed Doppler techniques were used to evaluate velocities through the aortic orifice, maximum and medium aortic transvalvular gradients.

The severity of the aortic lesions was quantified according the ACC/AHA Guidelines 2006 [7] and EAE/ASE 2009 [8] as follows:

- ✓ Aortic sclerosis: thickening of at least one of the three aortic leaflets (high echogenity); normal transvalvular velocities and pressure gradients (<2.5m/sec) [9]</li>
- ✓ Mild aortic stenosis: functional area > 1.5cm<sup>2</sup>

planimetric orifice > 0.85 cm<sup>2</sup>/ m<sup>2</sup> body surface

- Vmax 2.6-2.9 m/sec
- Pmed < 20mmHg
- ✓ Moderate aortic stenosis: functional area 1- 1.5cm<sup>2</sup>

planimetric orifice 0.60-0.85 cm<sup>2</sup>/ m<sup>2</sup> body surface

- Vmax 3-4 m/sec
- Pmed 20-40mmHg
- ✓ Severe aortic stenosis: functional area <1cm<sup>2</sup>

 $planimetric \ orifice < 0.60 \ cm^2 / \ m^2 \\ body \ surface$ 

Vmax > 4 m/sec

#### Pmed > 40mmHg

The global ventricular systolic function was evaluated using the ejection fraction assessed using the end diastolic and end systolic volumes, calculated with the modified Simpson's formula [10,11].

Mitral annulus calcification was assessed using 2D Echo, parasternal long axis view and apical 4 chamber view.

Angiocoronarography was performed using a standard angiograph, Siemens Coroskop, in order to detect atherosclerotic lesions of the coronary arteries.

Coronary artery disease was considered at a narrowing of more than 50% of one of the coronary arteries: right coronary artery, circumflex artery, left anterior descending (medial or distal), diagonal arteries, left posterior descending or marginal branchesmonovascular disease. Bivascular disease was considered when 2 coronary arteries were involved or proximal left anterior Trivascular was descending. disease considered when three of the coronary arteries were involved or the left main (stenosis > 50% of the left main).

Statistical analysis: the data were gathered and stored using the EPI info program, and were analyzed using the 2010 18<sup>th</sup> version of the SPSS program.

#### **RESULTS**

Out of 123 patients, 67.5% were males; media  $\pm$  standard deviation for age and body mass index was  $66.2\pm 8.11$  years and  $28.48\pm4.67$ kg/m<sup>2</sup>. The demographyc characteristics are issued in Table 1.

Average age (years)	$66.20 \pm 8.11$
Male sex (%)	67.50
Arterial hypertension (%)	85.40
Hypercholesterolemia (%)	36.40
Type II diabetes mellitus (%)	48.78
Body mass index (kg/mp)	$28.48 \pm 4.67$
Coronary artery disease (%)	72.40

### Table 1. The initial characteristics of the study group

The prevalence of aortic valve sclerosis: we analyzed the echocardiographies of the 123 patients enrolled in our study, and we defined aortic valve sclerosis according to the Guidelines (7-9). 50.41% of the patients

had degenerative lesions of the aortic leaflets with no hemodynamic consequences-aortic valve sclerosis (Figure 1).





Mitral annulus calcification had a prevalence of 60.16%, and aortic annulus calcification of 56.10% among the analyzed patients. All the three lesions (aortic valve

sclerosis, aortic annulus calcification and mitral annulus calcification) in a patient had a rate of 15% (Figure 2).



Figure 2. The prevalence of degenerative valvular lesions

Mitral annulus calcification: 68.5% of the patients without aortic valve sclerosis and

51.6% of the patients with aortic sclerosis had mitral annulus calcification (Figure 3).



Figure 3. The association between aortic sclerosis and mitral annulus calcification

The association was statistically significant between the presence of aortic valve sclerosis and the absence of mitral annulus calcification:  $\chi^2(1)=3.81$ ; p < 0.05, OR = 2.1. In other words, aortic sclerosis was 2.1

times more prevalent in patients without mitral annulus calcification.

factors in the presence/absence of aortic valve sclerosis showed no statistical differences (Table 2).

Aortic valve sclerosis and the cardiovascular risk: the analysis of the cardiovascular risk

	SAV +	SAV –	р
Age (M+/-DS)	67.32+/-8.34	65.05+/-7.77	p>0.05
M/F (n/n)	44/18	39/22	p>0.05
BMI (M+/-DS)	28.20+/-3.92	28.75+/-5.32	p>0.05
Smoking (yes/no)	33/29	34/27	p>0.05
Arterial hypertension	52/10	55/6	p>0.05
(yes/no)			
Diabetes mellitus (yes/no)	33/29	42/19	p>0.05
ТС	181.31+/-43.8	191+/-53.58	p>0.05
TG	119.28+/-48.17	121.89+/-62.67	p>0.05
HDL	40.97+/-7.32	39.03+/-8.73	p>0.05
LDL	115.78+/-41.09	126.61+/-49.51	p>0.05
CAD (yes/no)	47/15	42/19	p>0.05

 Table 2. Aortic valve sclerosis: the prevalence of cardiovascular risk factors

### DISCUSSION

Our research was focused on two distinct issues: the echocardiographic detection of degenerative valvular lesions with no hemodynamic consequences and vascular phenotype characteristics of the enrolled patients. We found o high prevalence (echocardiographic study) of aortic valve sclerosis and/or mitral annulus calcification in patients over 65 years old that had recommendation for angiocoronarography.

In The Cardiovascular Health Study [12], the echocardiographic study that evaluated degenerative valvular lesions enrolled 3929 patients (medium age  $76\pm5$  years; 60% females), mitral annulus calcification was present in 42% of the cases, aortic annulus calcification in 44% and aortic valve sclerosis in 54% of the patients.

Our data show similarities regarding the risk factors of atherosclerosis and those identified in the presence of aortic sclerosis: male gender, hypertension, smoking, diabetes mellitus: we basically found no statistically signifficant differences in the prevalence of cardiovascular risk factors in patients with / without aortic valve sclerosis.

Most importantly, our study has shown a prevalence of aortic valve sclerosis 2.1 times higher in patients with no evidence of mitral annulus calcification. A few notes are in order:

- ✓ First of all, the incidence of aortic valve sclerosis is closely and positively related to age, being also enhanced by the presence of atherosclerotic risk factors; our data suggest the importance of cardiovascular risk stratification in the presence of aortic valve sclerosis [13].
- ✓ Second of all, aortic valve sclerosis can be accompanied by mitral annulus calcification in 50% of the cases, and this association is related to higher cardiovascular mortality (the risk is augmented with 50%) [14]. Regarding the mechanisms through which aortic valve sclerosis is associated with a higher cardiovascular risk, we still have

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insufficient data: endothelial dysfunction? Oxidative stress? Inflammation?

✓ Third of all, if we consider aortic valve sclerosis a cardiovascular risk factor, echocardiographic screening of the lesion might allow a more aggressive management of the other cardiovascular risk factors, with better outcomes regarding the cardiovascular morbidity and mortality.

# CONCLUSIONS

The vascular phenotype of our patients was characterized by a high prevalence

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of the traditional risk factors: hypertension, smoking, diabetes mellitus; the global characteristic was of a high cardio-metabolic risk.

- 1. The prevalence of aortic valve sclerosis and mitral/aortic annulus calcification was high.
- 2. In the absence of mitral annulus calcification, aortic valve sclerosis was 2.1 times more frequent.
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# EȚCO CONSTANTIN – ONE OF THE FOUNDERS OF THE HEALTH MANAGEMENT SYSTEM IN THE REPUBLIC OF MOLDOVA



Professor **Constantin Etco** was born July 22, 1941, in the Horodiste village, Călărași, Republic of Moldova.

From September 1959 to February 1962 – student at the Medical school in Tiraspol town. During 1965-1971 he was a student at the Institute of Medicine of the Chisinau. After graduating the institute he was assigned as a lecturer at the Republican Medical School of Chisinau, and in December 1971 as an assistant at the *Department of Social Medicine and Organization of Health Care* of the Institute of Medicine from Chisinau.

Later (in the same department) he worked as a senior lecturer (1973), docent (starting from 1986) and professor (since 1993).

In 1979 he defends his PhD thesis, and in 1992 he defends his Doctor habilitate thesis in medical science in the hypericians in Messaw, Bussian Federation

Central Postgraduate Institute for physicians in Moscow, Russian Federation.

Over several years Professor C. Etco simultaneously worked as a vice-dean of the faculty of general medicine (1990-1993), and then as the dean of graduate studies (1993-1995), dean of Masters (1995-2000).

He presents a part of the myriad of remarkable personalities that have made activities and have created very important divisions for the State University of Medicine and Pharmacy (SUMP) "Nicolae Testemitanu". Being always concerned about the future of higher medical education in Moldova, he founded the School of Public Health and Management at the SUMP "Nicolae Testemitanu".

One of the most significant achievements of Professor C. Etco was the creation and organization of the Department of Management and Psycho-pedagogy in 1997, which was later renamed as the **Department of Economics, Management and Psycho-pedagogy in Medicine**. Within the department, under conduction of Professor Etco, it was organized and conducted a fruitful scientific activity in different areas such as Public Health, Health Economics, Management and Medical Management, General Psychology, Medical Psychology and Social Psychology, Psycho-pedagogy of Higher Education, etc.

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Professor Etco skillfully directs this department so far, the last being developed and complemented with a series of new disciplines valuable for the preparation of the future successful general practitioners.

Professor Constantin Etco thought and implemented a number of scientific applied directions of major importance to the medical practice that were represented and elucidated in his scientific work, which includes over 500 scientific and methodical teaching works, including 20 monographs and more than 30 guides and methodical guidance published in the country and abroad.

The most significant contribution of Prof. Etco was drafting the Health System Management treaty (864 pages), published in 2006, which is the result of a long professional team's work headed by Professor Etco, renowned specialist in Medical Management. This work was submitted in 2010 to the State Prize of Moldova. In developing, this work has been considered the results of researches in management made in USA, UK, Japan, France, Russia, Romania, etc., and materials developed by WHO, AIHA, Soros Foundation, World Bank and others institutions and international organizations.

Some of his important works in the first edition are as the follows: Health Care Economics (2000), Managerial Psychology (2007), Medical Insurance (2007), General Psychology (2007), etc., which are valuable sources for both health system managers and various specialists interested in acknowledging areas related to medicine.

As a success in applicability and use of his knowledge and skills and his disciples was the creation of the *Association of Economics, Management and Psychology in Medicine* in 1998, under which in 2003 the scientific-practical journal "**Public Health, Economy and Management in Medicine**" was founded. This journal was included by the National Council for Accreditation and Certification of RM, 4/30/2009, in **B** category of publications in the field for editing scientific research results.

During his activity, Prof. C. Etco tutored a great number of young people being their scientific supervisor. The following are the areas those people defended their doctoral theses:

- The influence of harmful factors on gynecological morbidity and reproductive health in women employed on the railway.
- Obstetric institutions management in conditions of market economy and private medicine.
- Crimes against children's and adolescents' health, dignity and lives. *(Scientific consultant)*
- Student self-actualization motivation development stimulation. (Scientific consultant)
- Health education optimization and healthy lifestyle promotion.
- Cerebrovascular insufficiency in disabled persons after head trauma (neurological and medico-social aspects).
- Development of model of providing early intervention services for children with disabilities in Moldova.
- Public hospitals' management quality and modernization, a comparison of French-Moldovan large hospitals.
- Collaborative management of HIV/AIDS and tuberculosis infection control services.

# - Medical HEI Teacher personality image. Scientific supervisor. (Scientific consultant)

Professor Etco has made contributions to theoretical and experimental study of health in the population, the efficiency of Health System in the Republic of Moldova. He was elected *vice-president of the League of Physicians of RM*.

The areas of scientific activity and the primary objective of Professor Etco work was and is directed towards the identification and analysis of economical, managerial and public health problems and the demonstration of scientific arguments and practical recommendations in the investigated areas.

Professor Etco successfully passed all the medical career steps, becoming professor and academician of International Academy "Noosfera", academician of International Academy of Informatization attached to the United Nations and academician of International Academy of Management, with a thorough training in several medical areas and particularly in Medical Management.

He also actively participated in the National Health System reforming along with other eminent academicians such as N. Testemițanu, V. Kant, I. Prisăcaru, P. Galețchii, E. Popușoi, etc.

A milestone for indigenous medicine is Professor Ețco active involvement and effective participation in the development of normative acts in the Moldova Health System: the development of government decisions and draft laws concerning the implementation of mandatory medical insurance in the Republic of Moldova; national health policy; development strategy of the health system by the year 2017, the law on Public Health Surveillance Service in Moldova, etc.

Professor Etco, along with the department staff, has participated in the development of "Regulation on criteria and rules for assessing the volume and quality of work and extra compensation for the family doctor», which has the social effect of improving motivation and quality of work of the family physicians.

Being a scientific supervisor, Professor Etco continues to support and contribute to such progress in indigenous medicine as follows:

• Professor Etco along with **Gh. Damaşcan**, PhD, who has studied the "Financing hospital institutions under implementations of compulsory health insurance", has participated in the development of "Criteria for contracting health care providers in mandatory health insurance for 2005" that have been approved by the Ministry of Health and the National Health Insurance Board;

• Professor Etco along with Mr. V. Talmaci, Doctor of Economics, Assoc., and others has studied the legislation in medical work, analyzing the specifics and influences of legal laws on medical activity, the experience of other countries on the laws development and enforcement in the health insurance system.

• Professor Etco along with **L. Goma**, Doctor of Economics, Assoc., has studied Health Economics, focused mainly on building and setting the methodological basis of this field of applied medical science, aimed at delimiting the role of Health System Economics in solving Health System problems and the possibilities of their application in medical practice.

■ also under conduction Prof. Etco, Ms E. Maximenco defended her PhD thesis on 28.04.2010. Her thesis stood on the base of scientific reasoning of health promotion program in adolescents at a Community level in Moldova.

Further, under his guidance, Ms **Idricianu V.** PhD. (15.02.2006), made her research that stood on the base of studying the economical and management aspects of voluntary health insurance in Moldova.

The *Health System reform* and the transition to medical insurances highlighted various system organizing issues. C. Etco contributes with developing the methodology for the establishment and implementation of health insurance in Moldova by coordinating Mister **Iu. Malanciuc** PhD thesis defended on 15.11.2006: *Methodology for creation and implementation of health insurance conditions and programs in Moldova*.

The Mandatory Health Insurance implementation faced various economical problems and, in particularly, the financial problem. Gh Damaşcan, led by Professor Eţco, has studied the issue of financing hospitals under the implementation of mandatory health insurance (MHI) that helped to develop the principles of a hospital financing model within the MHI, in the current and future Moldavian Health System.

An important public health aspect researched and implemented under the leadership of Professor Etco is the children health. A. Ferdohleb has done the scientific study that aimed to assess medical, social and socio-economic aspects and to highlight the features of a child care and development up to the age of 5 years and the development of management measures to improve their primary medical care.

Currently the researcher N. Globa, led by Prof. Etco, focuses on another aspect of management in medicine, aimed at studying the peculiarities of the organizational culture of public health institutions in Moldova.

In November 2010, under the leadership of Professor Constantin Etco, the PhD thesis theme of Mr. A. Micineanu was approved: "Management of medical malpractice risks and opportunities in Moldova", which addresses the needs of development and implementation of relevant legislation regarding medical errors in RM.

Recently (22.06.2011), under Professor Etco supervision, the research of socio-economical and legal aspects of mandatory health insurance implementation was carried out by Mr. M. Buga.

Possessing a thorough training in several medical areas and particularly in medical management, C. Etco has formed and trained many students, postgraduate students, teachers and professors, who appreciate his high level skills and professional vocation, and also personality of Prof. Etco. Today there are more than **30 doctors in medical and psychological sciences** that have been trained by Professor C. Etco, which will transmit to the future generations the experience, culture, skills and general human values taught by this great man of our nation.

Professor Constantin Etco was designated in 2008 the Academy of Sciences of Moldova Laureate Prize, and in June 2011 he was awarded with the "Dimitrie Cantemir" Medal and

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shortly after that with the "Nicolae Testemițanu" Medal for outstanding achievements in Moldova's scientific activity.

Professor Constantin Etco is one of the outstanding personalities of indigenous science and medical practice, and his humanist work will serve for the benefit of the people.

With deep respect and consideration, from the Economics, Management and Psychopedagogy in Medicine Department staff SUMP "Nicolae Testemițanu"

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State the conclusions which emerge from the study. Show the connection between the conclusions and the aims of the study. Avoid unqualified statements and conclusions which are not adequately supported by the presented data. You may issue new hypothesis whenever justified but clearly describe them as such.

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