

**НАУЧНА ДЕЙНОСТ**  
**НА Д-Р ПЕНКА СТЕФАНОВА КОСТАДИНОВА, д.м**

**ДИСЕРТАЦИОНЕН ТРУД ЗА ОНС „ДОКТОР”**

**1. Костадинова П.** Състояние, тенденции и резултати на програмата на НЗОК за профилактика на задължително здравноосигурените лица над 18 г., осъществявана от общопрактикуващите лекари. *Автореферат на дисертация за образователна и научна степен „Доктор“, ИЦ на МУ Плевен, 2017, 60 с.*

<p>Медицински университет - Плевен Факултет обществено здраве Катедра „Общественоздравни науки”</p> <hr style="width: 50%; margin: 10px auto;"/> <p>д-р Пенка Стефанова Костадинова</p> <p style="margin-top: 20px;"><b>СЪСТОЯНИЕ, ТЕНДЕНЦИИ И РЕЗУЛТАТИ НА ПРОГРАМАТА НА НЗОК ЗА ПРОФИЛАКТИКА НА ЗАДЪЛЖИТЕЛНО ЗДРАВНООСИГУРЕНИТЕ ЛИЦА НАД 18 Г., ОСЪЩЕСТВЯВАНА ОТ ОБЩОПРАКТИКУВАЩИТЕ ЛЕКАРИ</b></p> <p style="text-align: center; margin-top: 10px;"><b>АВТОРЕФЕРАТ</b></p> <p style="text-align: center; margin-top: 5px;">на дисертационен труд за присъждане на образователна и научна степен „Доктор”</p> <p style="text-align: center; margin-top: 10px;">Област на висше образование: 7. Здравеопазване и спорт Професионално направление: 7.4. Обществено здраве Научна специалност: Социална медицина и организации на здравеопазването и фармацията</p> <p style="text-align: center; margin-top: 10px;"><b>Научни ръководители:</b> Проф. д-р Анжелика Велкова, дмн Проф. Петкана Христова, дм</p> <p style="text-align: center; margin-top: 10px;"><b>Официални рецензенти:</b> проф. д-р Елена Шипковенска, дм проф. д-р Асен Петков, дмн</p> <p style="text-align: center; margin-top: 20px;">Плевен, 2017</p>
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**Въведение:** В България след проведените реформи в здравеопазването бе възприет здравноосигурителният модел и утвърдена ролята на общопрактикуващите лекари (ОПЛ) като ключова фигура за оказване на първична извънболнична медицинска помощ (ПМП). Част от задълженията на ОПЛ по изпълнение на индивидуалните договори със Здравната каса са и профилактичните прегледи на задължително здравноосигурените лица над 18 г. и сформирането на рискови групи от населението. Все още е предмет на дискусия доколко и в какъв обем трябва да се извършва този преглед, какви са ползите и вредите, какъв е ефекта от провеждането им за индивида и обществото.

**Обект:** Обект на настоящата научна разработка е профилактиката на лицата над 18 год. извършвана от общопрактикуващите лекари.

**Материали и методи:** Извършено е комплексно проучване за извършваните профилактични прегледи на ЗЗОЛ над 18 год. от ОПЛ за периода от 2006 – 2013 год. За събиране на емпиричния материал са използвани социологически методи под формата на пряка индивидуална анкета с изготвени два въпросника – за ОПЛ и ЗЗОЛ и документален метод с използвана официално предоставена информация от масивите на НЗОК и публикувани документи на НЗОК, МЗ, НСИ и др. От данните за отчетени в РЗОК – Плевен профилактични прегледи на ЗЗОЛ над 18 год. ретроспективно е проследена честотата на провежданата профилактика за осемгодишен период за съответните лица. Статистическата обработка на първичните данни е извършена със софтуерни пакети Microsoft Office Excel 2010 и SPSS for Windows v.21.0. Резултатите са описани чрез таблици, графики и числови показатели за структура, честота, средни стойности, корелационни коефициенти и др. Използвани са класически методи за анализ на данни и проверка на хипотези: еднофакторен и многофакторен вариационен анализ, непараметричен анализ, корелационен анализ, графичен анализ.

**Резултати:** При анализ на нормативната уредба, регламентираща дейността на ОПЛ за

провеждане на профилактика на възрастните се установява ежегодна промяна в задължителните дейности, включени в тези прегледи, както и промяна в съпътстващата документация, водена от ОПЛ. Въпреки честите промени, дейностите все още не са адаптирани към препоръките за профилактика на научните дружества и опита на развитите страни. При проучване за ресурсната обезпеченост на програмата се установява трайна тенденция за намаляване броя на ОПЛ, диспропорции между различните региони, недостиг на време за изпълнение на всички дейности по договор със Здравната каса, както и ежегодно недофинансиране на програмата (в бюджета на НЗОК се предвижда финансиране на профилактични прегледи на по-малко от половината от подлежащите). При проучване мнението на 229 ОПЛ от областите Плевен, Монтана и Ямбол, се установи липса на достатъчна мотивация, най-вече при работа с рискови групи от населението (53% не поддържат изобщо рисков регистър). Като основни затруднения, ОПЛ съобщават неотзоваване на пациентите, липсата на време, недостатъчни лимити за изследвания. При проучване мнението на 513 ЗЗОЛ от Плевенска област се установи, че сред анкетираните 40% съобщават, че редовно ходят на профилактичен преглед, а 15% никога не са ходили. Голяма част от респондентите (86%) знаят за провеждането на такъв преглед, но само 53% знаят какво включва. Нередовно явяващите се, както и неходилите на профилактичен преглед, посочват като основни причини липсата на информация, липсата на време, формалното извършване на прегледите, невключването на изследвания, за които биха отишли и не на последно място - липсата на оплаквания и заболявания. При анализ на данните за отчетени профилактични прегледи за страната и за Плевенска област, се установи нисък обхват на населението. За периода 2006 – 2013 год. ежегодно по-малко от половината от подлежащите имат извършван преглед (между 35.8 % и 48.3% за страната и между 38 и 52% за Плевенска област в различните години). При ретроспективен анализ за честотата на извършваните прегледи на ЗЗОЛ от Плевенска област за посочения осемгодишен период се установи, че едва 6 % са ходили редовно (всяка година), а 29% нямат нито един преглед. Възрастта и пола на ЗОЛ, местонахождението на практиката, броят на записаните в пациентските листи и наличието на специалност от ОПЛ, оказват влияние за обхвата на населението с профилактични прегледи. По-висок дял на обхванатите с профилактика се установява сред жените и лицата в по-напреднала възраст (над 60 и над 65 г.). Установява се, че през 2013 год., редовно ходилите на профилактичен преглед ЗОЛ за периода 2006 – 2013 год. имат повече извършвани прегледи от специалисти и изследвания в извънболничната помощ спрямо тези, които ходят нередовно и тези, които изобщо нямат профилактичен преглед. Сред редовно ходилите на профилактичен преглед се отчита значително по-висок относителен дял на диспансеризирани по повод на хронични заболявания, както и повече на брой диспансерни диагнози средно на 1 ЗОЛ, спрямо останалите. Лицата, които редовно ходят на профилактичен преглед (и от двата пола), имат повече хоспитализации за обострени хронични заболявания, докато тези които нямат извършван профилактичен преглед през 2013 год. имат повече хоспитализации по повод инфаркти и хеморагични инсулти за същата година. Установява се по-висок среден разход за извънболнична и болнична помощ на 1 ЗОЛ при лицата които редовно ходят на профилактичен преглед, спрямо нередовно ходещите и тези без преглед, но средният разход за болнично лечение на 1 хоспитализирано лице е по-висок при неходилите на профилактика - 609 лв. спрямо 566 лв. при редовно ходилите.

**Заключение:** Наблюдава се нисък обхват на населението над 18 год. с профилактични прегледи. По-добре обхванати са лицата в напреднала възраст, които посещават личиния си лекар по повод вече изявени хронични заболявания, което изкривява ефекта на този вид прегледи. Недостатъчната ресурсна обезпеченост, липсата на достатъчна

информираност, удовлетвореност и мотивация както от страна на ОПЛ, така и на пациентите, често променящата се нормативна уредба затрудняват изпълнението на програмата.

**Ключови думи:** *ОПЛ, ЗОЛ, профилактичен преглед*

STATE, TRENDS AND RESULTS OF THE NHIF'S PREVENTION PROGRAMME FOR  
MANDATORY HEALTH INSURED PERSONS OVER AGE OF 18, PROVIDED BY THE  
GENERAL PRACTITIONERS

Penka Stefanova Kostadinova

**BACKGROUND:** After the introduction of health system reforms in Bulgaria a health insurance model was accepted and the role of general practitioner (GP) as key figure in provision of primary medical care was approved. Part of the obligation of GP in execution of the individual contract with the National Health Insurance Fund (NHIF) are the preventive checks and identification of population groups at risk. The scope of these checks, their benefits and disadvantages, and the effects for the individuals and society are still under discussion..

**OBJECT:** The object of present study were the prevention activities for the mandatory health insured persons (MHIP) over age of 18, provided by the GPs.

**METHODS:** A complex study on preventive checks of MHIPs over age of 18 conducted by the GPs during the period 2006-2013 was carried out. The empirical material was collected by application of sociological methods – questionnaires for GPs and for MHIPs, and analysis of officially provided information from NHIF's data bases and the published documentation of NHIF, the Ministry of Health, the

National Statistical Institute etc. The frequency of individual preventive checks was studied retrospectively from the data reported in the Regional Health Insurance Fund of Pleven. Statistical analyses were performed with software packages Microsoft Office Excel 2010 and SPSS for Windows v.21.0. Data were analysed with classical statistical methods – ANOVA, nonparametric tests, correlation analysis.

**RESULTS:** While analyzing the legislation on the preventive activities of GPs we found out constant changes in the obligatory preventive activities that were included in the scope of the preventive checks accompanied with changes in the related medical documentation prepared by the GPs. The preventive activities are still not well adapted to the scientific guidelines and the experience of developed countries. The analysis of the Programme resources provision revealed a steady decrease of the number of GPs, regional disproportions, lack of time to conduct all activities as per contract with the NHIF, and constant underfinancing (the budget of the NHIF provides funds for the preventive checks of less than a half of health insured people who have to undergo preventive checks). GPs from the regions of Pleven, Montana and Yambol were not sufficiently motivated to detect individuals at risk (53% do not keep a risk register). GPs reported as main difficulties the non-response of the patients, lack of time, insufficient limits for diagnostic tests. Among 513 MHIPs from the region of Pleven who responded to the questionnaire 40% reported a regular visit for a preventive check, while 15% have never visited their GP for regular preventive examination. The biggest part of respondents (86%) were aware about the obligation of yearly prevention check but only 53% were familiar with the scope of the examination. Irregular visitors and non-visitors reported most often the lack of information, lack of time, formal performance of the examination, the absence of tests they wanted to undergo, and the actual absence of symptoms and disease as the main reasons for not attending the Prevention Programme. Over the period 2006-2013 less

than ½ of the MHIPs visited their GP for the yearly check (between 35.8% and 48,3% for the country and between 38 and 52% for the region of Pleven). The retrospective analysis of the check frequency over the period revealed that only 6% of MHIPs had regular yearly visits and about 1/3 had no preventive visits to their GPs. The age and sex of MHIPs, the location of the GP practice, the number of patient on patients' list and the possession of General medicine specialty by the GP influenced the coverage of the population by prevention checks. The women and the elderly more often underwent yearly check. Regular visitors for preventive activities to GPs over the period 2006-2013 were different in their health characteristics and health services utilization as compared to non-regular visitors and non-visitors. Regular visitors were examined more often by a specialist and with diagnostic tests in outpatient settings. They were diagnosed with higher average number of chronic diseases and were registered for regular dispensary follow-up. The hospitalization rates for Myocardial Infarction and Hemorrhagic Stroke were higher. The average expenses for outpatient and hospital care were also higher, but the average cost (609 BG leva) of hospital admissions of non-visitors exceeded that of regular visitors (566 BG leva). **CONCLUSION:** The study found out low coverage of the population over age of 18 with preventive checks. The elderly people are better covered since they visit more often their GPs for existing chronic diseases and are available for preventive activities. This fact introduces some distortion in the results, which cannot be eliminated fully by the design of the study Lack of resource provision, lack of sufficient awareness, motivation and satisfaction of GPs and MHIPs, constantly changing legislation appear to be the major obstacles for the implementation of the Prevention Programme.

***Key wards: General practitioner, mandatory health insured person, preventive check***



## ПУБЛИКАЦИИ В ЧУЖДИ НАУЧНИ СПИСАНИЯ:

## ПУБЛИКАЦИИ В ЧУЖДИ НАУЧНИ СПИСАНИЯ СВЪРЗАНИ С ДИСЕРТАЦИОННИ ТРУД:

2. **Kostadinova P, S. Kostadinov, J. Simeonova, I. Stoilova.** Carrying out the common preventive examinations of people over 18 in Bulgaria – status and trends. Евразийский союз ученых (ЕСУ). Ежемесячный научный журнал. 2016; 1(22, часть 4): 16-20.

**ЕВРАЗИЙСКИЙ СОЮЗ УЧЕНЫХ (ЕСУ)**  
Ежемесячный научный журнал  
**№ 1(22) / 2016**  
Часть 4  
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## CARRYING OUT THE COMMON PREVENTIVE EXAMINATIONS OF PEOPLE OVER 18 IN BULGARIA - STATUS AND TRENDS

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### ABSTRACT

One of the main activities of general practitioners (GPs) in Bulgaria is the annual holding of a general checkup of people over 18 prophylactic examination includes a basic package of activities and research based on who identify as persons with diseases and patients who are at increased risk for developing certain major diseases. The aim of this study was to determine the scope of the population and the views of patients and GPs for conducting check-ups. They are used official data from the National Health Insurance Fund and has held direct individual survey with 229 GPs from three areas of Bulgaria and 515 insured persons over 18 years. It was found that despite the mandatory nature of these reviews had a relatively low range of the underlying population - approximately 50% of adults annually performs check-up. Record the underfunding of this activity. Main drawbacks are indicated in surveys of doctors, insufficient awareness and motivation, and lack of time. The majority of patients consider that these examinations are carried out formally. No resistance, monitoring and reporting on the effect of these examinations.

**Keywords:** GPs, check-up.

## ПУБЛИКАЦИИ В ЧУЖДИ НАУЧНИ СПИСАНИЯ НЕСВЪРЗАНИ С ДИСЕРТАЦИОННИЯ ТРУД:

3. Simeonova J, **Kostadinova P**, Stoilova I. Functional deficits in patients over 44 years of age and their effect on self-rated health. Евразийский союз ученых (ЕСУ). Ежемесячный научный журнал. 2016; 1 (22, часть 4):20-24.

ISSN 2411-6467

**ЕВРАЗИЙСКИЙ СОЮЗ УЧЕНЫХ (ЕСУ)**  
Ежемесячный научный журнал

**№ 1(22) / 2016**

Часть 4

**Редакционная коллегия:**  
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**Международные индексы:**













### FUNCTIONAL DEFICITS IN PATIENTS OVER 44 YEARS OF AGE AND THEIR EFFECT ON SELF-RATED HEALTH

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#### ABSTRACT

**Background:** Many studies found significant association between the poor functional status of individuals and the negative self-rated health. The aim of that study was to identify the problems of functioning in patients and to establish their effect on self-rated health.

**Methods:** A cross-sectional study was carried out in 2014. Two hundred and twelve patients over 44 years of age were included in the study. The study was a part of the Project N0 11/2014 which was funded by the Medical University of Pleven.

**Standardized questionnaire EQ-5D-3L** was used to identify the functional deficits in patients. Self-rated health was measured by 5-ordinal scale including 3 positive categories (excellent health, very good health and good health) and 2 negative categories (fair health and poor health).

Data were processed by SPSS.v.19. Group differences were tested for statistical significance by Pearson's chi-square ( $p \leq 0.05$ ).

**Results:** Most of the patients (42.5%) assessed their health as good. Almost 20% had poor health and only 2.3% – excellent health. Each of five dimensions significantly associated with self-rated health of patients. Many respondents who had the deficits with mobility, self-care, usual activity performance and experienced anxiety/depression or pain/discomfort, assessed more frequent their health as fair or poor ( $p < 0.05$ ).

**Conclusion:** Our study confirmed the findings by the other researchers. Deteriorated functioning in most patients had a significant role for the negative SRH. However, the predictive abilities of EQ-5D-3L regarding to self-rated health can be confirmed by longitudinal study.

**Keywords:** self-rated health, EQ-5D-3L, mobility, self-care, usual activity performance, pain/discomfort, anxiety/depression, functional deficits

4. Найденова Г., М. Симеонов, М. Атанасов, П. Костадинова, С. Костадинов, Р. Цвоева. Исследование ассоциации соотношений между apoB/apoA1, TC/HDL-C, LDL-C/HDL-C и триглицеридами/HDL-C и метаболическим синдромом в болгарской популяции. Евразийский союз ученых (ЕСУ). В: Ежемесячный научный журнал. 2016; 5(26, часть 4): 52-60.

# ЕВРАЗИЙСКИЙ СОЮЗ УЧЕНЫХ (ЕСУ)

ISSN 2411-6467

Ежемесячный научный журнал

№ 5(26) / 2016

Часть 4

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## АННОТАЦИЯ

**Цель:** Соотношение аполипопротеина В к аполипопротеину А1 (ApoB/ ApoA1) есть мощный клинический индикатор метаболического синдрома. Цель настоящего исследования – исследовать связь между соотношениями ApoB/ApoA1, TC/HDL-C, LDL-C/HDL-C, триглицериды/HDL-C и компонентами метаболического синдрома (МС) в болгарской популяции.

**Метод:** Было проведено исследование в Плевенском регионе среди 500 клинически здоровых людей, из которых 40,2% мужчин и 59,8% женщин. В критерии включились лица старше 18 лет, без пережитого сердечно-сосудистого инцидента и без сахарного диабета.

Исследовательская методика включает стандартизированное интервью для оценки факторов риска и лабораторное исследование биохимическим анализатором „Cobas Integra 400 (Roche)”: сахар в крови натощак, серумные триглицериды, общий холестерин, HDL-холестерин, LDL- холестерин, аполипопротеин А-I и аполипопротеин В. Вычислили для всей группы apoB/apoA1, общий холестерин /HDL-C, LDL-C/ HDL-C и триглицериды /HDL-C.

**Результат:** Частота МС в нашем исследовании составляет 32,6% у мужчин и 26,7% у женщин. С ростом возраста частота МС у женщин нарастает, а у мужчин самая высокая частота в возрасте 36-45 лет. Для лиц с МС величина соотношений apoB/apoA1 и chol/HDL выше в сравнении с теми же без МС. Связь между рассмотренными соотношениями велика ( $r=0,72$  – у людей с МС, а у тех без МС  $r=0,88$ ).

**Выводы:** Соотношение ApoB/ApoA1 является независимым рисковым фактором для МС. В настоящем исследовании мы оцениваем механизмы, которые лежат в основе связей между соотношениями ApoB/ApoA1, метаболическим синдромом и их компонентами.

## ABSTRACT

**Aim:** Interrelation apolipoprotein B/ apolipoprotein A1 /ApoB, ApoA1/ is power clinical indicator for metabolic syndrome. The purpose of this study is to investigate the connection between interrelations ApoB/ApoA1, TC/HDL-C, LDL-C/HDL-C, triglyceride/HDL-C and metabolic syndrome /MS/ components among Bulgarian population.

**Methods:** 500 clinically health people of the region of Plevan (201 men and 299 women) were investigated. Those with MS were selected. Patients were classified in quartiles (the lowest: Q1; the highest: Q4) according to the values of interrelation ApoB/ ApoA1 in sex, anthropometric and hematological characteristics.

**Results:** The MS frequency in our study is 32,6% among men and 26,7% among women. We found significant growing of odds

ratios (OR) for participants with MS from Q2 to Q4 quartiles for the interrelation ApoB/ApoA1 among men (OR = 5,34; 95%CI = 2,95-9,62 and OR = 6,79; 95%CI = 4,05-12,8) and for women (OR = 2,46; 95%CI = 1,25-5,12 and OR = 8,37; 95%CI = 4,25-15,8). These results were corrected according to the age and the blood glucose levels for men (OR = 5,24; 95%CI = 2,80-9,29 and OR = 7,88; 95%CI = 4,08-14,9) and for women (OR = 4,40; 95%CI = 2,24-8,60 and OR = 8,26; 95%CI = 3,82-16,5).

**Conclusions:** ApoB/ApoA1 interrelation is an independent risk factor for MS. In this study we investigate the mechanisms that are important for the connection between ApoB/ApoA1 interrelation, metabolic syndrome and its components.

**Ключевые слова:** метаболическим синдромом, соотношения ApoB/ApoA1, TC/HDL-C, LDL-C/HDL-C, TG/HDL-C

**Keywords:** apolipoprotein B, apolipoprotein A1, metabolic syndrome, cardiovascular risk, ApoB/ApoA1 interrelation



**ПУБЛИКАЦИИ В БЪЛГАРСКИ ПЕРИОДИЧНИ СПИСАНИЯ СВЪРЗАНИ  
С ДИСЕРТАЦИОННИЯ ТРУД:**

5. **Kostadinova P.,** A. Velkova, P. Hristova, J. Simeonova, M. Kamburova, S. Georgieva, S. Kostadinov, I. Stoilova, G. Naydenova, S. S. Kostadinov. Human resources in the primary outpatient medical care and their effect on the program for prevention of health insured people over 18 years old. *Science&Technology*, 1(IV), 2014, 308-312.

6. **Костадинова П.,** Велкова А, Христова П., Симеонова Й., Камбурова М., Георгиева С., Костадинов С.Д., Костадинов С.С. **Първична медицинска помощ: Има ли достатъчно време за профилактика на възрастните?** Варненски медицински форум, (3), 2014, Suppl. 2, MU-Varna, 255-260.

**Въведение:** Една от основните дейности на Общопрактикуващите лекари (ОПЛ) е изпълнението на Програмата за профилактика на задължително здравноосигурени лица (ЗЗОЛ) над 18 г., финансирана от НЗОК. За да се изпълнява програмата е необходимо ресурсно обезпечаване – човешки, финансови и времеви ресурс.

**Цел:** Целта на настоящето проучване е да се определи необходимото работно време на ОПЛ за ефективно изпълнение на програмата за профилактика на ЗЗОЛ над 18 г.

**Методи:** Използвани са официални данни от НЗОК за периода 2006 – 2013 г.; действащата нормативна уредба и е проведена пряка индивидуална анкета със 123 ОПЛ от област Плевен.

**Резултати:** Средният брой ЗЗОЛ обслужвани от 1 ОПЛ в страната за наблюдавания период варира от 1480 ЗЗОЛ през 2006 г. до 1631 през 2013 г. Ежегодно с профилактичен преглед са обхващани от 37 до 49 % от подлежащите ЗЗОЛ. Резултатите показват, че 20.3 % от анкетираните ОПЛ се затрудняват да изпълняват програмата, тъй като не разполагат с достатъчно време, от тях 40 % не предвиждат в дневния си график време за работа по програмата, за да обхванат всички лица над 18 г. с профилактичен преглед. От останалите 79,7% - 26,5% също не предвиждат в графика си достатъчно часове.

**Изводи:** Един ОПЛ с посочения среден брой пациенти трябва да работи 6 часа дневно в амбулаторията, в т.ч. трябва да отделя по един час /или 5 часа седмично/, за да извършва заедно с останалите си задължения и 100 % профилактика на възрастните.

**Заклучение:** Необходимо е да се въведат нормативни изисквания за минимално работно време, съобразено с индивидуалния брой пациенти на ОПЛ и времето необходимо за профилактични прегледи.

**Ключови думи:** *Общопрактикуващи лекари, здравноосигурени лица, профилактични прегледи, програма, време.*

**Introduction:** One of the main activities of general practitioner (GP) is the implementation of a program for prevention of compulsory insured persons (CIP) over 18 years, financed by the NHIF. To run the program needs resourcing - human, financial and time resources.

**Objective:** The aim of this study is to determine the necessary time for GPs for effective implementation of the program for the prevention of CIP over 18 years

**Methods:** Are used official data from the National Health Insurance Fund for the period 2006 - 2013 onwards; Regulatory and held direct individual poll of 123 GPs from Pleven.

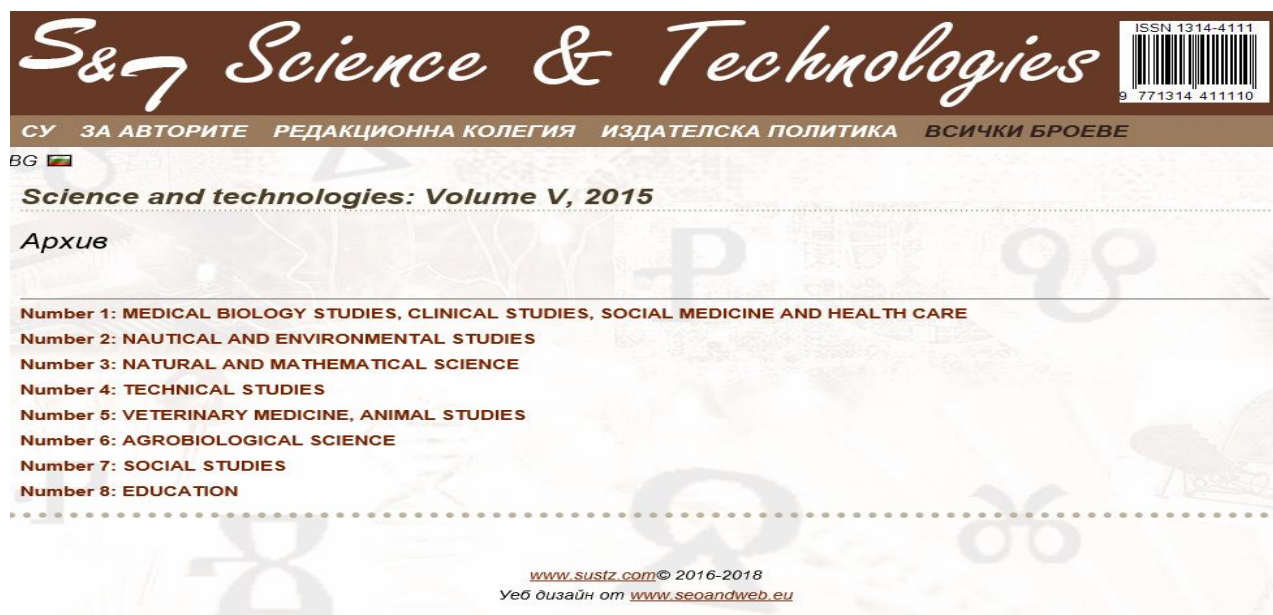
**Results:** The average number CIP served by one GP in the country for the observed period ranges from 1480 CIP in 2006 to 1631 in 2013. The annual health check is covered by 37 to 49% of eligible CIP. The results show that 19.5% of respondents GPs are struggling to implement the program because they do not have enough time, they do not provide 41% of your daily schedule time to work on the program to cover all persons over 18 with prophylactic review. Of the remaining 80.5% - 26.5% did not provide in your schedule enough hours.

**Conclusions:** A GP with an average number of patients that have to work six hours a day in the infirmary, including must spend one hour /week or 5 hours/ to perform along with other duties and 100% prevention of adults. It is necessary to establish regulatory requirements for minimum working hours to suit individual number of patients to GPs and the time required for screening.

**Key words:** *GP, insured persons, screening, program time.*



7. Костадинова П., А. Велкова, П. Христова, Й. Симеонова, С. Д. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов. Проучване мнението на ОПЛ за провежданите профилактични прегледи на лица над 18 год. *Science&Technology*, 1(V), 2015, 223- 226.



#### ABSTRACT

**Introduction:** One of the main activities of general practitioners (GPs) in the execution of their contracts with the NHIF is carrying out preventive examinations of people over 18 and the formation of groups at risk. Despite the mandatory nature of these examinations annually is reported a lower range of insured people - about 50% of the subject.

**Objective:** The aim of this study is to identify the main reasons for the low coverage with preventive examinations on health insured people over 18 years old.

**Materials and Methods:** Official data from the arrays of NHIF and the annual reports of the NHIF have been used. A direct individual survey of 229 GPs from the regions of Pleven, Montana and Yambol has been carried out. Statistical processing of the raw data was carried out with software packages Microsoft Office Exel 2010 and SPSS for Windows v.13.0.

**Results:** All GPs surveyed believe that it is necessary to undertake an annual check-ups of people over 18, but less than half of them believe that the package of preventive activities for individual groups are well chosen. Over 70% of respondents indicated a need for better awareness of the population, over 45% have indicated the need for inclusion of new activities in preventive examinations and 50% accept the imposition of sanctions on defaulting prophylactics as an appropriate measure. About a quarter of GPs have no difficulty in carrying out preventive examinations. Others commented mainly on the difficulties with the notification of patients, increased requirements of the NHIF, lack of time and lack of motivation.

**Findings and conclusion:** It is necessary to be taken to improve information to patients, optimizing the activities included in preventive package, and application of regulatory penalties for the health insured people that have not attended an annual prophylactic examination.

**Keywords:** general practitioners health insured people, prophylactic examinations.

8. **Kostadinova P.,** P. Hristova, J. Simeonova, I. Stoilova, G. Naydenova, S. Kostadinov. Prophylactic examinations for insured persons over 18 years. conducted by GPs and their effect on hospitalizations in Pleven region. *Science&Technology*, 1(VI), 2016, 199-205.



#### **Abstract:**

**Introduction:** One of the main activities of the GPs in execution of contracts with the Health Insurance Fund is carrying out prophylactic examination of insured persons over 18 years. The purpose of these reviews is the early detection of disease and identify patients at increased risk of developing some major diseases. Late detection of the disease leads to higher disability, mortality, as well as more costly hospitalization of the patients.

**Objective:** The purpose of this study was to determine the effects of the preventive examinations of adults by the GPs on hospitalizations in Pleven District.

**Materials and Methods:** Used official data provided by the NHIF and data from the annual reports of the NHIF. Statistical processing of the raw data was carried out with software packages Microsoft Office Exel 2010 and SPSS for Windows v.13.0.

**Results:** Both the country and the region of Pleven, was relatively low coverage of the population with annual preventive examination - for the period from 2006 to 2013 annually under 50% for the same period in Pleven region only 6% of insured persons each year went to such examination. Regular check-goers are mostly people over '60 who are chronic diseases and visiting their doctor in relation to health problems. This explains the results that these people are big consumers of both outpatient and hospital care. They are more often hospitalized than others, but mostly on the occasion exacerbated chronic diseases. Persons who have irregular prevention are often hospitalized on the occasion of chemotherapy and those who have carried on prevention in 2013 have a higher frequency of hospitalizations in connection with hemorrhagic strokes, heart attacks and surgeries on the occasion of some malignant malignancies in the same year. From hospitalized in 2013, they have not walked in the same year of prophylactic examination had a higher average cost of hospital care to others.

**Conclusion:** There is no proactive approach in conducting medical check-ups. They are made mostly of people who visit the GPs in another health problem. Lack of prevention leads to more frequent hospitalizations regarding untreated and later discovered diseases. It is necessary to take measures to improve coverage of the population with preventive examinations.

**Keywords:** GPs, insured persons, prophylactic examinations, hospitalization.



## ПУБЛИКАЦИИ В БЪЛГАРСКИ ПЕРИОДИЧНИ СПИСАНИЯ НЕСВЪРЗАНИ С ДИСЕРТАЦИОННИЯ ТРУД:

9. **Stefanova, P., A. Velkova, J. Simeonova, M. Kamburova, S. Georgieva, S. Deyanov, S. Kostadinov.** The formation of risky groups of the population at a part of the profilactic activity of the general practitioners. Science&Technology, 1(III), 2013, 351-355.



**Introduction:** Health promotion at school be realized in partnership of all members of school community. It is a complex work requires special professional competencies of school staff. The role of school health workers and teachers in this process is very important.

**Aim:** The aim of this paper is to present data about health promotion competencies of school nurses and teachers and to emphasize on the necessity of its enhancement.

**Materials and methods:** Data was collected by self-administered questionnaire among school nurses and teachers over representative extract of the schools in Plevan district.

**Results:** Over 75% of the respondents answer that they have a general idea for conception of health promotion but they need additional information. Only 20% of school nurses and below 10% of teachers had studied health promotion during their academic education. They have some experience in health promotion practice and positive attitude to this concept. Most of them (over 90%) believe in its positive effect for public health improvement.

**Conclusion:** There is a necessity of continuing education programs for school staff in the field health promotion.

**Key words:** health promotion at school, professional competencies for health promotion, school nurses



10. **Костадинова П.**, Велкова А., Симеонова Й., Костадинов С. Д., Стоилова И., Костадинов С.С., Проучване мнението на задължително здравноосигурените лица в Плевенския регион за провежданите профилактични прегледи на лица над 18 години от Общопрактикуващите лекари. Здравна икономика и мениджмънт, 3(XIII), 2013, 84 – 88.



**Summary:**

Given the limited resources of the health system prevention and health promotion contribute much more for the preservation of life and improve its quality more than traditional medical interventions. One of the main activities of the general practitioners in the execution of contracts with the NHIF is the performance of screening of people over 18 and the formation of risky groups. There is a consistent trend regarding an unsatisfactory range of compulsory health insured people with annual prophylactic examinations, despite their obligatory character. The purpose of this study is to identify the reasons for that by examining the opinion of the compulsory insured people. Statistical and sociological methods have been used.

**Keywords:** General Practitioners, compulsory health insured people, prophylactic examinations

11. Цветкова С., П. **Костадинова**, И. Стоилова, Н. Стефанова. Фактори, повлияващи ефективната комуникация лекар пациент. Здравна икономика и мениджмънт. 3(XIII), 2013, 92 – 96.

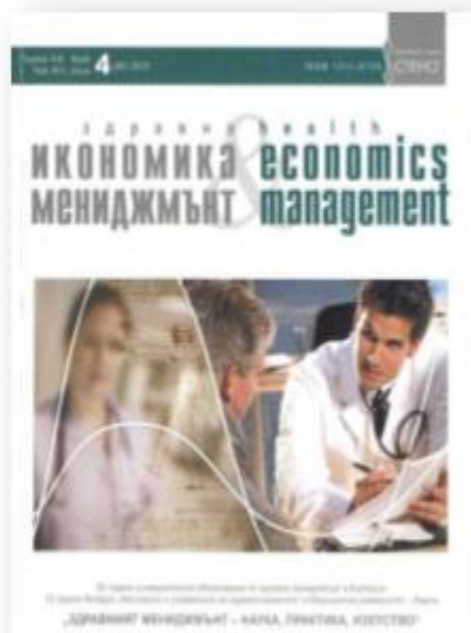
**Summary:** The ability to communicate effectively is extremely important in the helping professions, especially in health care. This implies knowledge of the problems and psychological reactions of doctors in a crisis situation, in which the sick person usually falls.

Good communication is essential for proper diagnosis of the disease by the doctor, as well as for the assistance in the treatment of the patient. In this paper are discussed some of the factors that lead to imbalances in the relationship between doctor and patient / derived from patients, doctors and the surrounding/.

Subject of discussion are the results of a survey between 101 doctors with different specialties working in hospitals and outpatient care. Except for the two methods (establishing the Burnout and study of psycho-social climate), the study contains information on gender, age, place of residence and marital status. The results were statistically processed (StatGraf). The conclusions are directly relevant to the issue of the quality of health services, whose users are Bulgarian patients.

**Key words:** doctor, patient, relationships, factors related to the working atmosphere

12. Камбурова, М., А. Велкова, П. Христова, С. Георгиева, **П. Стефанова**. Проучване на потребностите от обучение по мениджмънт в здравеопазването сред студентите от МУ-Плевен, специалност „медицина”. Здравна икономика и мениджмънт, 4(ХІІІ), 2013, 70-75.



**Въведение:** Усвояването на общи управленски компетенции от студенти специалност „медицина” би било уместно в духа на съвременните повишени изисквания към младите лекари по отношение на техните професионални знания и умения и с оглед на новата десетгодишна стратегия за растеж на Европейския Съюз „Европа 2020”.

**Цел:** Цел на проучването е да се установят потребностите от обучение по общи управленски компетенции сред студенти от МУ-Плевен, специалност „медицина”.

**Материал и методи:** Проведено е пряко групово анкетиране на студенти от втори и пети курс, специалност „медицина”. За целите на проучването е разработена анкетна карта с 21 въпроса.

**Резултати:** Преносимите компетенции са необходими за успешната професионална реализация на младия лекар според 89,5% от анкетираните. Почти 40% от анкетираните преценяват свободно-избираемата форма в пети курс като най-подходяща за обучение по преносими компетенции.

**Заключение:** Придобиването на основни знания и умения по мениджмънт в здравеопазването ще съдейства за разширяване на общите компетентности на студентите и би подпомогнало бъдещата реализация на младите лекари.

**Ключови думи:** общи управленски компетенции, стратегия „Европа 2020”, преносими компетенции

**Introduction:** Utilization of general management competencies of students in "medicine" would be appropriate in the light of modern increased requirements to junior doctors regarding their professional knowledge and skills to the new ten-year strategy for growth in the European Union 'Europe 2020'.

**Aim:** The aim of the survey is to identify training needs in general management competencies among medical students from MU-Pleven.

**Material and methods:** It was conducted inquiry with self-administered questioner among medical students second and fifth year. For the purpose of this study was developed questionnaire.

**Results:** Portable skills are necessary to successful career of a young doctor by 89.5% of respondents. Almost 40% of respondents consider free-form optional fifth year as the most appropriate training portable competencies.

**Conclusion:** Acquiring of basic knowledge and skills in management in health care will help to expand the overall competence of the students and help the future development of the young doctors.

**Key words:** general management competencies, strategy 'Europe 2020', portable skills

13. Георгиева, С., А. Велкова, М. Камбурова, **П. Стефанова**. Ресурси за осъществяване на промоция на здравето в училище. Здравна икономика и мениджмънт, 4(ХІІІ), 2013, 147-152.

Училището е благоприятна и естествена среда за осъществяване на промоция на здравето на учениците и персонала.

**Целта** на настоящата разработка е да се проучат ресурсите за провеждане на промоция на здравето в училище и трудностите, с които е съпроводено.

Използвани са резултати от собствено емпирично проучване сред представителна извадка на училищата в Плевенски регион и литературни данни по проблема.

Промоцията на здравето в училище е разностранна мултипрофесионална дейност, изискваща разнообразни ресурси – материално-технически, финансови, информационни, организационни, човешки и други. Чести проблеми са остарялата материална база, недостиг на финансови средства, липса на изградени организационни структури за промоция на здравето. Най-голямо предизвикателство представлява управлението на човешкия ресурс, поради неговата разнородност по отношение на знания, професионални компетентности, мотивация и поведение. Необходимо е разширяване на познанията за концепцията за промоция на здравето и практическите умения за нейното реализиране.

**Ключови думи:** промоция на здравето в училище, професионални компетентности, ресурси за промоция на здравето

The school is a good environment for Health promotion of students and staff. The aim of this paper is to observe the opportunities for Health promotion at school in Bulgaria and difficulties go along with. Results from own empirical study of representative sample of schools in Pleven district and literature review were use.

Health promotion at school is many-sided multiprofessional activity requires various resources. Old buildings and equipment, lack of financial resources and capacity for Health promotion are frequent problems. The biggest challenge is the management of human resources because of their heterogeneity with relation to their knowledge, professional competencies, motivation and behavior. There is a necessity of enhancement of knowledge for Health promotion conception and practical abilities to realize it.

**Key words:** *health promotion at school, professional competencies, resources for health promotion*

14. Georgieva, S., A. Velkova, **P. Stefanova**, M. Kamburova. The necessity of increase the health promotion competencies at school. Science&Technology, 1(III), 2013, 288-293.



Международен научен списък  
**НАУКА И ТЕХНОЛОГИИ**  
Мисия: "Създаване на знание - Създаване на бъдеще"

International scientific on-line journal  
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**Introduction:** Health promotion at school be realized in partnership of all members of school community. It is a complex work requires special professional competencies of school staff. The role of school health workers and teachers in this process is very important.

**Aim:** The aim of this paper is to present data about health promotion competencies of school nurses and teachers and to emphasize on the necessity of its enhancement.

**Materials and methods:** Data was collected by self-administered questionnaire among school nurses and teachers over representative extract of the schools in Plevan district.

**Results:** Over 75% of the respondents answer that they have a general idea for conception of health promotion but they need additional information. Only 20% of school nurses and below 10% of teachers had studied health promotion during their academic education. They have some experience in health promotion practice and positive attitude to this concept. Most of them (over 90%) believe in its positive effect for public health improvement.

**Conclusion:** There is a necessity of continuing education programs for school staff in the field health promotion.

**Key words:** *health promotion at school, professional competencies for health promotion, school nurses*



15. Simeonova J., A. Velkova, **P. Stefanova**. Psychological and behavioral factors of self-rated health of high school and university students in Pleven. Science&Technology, 1(III), 2013, 298 – 303.

**OBJECTIVES:** The study aimed at assessing the self rated health (SRH) of students and determining the effect of some behavioural characteristics on subjective health.

**METHODS:** A cross-sectional study was carried out among 457 high school and university students in city of Pleven in 2012. To assess the subjective health we asked the respondents the question "How do you assess your health at the moment" on a 5-level scale. The effect of the following psychological and behavioural factors was explored: physical activity, smoking, alcohol consumption, energy drinks, psycho stimulants and drug use, sexual behaviour and personal health improving strategies. We also checked for the effect of body mass index (BMI). Statistical analysis was performed with the SPSS statistical package. Parametric and non-parametric statistical methods were applied.

**RESULTS:** Most of the study group (33,9%) assessed their SRH as very good. Women ( $p < 0,001$ ) and the older students aged over 20 yrs. ( $p < 0,001$ ) rated their health lower - as good and fair. At the same time among the group with negative health change over a year (13,2%) the proportion of women is 2 times higher as compared to men. Differences between the groups were found for some behavioural factors such as physical activity, smoking, alcohol consumption and energy drinks consumption. When we checked the effect of each variable in univariate analysis we detected significance only for some of them - age, physical activity, smoking and alcohol consumption. We combined the categories of excellent, very good and good health in one variable - good health, and the categories of fair and poor health - as bad health. The statistical analysis determined that most of the students at age over 20 yrs. report bad health ( $p = 0,012$ ). Good health was present in more than 50% of the non-smokers and among the individuals who drink alcohol rarely. Logistic regression modelling proved the age, smoking and alcohol consumption as important predictors of SRH. Probability of having a bad health is 6,4 times higher in people who drink alcohol on a daily basis, over 5 times higher in smokers (over 20 cigarettes per day), and 2,3 times higher in students aged over 20 yrs.

**CONCLUSION:** Psychological and behavioural individual profile can be used as a reliable and valid instrument to measure the individual health at present.

*Keywords: self-related health, predictors, physical activity, smoking, alcohol use*

16. Stoilova, A. Valkov, **P. Stefanova**. Health problems of workers in air transport. Science&Technology, 1(III), 2013, 283 - 287.

**Aim:** To improve the diagnostic and prophylactic ability of health care system for occupational diseases in air transport.


**Materials and methods:** Patients, attended the Department of Hygiene, Medical Ecology and Occupational Diseases, University of Medicine, Pleven, during the period 2010 – 2012 are subjects of the study. Clinical laboratory, electrophysiological and radiological methods were used.

**Results:** Clinical diagnosis and most prominent symptoms were described.

**Conclusions:** There were made specific conclusions and were given direction for prophylactic of occupational diseases.

*Keywords: air transport, occupational diseases.*

17. Костадинова П., А. Велкова, П. Христова, Й. Симеонова, С. Деянов, С. Костадинов. Профилактика на онкологичните заболявания в България и опита на страните от Европейския съюз. Известия – СУБ Варна, 1(XVIII), 2013, 48-55.

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## Cancer prevention in Bulgaria and the experience of the European Union

Penka Kostadinova<sup>1</sup>, Angelika Velkova<sup>1</sup>, Petkana Hristova<sup>1</sup>, Joana Simeonova<sup>1</sup>, Sergey Kostadinov<sup>2</sup>, Stefan Kostadinov<sup>3</sup>


**INTRODUCTION:** Early detection of asymptomatic cases is an important element of the control of widespread cancer (breast cancer, cancer of the cervix and colon cancer). Since 2003 in accordance with the recommendations of the Council of the European Union, most European countries have introduced organized screening programs for these cancers.

**OBJECTIVE:** The aim of this study is to evaluate the conformity of cancer prevention programs for Bulgarian population in the period 2006 - 2012, with the recommendations of the European Union and the programs for cancer screening in the member countries.

**MATERIAL AND METHODS:** We analysed the regulations of cancer screening active during the study period, data from the annual reports of the Ministry of Health and National Health Insurance Fund, and published data from published studies on the effect of prevention programs in the European region countries.

**RESULTS:** Despite the relatively high levels of mortality and morbidity due to these cancers in the population, Bulgaria lags behind the introduction of organized effective screening. Application of a high-risk approach and selection of risk groups for these diseases

18. Костадинова П., А. Велкова, П. Христова, Й. Симеонова, С. Костадинов, Ст. Костадинов. Фактори и условия за успешно изпълнение на програми за онкологичен скрининг сред населението. Известия – СУБ Варна, 1(XVIII), 2013, 56-60.

 <p><b>ИЗВЕСТИЯ</b> на Съюза на учените - Варна <b>Серия "Медицина и екология"</b> <b>1'2013 / том XVIII</b></p>	
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## Factors and conditions for the successful implement of cancer screening programs among the population.

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Kostadinov<sup>2</sup>, St. Kostadinov<sup>3</sup>

**INTRODUCTION:** The term screening is first defined in 1957 by the Commission on chronic diseases of the United States (US Commission on Chronic illness), such as „Presumed identification of unrecognized disease or defect by the use of tests, examinations or other procedures which can be quickly implemented“. Mass screening, aimed at detecting and pre-neoplastic state leading to cancer is considered to be one of the possible and the most successful public health measures for the prevention of malignancy.


**OBJECTIVE:** To propose an algorithm for the successful introduction and implementation of screening programs for cancer.

**MATERIALS AND METHODS:** The experience of existing programs in the European region is summarised in order to facilitate the future implementation of the programs for population screening.

Legislation and literature are analyzed to implement and monitor the effectiveness of programs in the countries of the European region and in Bulgaria.

**RESULTS:** The main steps in the planning and implementation of onco-logical screening programs are pointed out. The algorithm is general

19. Симеонова Й., А. Велкова, С. Цветкова, **П. Стефанова**. Индикатори за физическото здраве и тяхното значение за формирането на здравната самооценка при лица над 18 - год. възраст. Известия – СУБ Варна, 1(XVIII), 2013, 27-31.



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## Indicators of physical health and their importance for self-rated health among persons over 18 years of age

J. Simeonova, A. Velkova,  
S. Tsvetkova, P. Stefanova

**OBJECTIVE:** To determine the level of self-rated health and study the impact of physical health for its formation.


**METHODS:** A qualitative study was conducted in August 2012. Ninety individuals were interviewed in four settlements in the region of Plevna. To evaluate self-rated health (SRH) we asked the participants "How would you rate your current health?". The assessment of physical health was based on the frequency of 20 symptoms, presence or absence of a chronic disease, the frequencies of any diseases and the number of medical visits, etc. Data were processed by SPSS.v.19. Nonparametric methods were used in seeking significant differences.

**RESULTS:** The majority of our respondents (47.8%) rated their health as good. The most commonly reported symptoms were fatigue, headache and high blood pressure but significant differs in relation to SRH were reported for 4 of the symptoms ( $p < 0.05$ ). Poor health was associated with a higher morbidity and more frequent visits to the doctor ( $p < 0.05$ ). Correlation effect of medication we found between SRH and antihypertensive drugs only ( $p = 0.001$ ).

**CONCLUSION:** Most indicators of physical health were significant associated with negative SRH and can be used successfully as predictors of poor health by medical professionals.



20. Симеонова Й., А. Велкова, С. Цветкова, **П. Стефанова**, Могат ли психологическите фактори да обяснят различията в здравната самооценка при лица на 18 – год. възраст? Известия – СУБ Варна, 1(XVIII), 2013, 32-36.

	<h1>ИЗВЕСТИЯ</h1> <p>на Съюза на учените - Варна Серия "Медицина и екология" 1'2013 / том XVIII</p>
<p><b>Редакционен съвет</b> <b>Председател:</b> проф. д-н Бон Мединкарлов <b>Членове:</b> проф. д-р Овлад Фарин проф. д-р Павел Павлов проф. д-р Росен Маджов, д.м.н. проф. д-р Зоя Младенова доц. д-р Даниела Георгиева-Клисарова</p>	<h2>СЪДЪРЖАНИЕ</h2>
<p><b>Редакционна колегия на броя</b> <b>Председател:</b> проф. д-р Красимир Иванов, д.м.н. <b>Отговорни редактори:</b> доц. д-р Златислав Стоинов, д.м.н. доц. д-р Румели Ненков, д.м. <b>Членове:</b> проф. д-р Ангелия Клисарова, д.м.н. проф. д-р Викелета Йотова, д.м.н. проф. д-р Росен Маджов, д.м.н. проф. д-р Валентин Игнатов, д.м.</p>	<p><b>Я. ГРИГОРОВ, А. МИХАЙЛОВ, А. ТЕГОВА, Д. БОШНАКОВ, М. КЪЧЕВ</b> Ампутация на раменен пояс ..... 3</p> <p><b>Я. ГРИГОРОВ, В. КОЖУХАРОВ, А. ТЕГОВА, Д. БОШНАКОВ, М. КЪЧЕВ</b> Липосарком на бедро – диагностични и терапевтични предизвикателства ..... 8</p> <p><b>СТ. ИВАНОВ, П. АПОСТОЛОВ, Д. РАЙКОВ, Г. ГАНЧЕВ</b> Оперативно лечение при фрактури в областта на шийката на скapulata ..... 13</p> <p><b>Я. ЗАЙКОВА, Н. ПАШАЛИЕВ, А. СТАНЕВ, ХР. ХРИСТОВ</b> Дефекти на главата – хирургично лечение ..... 21</p> <p><b>Й. СИМЕОНОВА, А. ВЕЛКОВА, С. ЦВЕТКОВА, П. СТЕФАНОВА</b> Индикатори на физическото здраве и тяхното значение за формирането на здравната самооценка при лица над 18-год. възраст ..... 27</p> <p><b>Й. СИМЕОНОВА, А. ВЕЛКОВА, С. ЦВЕТКОВА, П. СТЕФАНОВА</b> Могат ли психологическите фактори да обяснят различията в здравната самооценка при лица над 18-год. възраст? ..... 32</p> <p><b>П. КИРОВА, А. ВЕЛКОВА</b> Проблеми при създаването и провеждането на общинска здравна политика в България ..... 37</p> <p><b>Р. СИМЕОНОВА, Г. ЙОРДАНОВ, К. САПУНДЖИЕВ</b> Скрининг на опорно-двигателен апарат на деца от 5 до 7 год. .... 43</p> <p><b>П. КОСТАДИНОВА, А. ВЕЛКОВА, П. ХРИСТОВА, Й. СИМЕОНОВА, С. КОСТАДИНОВ</b> Профилактика на онкологичните заболявания в България и опита на страните от европейския съюз ..... 48</p> <p><b>П. КОСТАДИНОВА, А. ВЕЛКОВА, П. ХРИСТОВА, Й. СИМЕОНОВА, С. КОСТАДИНОВ</b> Фактори и условия за успешно изпълнение на програми за онкологичен скрининг сред населението ..... 56</p> <p><b>Н. ТАКУЧЕВ</b> Слънчева активност и смъртност от онкологични заболявания в България ..... 61</p>
<p><b>Съюз на учените - Варна</b> гр. Варна 9000 ул. "Васил Друмев" № 73 тел: 052 / 552 277</p>	
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## Can psycholological factors explain differences in self-rated health among persons over 18 years?

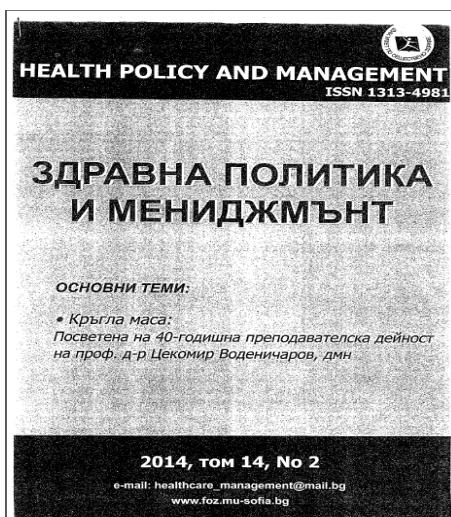
J. Simeonova, A. Velkova,  
S. Tsvetkova, P. Stefanova

**OBJECTIVE:** To study the impact of psychological factors on self-rated health.

**METHODS:** A qualitative study was conducted in August 2012 among 90 individuals aged 22-75. A questionnaire included 63 questions. Eight of them were orientated toward mental health (psycho-emotional stress, self-esteem, psychological well-being, etc.). Self-rated health (SRH) was measured by 5-point scale but for statistical analysis SRH was dichotomous (good – poor health). Data were processed by SPSS.v.19. Nonparametric methods were used in seeking significant differences.

**RESULTS:** Almost 50% of the respondents rated their health as good. SRH was lower among 26,6% of the study group. Persons with poor health have had difficulty sleeping and higher levels of stress ( $p < 0.05$ ). Conversely, good self-rated health was significantly associated with higher levels of psychological well-being ( $p = 0.027$ ). Although about 30 percent of individuals have experienced more than one negative life event in the last one year it does not predetermine their poor health ( $p > 0.05$ ).

**CONCLUSION:** The number of days with disturbed sleep, stress and psychological well-being were the indicators of mental health with important role in shaping of SRH.



21. Симеонова, Й., А. Велкова, С. Цветкова, П. Костадинова. Същност и измерения на здравната самооценка при лица над 18-годишна възраст. Здравна политика и мениджмънт, София, 2014;14(2):49-55.

## РЕЗЮМЕ

**Цели:** Да се определи същността, обхвата и измеренията на здравната самооценка при лица на възраст над 18 години. Да се установи дали здравните реалисти и лицата, които недооценяват своето здраве (здравни песимисти и здравни оптимисти) използват едни и същи критерии при определяне на здравната самооценка.

**Материали и методи:** През мес. август 2013 г. е проведено качествено проучване. Интервюирани са 90 лица на възраст 22-75 г. При определяне на субективното здраве е зададен въпросът „Как бихте оценили понастоящем своето здраве?“. Допълнително участниците са запитани „Въз основа на какво оцените здравето си по този начин?“, след което е приложена процедура на индуктивен анализ. Първоначално са изведени 43 кода, които по-нататък са отнесени към 6 основни измерения. Броят на съобщаваните от лицата хронични заболявания е използван при обособяването на 4 основни групи: здравни оптимисти, здравни песимисти, реалисти в добро здраве и реалисти в лошо здраве. Статистическата обработка на данните е извършена със софтуерния пакет SPSS.v.19.

**Резултати:** Повечето лица (47,8%) оценяват здравето си като добро. Лошото здраве се свързва с по-висока честота на боледуване и с по-висок индекс на психосоматичните оплаквания ( $p < 0.05$ ). При изясняване значението на здравната самооценка почти 30% от интервюираните включват едновременно няколко критерия. Водещ, обаче, за всяка от четирите групи лица остава критерият на физическото здраве (70,9%). Здравните реалисти използват повече критерии спрямо лицата, които недооценяват здравето си.

**Заключение:** Едновременно прилагане на качествен и количествен подход при изследване на здравната самооценка позволява да се изяснят същността и обхвата ѝ. Методиката може да бъде използвана ефективно при организирането и провеждането на адекватни здравни мероприятия.

**Ключови думи:** здравна самооценка, физическо здраве, качествено проучване, здравен оптимист, здравен песимист, здравен реалист

## ABSTRACT

**Aims:** To explore the nature, scope and dimensions of self-rated health (SRH) in individuals at age over 18. To find out whether the health realists and people with an improper SRH (health pessimists and health optimists) apply the same criteria in assessment of their health.

**Material and methods:** In August 2013 a qualitative research was carried out. Ninety individuals at age of 22-75 were interviewed. Subjective health was assessed by the question How would you assess your health currently. Additionally the participants were asked On what ground did you rate your health that way? Inductive analysis was performed. Initially 43 codes were extracted, and later they were related to 6 basic dimensions. We used the number of chronic conditions to differentiate 4 groups of individuals: health optimists, health pessimists, realists in good health and realists in poor health. Statistical analysis of data was performed with SPSS v.19.

**Results:** Most of the individuals (47,8%) assessed their health as good. Poor health was related to higher morbidity and higher index of psychosomatic complaints ( $p < 0.05$ ). In clarifying the meaning of SRH almost 30% of the interviewees applied several criteria at once. Leading criterion for each of the 4 groups appeared to be the physical health (70,9%). Health realists used more criteria to evaluate their health as compared to the individuals with improper SRH.

**Conclusion:** The simultaneous application of qualitative and quantitative approaches in examining the SRH allows better understanding of its nature and scope. The methodology used in this study can be applied effectively in organizing and conducting adequate health interventions.

**Key words:** self-rated health, physical health, qualitative research, health optimist, health pessimist, health realist



22. Симеонова, Й., А. Велкова, С. Цветкова, П. Костадинова. Фактори на формирането на здравната самооценка при амбулаторни и хоспитализирани пациенти на възраст над 44 г. Варненски медицински форум – Варна, 2014; 3(2):285-290.

## ФАКТОРИ НА ФОРМИРАНЕТО НА ЗДРАВНАТА САМООЦЕНКА ПРИ АМБУЛАТОРНИ И ХОСПИТАЛИЗИРАНИ ПАЦИЕНТИ НА ВЪЗРАСТ НАД 44 Г.

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## FACTORS OF SELF-RATED HEALTH AMONG AMBULATORY AND HOSPITALIZED PATIENTS OVER 44 YEARS OF AGE

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### РЕЗЮМЕ

**Въведение:** Здравната самооценка (SRH) е обобщаващ измерител на здравето, представящ едновременно информация за физическото, психическото и социалното измерение на здравето. Прогностичните възможности на SRH позволяват да се идентифицират подходящи интервенции за предотвратяване на някои заболявания, възможна инвалидизация, както и редуциране на потреблението на здравни услуги и медикаменти.

**Цел:** Да се определят и съпоставят здравната самооценка при амбулаторни и хоспитализирани пациенти и да се идентифицират водещите детерминанти при нейното формиране.

**Материали и методи:** През 2014 г. е проведено срезно проучване, в което са обхванати 212 пациенти на възраст над 44 г. Лицата попълват анкетна карта, като допълнително беше събрана информация за обективния здравен статус. Данните са обработени със софтуерния пакет SPSS v.19. При търсенето на статистически различия между групите са използвани параметрични и непараметрични методи.

**Резултати и обсъждане:** Повечето лица (над 70%) оценяват здравето си като задоволително и добро. Възстановяване на SRH се отчита с напредване на възрастта, но често при лица с повече хронични заболявания и с изразени дефицити във функционирането. По-големият брой посещения при общопрактикуващ лекар и хоспитализации е статистически свързан с по-ниска здравна самооценка ( $p < 0.05$ ).

**Изводи и заключение:** Ефективното планиране на здравните услуги изисква познаването и

### SUMMARY

**Introduction:** Self-rated health (SRH) is a summary health indicator which presents information about the physical, mental and social dimensions of health. Predictive power of SRH allows to identify appropriate interventions to prevent diseases, disability and to reduce health care utilization and medication.

**Objective:** To determine and compare the self-rated health among ambulatory and hospitalized patients and to identify the leading determinants on SRH.

**Materials and methods:** Cross-sectional study was conducted in 2014. Two hundred and twelve patients over 44 years of age were included in the study. The respondents were selected from 5 GP practices and the different clinics of the University Hospital-Pleven. The patients filled in a self-administrated questionnaire. The information about their objective health was collected from the treating physician. Data were processed by SPSS v.19. Parametric and non-parametric statistical methods were applied.

**Results and discussion:** The majority of individuals (over 70%) rated their health as fair and good. SRH deterioration was established with age, more common in persons with increasing number of chronic diseases and functional disability. More frequent medical visits to GP and hospitalizations were significantly associated with poor self-rated health ( $p < 0.05$ ).

**Conclusion:** The effective planning of health care requires recognition and integration of subjective and objective health.

**Key words:** self-rated health, physical health, health care utilization

23. **Стефанова П., Г. Найденова.** Асоциация на метаболитния синдром и високосензитивния С - реактивен протеин. Варненски медицински форум, (3), suppl. 2, 2014, 66-72.

**Въведение:** Нивата на високосензитивния С-реактивен протеин (hs-CRP) могат да бъдат използвани в клиничната практика като достатъчно сигурен белег за определяне нивото на риска от възникване на сърдечносъдови усложнения.

**Цел:** Да се изследва връзката между компонентите на метаболитния синдром (MetC) и hs-CRP, като рискови фактори за сърдечносъдови заболявания (ССЗ) сред клинично здрави хора .

**Материал и методи :** Изследвани са 500 клинично здрави лица от Плевенския регион (201 мъже и 299 жени). Селектирани са участниците с метаболитен синдром. Определени са антропометрични и хематологични показатели.

**Резултати и обсъждане:** Умереното нарастване на hs-CRP при мъжете е свързано с 2,41 пъти повишаване на риска от MetC (OR= 2,41, 95% CI: 1,36- 4,33). При умерено нарастване на hs-CRP при жените се наблюдава 5,03 пъти нарастване на риска от MetC (OR= 5,03, 95% CI: 2,23- 11,13).

**Изводи и заключения:** Проучването доказва позитивната корелация между метаболитния синдром и hs-CRP.

**Ключови думи:** метаболитен синдром, hs-CRP, възпаление, затлъстяване, риск.

#### **Summary:**

**Introduction :** In clinical practice we can use the hs-CRP concentrations like certainly mark for determine cardiovascular complications.

**Objective:** We investigate the relation between components of metabolic syndrome and hs-CRP as a risk factors for cardiovascular diseases among clinical healthy adults.

**Material and methods:** Subjects were 500 Bulgarian clinical healthy participants from Pleven region (201 males and 299 females). It is selected the participants with metabolic syndrome. It is definite anthropometric and hematologic indexes.

**Results and discussion:** The moderate increase of hs-CRP concentrations among men are related with 2,41 elevate the risk for metabolic syndrome. (OR= 2,41, 95% CI: 1,36- 4,33). The moderate increased of hs-CRP concentrations among women is associated with 5,03 increase of risk for metabolic syndrome (OR= 5,03, 95% CI: 2,23- 11,13).

**Conclusions:** This study demonstrate positive correlation between metabolic syndrome and hs-CRP.

**Key words:** metabolic syndrome, hs-CRP, inflammation, obesity, risk.



24. Георгиева, С., А. Велкова, М. Камбурова, **П. Стефанова**. Рискови фактори и мотивация на поведението сред учениците на възраст 14-19 години в Плевенски регион. Варненски медицински форум, (3), suppl. 2, 2014, 53-57.



**Въведение:** Поведенческите рискови фактори са широко разпространени в съвременното общество и са водеща причина за болестност и смъртност. Тяхното въздействие започва в детството и се отразява върху здравето и работоспособността на лицата в активна възраст и през целия им предстоящ живот.

**Цел:** Целта на настоящия доклад е да представи най-разпространените рискови фактори сред учениците във възрастовата група 14-19 години и мотивите за нездравословно поведение.

**Материал и методи:** Резултатите са част от по-широко проучване за промоция на здравето в училище, проведено през периода септември 2012 – май 2013 г. За участие са поканени 600 ученици на възраст 14-19 години, от представителна извадка на училищата в Плевенски регион. Информацията е събрана чрез пряка групово анкета.

**Резултати и обсъждане:** Проучването установи, че най-често посочвани поведенчески фактори от учениците и определени от самите тях като рискови са тютюнопушене (42,8%), ограничена двигателна активност (36,6%) и нездравословно хранене с прекомерната консумация на захарни и тестени изделия (21%). Водещи мотиви са изпитването на удоволствие от определена дейност (47,8%) и недостатъчните знания за възможните неблагоприятни последици (22,2%). Откриват се статистически значими различия, свързани с пола, както в типа поведение, така и в мотивите, които го определят.

**Заклучение:** Поведенческите рискови фактори се усвояват в ранна възраст и са широко разпространени сред подрастващите. Дейностите за тяхното ограничаване трябва да бъдат съобразени с възрастовите, половите и психологически характеристики на засегнатите лица.

**Ключови думи:** поведенчески рискови фактори, тютюнопушене, ограничена двигателна активност, мотиви за поведение

**Introduction:** Behavior risk factors are widely distributed in modern society. They are leading causes of morbidity and mortality. Their influence start in childhood and affect health and working capacity of individuals in their active age.

**Aim:** The aim of this paper is to present the widespread risk factors among students in the age group 14-19 and the main reasons of unhealthy behavior.

**Materials and methods:** The results are a part of a comprehensive medico-social study for Health promotion at school conducted from September 2012 to May 2013. Data were collected by self-administered questionnaire among 600 students, 14-19 years of age, from representative sample of schools in the region of Pleven.

**Results:** The study found that the most often shown factors and define of students as "risky" are tobacco smoking (42,8%), physical inactivity (36,6%) and unhealthy diet with excessive consumption of sugar and paste products (21%). They explain their unhealthy behavior with reasons like "take me pleasure" (47,8%) and "I don't believe that the harmful effect tell on me" (22,2%). There are significant differences of unhealthy behavior and motivation depending on gender.

**Conclusion:** Behavior risk factors are adopted at early age and they are widely distributed among adolescents. Activities for their restriction must be consistent with age, gender and psychological characteristics of affected people.

**Key words:** behavior risk factors, tobacco smoking, physical inactivity, reasons of behavior

25. Камбурова, М., П. Христова, А. Велкова, С. Георгиева, **П. Стефанова**, Й. Симеонова, И. Христова. Неравенства в здравето и потреблението на здравни услуги на недоносените деца в ранното детство. Варненски медицински форум, (3), suppl. 2, 2014, 42-46.

**Въведение** Според Световната Здравна Организация децата, родени с тегло под 2500 гр. се определят като деца с ниско тегло при раждането, а децата родени преди 37 гестационна седмица като преждевременно родени. Те са в повишен риск за сериозни здравословни проблеми и повишени потребности от здравни услуги през ранното детство.

**Цел** Да се проучи заболяемостта и потреблението на здравни услуги до 3-годишна възраст сред недоносени деца, живеещи в град Плевен.

**Материал и методи** Проучването е кохортно и проследява здравния статус на децата от раждането до 3-годишна възраст. Проучването е изчерпателно за недоносените деца и репрезентативно за доносените деца, родени през 2007 г. и живеещи в гр. Плевен.

**Резултати и обсъждане** Най-честа причина за боледуване в ранното детство са заболяванията на дихателната система, като рискът недоносените деца да боледуват над 5 пъти годишно от заболявания на дихателната система в сравнение с доносените е четири пъти по-висок – RR 4,10 95% CI (1,89 – 8,85).

Установява се над пет пъти по-често засягане на зрителния анализатор сред недоносените деца в сравнение с доносените – RR 5,42 95% CI (1,48 – 19,94), но не се установява статистически значима разлика сред проследените недоносени и доносени деца по отношение на проблеми със слуха.

Необходимостта от продължително и комплексно лечение на недоносените деца от раждането до 3-годишна възраст води до по-чести хоспитализации и по-продължителен среден престой в болница.

**Заключение** Резултатите потвърждават хипотезата, че недоносените деца, живеещи в градовете, са рискова група с висока заболяемост и висока необходимост от здравни услуги до 3-годишна възраст.

**Ключови думи:** недоносеност, здравен статус, здравни услуги

**Introduction** According to the World Health Organization children born weighing less than 2500 g are defined as children with low birth weight and children born before 37 weeks of gestation are defined as preterm born. They are at increased risk for serious health problems and increased demand for health services in early childhood.

**Aim** To investigate the incidence and consumption of health services up to 3 years of age among premature infants living in the city of Pleven.

**Materials and Methods** This is a cohort follow-up study of children's health status from birth to 3 years of age. The study is comprehensive for preterm children and representative for term infants born in 2007 in Pleven.

**Results and Discussion** Respiratory diseases are the most common cause of morbidity in infancy. The risk preterm children suffer more than 5 times a year from respiratory diseases compared with term infants is four times higher - RR 4,10 95% CI ( 1 , 89 to 8.85 ).

The study found over five times higher risk for affect the visual system in preterm children compared to term infants - RR 5,42 95 % CI (1,48 - 19,94), but does not establish a statistically significant difference between preterm and term infants regarding hearing problems.

The need for lengthy and complex treatment of premature children from birth to 3 years of age leads to more frequent hospitalizations and a longer average length of stay in hospital.

**Conclusion** The results confirm our research hypothesis that premature born children living in urban areas are a risk group with high morbidity and high demand for health services up to three years of age.

**Keywords:** prematurity, health status, health services

26. Simeonova, J., A. Velkova, S. Tsvetkova, **P. Kostadinova**, M. Kamburova, S. Georgieva. Self-rated health, health behavior, and perceived illness vulnerability, perceived controllability over health among ambulatory and hospitalized patients over 44 years of old. *Science&Technology*, 1(IV), 2014, 250-255.



Международен научен он-лайн списание  
**НАУКА И ТЕХНОЛОГИИ**  
Издава "Съюз на учениците - Стара Загора"

International scientific on-line journal  
**"SCIENCE & TECHNOLOGIES"**  
Publisher "Union of Scientists - Stara Zagora"



ISSN 1314-811X  
P-ISSN 1314-811X

**Introduction:** Some studies reveal that self-rated health (SRH) and perceived illness vulnerability have a mediating role for moderating health behavior and for frequency of completed medical visits. At the same time people with positive SRH possess higher control over their health and evaluate illness vulnerability lower, although the mechanisms of these relations are not clear.

**Aim:** To study statistical relations between the self-rated health, perceived illness vulnerability, perceived controllability over health and health behavior of patients over 44 years of age.

**Materials and methods:** Cross-sectional study was carried-out from February to march 2014. Two hundred and twelve patients over 44 years of age were included in the study. The patients filled in a self-administrated questionnaire. Five-point scale was used for self-rated health measure (1 – excellent health; 5 – poor health). The perceived illness vulnerability to cardiovascular and malignant diseases was assessed. The individuals compared own vulnerability with those of their peers. The perceived controllability over health was measured on a scale of 0 to 10. Information about some health behavior characteristics (the yearly checkups, frequency of fresh fruit and vegetable consumption, physical activity, smoking, alcohol consumption) was sought. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied.

**Results and discussion:** The majority of patients evaluated their health as fair (42,5%) and good (27,8%). The positive health reduced with age ( $p=0.001$ ). The proportion of persons who perceived their vulnerability as high increased with SRH deterioration ( $p>0,05$ ). The perceived controllability over health did not affect health behavior.

**Conclusion:** Health behavior changes of persons require a longitudinal survey, which includes all variables influential of the model (self-rated health, perceived illness vulnerability, health problem severity, perceived benefits and barriers to performing health positive activities and participation of the individuals in preventive programs).

**Key words:** self-rated health, perceived illness vulnerability, perceived controllability over health, health behavior

**014: Medicine.**

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**THE INTERACTION BETWEEN PATIENTS AND  
HEALTH CARE PROFESSIONALS**

*Simeonova, J., Velkova, A., Tsvetkova, S., Kostadinova, P., Kamburova, M., Georgieva, S.*

**SELF-RATED HEALTH, HEALTH BEHAVIOR, PERCEIVED  
ILLNESS VULNERABILITY, PERCEIVED CONTROLLABILITY OVER  
HEALTH AMONG AMBULATORY AND HOSPITALIZED PATIENTS  
OVER 44 YEARS OF AGE**

*Simeonova, J., Velkova, A., Tsvetkova, S., Kostadinova, P., Kamburova, M., Georgieva, S.*

**THE EFFECT OF STATIN THERAPY ON THE  
LIPID PROFILE AND THE RISK OF CARDIOVASCULAR  
DISEASE**

*Georgieva, K., Kostadinova, P., Velkova, A., Tsvetkova, S., Simeonova, J., Kamburova, M.*

27. Стоилова И., **П. Стефанова**. Вредни фактори на производството и увреждания на здравето при работещи в шивашката промишленост. Science&Technology, 1(IV), 2014, 401-404.

The theme of work-related stress is up to date and relevant to the holistic health of working people. In a dynamic and complex labor production, what is the production of cement, sought by free opinion poll structured working in Titan AD-Golden Panega satisfaction on the activity, the conditions and the type of labor, presence/absence of stress and chronic diseases and others. Of the total number of questions (26) are addressed in those that are relevant to the stated theme and some demographic data of 70 persons engaged in production. The data are factors-stressors or less would affect negatively health.

**Key Words:** holistic health of working people, production of cement, factors-stressors

28. Цветкова С., И. Стоилова, **П. Стефанова**. Проучване на фактори-стресори от работната среда и трудовия процес при производството на цимент. Science&Technology, 1(IV), 2014, 425 -430.

The clothing industry is traditionally well developed in Bulgaria. The work process involves operations q associated with the use of various raw materials, machines and tools. Harmful factors of manufacture are forced posture, monotonous work, noise, vibration and poisons.

Examining is subject to 106 persons. There have been diseases of the nervous system, musculoskeletal system, acute respiratory diseases, kidney and gynecological diseases and others.

Conclusions and recommendations are made for the prevention of occupational diseases.

**Keywords:** clothing industry, harmful factors, occupational diseases.



29. Simeonova V., B. Stamenov, V. Tomova, **P. Stefanova**. Clinical description of patients with recidivous venous brain infarctions and with factor ii (protrombin) - mutation G/A 20210 and with erytema nodozum. Science&Technology, 1(IV), 2014, 441 -443.

The aim of the current investigation was to describe the clinical history of two patients; treated at the Clinic of Neurology of UMHAT „D-r G. Sranski” – Pleven. They were admitted from the emergency department with recidivous venous brain infarctions.

**Material and methods:** The patients were admitted from the emergency department of the University Hospital – Pleven in the Clinic „ Neurology and Neurosurgery”. They were at severe condition, at epileptic status. Complete anamnestic data were taken. Double brain MRT and CT scan, ECG, Ultra sound of the abdomen and heart, X-ray of the lungs, EEG, biochemical, microbiological, immunological, serologic and genetic tests, lumbar puncture were applied. The patients were discussed with neurologist, neurosurgeon, cardiologist, ophthalmologist, anesthesiologist and infectionist. Coagulation tests were complied. The fibrinolytic and antiepileptic treatment was continued successfully. The patients were discharged in good condition without motor deficit and epileptic symptoms.

**Results:** The analysis of the received results and data of the laboratory investigations revealed challenges and alternatives concerning the clinical interpretations, diagnosis and differential diagnosis.

**Conclusions:** It's necessary to be provided more investigations in the Genetic and Molecular pathology laboratories for the correct final diagnosis.

**Key words:** *venous brain infarctions, risk of thrombophylia, factor II (Protrombin) – mutation G/A 20210, erytema nodozum, differential diagnosis.*

30. Simeonova, J., A. Velkova, S. Tsvetkova, **P. Kostadinova**, P. Hristova, M. Kamburova. Correlation between self-rated health and socioeconomic and psychological characteristics of ambulatory and hospitalized patients over 44 years of age. *J Biomed Clin* 2014,7(1),2014, 42-46.

**Case Report**

**CORRELATION BETWEEN SELF-RATED HEALTH AND SOCIOECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF AMBULATORY AND HOSPITALIZED PATIENTS OVER 44 YEARS OF AGE**

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**Summary**

The aim of the study was to identify socioeconomic and psychological determinants of self-rated health among ambulatory and hospitalized patients. A cross-sectional study was carried-out in 2014. Two hundred and twelve patients over 44 years of age filled in a self-administrated questionnaire. Self-rated health (SRH) was measured by 5-point range scale. The level of well-being (WB), sources of social support, personal financial capacity, social status, etc. were studied as well. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied. Over 70% of patients evaluated their health as fair and good. The persons with higher WB had higher SRH, that correlation was moderate ( $r=0.452$ ;  $p=0.001$ ). In regard to the social status the differences were significant - the unemployed, old age retirees or ill health retirees evaluated their health lower ( $p<0.05$ ). A proportion of patients indicated two or more sources of emotional and instrumental support, but increased number of support sources had no effect on SRH ( $p>0.05$ ). Identification of socioeconomic and psychological factors of self-rated health allows clarifying better their effect mechanisms and planning appropriate health services.

**Key words:** self-rated health, well-being, social support, social status, financial capacity

31. Simeonova J., A. Velkova, P. **Kostadinova**. Social characteristics and their effect on self-rated health in persons over 18 years. Scripta Scientifica Salutis Publicae, vol. 1, 2015, online first Copyright © Medical University of Varna, 26-31.

ORIGINAL ARTICLES

## SOCIAL CHARACTERISTICS AND THEIR EFFECT ON SELF-RATED HEALTH IN PERSONS OVER 18 YEARS OF AGE

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### ABSTRACT

**Introduction:** Social stratification of people results from differences in education occupation and income, and it exposes the people from lower social classes to different health risks and deprives them of ability to control their health. The aim of this study was to examine the effect of individual social status on self-rated health (SRH). Two hypotheses were tested. First, if some social factors (education, financial resources and monthly income per family member) have direct effects on SRH. Second, if these social factors influence the relationships of psychological stress and some behavioral factors to SRH.

**MATERIAL AND METHODS:** A cross-sectional study was carried out among 90 persons over 18 years of age in 2013. Self-rated health, psychological stress, social status (education, income, property ownership, and qualification) and some behavioral characteristics (body-mass index and fresh vegetable intake) were studied by a semi-structured interview. Data were processed by SPSS.v.19. Descriptive statistics, ANOVA and Kruskal-Wallis tests were used. Finally, Spearman rho test was applied to clarify the strength and direction of association between variables.

**RESULTS:** Most of the interviewees (47.8%) assessed their health as good. Stratification by some basic social characteristics showed that 5.6% of them had elementary education, 12.4% were unemployed. One third of the group under study existed on monthly income less than 310 BGN, 30% defined their financial resources as insufficient, 16.6% lived in rented accommodation. Every third person reported a disparity between the current job position and the owned professional competences. Education and financial resources were the variables significantly associated with self-rated health – those with elementary education and those who had insufficient financial resources perceived their health negatively more often ( $p=0.001$ ). Symmetrical distribution of poor SRH among the groups with lower incomes explained partly the lack of significant differences between groups ( $p=0.469$ ).

**CONCLUSION:** Education and financial resources were significantly associated with self-rated health among all studied social factors.

**Keywords:** self-rated health, social status, psychological stress

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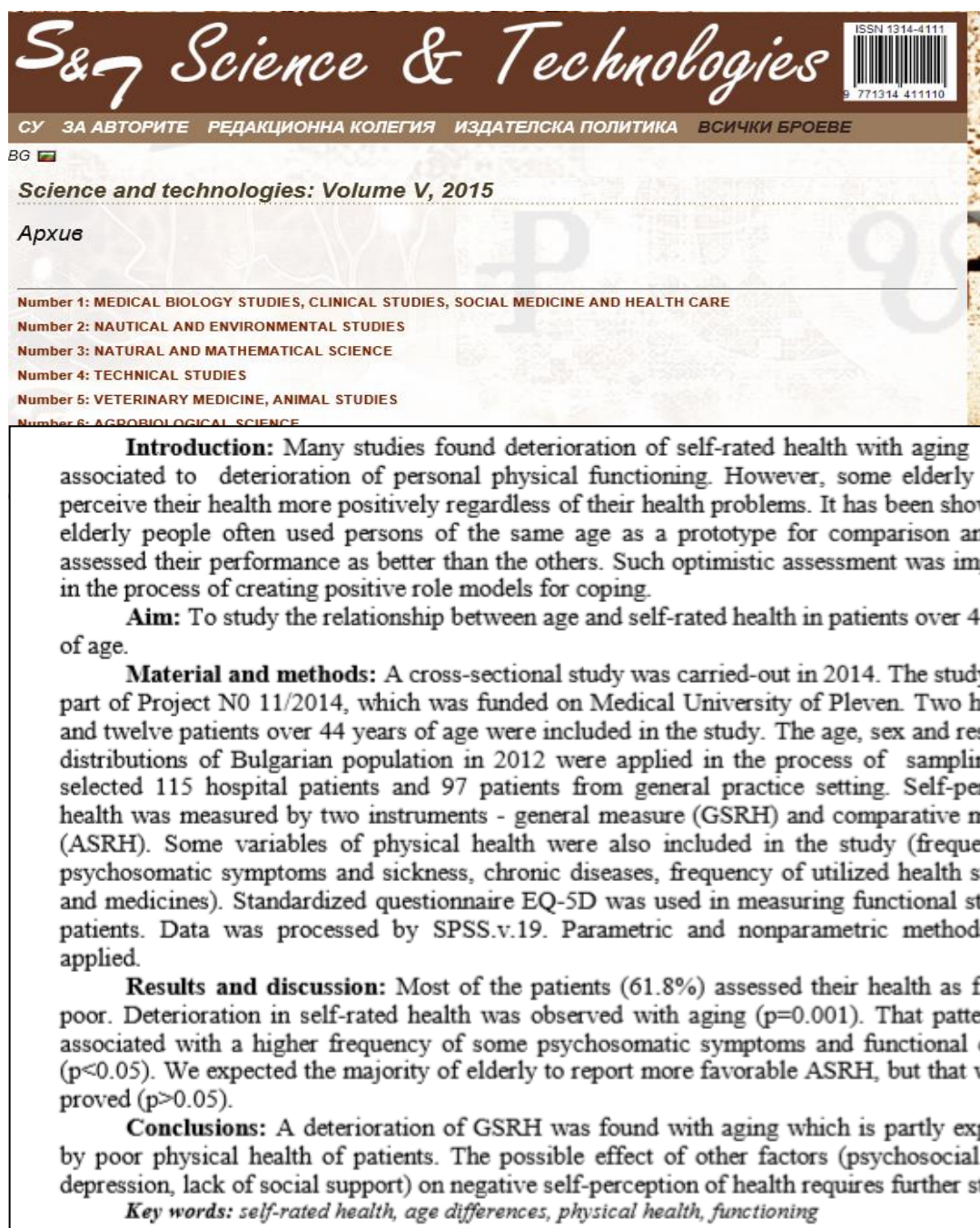
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Received: May 2, 2015

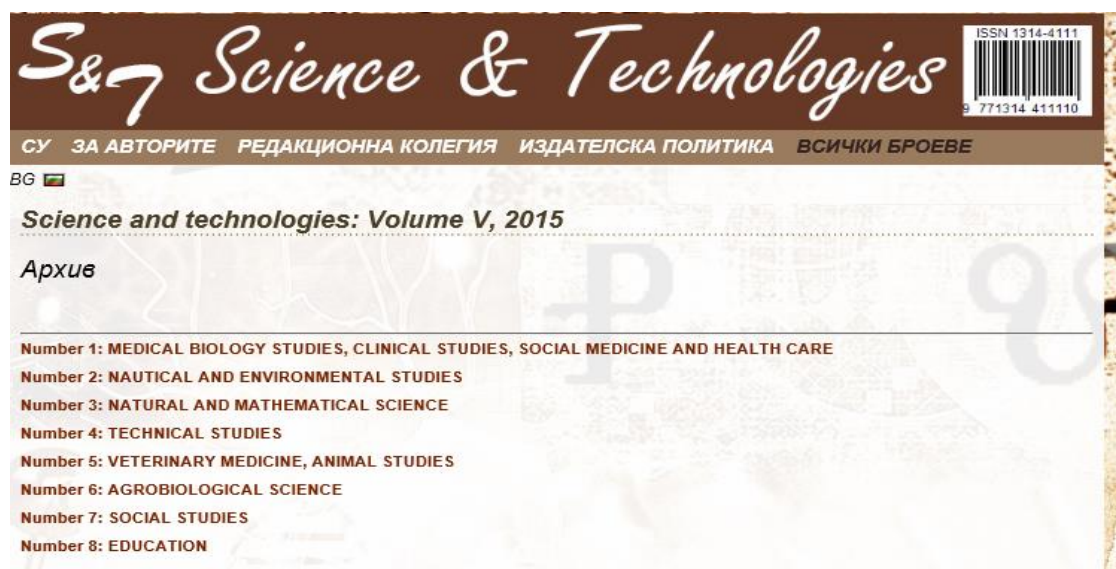
Accepted: May 23, 2015

32. Simeonova J., A. Velkova, **P. Kostadinova**. Age differences in self-rated health among patients over 45 years of age. *Science&Technology*, 1(V), 2015: 323 – 327.





33. Stoilova I., Y. Velcheva, **P. Kostadinova**, A. Valkov. Clinical aspects of strain as a harmful factor of production in the modern working conditions. Science&Technology, 1(V), 2015, 150 – 154.



The modern working conditions create factors of production, which under certain circumstances and sufficient exposure have a detrimental effect on the health and work capacity of workers.

The purpose of the research is clarifying the role of the strain in damage to the musculoskeletal system and the peripheral nervous system of actively working persons from different branches.

Object of the research are 70 patients hospitalised in Department of Occupational diseases, University Hospital - Pleven during the period 2013 - 2014.

In the research statistical methods and clinical methods of diagnostics are used.

Conclusions have been made and suggestions given for refining diagnostics and prevention of damage to health, caused by strain.

**Key words:** strain, occupational diseases

34. Stoilova I., S. Tzvetkova, **P. Stefanova**. Study of working conditions as a factor in stress in sewing workers. *J of IMAB*. 2015; 21(4): 1008-1011, (**JIF 0.5 – 2013**/, SJIF 5.548/ 2014).<http://dx.doi.org/10.5272/jimab.2015214.1008>

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2013 - **0,5**  
**InfoBase Index:**  
2014 - **2,16**

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## **Journal of IMAB - Annual Proceeding (Scientific Papers)**

Publisher: Peytchinski, Gospodin Iliev

ISSN: **1312 773X** (Online)

Issue: **2015, vol. 21, issue 4**

Subject Area: **Medicine**

Pages: 1008-1011

DOI: 10.5272/jimab.2015214.1008

Published online: 23 December 2015

J of IMAB 2015 Oct-Dec;21(4):1008-1011

### **STUDY OF WORK CONDITIONS AS A FACTOR IN STRESS IN SEWING INDUSTRY WORKERS.**

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2) Section "Pedagogy and Psychology", Faculty of Public Health, Medical University Pleven,

3) Faculty of Public Health, Medical University Pleven, Bulgaria.

#### **ABSTRACT:**

Sewing production is traditionally well developed in Bulgaria. With the development of production and technical progress, new health problems for workers appear. The aim of this study was to clarify the role of work conditions as a factor in the occurrence of stress in sewing industry workers. Subject of the study are 70 persons, employed in small and medium enterprises. Conclusions are made and recommendations given for improvement of the work conditions and psycho-climate.

**Key words:** sewing production, stress, harmful industrial factors,



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Stoilova I, Tzvetkova S, Stefanova P. STUDY OF WORK CONDITIONS AS A FACTOR IN STRESS IN SEWING INDUSTRY WORKERS. *J of IMAB*. 2015 Oct-Dec;21(4):1008-1011.

doi: <http://dx.doi.org/10.5272/jimab.2015214.1008>

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35. Atanasova G., P. Kostadinova, S. Kostadinov. Mean arterial pressure new and perspective indicator for metabolic syndrome. Science&Technology, 1(VI), 2016, 223-233.



**Purpose** Objectives of this study were to evaluate opportunities of using of mean arterial pressure (MAP) as a component of the metabolic syndrome (MS) instead systolic and diastolic blood pressures (SBP and DBP) and to create a model, using logistic regression.

**Methods** A total of 104 persons without any apparent disease were selected. Among these people MS was found in 35, according to NCEP-ATP III definition. One way ANOVA test, multiple comparison tests of means and multiple logistic regression analyses were used. The MAP was obtained by the formula  $MAP = SBP/3 + 2 \cdot DBP/3$ .

**Results** The mean values and standard deviations of the clinical characteristics of the investigated individuals were obtained (Table 1). There were clear differences between mean values of SBP, DBP and MAP for people with and without metabolic syndrome. The average value of mean arterial pressure for all persons was 95.17 [mm Hg] and the standard deviation was 10.65 [mm Hg].

**Conclusions** The results indicated strong relation between value of MAP and MS. The proposed model showed a reliable determination of MS, using only one biochemical marker. Reducing the number of used biochemical marker could improve the cost efficiency in the diagnostication of MS. MAP showed itself as a promising indicator, which after some broader studies could replace SBP and DBP in the MS definition.

36. Stoilova I., A. Valkov, **P. Kostadinova**. Raynaud's phenomenon in work-related vertebral radiculopathy. Science&Technology, 1(VI), 2016, 217-222.



3G 

**Science and technologies: Volume VI, 2016**

**Number 1: MEDICAL BIOLOGY STUDIES, CLINICAL STUDIES, SOCIAL MEDICINE AND HEALTH CARE**

***Abstract***

Damage to the peripheral nervous system is developed as a result of chronic stress on the structures of the spinal cord. Typical clinical manifestations of occurring disorders are digital ischemic hands crises on type of Raynaud's phenomenon.

The subject of the study included 38 persons, treated in the Department of Occupational Diseases, University Hospital – Pleven. The patients were selected with a view to pursuing a related strain of upper limbs.

There are used clinical, laboratory and functional methods of diagnosis.

Conclusions are made and recommendations are given for timely diagnosis, adequate treatment and prevention of work-related vertebral radiculopathy.

***Key words:*** work-related vertebral radiculopathy, Raynaud's phenomenon.



37. Георгиева С., П. Стефанова, М. Камбурова. Анализ на разходите за здравнопромотивни и профилактични дейности на РЗОК – Плевен. сп. Социална медицина. (под печат)

**АНАЛИЗ НА РАЗХОДИТЕ ЗА ЗДРАВНОПРОМОТИВНИ И ПРОФИЛАКТИЧНИ ДЕЙНОСТИ НА РЗОК – ПЛЕВЕН**

Георгиева С., П. Стефанова, М. Камбурова

*Резюме:* Националната здравна стратегия и планът за нейното реализиране подчертават, че ключ към подобряване на общественото здраве в България е промоция на здравето и профилактика на болестите и активизиране на дейностите по едновременната политика. Целта на настоящата разработка е да анализира динамиката на разходите по политика „Промоция, профилактика и контрол на общественото здраве“ в област Плевен за периода 2010 - 2017 година. Проведено е документално проучване и анализ на годишните отчети на Районна здравноосигурителна каса (РЗОК) – Плевен за обхванатия период. Област Плевен има най-висока в страната задоволеност с лечебни заведения и персонал в първичната здравна помощ (ПЗП). Въпреки това са отчетени по-ниски от средните за страната дейности по профилактични програми. Разходите на РЗОК - Плевен за ПЗП през изучавания период нарастват и се променя структурата им по видове дейности. Делът за капитационни плащания е намалял от 62% на 42,9%, този за диспансерно наблюдение е нараснал от 12,7% на 26,7%. Увеличили са се плащанията за профилактични прегледи на лица над 18 г., но леко е намалял делът на средствата по програма „Детско здравеопазване“. Поемщаването на паричните потоци за превантивни дейности в голяма част от случаите е свързано с увеличаване на единичната цена на прегледите и консумативите, а не на броя на извършените дейности.

*Summary:* The National Health Strategy and its implementation plan underline that the key to public health improvement in Bulgaria is the health promotion and disease prevention. The aim of the present study is to analyze the dynamics of expenditures on the policy "Promotion, prevention and control of public health" in Plevan region for the period 2010 - 2017. A documents review and analysis of the annual reports of the Regional Health Insurance Fund (RHIF) - Plevan was carried out. Plevan District has the highest coverage in the country with medical institutions and staff in primary health care (PHC). Nevertheless, lower than average for the country preventive activities were reported. The expenses of RHIF - Plevan for PHC during the observed period have increased. The structure of expenses by types of activities has changed. The share of capitation has decreased from 62% to 42.9%, dispensary monitoring increased from 12.7% to 26.7%. Payments for regular checkups of insured persons over 18 have increased, but the share of funds for the Child Health Program has slightly decreased. The increase in cash flows for prevention in most cases is related to an increase in the unit price of examinations and an increase in the cost of consumables rather than the number of activities.

**Key words:** disease prevention, health promotion, Regional Health Insurance Fund - Plevan

38. Takuchev N., P. Kostadinova, G. Naydenova, I. Stoilova. Ground level and satellite monitoring of air pollution over Ruse, Bulgaria as a means of assessing both the number of people diseased as a result of the air pollution in the area and the cost of their hospital care. Българско списание за обществено здраве (под печат)

**Introduction.** In recent years, the population of a number of major cities in Bulgaria, particularly in Ruse, has often expressed a civil protest against the failure of the responsible authorities to deal with the problem of polluted urban air. The aim of the study is to clarify the extent to which the protests are justified in terms of morbidity in the Ruse district, whose inhabitants are mainly concentrated in the city of Ruse (nearly 70%), i.e. are exposed to polluted air with similar composition and concentration.

**Material and methods.** Data for the annual number of patients treated in the hospitals of Ruse district distributed in clinical pathways (the most accurate diagnoses possible) for the year interval 2006 - 2012 were collected from Bulgarian National Health Insurance Fund (NHIF), branch Ruse. The study included only clinical pathways with patients through all seven years – 125 out of 296 clinical pathways (2012). Data on meteorological parameters and concentrations of air pollutants in Ruse for the same year interval were received by the Executive Environmental Agency, Bulgaria. NASA's site also provided data on meteorological parameters and ground level air pollutants concentrations. The data were averaged over the year and were processed by statistical methods of correlation and regression analysis. The correlation method was used to detect a link between pollutants and clinical pathway morbidity, and the regression method was used to assess the impact of pollutants on the clinical pathways.

**Results and discussion.** Statistically significant positive correlations were found between the investigated air pollutants and the annual number of the Ruse patients in 73 of the 125 clinical pathways studied. The pollutant with the greatest impact on health, estimated by the number of patients treated in the hospital, was the methane in the ground level air of Ruse, often in combination with benzene and fine particulate matter.

Average 31025 patients per year were treated in 125 clinical pathways involved in the study. The assessment is that 4719 of them, i.e. 15%, have been affected by air pollutants over Ruse. On average, over the years of the survey, RHIF, branch Ruse has paid for 47695 patients per year for hospital treatment. Assuming that the relative share (15%) of the patients affected by the air pollution over Rouse is preserved also for the clinical pathways not included in the study, there were 7255 patients (yearly averaged) who are treated in the hospital due to the air pollution in the Ruse.

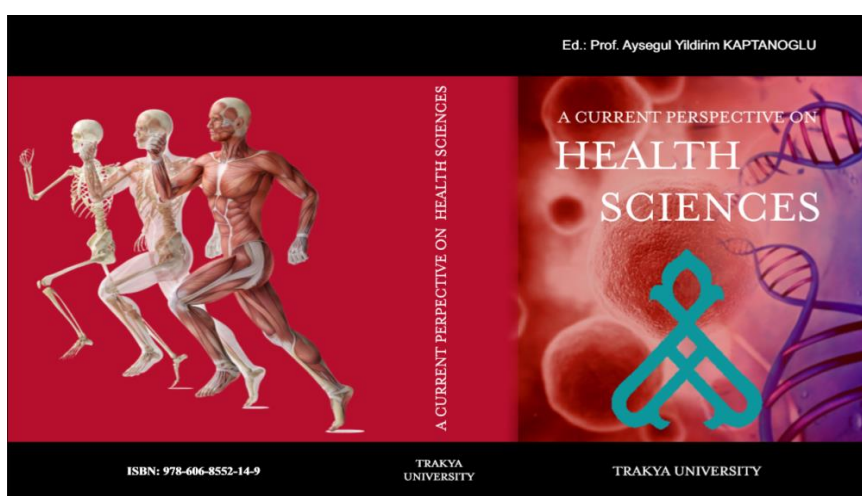
The yearly averaged cost for the treatment of the patients on the 125 clinical pathways was calculated at the 2007 clinical pathways prices for the study interval: 15681358 BGN, of which 2688937 BGN, 17%, were the costs of treating the patients as a result of air pollution over Ruse. The assessment cost for one patient on a clinical pathway due to air pollution over Ruse, is 570 BGN. In particular, in 2007 RHIF Ruse paid for treatment in the district hospitals of 45475 patients on all clinical pathways. If 15% (6821 patients) of them have been hospitalized as a consequence of the pollution, RHIF Ruse has paid to the hospitals in the area due to the pollution 3886822 BGN for 2007.

**Conclusions.** The morbidity of a number of diseases in the Rouse region is influenced by air pollution over the city. The study showed that combined ground-based and space-based air pollution monitoring is a reliable source of pollution information. Efforts have been made to be uncovered the connection of the air pollutants over Ruse with the hospital morbidity in the area. On this basis, a quantitative estimate of the number of patients due to air pollution as well as of the relative share of public expenditure on hospital care due to air pollution was made.

**ПУБЛИКАЦИИ (ПЪЛНОТЕКСТОВИ) В СБОРНИЦИ ОТ НАУЧНИ  
ФОРУМИ В БЪЛГАРИЯ И ЧУЖБИНА :**

***ПУБЛИКАЦИИ (ПЪЛНОТЕКСТОВИ) В СБОРНИЦИ ОТ НАУЧНИ ФОРУМИ В  
ЧУЖБИНА :***

39. Kambourova, M., P. Christova, A. Velkova, S. Georgieva, **P.Stefanova**, J. Simeonova, I. Hristova. Health status of premature infants in early childhood. A current perspective on health sciences, Rotipo, Romania, 2014, 171-180.



**Aim:** The aim of the study was to survey the health status of premature infants born in 2007 at the University Hospital – Pleven between birth and 3 years of age.

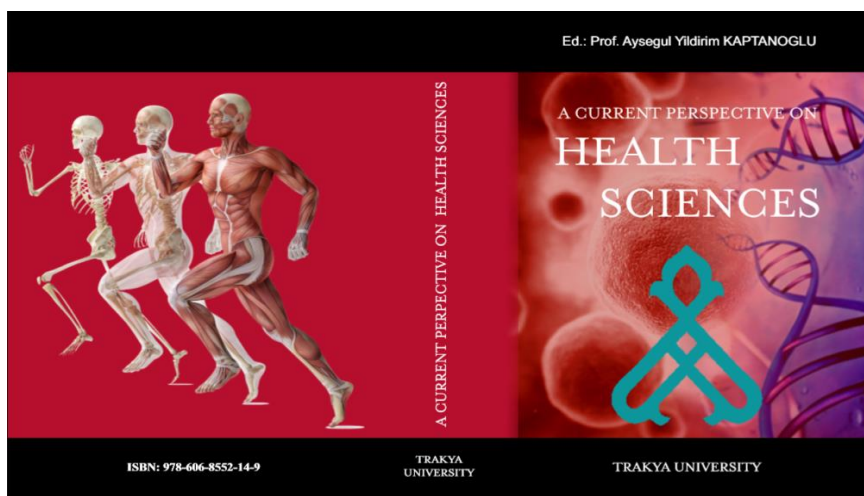
**Methods:** The health status of the children from birth to 3 years of age was followed up. The study was comprehensive for premature children and representative for full-term infants born in 2007. The significance of the results, findings and conclusions was determined at  $p < 0.05$ .

**Results:** Respiratory diseases were found to be the most common cause of morbidity in infancy. The preterm children suffered more than 5 times a year from respiratory diseases, as compared with the term infants, and the risk was four times higher - RR 4.10 95% CI(1.89 - 8.85). The study found over five times higher risk for eye problems in premature children as compared to term infants - RR 5.42 95% CI (1.48 – 19.94) but did not establish a statistically significant difference between preterm and term infants regarding hearing problems.

**Conclusion:** Our results confirmed the research hypothesis that prematurely born children living in urban areas are a risk group with high morbidity up to three years of age.

**Keywords:** *premature, infant, health status, risk*

40. Georgieva, S., A. Velkova, M. Kamburova, P. Hristova, **P. Stefanova**, J. Simeonova. Needs of health promotion activities at school for students in the region of Pleven. A current perspective on health sciences, Rotipo, Romania, 2014, 161-170.



**Aim:** The aim of this paper was to analyze the need of school health promotion activities as determined by students' behavior and satisfaction with school environment as a whole.

**Materials and methods:** A comprehensive medico-social study on health promotion at school was conducted. Data were collected by a self-administered questionnaire among 600 students, aged 14-19 years, from a representative sample of schools in the region of Pleven.

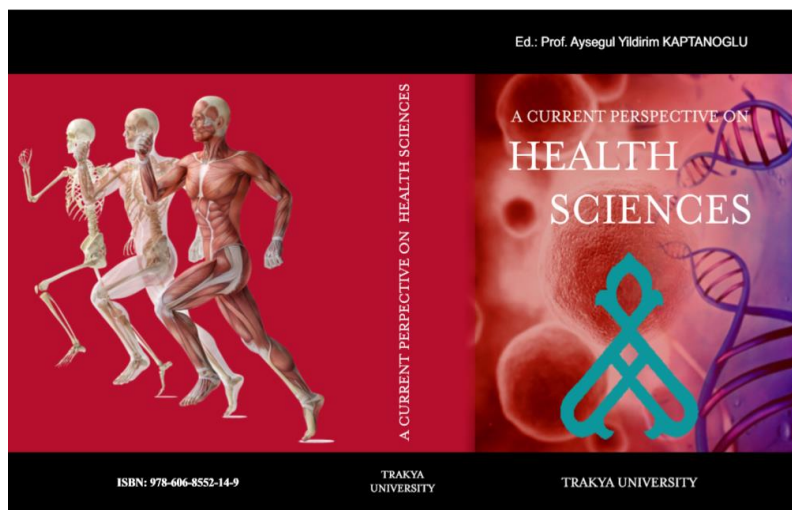
**Results:** The study found that behavior risk factors were widely distributed among students. The most common factors were cigarette smoking (48.2%), physical inactivity (36.6%) and unhealthy diet with excessive consumption of sugar and paste products (21%). Over 80% of health education at school was carried out in traditional and unattractive ways Bulgaria or did not correspond to the information needs of students. Three-quarters of the students reported medium to high level of stress at school because of poor organization of the syllabus (46.7%), information overload (36.9%) and conflict situations with teachers and classmates (27%). About one third of the students were bored at school and only 7% felt completely satisfied.

**Conclusion:** There is a necessity for school-based programs against unhealthy behavior and more attention to the emotional and social well being at school.

**Key words:** *school health promotion, health education, risk factors, cigarette smoking*



41. Simeonova V., Stamenov B., Lisaev P., Valkova M., **Stefanova P.** Unstable injuries of the cervical spine after manual kinesitherapy (case report). A Current Perspective On Health Sciences, Rotipo, Romania, 2014, 253-258.



#### ABSTRACT

**Introduction:** The scientific medical investigations concerning the unstable injuries of the cervical spine reveal some severe complications, caused by manual kinesitherapy treatment. The aim of this study was to research and to follow up the history of present illness of 58-years-old male patient. The case history describes the typical neurological clinical symptoms of compression of the myelon at the level of the cervical spine, the CT and MRI dynamic investigations, the laboratory and biochemical constellations, compatible with unstable injuries.

**Materials & Methods:** The patient was admitted from the emergency department in Clinic of Neurosurgery and after 3 days he was transferred in the intensive care department. He was with upper motor neuron lesion – a severe quadri paresis, conduction sensory loss, bowel and bladder dysfunctions. The patient was examined by neurologist, neurosurgeon and internist, surgeon clinical and neurological checking. Biochemistry and microbiology tests, CT of the brain and MRI of the cervical spine and of the brain, re animation procedures and treatment by anesthesiologist, neurologist, neurosurgeon and infectionist were conducted. Also autopsy study was provided.

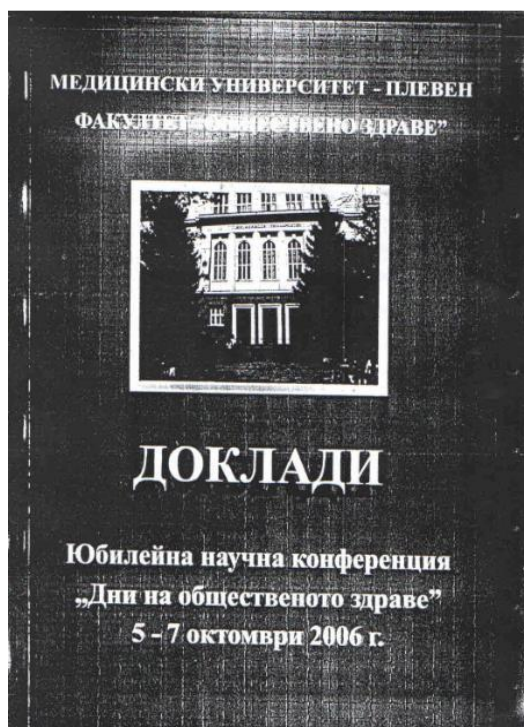
**Results:** The analysis of the received results revealed malignant prognosis, if the treatment doesn't start to admit of no delay and without neuro imagining tests.

**Conlusions:** Doctor's management is obligatory. For this patient manual kinesitherapy in the acute stage of the disease developed to severe unstable injuries of the cervical spine and CNS dysfunctions with lethal exit. The frequent movements leading to vertebral fractures are abnormal extension or flexion, axial compression on the head, violent rotation, etc.

**Key words:** cervical spine, central nervous system's symptoms, first aid, complications, combined injuries, unstable injuries, differential diagnose, traumatic myelopathy,

**ПУБЛИКАЦИИ (ПЪЛНОТЕКСТОВИ) В СБОРНИЦИ ОТ НАУЧНИ ФОРУМИ В  
БЪЛГАРИЯ НЕСВЪРЗАНИ С ДИСЕРТАЦИОННИЯ ТРУД:**

42. Костадинова П., С. Костадинов. *Контролната дейност на РЗОК - Плевен за периода 2003-2005 г. В: Сборник доклади от Юбилеен научен форум „Дни на общественото здраве“, под ред. на Г. Грънчарова, 5-7 октомври 2006, Плевен, с. 260-264;*



**КОНТРОЛНАТА ДЕЙНОСТ НА РЗОК – ПЛЕВЕН ЗА 2003 – 2005**

*П. Костадинова, С. Костадинов*

**ВЪВЕДЕНИЕ**

Неизменно условие за осигуряване и повишаване на ефективността на дейностите на лечебните заведения при медицинското обслужване на населението, за целесъобразно разходване на средствата, е контролната дейност на РЗОК. Същата е залегнала нормативно в Закона за здравното осигуряване и действащите за разглежданият период Национални рамкови договори /НРД 2003 и НРД 2005/.

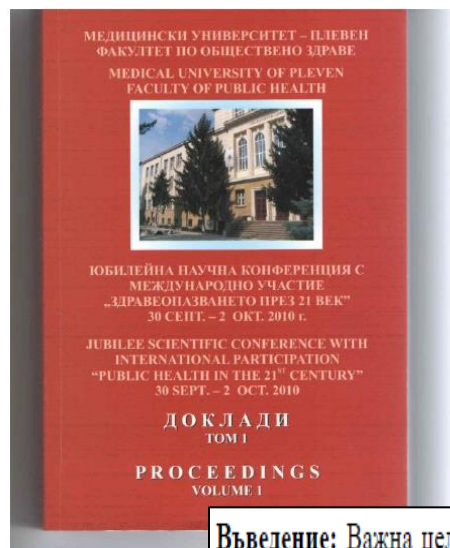
РЗОК, чрез своите подразделения – Районните здравноосигурителни /РЗОК/, ежегодно след подписване на НРД, сключва индивидуални договори с изпълнители на извънболнична /първична и специализирана/ и болнична медицинска и стоматологична помощ, както и с аптеки отговарящи на условията и действащото в страната законодателство.

За съблюдаване спазването на клаузите, вписани в ИД от страна на агентите, длъжностни лица на РЗОК /лекари контролатори и финансови инспектори/ се осъществяват предварителен и последващ контрол.

Обект на предварителния контрол е първичната отчетна медицинска и финансов документация, представяна ежесечно в РЗОК, а на последващия контрол - изпълнението на задълженията вписани в НРД и ИД, за които РЗОК за

**Целта на настоящата разработка** е да представи в систематизиран вид данните за статистиките на нарушенията и наложените санкции с оценка на ефективността на

43. **Стефанова П., С. Деянов, С. Георгиева.** Анализ на разходите за болнична помощ на РЗОК- Плевен за периода 2007 – 2009 година. В: *Сборник доклади от Юбилейна научна конференция с международно участие „Здравеопазването през 21 век – реалности и перспективи”, (2),* Под ред. на Г. Грънчарова, 30 септември – 2 октомври 2010, Плевен, 2010, 420-423.



**Въведение:** Важна цел на здравноосигурителната система е гарантиране на общодостъпни и качествени здравни услуги при ефективно изразходване на наличните ресурси. Целта на настоящото проучване е да проследи динамиката на болничните разходи, реализирани от РЗОК – Плевен за периода 2007-2009 г. и да анализира причините за наблюдаваните промени.

**Материал и методи:** Анализът се базира на годишните отчети за изпълнение на бюджета и за дейността на РЗОК – Плевен и на НЗОК за разглеждания период, както и на информация от официалната интернет страница на НЗОК, относно плащанията на лечебните заведения за болнична помощ.

**Резултати и обсъждане:** Общите разходи за здравноосигурителни плащания на РЗОК – Плевен са нараснали от 47 648 816 лв. за 2007 г. на 70 323 889 лв. за 2009 г., най-вече за сметка на увеличените разходи за болнична помощ и лекарства. Основни причини за ръста на разходите са разкриването на нови лечебни заведения, предлагащи високотехнологични и скъпо струващи болнични дейности и увеличение на цените на клиничните пътеки от 1 октомври 2008 г. Пациентите от други области са се увеличили с 15,69%, но стойността на лечението им е нараснала с 40,6%, което се дължи на факта, че те се лекуват основно по скъпо струващи пътеки в специализираните лечебни заведения на територията на областта.

**Заключение:** Необходими са мерки за ограничаване на разходите на РЗОК чрез ограничаване на непрекъснато растящото предлагане на болнична помощ, строг контрол върху стандартите за оказване на медицинските дейности, алгоритъма и индикациите за хоспитализация и дехоспитализация по клинични пътеки.

**Ключови думи:** разходи за болнична помощ, клинични пътеки

44. **Стефанова П.,** А. Велкова, С. Георгиева, С. Деянов. Обхват с профилактични прегледи на ЗЗОЛ над 18 г. от област Плевен за периода 2006 – 2011 г. – проблеми и тенденции. В: *Годишник на Съюз на учените – Благоевград „Науката, образованието и изкуството през 21 век“*, (6), част 2, под ред. на Н. Огненска, 30 септември – 2 октомври 2012, Благоевград, 219-226.



**Aim:** National Framework Contract 2006 guaranties to the obligatory health insured citizens over 18 annual preventive examinations, carried out by general practitioners (GPs). The aim of this paper is to investigate the range of preventive activities in the region of Pleven and to analyze the influence of some factors on observed level.

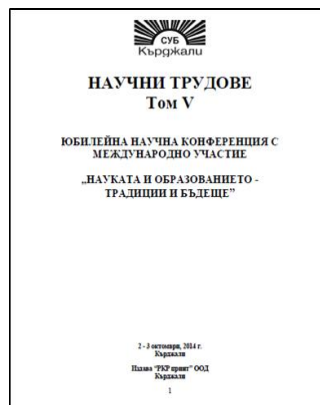
**Methods:** Documental survey and questionnaire among GPs were carried out during the period July – August 2007.


**Results:** The results show that during the year 2006 only 37,1% from eligible population passed preventive examination. The main factors influencing on low levels were lack of motivation, insufficient information about advantages of prevention and inefficient control from Health Insurance Fund.

**Key words:** *prevention, general practitioner, obligatory health insured citizens*



45. **Костадинова П.,** А. Велкова, П. Христова, Й. Симеонова, М. Камбурова, С. Георгиева, С. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов. Финансова обезпеченост на програмата на НЗОК за профилактика на здравноосигурените лица над 18 г. изпълнявана от общопрактикуващите лекари. **В: Сборник от Юбилейна Научна Конференция с международно участие „Науката и образованието – традиции и бъдеще” – СУБ – Кърджали, 2014, 296-300.**





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**ФИНАНSOBA ОБЕЗПЕЧЕНОСТ НА ПРОГРАМАТА НА НЗОК ЗА ПРОФИЛАКТИКА  
НА ЗДРАВНООСИГУРЕНИТЕ ЛИЦА НАД 18 Г. ИЗПЪЛНЯВАНА ОТ  
ОБЩОПРАКТИКУВАЩИТЕ ЛЕКАРИ**

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**FINANCIAL SECURITY PROGRAMS FOR THE PREVENTION OF NHIF INSURED  
OVER 18 YEARS PERFORMED BY GPs.**

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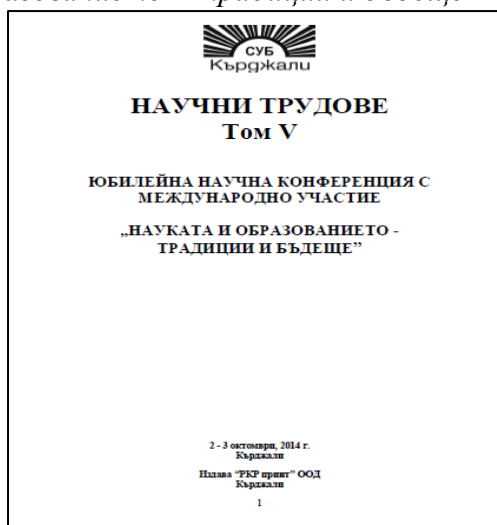
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**Summary:** One of the main activities of general practitioners (GPs) is the implementation of a program for prevention of compulsory insured persons over 18 years, funded by the NHIF. To run the program it is necessary resource provision. Despite the mandatory nature of the annual health check for adults annually in the budget of NHIF provides funds for less than half of eligible prevention – both in terms of means to pay for reviews of GPs and the limits granted and medical fields for consultation with specialists. There is a consistent trend of population coverage below 50%, which highlighted a number of reasons, one of the essential is insufficient and financial security.

**Keywords:** General Practitioners, insured persons, screening, program, financial security.

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46. Стоилова И., П. Стефанова, Й. Велчева. Терапевтични подходи при болести от пренапрежение на опорно-двигателния апарат и периферната нервна система. **В: Сборник от Юбилейна Научна Конференция с международно участие „Науката и образованието – традиции и бъдеще”** – СУБ – Кърджали, 2014, 366-371.



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 2-3 Oktober 2014, Kardzhali, Bulgaria.

# **ТЕРАПЕВТИЧНИ ПОДХОДИ ПРИ БОЛЕСТИ ОТ ПРЕНАПРЕЖЕНИЕ НА ОПОРНО-ДВИГАТЕЛНИЯ АПАРАТ И ПЕРИФЕРНАТА НЕРВНА СИСТЕМА**

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## **THERAPEUTIC APPROACHES TO DISEASES CAUSED BY EXCESSIVE STRAIN ON THE MUSCULOSKELETAL SYSTEM AND THE PERIPHERAL NERVOUS SYSTEM**

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### **Abstract**

The purpose of the examination is improving the diagnostics, treatment and prevention of occupational diseases caused by excessive strain on the musculoskeletal system and the peripheral nervous system during labour activities.

Object of the examination are 50 individuals, who are hospitalized in the Department of Occupational Diseases in University Hospital Plevan from 2012 to 2014. The professional risk is reduced to systematic pressuring of the musculoskeletal system and the peripheral nervous system during work activities.

In the examination there are used clinical, laboratorial, electrophysiological and X-Ray methods of diagnostics and inquiring methods.

**Key words:** occupational diseases, strain



47. **Костадинова П.,** А. Велкова, П. Христова, Й. Симеонова, М. Камбурова, С. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов, А. Атанасова. Изпълнение на програмата за профилактика на ЗЗОЛ над 18 години от ОПЛ и диспансерно наблюдение на пациенти с хронични заболявания. *В: Наука и младост. Сборник научни съобщения от конкурсна сесия 2015*, Под ред. на В. Сарафян и Б. Маринов, 2015, Пловдив, 102-105.

### **Въведение**

Основни дейности на Общопрактикуващите лекари (ОПЛ) по изпълнение на договорите със Здравната каса са профилактика и диспансерно наблюдение на задължително здравноосигурените лица (ЗЗОЛ) над 18 г.

Дейностите включени като задължителни при диспансерното наблюдение в голяма степен се

припокриват с тези от профилактичния преглед. В рамките на диспансерното наблюдение, ОПЛ извършват задължително общ клиничен статус, измерване на АН, ЕКГ и за повечето от заболяванията изследвания като кр. захар, холестерол и др. Същите се извършват и в рамките на годишния профилактичен преглед. В последните години нараства единичната цена, която здравната каса заплаща за дейности на ОПЛ. Въпреки незадоволителният обхват с профилактични прегледи на възрастните (ок. 50%) от подлежащите се отчита ръст на профилактични и диспансерни прегледи.

### **Цел**

Целта на настоящето проучване е да се установи необходимостта от провеждане на годишен профилактичен преглед в еднакъв обем за лица без и със хронични заболявания.

### **Материали и методи**

Използвани са официални данни от информационните масиви на НЗОК, годишните отчети на НЗОК и действащата нормативна уредба. Статистическата обработка на първичните данни е извършена със софтуерни пакети Microsoft Office Excel 2013 SPSS for Windows v.13.0.

### **Резултати**

За периода 2006 – 2012 г. с годишни профилактични прегледи в страната се обхващат от 35.8% от подлежащите ЗЗОЛ над 18 г. до 48.3% през 2012 г. Данните са за лицата включени в пациентска листа с непрекъснати здравноосигурителни права. В Плевенска област относителният дял на обхванатите с профилактичен преглед варира от 33 до 45% за проучвания период, като са взети в предвид всички ЗОЛ, включително и тези, които имат прекъснати здравноосигурителни права. На база пациентските листи на ОПЛ от Плевенския регион към 31.12.2013 г. бе проследено ретроспективно в каква степен пациентите са ходили на профилактичен преглед за периода 2006 – 2013 г. От ходилите редовно на профилактичен преглед над 70% са диспансеризирани, докато от ЗЗОЛ които нямат нито един отчетен профилактичен преглед едва 11% от мъжете и 15% от жените са диспансеризирани.

### **Изводи и заключение**

Високият обхват на диспансеризираните лица с годишен профилактичен преглед се обяснява с факта, че същите посещават активно ОПЛ по повод хроничните заболявания, за които са наблюдавани. Дублирането на дейности и изследвания в рамките на профилактичния и диспансерните прегледи води до необосновано разходване на ресурс. Необходимо е да се ревизират дейностите, включени в профилактиката и диспансерното наблюдение на възрастните.

## II. РЕЗЮМЕТА ОТ УЧАСТИЕ В НАУЧНИ ФОРУМИ

### 1. РЕЗЮМЕТА ОТ МЕЖДУНАРОДНИ НАУЧНИ ФОРУМИ СВЪРЗАНИ С ТЕМАТА НА НАУЧНАТА РАЗРАБОТКА:

1. **Kostadinova P**, S. Kostadinov, J. Simeonova, I. Stoilova. Carrying out the common preventive examinations of people over 18 in Bulgaria – status and trends. В: Евразийский союз ученых (ЕСУ). XXI Международная научно – практическая конференция „Актуальные проблемы в современной науке и пути их решения” 29-30.01.2016, Москва, 16. GIF: 0.279/2014; 0.388/2015.



### CARRYING OUT THE COMMON PREVENTIVE EXAMINATIONS OF PEOPLE OVER 18 IN BULGARIA - STATUS AND TRENDS

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#### ABSTRACT

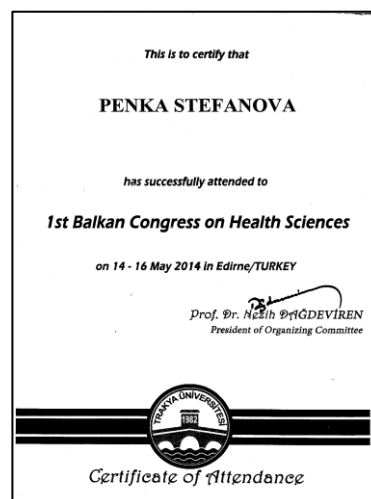
One of the main activities of general practitioners (GPs) in Bulgaria is the annual holding of a general checkup of people over 18 prophylactic examination includes a basic package of activities and research based on who identify as persons with diseases and patients who are at increased risk for developing certain major diseases. The aim of this study was to determine the scope of the population and the views of patients and GPs for conducting check-ups. They are used official data from the National Health Insurance Fund and has held direct individual survey with 229 GPs from three areas of Bulgaria and 515 insured persons over 18 years. It was found that despite the mandatory nature of these reviews had a relatively low range of the underlying population - approximately 50% of adults annually performs check-up. Record the underfunding of this activity. Main drawbacks are indicated in surveys of doctors, insufficient awareness and motivation, and lack of time. The majority of patients consider that these examinations are carried out formally. No resistance, monitoring and reporting on the effect of these examinations.

**Keywords:** GPs, check-up.



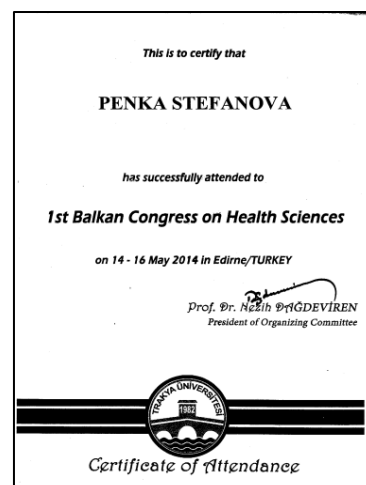
## **2. РЕЗЮМЕТА ОТ МЕЖДУНАРОДНИ НАУЧНИ ФОРУМИ НЕСВЪРЗАНИ С ТЕМАТА НА НАУЧНАТА РАЗРАБОТКА:**

2. Georgieva, S., A. Velkova, M. Kamburova, P. Hristova, **P. Stefanova**, J. Simeonova. Needs of health promotion activities at school for students in the region of Pleven. In: Abstracts book from 1st Balkan Congress on Health Sciences, 14 – 16 May 2014, Edirne, Turkey, 6.



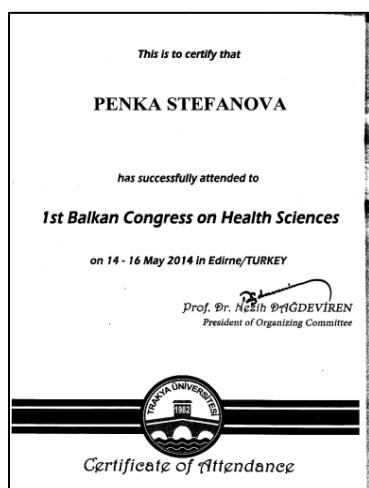
The Balkan Congress on Health Sciences Abstract Submitting Form	
Conference	1 <sup>st</sup> International Balkan Conference on Health Sciences, 14-16 May 2014, Edirne, Turkey
Title of Paper	<b>NEEDS OF HEALTH PROMOTION ACTIVITIES AT SCHOOL FOR STUDENTS IN THE REGION OF PLEVEN</b>
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Abstract	<p><b>Introduction</b> Health promotion at school is one of the most effective approach for Public Health improvement. It includes variety of activities contribute to physical, mental and social well-being of students and staff.</p> <p><b>Aim</b> The aim of this paper is to analyze needs of health promotion activities for students determined of their behavior and their satisfaction of whole school environment.</p> <p><b>Materials and Methods</b> A comprehensive medico-social study for Health promotion at school was conducted from September 2012 to May 2013. Data were collected by self-administered questionnaire among 600 students, 14-19 years of age, from representative sample of schools in the region of Pleven.</p> <p><b>Results and Discussion</b> The study found that behavior risk factors are widely distributed among students. The most often shown factors are tobacco smoking (48.2%), physical inactivity (36.6%) and unhealthy diet with excessive consumption of sugar and paste products (21%). Over 80% of health education at school is carried out by traditional and unattractive ways or don't correspond with information needs of students. They define themselves as a passive audience in this process. A three quarter of students report medium to high level of stress at school because of poor organization of the syllabus (46.7%), information congestion (36.9%) and conflict situation with teachers and class-mates (27%). About one third of students are bored at school and only 7% feel themselves completely satisfied.</p> <p><b>Conclusion</b> There is a necessity of school based programs against unhealthy behavior and heightened attention to the emotional and social well-being at school.</p>
Keywords	health promotion at school, health education, behavior risk factors, tobacco smoking

3. Kambourova M., P. Christova, A. Velkova, S. Georgieva, **P.Stefanova**, J. Simeonova, I. Hristova. Health status of premature infants in early childhood. In: Abstracts book from 1st Balkan Congress on Health Sciences, 14 – 16 May 2014, Edirne, Turkey, 7.



The Balkan Congress on Health Sciences Abstract Submission Form	
1 <sup>st</sup> International Balkan Conference on Health Sciences, 14-16 May 2014, Edirne, Turkey	
Conference	HEALTH STATUS OF PREMATURE INFANTS IN EARLY CHILDHOOD
Title of Paper	
Author(s) First and Family Name(s)	Ass. Prof. MD Maria Kambourova(1), Prof. Petrina Christova(1), Prof. Jurgenia Velkova(1), Ass. Prof. MD Inna Georgieva(1), Ass. Prof. Penka Stefanova(1), Ass. Prof. Inna Simeonova(1), Ass. Prof. Inna Hristova(1)
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Abstract	<p><b>Introduction</b> According to the World Health Organization children born weighing less than 2500 g are defined as children with low birth weight and children born before 37 weeks of gestation are defined as preterm born. They are at increased risk for various health problems and increased demand for health services in early childhood.</p> <p><b>Aim</b> The aim of the study is a survey of the health status of premature infants born in 2007 in the University Hospital – Plovdiv until 3 years of age.</p> <p><b>Materials and Methods</b> This is a cohort follow-up study of children's health status from birth to 3 years of age. The study is representative for premature children and representative for town infants born in 2007 in Plovdiv. The significance of the results, findings and conclusions is determined at <math>p &lt; 0.05</math>.</p> <p><b>Results and Discussion</b> Respiratory diseases are the most common cause of morbidity in infancy. The risk premature children suffer more than 3 times a year from respiratory diseases compared with term infants is four times higher - RR 4.19 95% CI ( 2 , 80 to 8.82 ). The study found even five times higher risk for affect the visual system in premature children compared to term infants - RR 5.62 95% CI (1.48 - 19.94), but does not establish a statistically significant difference between preterm and term infants regarding hearing problems.</p> <p><b>Conclusion</b> The results confirm our research hypothesis that premature born children living in urban areas are a risk group with high morbidity up to three years of age.</p>
Keywords	Prematurity, birth status, risk group

4. Simeonova V., B. Stamenov, P. Lisaev, M. Valkova, **P. Stefanova**. Unstable injuries of the cervical spine after manual kinesitherapy (case report). In: Abstracts book from 1st Balkan Congress on Health Sciences, 14 – 16 May 2014, Edirne, Turkey.



The scientific medical investigations concerning the unstable injuries of the cervical spine reveal some severe complications, caused by manual kinesitherapy treatment.

The aim of this study was to research and to follow up the history of present illness of 58-years-old male patient. The case history describes the typical neurological clinical symptoms of compression of the myelon at the level of the cervical spine, the CT and MRI dynamic investigations, the laboratory and biochemical constellations, compatible with unstable injuries.

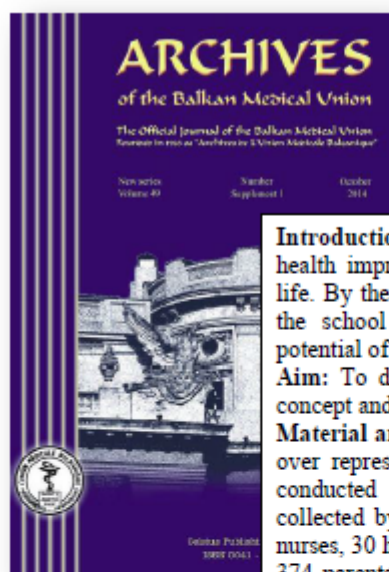
**Materials & Methods:** The patient was admitted from the emergency department in Clinic of Neurosurgery and after 3 days he was transferred in the intensive care department. He was with upper motor neuron lesion – a severe quadri paresis, conduction sensory loss, bowel and bladder dysfunctions. The patient was examined by neurologist, neurosurgeon and internist, surgeon clinical and neurological checking. Biochemistry and microbiology tests, CT of the brain and MRI of the cervical spine and of the brain, re animation procedures and treatment by anesthesiologist, neurologist, neurosurgeon and infectionist were conducted. Also autopsy study was provided.

**Results:** The analysis of the received results revealed malignant prognosis, if the treatment doesn't start to admit of no delay and without neuro imaging tests.

**Conclusions:** Doctor's management is obligatory. For this patient manual kinesitherapy in the acute stage of the disease developed to severe unstable injuries of the cervical spine and CNS dysfunctions with lethal exit. The frequent movements leading to vertebral fractures are abnormal extension or flexion, axial compression on the head, violent rotation, etc.

**Key words:** cervical spine, central nervous system's symptoms, first aid, complications, combined injuries, unstable injuries, differential diagnose, traumatic myelopathy, kinesitherapy, physiotherapy, prognosis.

5. Georgieva S., M. Kamburova, **P. Stefanova**, A.Velkova. Characteristics of school health promotion in Bulgaria. *In: Archives of the Balkan Medical Union*, (49), suppl.1, 2014, 71. **SJR= 0,100**



**Introduction:** Health promotion is a modern concept for public health improvement applied in different fields of community life. By the international network of Health promoting schools the school community acquires a main role to reach the potential of this concept.

**Aim:** To draw a parallel between the main principles of the concept and its actual fulfilment in Bulgarian school.

**Material and method:** A comprehensive medico-social survey over representative sample of schools in Pleven district was conducted from September 2012 to May 2013. Data were collected by self-administered questionnaire among 78 school nurses, 30 health promotion experts, 279 teachers, 519 students, 374 parents; interview with school principals and documental review. Data analysis and interpretation were consistent with the concept of Health Promoting School.

**Results:** The study found safety school environment with strict control over its physical components. There is a necessity of better opportunities for sports and nutrition services in about of two thirds of schools. Over 90% of school staff and about two thirds of students report high level of stress which require attention to the emotional and social well-being at school. 80% of health education is carried out by traditional and unattractive ways or don't correspond with information needs of students. Behavioral risk factors are widely distributed among students (48,2% tobacco smoking; 36,6% physical inactivity) and start at early age. There is positive attitude for family-school partnership but there are some difficulties to fulfill it.

**Conclusion:** The study results like the international experience show both success and difficulties to put this concept in practice.



6. Atanasova G., M. Marinov, S. Nikolova, M. Atanasov and **P. Stefanova**. The single nucleotide polymorphism in CYP2C8 is associated with myocardial infarction in Bulgarian population with cardiovascular risk profile. *3rd International Conference and Exhibition on Cell & Gene Therapy* October 27-29, 2014 Embassy Suites Las Vegas, USA, In: **J Stem Cell Res Ther** 2014, 4:9, p.170.



Galya Atanasova et al., J Stem Cell Res Ther 2014, 4:9  
<http://dx.doi.org/10.4172/2157-7633.S1.009>

## 3<sup>rd</sup> International Conference and Exhibition on **Cell & Gene Therapy**

October 27-29, 2014 Embassy Suites Las Vegas, USA

### The single nucleotide polymorphism in CYP2C8 is associated with myocardial infarction in Bulgarian population with cardiovascular risk profile

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Initial epidemiologic studies have demonstrated that genetic variation in the CYP epoxygenase pathway significantly modifies cardiovascular disease risk at the population level in humans. In the present study, the impact of a genetic variant in CYP2C8\*3 and on myocardial infarction (MI) in Bulgarian population was analyzed. We conducted a case-control study to determine whether the common genetic variation rs890293 (CYP2J2\*7) in CYP2J2 gene was associated with the risk of MI. The study included 99 patients with MI and 377 population control subjects. To determine the genotypes of the samples real time PCR with predesigned. TaqMan SNP Genotyping Assays (Applied Biosystem) was used. The deviation of allele polymorphism CYP2C8\*3 on the balance of Hardy-Weinberg and the frequency of the T allele with  $\chi^2$  test was studied. The rare allele CYP2C8\*3 was found in 16% of the affected and 10% of the non affected cases and it showed statistical significance [OR (95% CI): 1.64 (1.00-2.56),  $P=0.03$ ]. The CYP2C8\*1/\*1 genotype occurred more often in the control group compared with the patients with MI [OR (95% CI): 0.58 (0.35-0.96),  $P=0.039$ ]. The heterozygous genotype of CYP2C8 was found to be significantly associated with a risk of myocardial infarction [OR (95% CI): 2.25 (1.06-4.75),  $P=0.036$ ] in women. Possession of the rare genetic variant rs1050968 in CYP2C8 gene is associated with a modestly increased risk of MI in Bulgarian population.

#### Biography

Galya Atanasova completed her PhD training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Plevan Medical University, Bulgaria. She is a General Practitioner and Cardiologist In Trainee at Plevan Medical University, Bulgaria. She specialized in General Medicine from Plevan Medical University, Bulgaria during 1993. She has attended many international events and presented her research work. She did many researches on metabolic syndrome and myocardial infarction of heart.

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7. Atanasova G., **P. Stefanova**, N. S Basha and M. Ivanov. Assessing the impact of blood pressure on myocardial infarction risk by logistic regression models. 5th International Conference on Clinical & Experimental Cardiology-2015, In: J Clin Exp Cardiol, 2015, 6:4, p. 37. <http://dx.doi.org/10.4172/2155-9880.S1.023>, **SJR=0.120**



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Galya Naydenova Atanasova et al., J Clin Exp Cardiol 2015, 6:4  
<http://dx.doi.org/10.4172/2155-9880.S1.023>

5<sup>th</sup> International Conference on

# Clinical & Experimental Cardiology

April 27-29, 2015 Philadelphia, USA

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Assessing the impact of blood pressure on myocardial infarction risk by logistic regression models

Galya Naydenova Atanasova, Penka Stefanova, Niaz Syed Basha and Miroslav Ivanov  
Pleven Medical University, Bulgaria

**H**ypertension is quantitatively the most important risk factor for premature cardiovascular disease, being more common than cigarette smoking, dyslipidemia, and diabetes, which are the other major risk factors.

The purpose of this study was to estimate the impact of the blood pressure on the prematurity of occurrence of myocardial infarction by logistic regression analysis.

During year 2012 study in 99 subjects with survived MI, inhabitants of Pleven region in Republic of Bulgaria was conducted. The following biomarkers are tested (fasting): HDL-cholesterol, serum triglycerides (TG) and total cholesterol (TC). Data processing is a logistic regression analysis.

In this study developed two regression models. The first model includes DBP, level of TG and TC level. The impact of the increase in DBP by 10% on average OR was significantly less in women than in men. The second model includes DBP, TG levels and levels of HDL-cholesterol. With the greatest influence of DBP in men, where the OR increased 2.19 fold increase in DBP of 10% from the average, while the increase for women was almost twice less.

For men, the second level of influence risk factor is the DBP, and for women it is TG. Third degree of risk factor for women is total cholesterol and in men at this level and the level of HDL-cholesterol have almost the same effect.

Biography

Galya Naydenova Atanasova completed her Ph.D. training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Pleven Medical University, Bulgaria. She is a General Practitioner and Cardiologist in Trainee at Pleven Medical University, Bulgaria. She specialized in General Medicine from Pleven Medical University, Bulgaria during 1993. She has attended to many international Events and presented her research work. She did many researches on metabolic syndrome and myocardial infarction of heart.

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Notes:

J Clin Exp Cardiol 2015  
ISSN 2155-9880 JCEC, an open access journal

**Cardiology-2015**  
April 27-29, 2015

Volume 6, Issue 4  
  
Page 37

8. **Stefanova P., G. Atanasova, S. Deyanov, S. Kostadinov.** Conducting a general checkup to seniors as part of prevention of cardiovascular diseases in Bulgaria. 5th International Conference on Clinical & Experimental Cardiology-2015, In: J Clinical & Experimental Cardiology. 2015; 6 (4) : 43. <http://dx.doi.org/10.4172/2155-9880.S1.023>, **SJR=0.120**

**5<sup>th</sup> International Conference on  
Clinical & Experimental Cardiology**  
**April 27-29, 2015 Philadelphia, USA**

**Conducting a general checkup to seniors as part of prevention of cardiovascular diseases in Bulgaria**

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General health checks are designed to reduce morbidity and prolong life. The theme for the conduct of general check-up population is the subject of many studies. Still under discussion whether and to what extent should be carried out this review, what are the pros and cons, what is the effect of their implementation for the individual and society. In Bulgaria after reforms in health care was adopted health insurance model and enhance the role of general practitioners as a key figure for providing primary outpatient treatment. As part of the obligations of the GPs for the implementation of individual contracts with the NHIF are preventive examinations of compulsory insured people over 18 and the formation of risk groups. Since 2006, the total check-up by the GPs is compulsory for all insured people. It includes a basic package of activities and studies on the basis of which are identified as those with diseases and patients who are at increased risk of certain socially significant diseases, such as cardiovascular, malignant diseases and diabetes. Mortality in Bulgaria exceed the EU average by 17 different causes of death as in five, including diseases of the circulatory system, other heart diseases, cerebrovascular disease, our country is in the first place. The purpose of this study is to establish the scope and effectiveness of the program for the prevention of adults conducted by GPs. A direct individual survey with 513 people from Pleven region and 262 GPs from three areas in the country has been carried out. Official data from information databases NHIF and RHIF – Pleven has been used. A lower range of the population was established - less than 50% of eligible. Many people are not sufficiently informed about screening. Greater the percentage of people who believe that the prophylactic examination is necessary, but is formally done by GPs and that studies are insufficient. Doctors also cited as reasons for the failure of the program insufficient awareness of the population, lack of time, insufficient limit obtained from the health insurance fund for research and insufficient motivation. A steady upward trend for the lack of implementation of the program for at-risk groups of population is reported. Lacks sustainability, monitoring and reporting the effect of the program.

**Biography**

Penka Stefanova Kostadinova is the Director of the Regional Health Insurance Fund in the city Pleven and ass. professor at the Medical University - Pleven. Master of Medicine and Economics, specialty “Finance”. She has also the specialties “Social Medicine and Health Management” and “Economics of Health”. Has over 50 publications and participations in Bulgaria and abroad. Scientific interests are in the field of public health protection and prevention of non-infectious socially significant diseases of population.

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9. Atanasova G., M. Marinov, M. Atanasov, **P. Stefanova** and N. S. Basha. Assessment tools for myocardial infarction risk. International Conference on Clinical Trials, July 27-29, 2015, Orlando-FL, USA, In: J Clin Trials 2015, 5:3, p. 41. <http://dx.doi.org/10.4172/2167-0870.S1.007>



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Galya Atanasova et al., J Clin Trials 2015, 5:3  
<http://dx.doi.org/10.4172/2167-0870.S1.007>

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**Assessment tools for myocardial infarction risk**

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**I**n a number of epidemiological studies, elevated blood pressure (BP) has been identified as a risk factor for coronary artery disease, heart failure, cerebrovascular disease, etc. The object of the study is to assess the degree of influence BP as a risk factor for myocardial infarction (MI) by logistic regression analysis. During year 2012 study in 99 subjects with survived MI, inhabitants of Pleven region in republic of Bulgaria was conducted. The following biomarkers are tested (fasting): HDL-cholesterol, serum triglycerides (TG) and total cholesterol (TC). Data processing is a logistic regression analysis. In our study developed two regression models. The first model includes SBP, level of triglycerides (Tg) and the level of total cholesterol (TC). An increase of 10% from the average value of the factor increase in OR for the occurrence of MI in men SBP is 2.05 times, and the level of TC was 1.28 times. The second model includes SBP, Tg levels and levels of HDL-cholesterol. Increase by 10% the level of Tg in little increase in the chances of occurrence of MI in women (1.05 times) and can therefore be concluded that Tg is not a risk factor for subjects studied. The most important risk factor for MI in our study is the increase of SBP. It has a great influence on the attitude of the chances of heart attack in men than in women.

**Biography**

Galya Atanasova completed her PhD training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Pleven Medical University, Bulgaria. She is a General Practitioner and Cardiologist in Training at Pleven Medical University, Bulgaria. She specialized in General Medicine from Pleven Medical University, Bulgaria during 1993. She has attended to many international events and presented her research work. She did many researches on metabolic syndrome and myocardial infarction of heart.

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**Notes:**

J Clin Trials  
ISSN:2167-0870 (CTR), an open access journal

**Clinical Trials-2015**  
July 27-29, 2015

Volume 5, Issue 3  
  
Page 41



10. Atanasova G., M. Marinov, R. Tzveova, M. Atanasov, **P. Stefanova**, N. S. Basha, S. Kostadinov, D. James, A. Atanasova, St. Kostadinov and S. R. McPhillips. Genetic markers of coronary artery disease risk. 4th International Conference and Exhibition on Cell & Gene Therapy, August 10-12, 2015, London, UK, In: *J Stem Cell Res Ther* 2015, 5:7, p. 33. <http://dx.doi.org/10.4172/2157-7633.S1.011>



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Galya Naydenova Atanasova et al., *J Stem Cell Res Ther* 2015, 5:7  
<http://dx.doi.org/10.4172/2157-7633.S1.011>

4<sup>th</sup> International Conference and Exhibition on

## Cell & Gene Therapy

August 10-12, 2015 London, UK

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**Genetic markers of coronary artery disease risk**

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Using genetic biomarkers to estimate risk for CAD is more straightforward than using non-genetic ones because the former can be measured almost without error and do not vary in an individual over time. We analyzed 99 (60 men and 39 women) with CAD and 377 controls for a potential correlation of the CYP2J2 G-50T.44 are smokers, 92 are hypertonics and 25 with type 2 diabetes. 96 of these 99 patients were tested for the presence of CYP2C8. The deviation of allele polymorphism was CYP2J2\*7 and CYP2C8\*3 respectively according to Hardy-Weinberg equilibrium. The frequency of the T allele was calculated too via the  $\chi^2$  test. The distribution of T allele (CYP2C8\*3,  $p=0.7901$  and  $p=0.0670$  CYP2J2\*7) shows a high degree of probability close to Hardy-Weinberg equilibrium. The p-values CYP2C8\*3,  $p=0.6189$ , CYP2J2\*7,  $p=0.1684$  did not show a significant relationship between T allele for the polymorphisms and heredity. The results of the association between the presence of the T allele and type 2 diabetes respectively CYP2J2\*7 ( $p=0.3081$ ) and CYP2C8\*3 ( $p=0.4491$ ) shows that there is not an association between type 2 diabetes and CAD among T allele CYP2J2\*7 carriers. The one-way ANOVA test showed a difference in average height only for men with and without T allele in CYP2C8\*3 ( $p=0.0272$ ). Results showed that CYP2C8\*3 is more important for the occurrence of CAD compared with CYP2J2\*7 in the study. This study encourages belief that CAD prediction will be enhanced by the inclusion of genotype information.

**Biography**

Galya Naydenova Atanasova has completed her PhD training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Medical University Pleven, Bulgaria. She has done PhD in Cardiology, and is a Cardiologist, General Practitioner and Assistant Professor at Plevan Medical University, Bulgaria. She has attended many international events and presented her research work. She did many researches on metabolic syndrome, myocardial infarction and genetic markers. She also serves on several national and international committees. She has served on the Editorial Board of International Journal of Clinical Cardiology, etc. She was nominated by the Foundation Photon for research contributions with Academic Excellence Award-2015.

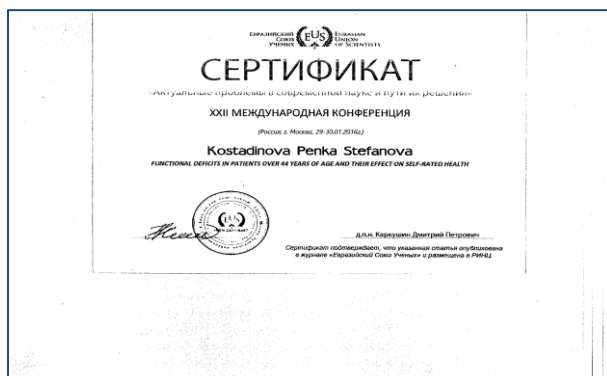
**Notes:**

*J Stem Cell Res Ther* 2015  
 ISSN: 2157-7633, SCOP on open access journal

**Cell Therapy-2015**  
 August 10-12, 2015

Volume 5 Issue 7  
  
 Page 33

11. Simeonova J, P. **Kostadinova, I.** Stoilova. Functional deficits in patients over 44 years of age and their effect on self-rated health. XXI Международная научно – практическая конференция „Актуальные проблемы в современной науке и пути их решения”29-30.01.2016, Москва,20.



**ЕВРАЗИЙСКИЙ СОЮЗ УЧЕНЫХ (ЕСУ)**  
Ежемесячный научный журнал

ISSN 2411-6467

№ 1(22) / 2016

ЧАСТЬ 4

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## FUNCTIONAL DEFICITS IN PATIENTS OVER 44 YEARS OF AGE AND THEIR EFFECT ON SELF-RATED HEALTH

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### ABSTRACT

**Background:** Many studies found significant association between the poor functional status of individuals and the negative self-rated health. The aim of that study was to identify the problems of functioning in patients and to establish their effect on self-rated health.

**Methods:** A cross-sectional study was carried out in 2014. Two hundred and twelve patients over 44 years of age were included in the study. The study was a part of the Project N0 11/2014 which was funded by the Medical University of Pleven.

Standardized questionnaire EQ-5D-3L was used to identify the functional deficits in patients. Self-rated health was measured by 5-ordinal scale including 3 positive categories (excellent health, very good health and good health) and 2 negative categories (fair health and poor health).

Data were processed by SPSS.v.19. Group differences were tested for statistical significance by Pearson's chi-square ( $p \leq 0.05$ ).

**Results:** Most of the patients (42.5%) assessed their health as good. Almost 20% had poor health and only 2.3% – excellent health. Each of five dimensions significantly associated with self-rated health of patients. Many respondents who had the deficits with mobility, self-care, usual activity performance and experienced anxiety/depression or pain/discomfort, assessed more frequent their health as fair or poor ( $p < 0.05$ ).

**Conclusion:** Our study confirmed the findings by the other researchers. Deteriorated functioning in most patients had a significant role for the negative SRH. However, the predictive abilities of EQ-5D-3L regarding to self-rated health can be confirmed by longitudinal study.

**Keywords:** self-rated health, EQ-5D-3L, mobility, self-care, usual activity performance, pain/discomfort, anxiety/depression, functional deficits

12. Найденова Г., М. Симеонов, М. Атанасов, П. Костадинова, С. Костадинов, Р. Цвоева. Исследование ассоциации соотношений между apoB/apoA1, TC/HDL-C, LDL-C/HDL-C и триглицеридами/HDL-C и метаболическим синдромом в болгарской популяции. В: Евразийский союз ученых (ЕСУ). XXV Международная научно – практическая конференция „Актуальные проблемы в современной науке и пути их решения” 26.05.2016, Москва, 52.



**Цель:** Соотношение аполипопротеина В к аполипопротеину А1 (ApoB/ ApoA1) есть мощный клинический индикатор метаболического синдрома. Цель настоящего исследования – исследовать связь между соотношениями ApoB/ApoA1, TC/ HDL-C, LDL-C/HDL-C, триглицериды/HDL-C и компонентами метаболического синдрома (МС) в болгарской популяции.

**Метод:** Было проведено исследование в Плевенском регионе среди 500 клинически здоровых людей, из которых 40.2% мужчин и 59.8% женщин. В критерии включились лица старше 18-лет, без пережитого сердечно-сосудистого инцидента и без сахарного диабета. Исследовательская методика включает стандартизированное интервью для оценки факторов риска и лабораторное исследование биохимическим анализатором „Cobas Integra 400 (Roche)”: сахар в крови натощак, серумные триглицериды, общий холестерол, HDL-холестерол, LDL- холестерол, аполипопротеин А-I и аполипопротеин В. Вычислили для всей группы apoB/apoA1, общий холестерол /HDL-C, LDL-C/ HDL-C и триглицериды /HDL-C.

**Результат:** Частота МС в нашем исследовании составляет 32,6% у мужчин и 26,7% у женщин. С ростом возраста частота МС у женщин нарастает, а у мужчин самая высокая частота в возрасте 36-45 лет. Для лиц с МС величина соотношений apoB/apoA1 и chol/HDL выше в сравнении с теми же без МС. Связь между рассмотренными соотношениями велика ( $r=0,72$  – у людей с МС, а у тех без МС  $r=0,88$ ).

**Выводы:** Соотношение ApoB/ApoA1 является независимым рисковым фактором для МС. В настоящем исследовании мы оцениваем механизмы, которые лежат в основе связей между соотношениями ApoB/ApoA1, метаболическим синдромом и их компонентами.

#### ABSTRACT

**Aim:** Interrelation apolipoprotein B/ apolipoprotein A1 /ApoB, ApoA1/ is power clinical indicator for metabolic syndrome. The purpose of this study is to investigate the connection between interrelations ApoB/ApoA1, TC/HDL-C, LDL-C/HDL-C, triglyceride/ HDL-C and metabolic syndrome /MS/ components among Bulgarian population.

**Methods:** 500 clinically health people of the region of Pleven (201 men and 299 women) were investigated. Those with MS were selected. Patients were classified in quartiles (the lowest: Q1; the highest: Q4) according to the values of interrelation ApoB/ ApoA1 in sex, anthropometric and hematological characteristics.

**Results:** The MS frequency in our study is 32,6% among men and 26,7% among women. We found significant growing of odds ratios (OR) for participants with MS from Q2 to Q4 quartiles for the interrelation ApoB/ApoA1 among men (OR = 5,34; 95%CI = 2,95-9,62 and OR = 6,79; 95%CI = 4,05-12,8) and for women (OR = 2,46; 95%CI = 1,25-5,12 and OR = 8,37; 95%CI = 4,25-15,8). These results were corrected according to the age and the blood glucose levels for men (OR = 5,24; 95%CI = 2,80-9,29 and OR = 7,88; 95%CI = 4,08-14,9) and for women (OR = 4,40; 95%CI = 2,24-8,60 and OR = 8,26; 95%CI = 3,82-16,5).

**Conclusions:** ApoB/ApoA1 interrelation is an independent risk factor for MS. In this study we investigate the mechanisms that are important for the connection between ApoB/ApoA1 interrelation, metabolic syndrome and its components.

**Ключевые слова:** метаболическим синдромом, соотношения ApoB/ApoA1, TC/HDL-C, LDL-C/HDL-C, TG/HDL-C

**Keywords:** apolipoprotein B, apolipoprotein A1, metabolic syndrome, cardiovascular risk, ApoB/ApoA1 interrelation

13. Atanasova G., B. Ruseva, M. Marinov, M. Atanasov, P. Laleva, **P. Kostadinova**, A. Milenova, I. Tunay and D. James. Association between Apolipoprotein B/Apolipoprotein A1 ratio, pulse pressure and metabolic syndrome. World Heart Congress, May 22- 24, 2017 Osaka, Japan, In: J Clin Exp Cardiol 2017, 8:5 (Suppl), p. 36.

**conferenceseries.com**

Galya Atanasova et al., J Clin Exp Cardiol 2017, 8:5 (Suppl)  
http://dx.doi.org/10.4172/1555-9880-C1-068

# WORLD HEART CONGRESS

May 22- 24, 2017 Osaka, Japan

**Association between Apolipoprotein B/Apolipoprotein A1 ratio, pulse pressure and metabolic syndrome**

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**Objectives** of this study is to evaluate influence of the metabolic syndrome (MS) and its components on pulse pressure (PP) and apolipoprotein B/apolipoprotein A1 (Apo B/Apo A1). A total of 107 persons without any apparent disease were selected. Among these subjects MS was found in 36. One way ANOVA test, multiple comparison test of means and multiple logistic regression analyses are used. The four groups used in ANOVA are men and women with and without MS. The ANOVA F-statistics showed 3.683 with p-value 0.0145. The multiple comparison tests showed differences between subjects with and without MS. The first logistic regression includes gender, PP and Apo B/Apo A1. The results showed that the pulse pressure was the more significant factor that contributes to metabolic syndrome for women than for men. The results showed that PP and Apo B/Apo A1 ratio could be used as complex marker for MS, Fig.1. When the pulse pressure was wide and wrist was greater than 102/88 cm (men/women) the odds ratio was above 1. These two factors could be used to diagnose metabolic syndrome. The same conclusion could be made for wide pulse pressure and triglycerides level greater than 1.7 mmol/L. The results showed that PP and wrist or triglycerides level could be used as indicator of MS. In conclusion, wide pulse pressure with some of the considered clinical and biochemical markers could be used to diagnose MS. The results showed that for simultaneously increase of PP with 5 mm Hg and increase of Apo B/Apo A1 with 0.05045 it was expected about 1.5787 times increase in the odds ratio (OR) of MS. The results indicated relation between PP and increase of OR of MS. The increase of OR of MS with increase of PP and Apo B/Apo A1 is obtained. Increase of PP and Apo B/Apo A1 influences cardiometabolic risk.

**Biography**

Galya Atanasova has completed her PhD training in Cardiology from Department of Cardiology, Pulmonology and Endocrinology at Pleven Medical University, Bulgaria. She is a General Practitioner and Cardiologist in Trainee at Pleven Medical University, Bulgaria. She specialized in General Medicine from Pleven Medical University, Bulgaria during 1993. She has attended many international events and presented her research work. She did many researches on metabolic syndrome and myocardial infarction of heart.

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**Notes:**

J Clin Exp Cardiol  
ISSN 2155-9880 JCEC, an open access journal

**Heart Congress 2017**  
May 22- 24, 2017

Volume 8, Issue 5 (Suppl)  
  
Page 36



- 14. Kostadinova P S, S. Kostadinov, I. Stoilova, M. Kamburova, S. Georgieva, S. Ivanova.** Effect of the regular check-up over hospitalizations from cardiovascular diseases in Pleven, Bulgaria. 11<sup>th</sup> European Public Health Conference “Winds of change: towards new ways of improving public health in Europe”, *European Journal of Public Health*. IF = 2.431 (под печат)

### **Background**

Cardiovascular diseases (CVDs) are the main cause of morbidity and mortality, both in the world and in Bulgaria. Compared to the other European Union member states, Bulgaria ranks first in the standardized death rate from CVDs. The benefit of regular check-up has been proven by variety of studies. One of the main activities of general practitioners (GPs) in Bulgaria is to carry out an annual general examination of people over the age of 18, which includes a basic package of activities for early identification of people with risk factors and higher risk of developing socially significant diseases. The aim of study is to analyse the effect of regular check-up made by GPs in region of Pleven over incidence of hospitalisation due to stroke and acute myocardial infarction.

### **Methods**

The information was gathered from National Health Insurance Found. Statistical analysis of data was performed with Microsoft Office Exel 2010 and SPSS for Windows v.21.0.

### **Results**

Relatively low coverage with an annual general examination (38%) among persons over 18 years of age was established. Among people with regular check-up prevailed percent of these over 50 years of age (55.51%). The patients hospitalized for cardiovascular diseases in 2013 in region of Pleven (13717) were divided into two groups: persons with (8511) and without (5206) regular check-up carried out in 2013. It was found seven times higher incidence of hospitalizations for stroke (7.84 per 1000) and five times higher incidence of hospitalizations for acute myocardial infarction (5.90 per 1000) among patients without annual general examination in 2013.

### **Conclusions**

Underestimating the need for prevention among active adults leads to late detection of illnesses, higher disability and mortality. There are emergency needs for prevention, early detection and control of CVD mainly by increasing the level of regular check-ups among people over 18 years of age in region of Pleven and Bulgaria as a whole.

15. Georgieva S., **P. Stefanova**, M. Kamburova. Analysis of the expenditures and the activities of the Child Health Program in Pleven, Bulgaria. 11<sup>th</sup> European Public Health Conference “Winds of change: towards new ways of improving public health in Europe”, *European Journal of Public Health*. IF = 2.431 (под печат)

**Background:** Child and adolescent’s health is a primary concern of the state and the national health system and health policy. The population from 0 to 18 years in Bulgaria is covered by a National Child Health Program, which ensures a full range of health promoting and preventive activities for children in four target groups: from the delivery to 1 year, from 1 to 2, from 2 to 7 and from 7 to 18 years of age. The planned activities and their regularity correspond to age-specific needs. The aim of the current study is to analyze the scope of program activities and their funding by the Regional Health Insurance Fund (RHIF) in the region of Pleven for the period 2010 - 2017.

**Methods:** A documents review and analysis of the annual reports of RHIF - Pleven was carried out for the covered period.

**Results:** During the period under study expenditures of Child Health Program have been increasing from BGN 702 885 to BGN 787 795. At the same time, because of low birth rate in the region, number of children aged 0 – 18 have been decreasing, respectively number of activities under the program decrease. The price of examination has increased from the beginning to the end of the period between 30% to more than 50% in different age groups. The expenditures for vaccines have doubled. Although according to the instructions the program should cover all children of the target group, the actual covering varies from 78.23% to 87.44% in different years and among age groups. The immunization coverage of the mandatory immunization calendar is also reduced not only due to the presence of children with persistent contraindications for immunization, also due to an increased number of parents who refuse their children to be immunized.

**Conclusion:** Health payments during the study period have increased. Increased funding for health promotion and prevention of children is associated with an increased unit price of examinations and supplies, not with the number of activities involved and their quality.

Main message 1: Adequate funding of health activities and the appropriate allocation of resources is a prerequisite for better health. Expenditure for child health promotion and prevention in Bulgaria has increased.

Main message 2: Increasing expenditures for the Child Health Program are not a result of an increased number of activities or their quality. It is an effect of increased unit price of examination and supplies.

16. Stoilova I., M S Kamburova, S L Georgieva, **P S Kostadinova**. Adverse effect of working and professional experience over low back and neck pain self-assessment. 11<sup>th</sup> European Public Health Conference “Winds of change: towards new ways of improving public health in Europe”, *European Journal of Public Health*. **IF = 2.431 (под печат)**

### **Background**

According the Global Burden of Diseases Study from 1990 to 2016 low back pain is leading cause of age standardized rate of years lived with disability and for the same period neck pain has moved from 8th to 6st rank.

The aim of survey is to analyze the effect of working and professional experience over low back and neck pain self-assessment of persons employed in apparel production industry in Bulgaria.

### **Methods**

For the purposes of the study, 103 persons employed in apparel production with impairments of the musculoskeletal system and the peripheral nervous system, were investigated. Questionnaire-based survey was conducted during the period 2014-2017 to analyze the social and demographic characteristics of the persons investigated and their self-evaluation concerning pain level. The visual analogue scale (VAS) was used to register the intensity of pain.

### **Results**

Two varieties of duration of exposure were investigated: years of working experience and years of professional experience. The mean duration of working experience (n=103) was  $21.38 \pm 5.58$  years. The mean duration of professional experience (n=103) was  $18.65 \pm 7.11$  years. Fifty-one of the persons investigated (49.52%) complained of pains in the neck and forty-seven persons (45.63%) complained of pains in the neck.

A significant statistical dependence ( $p < 0.05$ ) i.e. increase of overall exposure resulted in increase of the degree of pain experienced was found. The same test also established a statistically significant dependence ( $p < 0.05$ ) between the degree of pain by VAS and the specific exposure, thus proving the positive association: increased specific exposure correlated with the increased degree of the pain reported.

### **Conclusion**

The level of low back and neck pain correlated with the length of working and professional experience of persons employed in apparel production industry. As a result of a study a program for complex prevention and treatment of the people investigated was designed and applied.

### **Main messages:**

1. Low back pain and neck pain are leading cause of age standardized rate of years lived with disability
2. The level of low back and neck pain correlated with the length of working and professional experience of persons employed in apparel production industry in Bulgaria.

17. Kostadinov S., **P S Kostadinova**. Risk factors of accidental hypothermia in Central North Bulgaria. 11<sup>th</sup> European Public Health Conference “Winds of change: towards new ways of improving public health in Europe”, *European Journal of Public Health*. **IF = 2.431 (под печат)**

### **Background**

Cold is the main cause of accidental hypothermia, but conditions of inevitability are most often predetermined by combining it with a variety of risk factors. The aim of the study is to identify the risk factors for accidental fatal hypothermia in Central Northern Bulgaria.

### **Methods**

The written archive documents for cases of death with hypothermia of the forensic wards of Pleven, Lovech, Gabrovo and Veliko Tarnovo region were investigated for the period 2011-2016, a total of 129 cases. Statistical data processing was performed with software packages Microsoft Office Excel 2010 and SPSS v.24.0.

### **Results**

Indicators for cases of hypothermia are relatively high: mortality from hypothermia - 3.3/100 thousand; Relative proportion of autopsy with hypothermia to total autopsy – 4%; Relative share in the structure of external causes of death - 6.1%. The majority suffered from October to March (93%) with a peak in January (30%). The proportion of incidents in settlement is 81%. The rural population is 2.3 times more affected. Hypothermia on land is 98%, indoors – 53%, home/room – 44%. Of the victims: men are 73%; in advanced and elderly age are 70%; 70% are malnourished, 75% have a general health impairment. Consumers of ethanol are 33% of men and 11% of women, one has used opium derivatives. In poverty are 71%, of which homeless - 13%. Lone residents are 89%. Accidents are 83%, four cases are combined murder and 2 cases are monotraumatic suicide.

### **Conclusion**

For the studied period and area, the conditions of inevitability of fatal hypothermia are the result of combining cold with social decay and helplessness of the injured, especially due to old age, impaired health, deprivation and loneliness.

**Main message 1 :** The cold is a major cause of accidental hypothermia, but conditions of inevitability are predetermined by combining it with a variety of risk factors leading to social decay and helplessness.

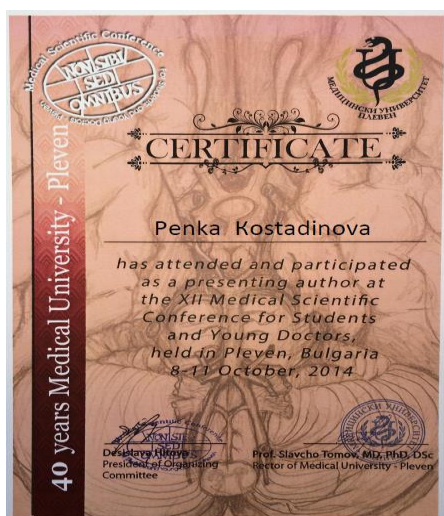
**Main message 2 :** This mortality is preventable and can be limited by the means of social and health policy and practice.



## РЕЗЮМЕТА ОТ БЪЛГАРСКИ НАУЧНИ ФОРУМИ С МЕЖДУНАРОДНО УЧАСТИЕ

### РЕЗЮМЕТА ОТ БЪЛГАРСКИ НАУЧНИ ФОРУМИ С МЕЖДУНАРОДНО УЧАСТИЕ СВЪРЗАНИ С ТЕМАТА НА НАУЧНАТА РАЗРАБОТКА:

18. **Kostadinova, P.**, A. Velkova, P. Christova, S. Kostadinov, J. Simeonova, M. Kamburova, S. Georgieva. The sufficiency of the directions and research grant of GP for program for prevention of insured over 18 years by the NHIF. *In: Abstracts book from 12-th International Medical Scientific Conference for Students and Young Doctors*, 8 – 11 October, Pleven, 2014, 158.



#### Summary:

**Introduction:** As part of the obligations of GPs the execution of individual contracts with the NHIF and prophylactic examinations are compulsory insured persons over 18 and the formation of risk groups. Despite the mandatory nature of these examinations are a relatively low range - in - less than half of the underlying population annually appears on this review. In order to implement prevention programs need to be resourced.

**Objective:** The aim of this study is to determine to what extent the granted limits for medical and research fields may provide the program for the prevention of adults.

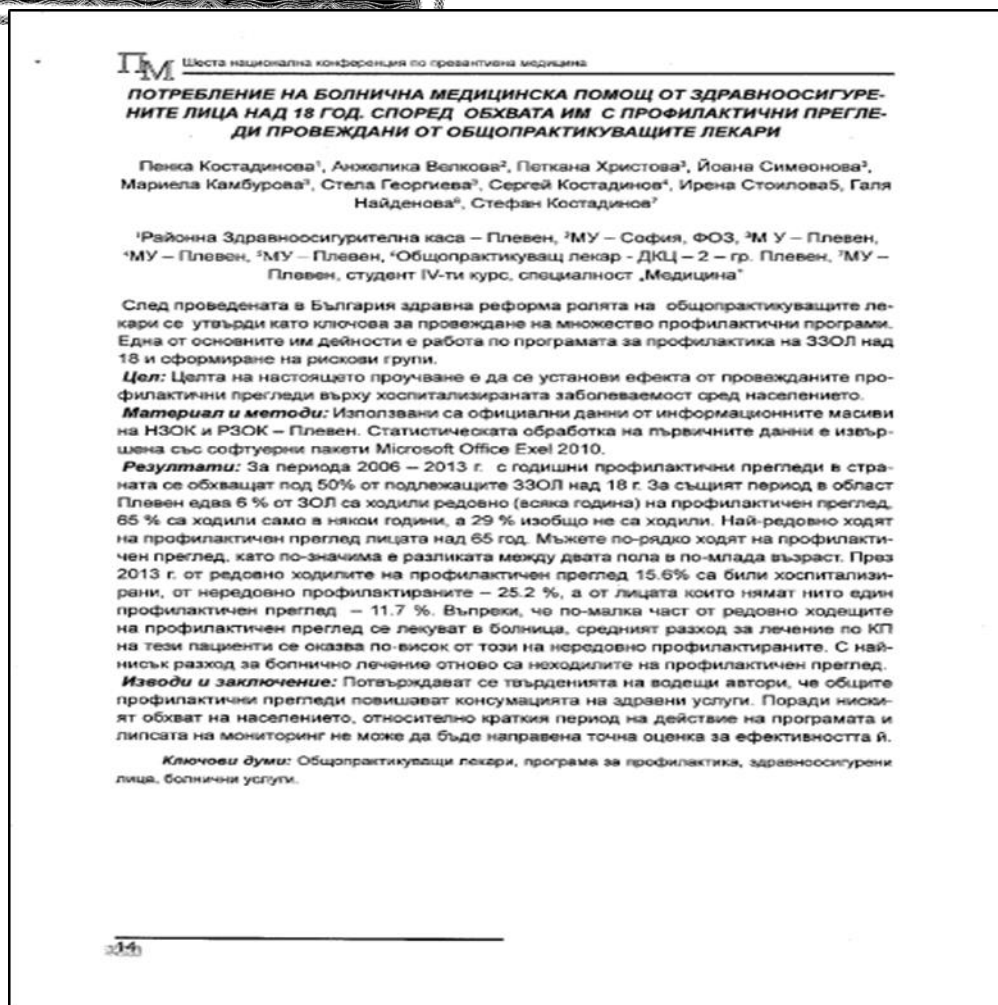
**Materials and methods:** are used official data from the National Health Insurance Fund for the period 2006 - 2013 г .; Regulatory and held direct individual poll of 123 GPs from Pleven District.

**Results and Discussion:** Despite the mandatory nature of preventive examinations in the NHIF budget in recent years provides a range of less than 50% of eligible CIPs over 18 limits allocated medical diagnostic tests of GPs in Pleven region in 2013 provide implementation of the program for the prevention of adult to 43%. Lack of sufficient limit research and medical fields has been identified as one of the main reasons for not making an activity monitor risk populations as part of a prevention program by 75% of respondents.

**Findings and conclusion:** It was found underfunding of the program for the prevention of adults in terms of the granted limits of research and consultation, which is one of the main reasons for the low coverage of the population.

**Keywords:** General Practitioners, insured persons program for prevention, medical diagnostic tests, limits.

19. Костадинова, П., А. Велкова, П. Христова, Й. Симеонова, М. Камбурова, С. Георгиева, С. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов. Потребление на болнична медицинска помощ от здравноосигурените лица над 18 год. според обхвата им с профилактични прегледи провеждани от общопрактикуващите лекари. В: Сборник резюмета от VI национална конференция по превантивна медицина, 12 – 14 ноември, 2014, Вършец, 14.



20. **Kostadinova P**, A. Velkova, P. Hristova, J. Simeonova, S. Kostadinov, I. Stoilova, G. Naydenova, S. Kostadinov. Implementation of the program for prevention of compulsory health insured people over 18 years of age by general practitioners and dispensary observation of patients with chronic diseases. Юбилейна научна конференция „Наука за здраве“, 20 – 22 май, 2015, *Folia medica*, 169-170, suppl. 1,169. **SJR= 0,183**



#### SY 54. IMPLEMENTATION OF THE PROGRAM FOR PREVENTION OF COMPULSORY HEALTH INSURED PEOPLE OVER 18 YEARS OF AGE BY GENERAL PRACTITIONERS AND DISPENSARY OBSERVATION OF PATIENTS WITH CHRONIC DISEASES

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**INTRODUCTION:** The main activities of general practitioners (GPs) in the execution of contracts with the Health Insurance Fund are prevention and outpatient monitoring of compulsory insured people over 18 years. Activities included as mandatory in the outpatient monitoring largely overlap with those of prophylactic examination. **Objective:** The aim of this study is to establish the necessity for a common prophylactic medical examination of the monitored adults with respect to chronic diseases. **MATERIALS AND METHODS:** Official data from the National Health Insurance Fund and current legislation have been used. **Results:** Between 2006 and 2012, the annual medical check-ups in Bulgaria cover 35.8% to 48.3% of the compulsory insured subjects aged over 18 years. In Pleven region the share of covered preventive examinations varies from 33% to 45%. Of these, only 6% have attended regularly (every year) prophylactic examination, 65% had done it only a few years, and 29% never went to check-ups. From the ones that have regularly attended a prophylactic medical examination 70% are dispensary, while from the compulsory insured people that never went to a prophylactic examination only 11% of men and 15% of women are dispensary. **CONCLUSION:** The high range of dispensary people with general health check is ex-

21. **Kostadinova P., A. Velkova, P. Hristova, S. Deyanov, S. Kostadinov.** Survey related to the opinion of GPs on their activities in connection to risk population groups as part of prevention of adults. B: Abstracts from Jubilee Scientific Conference “Public Health Policy and Practice”, 1-3 October 2015, Pleven, Journal of Biomedical and Clinical Research, Vol. 8, No. 1, Suppl. 1, 2015, pp 53.



Journal of Biomedical and Clinical Research  
Vol. 8, No. 1, Suppl. 1, 2015

**JUBILEE SCIENTIFIC CONFERENCE  
“PUBLIC HEALTH POLICY AND PRACTICE”**

Dedicated to the 10<sup>th</sup> anniversary of the Faculty of Public  
Health, Medical University – Plevn  
1 – 3 October 2015

**PROGRAMME AND ABSTRACTS**

— Abstracts from Jubilee Scientific Conference “Public Health Policy and Practice”, 1-3 October 2015

areas (86.70%). Mean scores for all items of the questionnaire is 4.12, range from 3.42 on “waiting time in the waiting room” to 4.64 on “keeping patients records and data confidential”. A reliability coefficients (Cronbach’ alpha) are 0.95 for “clinical behaviour” and 0.81 for “organisation of care”. ICC-coefficient (0.97) is calculated for dimensions identified in the total sample.

**Conclusion**

The reliability and validity of the Bulgarian version of EUROPEP-instrument is very high. This allows approbation of the questionnaire in a representative survey in Bulgaria and comparative analysis of results with results from other international studies.

**Key words:** General Practitioner, Patient, Satisfaction, Validity, Reliability

**SURVEY RELATED TO THE OPINION OF  
GPs ON THEIR ACTIVITIES IN  
CONNECTION TO RISK POPULATION  
GROUPS AS PART OF PREVENTION OF  
ADULTS**

**P. Kostadinova<sup>1</sup>, A. Velkova<sup>2</sup>, P. Hristova<sup>1</sup>,  
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**Introduction**

One of the activities carried out by general practitioners (GPs) is the prevention of compulsory insured people over 18 and the formation of groups at risk. When there are indications of increased risk for the occurrence of cardiovascular diseases; Diabetes and malignancies patients are included in a risk register and are a subject to further consultation and research.

**Objective**

The aim of this survey is to examine the views of the GPs for their work with risk groups of the population and to analyze the impact of certain factors on observed levels.

**Materials and Methods**

Official data from the arrays of the NHIF and the annual reports of the NHIF have been used. A direct individual survey of 229 GPs from the regions of Plevn, Montana and Yambol has been carried out. Statistical processing of the raw data is carried out with software packages Microsoft Office Excel 2010 and SPSS for Windows v.13.0.

**Results**

Identification and active surveillance of people at increased risk for the occurrence of major diseases is regarded as an important commitment of 76% of respondents, but only 12% of them believe that the activities covered by the NHIF are sufficient for effective monitoring of these individuals. More than half of the GPs do not support risk register, and 21% did not include all people who meet the criteria. As

main reasons for this are stated insufficient limit for directions and research, insufficient clarity about the work to the program and lack of motivation.

**Findings and conclusion**

When carrying out prevention to adults GPs most often have a formal approach. One proof of this is the insufficient working with patients having an increased risk for major diseases.

**Key words:** GPs, insured people, risk groups, screening.

**RESEARCH FOR COMMUNICATION SKILLS  
OF THE “RADIOLOGY TECHNICIAN”  
STUDENTS IN MC “J. FILARETOVA” SOFIA**

**N. Boninska, J. Borisova, Z. Grodzanova,  
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Communication is an exchange of information between two or more persons. The communication skill is a constructive part of the social behavior of the health specialists. During the learning process the communication with the teacher, mentor, colleagues, patients and others is essential. We have set ourselves the objective of the present research to determine the communicative skills of the “X-ray technician” students from MK “J. Filaretova”, Sofia, also to analyze their potential for successful communication. Have been used a documentary and sociological method. In March has been held its own anonymous poll amongst 72 undergraduate and graduate “X-ray technician” students from I, II and III course. Analysis of results indicates that: 93% of respondents consider the impact of the communication during the learning process for essential; 95.8% prefer to communicate in person; According to the respondents, the desire for collaboration and the professionalism are necessary for successful communication. Few of them share that the embarrassment and the lack of time hinder the communication. 73.6% of respondents reported that teachers and mentors are explaining clearly and precisely, while they themselves are waiting for an appropriate time to ask questions. The effective communication is a prerequisite for successful understanding of the material taught, also for the acquisition of professional skills and habits. One communicative student would be a good and professional colleague.

**Key words:** Communication skills, “X-ray technician” students, effective communication

**MENTOR’S OPINION RESEARCH ABOUT  
STUDENTS’ THEORETICAL TRAINING – X-  
RAY TECHNICIANS IN MC “Y.  
FILARETOVA”, SOFIA**

**N. Boninska, N. Netzeva, N. Peeva, P. Gagova, E.  
Markova**  
Specialty “X-Ray technician”, Medical College, Medical  
University – Sofia, Bulgaria



## РЕЗЮМЕТА ОТ БЪЛГАРСКИ НАУЧНИ ФОРУМИ С МЕЖДУНАРОДНО УЧАСТИЕ НЕСВЪРЗАНИ С ТЕМАТА НА НАУЧНАТА РАЗРАБОТКА:

22. **Стефанова П., С. Деянов, С. Георгиева.** Анализ на разходите за болнична помощ на РЗОК- Плевен за периода 2007 – 2009 година. Юбилейна научна конференция с международно участие, „Здравеопазването през 21 век – реалности и перспективи”, 30 септември – 2 октомври 2010, Плевен.



**Въведение:** Важна цел на здравноосигурителната система е гарантиране на общодостъпни и качествени здравни услуги при ефективно изразходване на наличните ресурси. Целта на настоящото проучване е да проследи динамиката на болничните разходи, реализирани от РЗОК – Плевен за периода 2007-2009 г. и да анализира причините за наблюдаваните промени.

**Материал и методи:** Анализът се базира на годишните отчети за

изпълнение на бюджета и за дейността на РЗОК – Плевен и на НЗОК за разглеждания период, както и на информация от официалната интернет страница на НЗОК, относно плащанията на лечебните заведения за болнична помощ.

**Резултати и обсъждане:** Общите разходи за здравноосигурителни плащания на РЗОК – Плевен са нараснали от 47 648 816 лв. за 2007 г. на 70 323 889 лв. за 2009 г., най-вече за сметка на увеличените разходи за болнична помощ и лекарства. Основни причини за ръста на разходите са разкриването на нови лечебни заведения, предлагащи високотехнологични и скъпо струващи болнични дейности и увеличение на цените на клиничните пътеки от 1 октомври 2008 г. Пациентите от други области са се увеличили с 15,69%, но стойността на лечението им е нараснала с 40,6%, което се дължи на факта, че те се лекуват основно по скъпо струващи пътеки в специализираните лечебни заведения на територията на областта.

**Заклучение:** Необходими са мерки за ограничаване на разходите на РЗОК чрез ограничаване на непрекъснато растящото предлагане на болнична помощ, строг контрол върху стандартите за оказване на медицинските дейности, алгоритъма и индикациите за хоспитализация и дехоспитализация по клинични пътеки. **Ключови думи:** *разходи за болнична помощ, клинични пътеки*



23. **Стефанова П.,** А. Велкова, С. Георгиева, С. Деянов. Обхват с профилактични прегледи на ЗЗОЛ над 18 г. от област Плевен за периода 2006 – 2011 г. – проблеми и тенденции. Четвърта балканска научна конференция „Науката, образованието и изкуството през XXI”, 30 септември – 2 октомври 2012, Благоевград, 198.

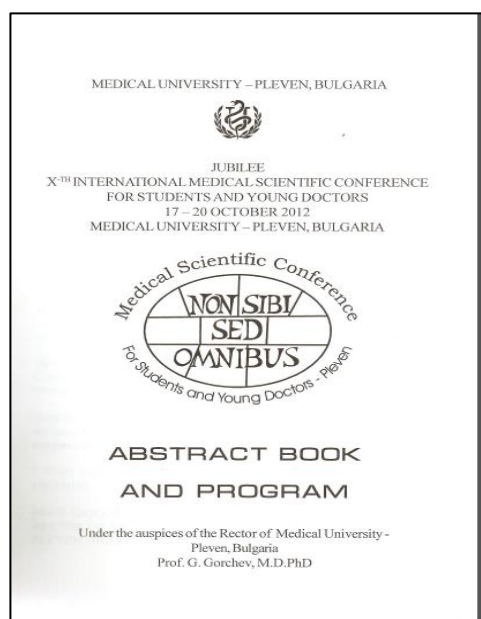
**Aim:** National Framework Contract 2006 guarantees to the obligatory health insured citizens over 18 annual preventive examination, carried out by general practitioners (GPs). The aim of this paper is to investigate the range of preventive activities in the region of Pleven and to analyze the influence of some factors on observed level. **Methods:** Documental survey

and questionnaire among GPs were carried out during the period July – August 2007.

**Results:** The results show that during the year 2006 only 37,1% from eligible population passed preventive examination. The main factors influencing on low levels were lack of motivation, insufficient information about advantages of prevention and inefficient control from Health Insurance Fund.

**Key words:** *prevention, general practitioner, obligatory health insured citizens*

24. Kostadinov S., P. Kostadinova. Inquiry of the awareness and the opinion of medical students from first and second course from MU-Pleven about the carried out prophylactic medical examinations of the compulsory health insured people above 18 y.o. by the General practitioners. *In: Abstracts book* from 12-th International Medical Scientific Conference for Students and Young Doctors, 17 – 20 October, Pleven, 2012, 141-142.



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**P.29**

**INQUIRY OF THE AWARENESS AND THE OPINION OF MEDICAL STUDENTS FROM FIRST AND SECONDCOURSE FROM MU-PLEVEN ABOUT THE CARRIED OUT PROPHYLACTIC MEDICAL EXAMINATIONS OF THE COMPULSORY HEALTH INSURED PEOPLE ABOVE 18 Y.O. BY THE GENERAL PRACTITIONERS.**

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**Presenting author: Kostadinov S.S.**  
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**SUMMARY**  
 An integral part of the basic package of health services by the general practitioners /GP/ guaranteed by the budget of NHIF is to carry out prophylactic medical examinations of compulsory health insured people /CHIP/ above 18 years old.

**PURPOSE**  
 The purpose of the current report is to study the awareness and the opinion of medical students for the 2011-2012 academic year/ from MU-Pleven about the carried out prophylactic medical examinations of CHIP above 18 y.o. by the GPs

**MATERIAL AND METHODS**  
 For the 2011-2012 academic year a direct individual and a direct group inquiry was carried out among medical students from first and second course from MU-Pleven. The questionnaire included 24 questions, gathering information about the opinion of the students and their level of awareness about the carried out activities by the GPs, related to prophylactic of CHIP above 18 y.o., socio-demographic characteristics.

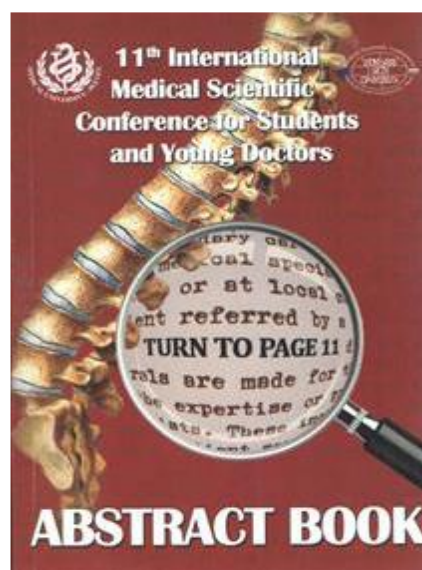
**RESULTS**  
 The majority of the inquired students are informed about the compulsory character of the prophylactic medical examination. However, 80 % of them

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are not fully informed about the actions that are included in the prophylactic examination. GPs and the media are regarded as a main source of gathering information. 18 % admit that they are not informed. About 70 % of the students do not go to an annual prophylactic examination regularly. Moreover, 10 % of them do not go at all. As a general reasons for that are stated the lack of enough information, the formal performance of the examinations and the lack of time. Above 90 % of the inquired consider that carrying out prophylactic medical examinations is compulsory for the population. Among the inquired students is found a relatively high risky constellation- above 60 % of them have one or more of the risky factors, about 4 % of them are informed about that during the prophylactic examination.

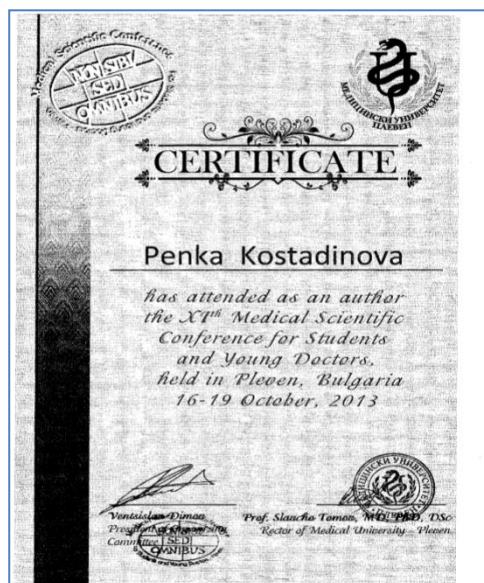
**KEY WORDS:** prophylactic examinations, health insured people.

25. **Kostadinova, P. S.**, Kostadinov, S. S., Kostadinov, S. D., Georgieva, S. L. The availability of primary outpatient medical care for the population. In Abstracts book from 11-th International Medical Scientific Conference for Students and Young Doctors, October, 2013, 16-19, Pleven, 151.





26. Georgieva, SL., A. Velkova, **PS. Kostadinova**, MS Kamburova. Health promotion for school staff. In: *Abstracts book* from 11-th International Medical Scientific Conference for Students and Young Doctors, Pleven, 2013, 74.



## INTRODUCTION

Health promotion is a modern conception applied in different fields of community life. The school is a favorable environment for health promotion activities directed to all members of school society and realized by their participation.

## AIM

The aim of this paper is to present the results of a survey of health promotion conditions for school staff.

## MATERIALS AND METHODS

Results from own empirical study for health promotion at school and literature review were use. Data was collected by direct individual self-administered questionnaire among school staff and documental review over representative extract of the schools in Pleven district. The questionnaire consists of questions about physical, psychosocial and organizational work environment at school.

## RESULTS

The highest part of the respondents define their work environment as healthy but with relatively high level of psychosocial stress because of number of reasons: fulfill duties in limited time (44%), poor organization of working time (13%) and conflict situations with students and colleagues (19,9%). As negative factor of physical environment noise most often was shown (95,4%). Professional satisfaction which is a factor for mental and social wellbeing find out at over three quarter of the participants in the survey. Annual risk evaluation realized by Occupational Health Services define hazardous working conditions by indicators as working environment, working time, payment etc.

## CONCLUSION

School give good opportunities for staff health. Working time and organization must be improved to achieve lower level of stress.

**KEY WORDS :** health promotion at school, school community, school staff, risk evaluation



27. **Костадинова П., А. Велкова, Й. Симеонова, С. Д. Костадинов, И. Стоилова, С.С Костадинов.** Проучване мнението на задължително здравноосигурените лица в Плевенския регион за провежданите профилактични прегледи на лица над 18 години от Общопрактикуващите лекари. Юбилейна научна конференция „Здравният мениджмънт – наука, практика, изкуство“, 11 – 12 октомври 2013, Варна, 84 - 85.

При ограничените ресурси на здравната система профилактиката и промоцията на здравето допринасят много повече за съхранение на живота и подобряване на неговото качество, отколкото традиционните медицински интервенции. Една от основните дейности на общопрактикуващите лекари по изпълнение на договорите със Здравната каса е извършването на профилактични прегледи на лица над 18 год. и формиране на рискови групи. Набелязва се трайна тенденция за незадоволителен обхват на задължително здравноосигурените лица с годишни профилактични прегледи, въпреки задължителния им характер. Целта на настоящето проучване е да бъдат установени причините за това, чрез изследване мнението на задължително здравноосигурените лица. Използвани са статистически и социологически методи.

**Ключови думи:** общопрактикуващи лекари, задължително здравноосигурените лица, профилактични прегледи

**Summary:**

Given the limited resources of the health system prevention and health promotion contribute much more for the preservation of life and improve its quality more than traditional medical interventions. One of the main activities of the general practitioners in the execution of contracts with the NHIF is the performance of screening of people over 18 and the formation of risky groups. There is a consistent trend regarding an unsatisfactory range of compulsory health insured people with annual prophylactic examinations, despite their obligatory character. The purpose of this study is to identify the reasons for that by examining the opinion of the compulsory insured people. Statistical and sociological methods have been used.

**Keywords:** General Practitioners, compulsory health insured people, prophylactic examinations



28. Цветкова С., П. Костадинова, И. Стоилова, Н. Стефанова. Фактори, повлияващи ефективната комуникация лекар пациент. Юбилейна научна конференция „Здравният мениджмънт – наука, практика, изкуство“, 11 – 12 октомври 2013, Варна, 92.

**Summary:** The ability to communicate effectively is extremely important in the helping professions, especially in health care. This implies knowledge of the problems and psychological reactions of doctors in a crisis situation, in which the sick person usually falls.

Good communication is essential for proper diagnosis of the disease by the doctor, as well as for the assistance in the treatment of the patient. In this paper are discussed some of the factors that lead to imbalances in the relationship between doctor and patient / derived from patients, doctors and the surrounding/.

Subject of discussion are the results of a survey between 101 doctors with different specialties working in hospitals and outpatient care. Except for the two methods (establishing the Burnout and study of psycho-social climate), the study contains information on gender, age, place of residence and marital status. The results were statistically processed (StatGraf). The conclusions are directly relevant to the issue of the quality of health services, whose users are Bulgarian patients.

**Key words:** doctor, patient, relationships, factors related to the working atmosphere

29. Камбурова, М., А. Велкова, П. Христова, С. Георгиева, **П. Стефанова**. Проучване на потребностите от обучение по мениджмънт в здравеопазването сред студентите от МУ-Плевен, специалност „медицина”. Юбилейна научна конференция „Здравният мениджмънт – наука, практика, изкуство“, 11 – 12 октомври 2013, Варна, 70.



**Въведение:** Усвояването на общи управленски компетенции от студенти специалност „медицина” би било уместно в духа на съвременните повишени изисквания към младите лекари по отношение на техните професионални знания и умения и с оглед на новата десетгодишна стратегия за растеж на Европейския Съюз „Европа 2020”. Целта на проучването е да се установят потребностите от обучение по общи управленски компетенции сред студенти от МУ-Плевен, специалност „медицина”.

**Материал и методи:** Проведено е пряка групова анкета на студенти от II и V курс, специалност „медицина”. За целите на проучването е разработена анкетна карта с 21 въпроса.

**Резултати:** Преносимите компетенции са необходими за успешната професионална реализация на младия лекар според 89,5% от анкетираните. Почти 40% от анкетираните преценяват свободно-избираемата форма в пети курс като най-подходяща за обучение по преносими компетенции.

**Заклучение:** Придобиването на основни знания и умения по мениджмънт в здравеопазването ще съдейства за разширяване на общите компетентности на студентите и би подпомогнало бъдещата реализация на младите лекари. Ключови думи: общи управленски компетенции, стратегия „Европа 2020”, преносими компетенции.

**Introduction:** Utilization of general management competencies of students in "medicine" would be appropriate in the light of modern increased requirements to junior doctors regarding their professional knowledge and skills to the new ten-year strategy for growth in the European Union 'Europe 2020'.

**Aim:** The aim of the survey is to identify training needs in general management competencies among medical students from MU-Pleven.

**Material and methods:** It was conducted inquiry with self-administered questioner among medical students second and fifth year. For the purpose of this study was developed questionnaire.

**Results:** Portable skills are necessary to successful career of a young doctor by 89.5% of respondents. Almost 40% of respondents consider free-form optional fifth year as the most appropriate training portable competencies.

**Conclusion:** Acquiring of basic knowledge and skills in management in health care will help to expand the overall competence of the students and help the future development of the young doctors.

Key words: general management competencies, strategy 'Europe 2020', portable skills



30. Георгиева, С., А. Велкова, М. Камбурова, **П. Стефанова**. Ресурси за осъществяване на промоция на здравето в училище. Юбилейна научна конференция „Здравният мениджмънт – наука, практика, изкуство“, 11 – 12 октомври 2013, Варна, 147.



**Въведение:** Училището е благоприятна и естествена среда за осъществяване на промоция на здравето на учениците и персонала. **Целта** на настоящата разработка е да се проучат възможностите за провеждане на промоция на здравето в училище и трудностите, с които е съпроводено.

**Материал и методи:** Използвани са резултати от собствено емпирично проучване за промоция на здравето в училище сред представителна извадка на училищата в Плевенски регион и литературни данни по проблема.

**Резултати и обсъждане:** Промоцията на здравето в училище е разностранна мултипрофесионална дейност, изискваща разнообразни ресурси - материално-технически, финансови, информационни, организационни, човешки и др. Чести проблеми са остаряла материална база, недостиг на финансови средства, липса на организационни структури за промоция на здравето. Най-голямо предизвикателство представлява управлението на човешкия ресурс, поради неговата разнородност по отношение на знания, професионални компетентности, мотивация и поведение. **Изводи:** Промоцията на здравето в училище е разностранна мултипрофесионална дейност. Ресурсите за нейното осъществяване са разнообразни. Това поражда редица трудности при тяхното управление и изисква разширяване на познанията за концепцията за промоция на здравето и практическите умения за нейното реализиране.

**Ключови думи:** *промоция на здравето в училище, професионални компетентности, ресурси за промоция на здравето*

**Introduction:** The school is a good environment for Health promotion of students and staff. **The aim** of this paper is to observe the opportunities for Health promotion at school in Bulgaria and difficulties go along with.

**Materials and methods:** Results from own empirical study of representative sample of schools in Pleven district and literature review were use.

**Results:** Health promotion at school is many-sided multiprofessional activity requires various resources. Old buildings and equipment, lack of financial resources and capacity for Health promotion are frequent problems. The biggest challenge is the management of human resources because of their heterogeneity with relation to their knowledge, professional competencies, motivation and behavior.

**Conclusion:** There is a necessity of enhancement of knowledge for Health promotion conception and practical abilities to realize it.

**Key words:** *health promotion at school, professional competencies, resources for health promotion*

31. **Стефанова, П.,** А. Велкова, Й. Симеонова, М. Камбурова, С. Георгиева, С. Деянов, С. Костадинов. Сформирането на рискови групи от населението като част от профилактичната дейност на общопрактикуващите лекари. XXIII Международна научна конференция на СУБ, Стара Загора, 6 - 7 юни 2013, 351.

### ABSTRACT

One of the main activities done by the General practitioners (GPs) is the prophylactics of compulsory health insured people (CHIP) above 18 years old and the formation of risky groups. If there are indications of an increased risk of occurrence of cardiovascular diseases, diabetes mellitus and cancer patients are included in a risky register and are a subject to an additional consultations by a specialist and additional laboratory tests.

In the current survey has been made analysis of the activity of GPs in the program of the formation of risky groups. Data of the annual reports of the Health Fund has been used. A direct individual inquiry with 156 GPs and 396 CHIP from the region of Pleven has been carried out by the period march 2012 y. – March 2013 y. Data has been processed with a statistical program SPSS v 16.1.

An unsatisfactory range of prophylactic medical examinations has been ascertained of the people above 18 years old (under 50% of the liable) and not functional due to the criteria of NHIF program for the formation and observation of risky groups of the population. As main reasons for that GPs specify the insufficient awareness of the patients and their reluctance to go to a prophylactic examination. Doctors explain that with the offering of a limited range of prophylactic activities, which cannot motivate people to take part in them. For the negligence of the program 'Risky groups' doctors indicate the insufficiently clear rules of NHIF about the work on that program, the insufficient granted funds for an active observation and consultations of the people with an increased risk and the lack of motivation. Above 60% of the inquired people go irregularly (not every year ) to a prophylactic examination and 14% have never visited it. As main reasons, people point the lack of information about the carrying out of the examinations, their formal performance and the lack of diagnostic examination which can motivate them to take part. About 74% of all inquired have pointed that they have at least one risky factor (RF) and only 30% of them are informed about that during the prophylactic medical examination by the GP, one fifth have been given information during the examination on another occasion and nearly 40% have not received any information. The people whose RF are connected to an already prominent diseases which are secondary RF and those that have more than one RF turn out to be more informed.

**Key words:** general practitioners, compulsory health insured people, risky groups, risky factor.

### УДОСТОВЕРЕНИЕ

№.....29.....

06.06.2013

Съюзът на учените – Стара Загора, издава настоящето

На.....д-р.....Панка Стефанова Костадинова.....

В уверение на това, че научните доклад / в

„Сформирания на рискови групи от населението като част от профилактичната дейност на общопрактикуващите лекари“  
 автор: д-р Панка Стефанова, проф. д-р Анастас Велков, д-р Анастас Георгиев, д-р Анастас Камбуров, д-р Анастас Деянов, д-р Анастас Костадинов

са докладвани на Международна научна конференция – Стара Загора, 06-07.06.2013 г.

Председател  
 На СУ-Стара Загора :

Проф. Д-р. Видко Видков



32. Георгиева, С., А. Велкова, **П. Стефанова**, М. Камбурова. Потребности от повишаване квалификацията по промоция на здравето в училище. XXIII Международна научна конференция на СУБ, Стара Загора, 6-7 юни 2013, 288.

***Abstract:***

**Introduction:** Health promotion at school is realized in partnership of all members of school community. It is a complex work requires special professional competencies of school staff. The role of school health workers and teachers in this process is very important. The **aim** of this paper is to present data about health promotion competencies of school nurses and teachers and to emphasize on the necessity of its enhancement.

**Materials and methods:** Data were collected by self-administered questionnaire among school nurses and teachers over representative extract of the schools in Pleven district.

**Results:** Over 75% of the respondents answer that they have a general idea for conception of health promotion but they need additional information. Only 20% of school nurses and below 10% of teachers had studied health promotion during their academic education. They have some experience in health promotion practice and positive attitude to this concept. Most of them (over 90%) believe in its positive effect for public health improvement.

**Conclusion:** There is a necessity of continuing education programs for school staff in the field health promotion.

**Key words:** *health promotion at school, professional competencies for health promotion, school nurses*

33. Симеонова Й., Велкова А., **Стефанова П.** Психо-поведенчески аспекти при формирането на здравната самооценка сред ученици и студенти от град Плевен. XXIII Международна научна конференция на СУБ, Стара Загора, 6-7 юни 2013, 298.

**OBJECTIVES:** The study aimed at assessing the self rated health (SRH) of students and determining the effect of some behavioural characteristics on subjective health.

**METHODS:** A cross-sectional study was carried out among 457 high school and university students in city of Plevan in 2012. To assess the subjective health we asked the respondents the question "How do you assess your health at the moment" on a 5-level scale. The effect of the following psychological and behavioural factors was explored: physical activity, smoking, alcohol consumption, energy drinks, psycho stimulants and drug use, sexual behaviour and personal health improving strategies. We also checked for the effect of body mass index (BMI). Statistical analysis was performed with the SPSS statistical package. Parametric and non-parametric statistical methods were applied.

**RESULTS:** Most of the study group (33,9%) assessed their SRH as very good. Women ( $p < 0,001$ ) and the older students aged over 20 yrs. ( $p < 0,001$ ) rated their health lower - as good and fair. At the same time among the group with negative health change over a year (13,2%) the proportion of women is 2 times higher as compared to men. Differences between the groups were found for some behavioural factors such as physical activity, smoking, alcohol consumption and energy drinks consumption. When we checked the effect of each variable in univariate analysis we detected significance only for some of them - age, physical activity, smoking and alcohol consumption. We combined the categories of excellent, very good and good health in one variable - good health, and the categories of fair and poor health - as bad health. The statistical analysis determined that most of the students at age over 20 yrs. report bad health ( $p = 0,012$ ). Good health was present in more than 50% of the non-smokers and among the individuals who drink alcohol rarely. Logistic regression modelling proved the age, smoking and alcohol consumption as important predictors of SRH. Probability of having a bad health is 6,4 times higher in people who drink alcohol on a daily basis, over 5 times higher in smokers (over 20 cigarettes per day), and 2,3 times higher in students aged over 20 yrs.

**CONCLUSION:** Psychological and behavioural individual profile can be used as a reliable and valid instrument to measure the individual health at present.

*Keywords: self-related health, predictors, physical activity, smoking, alcohol use*

34. Стоилова И., Вълков А., **Стефанова П.** Здравни проблеми при работещи във въздушния транспорт. XXIII Международна научна конференция на СУБ, Стара Загора, 6-7 юни 2013, 283.

**Aim:** To improve the diagnostic and prophylactic ability of health care system for occupational diseases in air transport.

**Materials and methods:** Patients, attended the Department of Hygiene, Medical Ecology and Occupational Diseases, University of Medicine, Plevan, during the period 2010 – 2012 are subjects of the study. Clinical laboratory, electrophysiological and radiological methods were used.

**Results:** Clinical diagnosis and most prominent symptoms were described.

**Conclusions:** There were made specific conclusions and were given direction for prophylactic of occupational diseases.

*Keywords: air transport, occupational diseases.*



35. **Костадинова П., А. Велкова, П. Христова, Й. Симеонова, С. Деянов, С. Костадинов.** Профилактика на онкологичните заболявания в България и опита на страните от Европейския съюз. XVIII – конференция на СУБ – Варна 25.10.2013 г., 48.

36. **Костадинова П., А. Велкова, П. Христова, Й. Симеонова, С. Деянов, С. Костадинов.** Фактори и условия за успешно изпълнение на програми за онкологичен скрининг сред населението. XVIII – конференция на СУБ – Варна 25.10.2013 г., 56.

### Cancer prevention in Bulgaria and the experience of the European Union

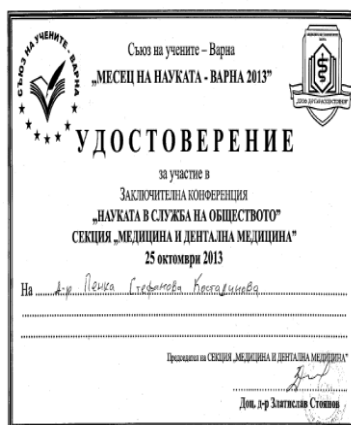
Penka Kostadinova<sup>1</sup>, Angelika Velkova<sup>1</sup>, Petkana Hristova<sup>1</sup>, Joana Simeonova<sup>1</sup>, Sergey Kostadinov<sup>2</sup>, Stefan Kostadinov<sup>3</sup>

**INTRODUCTION:** Early detection of asymptomatic cases is an important element of the control of widespread cancer (breast cancer, cancer of the cervix and colon cancer). Since 2003 in accordance with the recommendations of the Council of the European Union, most European countries have introduced organized screening programs for these cancers.

**OBJECTIVE:** The aim of this study is to evaluate the conformity of cancer prevention programs for Bulgarian population in the period 2006 - 2012, with the recommendations of the European Union and the programs for cancer screening in the member countries.

**MATERIAL AND METHODS:** We analysed the regulations of cancer screening active during the study period, data from the annual reports of the Ministry of Health and National Health Insurance Fund, and published data from published studies on the effect of prevention programs in the European region countries.

**RESULTS:** Despite the relatively high levels of mortality and morbidity due to these cancers in the population, Bulgaria lags behind the introduction of organized effective screening. Application of a high-risk approach and selection of risk groups for these diseases



### Factors and conditions for the successful implement of cancer screening programs among the population.

P. Kostadinova<sup>1</sup>, A. Velkova<sup>1</sup>, P. Hristova<sup>1</sup>, J. Simeonova<sup>1</sup>, S. Kostadinov<sup>2</sup>, St. Kostadinov<sup>3</sup>

**INTRODUCTION:** The term screening is first defined in 1957 by the Commission on chronic diseases of the United States (US Commission on Chronic illness), such as „Presumed identification of unrecognized disease or defect by the use of tests, examinations or other procedures which can be quickly implemented“. Mass screening, aimed at detecting and pre-neoplastic state leading to cancer is considered to be one of the possible and the most successful public health measures for the prevention of malignancy.

**OBJECTIVE:** To propose an algorithm for the successful introduction and implementation of screening programs for cancer.

**MATERIALS AND METHODS:** The experience of existing programs in the European region is summarised in order to facilitate the future implementation of the programs for population screening.

Legislation and literature are analyzed to implement and monitor the effectiveness of programs in the countries of the European region and in Bulgaria.

**RESULTS:** The main steps in the planning and implementation of oncological screening programs are pointed out. The algorithm is general

37. Симеонова Й., Велкова А., Цветкова С., **Стефанова П.** Индикатори за физическото здраве и тяхното значение за формирането на здравната самооценка при лица над 18 - год. възраст. XVIII – конференция на СУБ – Варна 25.10.2013 г., 27.

38. Симеонова Й., Велкова А., Цветкова С., **Стефанова П.** Могат ли психологическите фактори да обяснят различията в здравната самооценка при лица на 18 – год. възраст. XVIII – конференция на СУБ – Варна 25.10.2013 г., 32.

**Indicators of physical health and their importance for self-rated health among persons over 18 years of age**

*J. Simeonova, A. Velkova, S. Tsvetkova, P. Stefanova*

**OBJECTIVE:** To determine the level of self-rated health and study the impact of physical health for its formation.

**METHODS:** A qualitative study was conducted in August 2012. Ninety individuals were interviewed in four settlements in the region of Pleven. To evaluate self-rated health (SRH) we asked the participants "How would you rate your current health?". The assessment of physical health was based on the frequency of 20 symptoms, presence or absence of a chronic disease, the frequencies of any diseases and the number of medical visits, etc. Data were processed by SPSS.v.19. Nonparametric methods were used in seeking significant differences.

**RESULTS:** The majority of our respondents (47.8%) rated their health as good. The most commonly reported symptoms were fatigue, headache and high blood pressure but significant differs in relation to SRH were reported for 4 of the symptoms ( $p < 0.05$ ). Poor health was associated with a higher morbidity and more frequent visits to the doctor ( $p < 0.05$ ). Correlation effect of medication we found between SRH and antihypertensive drugs only ( $p = 0.001$ ).

**CONCLUSION:** Most indicators of physical health were significant associated with negative SRH and can be used successfully as predictors of poor health by medical professionals.



**Can psychological factors explain differences in self-rated health among persons over 18 years?**

*J. Simeonova, A. Velkova, S. Tsvetkova, P. Stefanova*

**OBJECTIVE:** To study the impact of psychological factors on self-rated health.

**METHODS:** A qualitative study was conducted in August 2012 among 90 individuals aged 22-75. A questionnaire included 63 questions. Eight of them were oriented toward mental health (psycho-emotional stress, self-esteem, psychological well-being, etc.). Self-rated health (SRH) was measured by 5-point scale but for statistical analysis SRH was dichotomous (good – poor health). Data were processed by SPSS.v.19. Nonparametric methods were used in seeking significant differences.

**RESULTS:** Almost 50% of the respondents rated their health as good. SRH was lower among 26,6% of the study group. Persons with poor health have had difficulty sleeping and higher levels of stress ( $p < 0.05$ ). Conversely, good self-rated health was significantly associated with higher levels of psychological well-being ( $p = 0.027$ ). Although about 30 percent of individuals have experienced more than one negative life event in the last one year it does not predetermine their poor health ( $p > 0.05$ ).

**CONCLUSION:** The number of days with disturbed sleep, stress and psychological well-being were the indicators of mental health with important role in shaping of SRH.

39. Георгиева, С., А. Велкова, М. Камбурова, П. Стефанова. Рискови фактори и мотивация на поведението сред учениците на възраст 14-19 години в Плевенски регион. Юбилейна научна конференция с международно участие „50 години на катедра Социална медицина и организация на здравеопазването“, 30 – 31 май, 2014, Варна, 61.





40. Камбурова, М., П. Христова, А. Велкова, С. Георгиева, П. Стефанова, Й. Симеонова, И. Христова. Неравенства в здравето и потреблението на здравни услуги на недоносените деца в ранното детство. Юбилейна научна конференция с международно участие „50 години на катедра Социална медицина и организация на здравеопазването“, 30 – 31 май, 2014, Варна, 42.

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## НЕРАВЕНСТВА В ЗДРАВЕТО И ПОТРЕБЛЕНИЕТО НА ЗДРАВНИ УСЛУГИ НА НЕДОНОСЕНИТЕ ДЕЦА В РАННОТО ДЕТСТВО

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## INEQUALITIES IN HEALTH AND THE DEMAND OF HEALTH SERVICES FOR PREMATURE INFANTS IN EARLY CHILDHOOD

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### РЕЗЮМЕ

**Въведение:** Според Световната здравна Организация децата, родени с тегло под 2500 гр. се определят като деца с ниско тегло при раждането, а децата родени преди 37 гестационна седмица като преждевременно родени. Те са в повишен риск за сериозни здравословни проблеми и повишени потребности от здравни услуги през ранното детство.

**Цел:** Да се проучи заболяемостта и потреблението на здравни услуги до 3-годишна възраст сред недоносени деца, живеещи в град Плевен.

**Материал и методи:** Проучването е кохортно и проследва здравния статус на децата от раждането до 3-годишна възраст. Проучването е изчерпателно за недоносените деца и репрезентативно за доносените деца, родени през 2007 г. и живеещи в гр. Плевен.

**Резултати и обсъждане:** Най-честа причина за боледуване в ранното детство са заболяванията на дихателната система, като рискът недоносените деца да боледуват над 5 пъти годишно от заболявания на дихателната система в сравнение с доносените е четири пъти по-висок – RR 4,10 95% CI (1,89 – 8,85).

Установява се над пет пъти по-често засягане на зрителния анализатор сред недоносените

### SUMMARY

**Introduction:** According to the World Health Organization children born weighing less than 2500 g are defined as children with low birth weight and children born before 37 weeks of gestation are defined as preterm born. They are at increased risk for serious health problems and increased demand for health services in early childhood.

**Objective:** To investigate the incidence and consumption of health services up to 3 years of age among premature infants living in the city of Plevan.

**Materials and Methods:** This is a cohort follow-up study of children's health status from birth to 3 years of age. The study is comprehensive for preterm children and representative for term infants born in 2007 in Plevan.

**Results and Discussion:** Respiratory diseases are the most common cause of morbidity in infancy. The risk preterm children suffer more than 5 times a year from respiratory diseases compared with term infants is four times higher – RR 4,10 95% CI (1,89 to 8,85).

The study found over five times higher risk for affect the visual system in preterm children compared to term infants – RR 5,42 95% CI (1,48 – 19,94), but does not establish a statistically significant difference between preterm and term infants regarding hearing problems.

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М. Камбурова, П. Христова, А. Велкова и съавт.

Деца в сравнение с доносените – RR 5,42 95% CI (1,48 – 19,94), но не се установява статистически значима разлика сред проследените недоносени и доносни деца по отношение на проблеми със слуха.

Мултидисциплинарно от пренаталните и когнитивното лечение на недоносените деца от раждането до 3-годишна възраст води до по-често диагностициране и по-продължителен среден престой в болница.

**ВЪВЕДЕНИЕ И ЗАКЛЮЧЕНИЕ:** Резултатите потвърждават хипотезата, че недоносените деца, живеещи в градовете, са рискова група с висок заболяемост и висока потребност от здравни услуги до 3-годишна възраст.

**Ключови думи:** недоносеност, здравен статус, здравни услуги

The need for lengthy and complex treatment of premature children from birth to 3 years of age leads to more frequent hospitalizations and a longer average length of stay in hospital.

**CONCLUSION:** The results confirm our research hypothesis that premature born children living in urban areas are a risk group with high morbidity and high demand for health services up to three years of age.

**Keywords:** prematurity, health status, health services



41. Симеонова, Й., А. Велкова, С. Цветкова, **П. Костадинова**. Фактори на формирането на здравната самооценка при амбулаторни и хоспитализирани пациенти на възраст над 44 г. Юбилейна научна конференция с международно участие „50 години на катедра Социална медицина и организация на здравеопазването“, 30 – 31 май, 2014, Варна, 285.



Варненски медицински форум, т. 3, 2014, пропозитивно 2

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# **ФАКТОРИ НА ФОРМИРАНЕТО НА ЗДРАВНАТА САМООЦЕНКА ПРИ АМБУЛАТОРНИ И ХОСПИТАЛИЗИРАНИ ПАЦИЕНТИ НА ВЪЗРАСТ НАД 44 Г.**

Йоана Симеонова, Ангелика Велкова, Силвия Цветкова, Пенка Костадинова  
Катедра „Социална и превантивна медицина“, Медицински университет – Плевен

## **FACTORS OF SELF-RATED HEALTH AMONG AMBULATORY AND HOSPITALIZED PATIENTS OVER 44 YEARS OF AGE**

Joana Simeonova, Angelika Velkova, Silvia Tsvetkova, Penka Kostadinova  
Dept. of Social and Preventive Medicine, Medical University – Pleven

### РЕЗЮМЕ

**Въведение:** Здравната самооценка (SRH) е обобщаващ измерител на здравето, представящ едновременно информация за физическото, психическото и социалното измерение на здравето. Прогностичните възможности на SRH позволяват да се идентифицират подходящи интервенции за предотвратяване на някои заболявания, възможна инвалидизация, както и редуциране на потреблението на здравни услуги и медикаменти.

**Цел:** Да се определи и съпостави здравната самооценка при амбулаторни и хоспитализирани пациенти и да се идентифицират водещите детерминанти при нейното формиране.

**Материали и методи:** През 2014 г. е проведено срезно проучване, в което са обхванати 212 пациенти на възраст над 44 г. Лицата попълнява анкетна карта, като допълнително беше събрана информация за обективния здравен статус. Данните са обработени със софтуерния пакет SPSS v.19. При търсене на статистически различия между групите са използвани параметрични и непараметрични методи.

**Резултати и обсъждане:** Повечето лица (над 70%) оценяват здравето си като удовлетворително и добро. Високият дял на SRH се отчита с напредване на възрастта, по-често при лица с повече хронични заболявания и с изразени дефицити във функционирането. По-големият брой посещения при общопрактикуващия лекар и хоспитализации е статистически свързан с по-ниска здравна самооценка ( $p < 0.05$ ).

**Изводи и заключение:** Ефективното планиране на здравните услуги изисква познаването и

### SUMMARY

**Introduction:** Self-rated health (SRH) is a summary health indicator which presents information about the physical, mental and social dimensions of health. Predictive power of SRH allows to identify appropriate interventions to prevent diseases, disability and to reduce health care utilization and medication.

**Objective:** To determine and compare the self-rated health among ambulatory and hospitalized patients and to identify the leading determinants on SRH.

**Materials and methods:** Cross-sectional study was conducted in 2014. Two hundred and twelve patients over 44 years of age were included in the study. The respondents were selected from 5 GP practices and the different clinics of the University Hospital-Pleven. The patients filled in a self-administrated questionnaire. The information about their objective health was collected from the treating physician. Data were processed by SPSS v.19. Parametric and non-parametric statistical methods were applied.

**Results and discussion:** The majority of individuals (over 70%) rated their health as fair and good. SRH deterioration was established with age, more common in persons with increasing number of chronic diseases and functional disability. More frequent medical visits to GP and hospitalizations were significantly associated with poor self-rated health ( $p < 0.05$ ).

**Conclusion:** The effective planning of health care requires recognition and integration of subjective and objective health.

**Key words:** self-rated health, physical health, health care utilization

42. Стефанова П., Г. Найденова. Асоциация на метаболитния синдром и високосензитивния С - реактивен протеин. Юбилейна научна конференция с международно участие „50 години на катедра Социална медицина и организация на здравеопазването“, 30 – 31 май, 2014, Варна, 66.



**Въведение:** Нивата на високосензитивния С-реактивен протеин (hs-CRP) могат да бъдат използвани в клиничната практика като достатъчно сигурен белег за определяне нивото на риска от възникване на сърдечносъдови усложнения.

**Цел:** Да се изследва връзката между компонентите на метаболитния синдром (MetC) и hs-CRP, като рискови фактори за сърдечносъдови заболявания (ССЗ) сред клинично здрави хора .

**Материал и методи :** Изследвани са 500 клинично здрави лица от Плевенския регион (201 мъже и 299 жени). Селектирани са участниците с метаболитен синдром. Определени са антропометрични и хематологични показатели.

**Резултати и обсъждане:** Умереното нарастване на hs-CRP при мъжете е свързано с 2,41 пъти повишаване на риска от MetC (OR= 2,41, 95% CI: 1,36- 4,33). При умерено нарастване на hs-CRP при жените се наблюдава 5,03 пъти нарастване на риска от MetC (OR= 5,03, 95% CI: 2,23- 11,13).

**Изводи и заключения:** Проучването доказва позитивната корелация между метаболитния синдром и hs-CRP.

**Ключови думи:** метаболитен синдром, hs-CRP, възпаление, затлъстяване, риск.

#### Summary:

**Introduction :** In clinical practice we can use the hs-CRP concentrations like certainly mark for determine cardiovascular complications.

**Objective:** We investigate the relation between components of metabolic syndrome and hs-CRP as a risk factors for cardiovascular diseases among clinical healthy adults.

**Material and methods:** Subjects were 500 Bulgarian clinical healthy participants from Pleven region (201 males and 299 females). It is selected the participants with metabolic syndrome. It is definite anthropometric and hematologic indexes.

**Results and discussion:** The moderate increase of hs-CRP concentrations among men are related with 2,41 elevate the risk for metabolic syndrome. (OR= 2,41, 95% CI: 1,36- 4,33). The moderate increased of hs-CRP concentrations among women is associated with 5,03 increase of risk for metabolic syndrome (OR= 5,03, 95% CI: 2,23- 11,13).

**Conclusions:** This study demonstrate positive correlation between metabolic syndrome and hs-CRP.

**Key words:** metabolic syndrome, hs-CRP, inflammation, obesity, risk.

43. Симеонова, Й., А. Велкова, С. Цветкова, **П. Костадинова**, М. Камбурова, С. Георгиева. Здравна самооценка, здравно поведение, възприеман риск за наличие на болест и възприеман контрол върху здравето при амбулаторни и хоспитализирани пациенти на възраст над 44 г. *XXIV Международна научна конференция на СУБ*, 5-6 юни, 2014, Стара Загора, 250.

#### ABSTRACT

**Introduction:** Some studies reveal that self-rated health (SRH) and perceived illness vulnerability have a mediating role for moderating health behavior and for frequency of completed medical visits. At the same time people with positive SRH possess higher control over their health and evaluate illness vulnerability lower, although the mechanisms of these relations are not clear.

**Aim:** To study statistical relations between the self-rated health, perceived illness vulnerability, perceived controllability over health and health behavior of patients over 44 years of age.

**Materials and methods:** Cross-sectional study was carried-out from February to march 2014. Two hundred and twelve patients over 44 years of age were included in the study. The patients filled in a self-administrated questionnaire. Five-point scale was used for self-rated health measure (1 – excellent health; 5 – poor health). The perceived illness vulnerability to cardiovascular and malignant diseases was assessed. The individuals compared own vulnerability with those of their peers. The perceived controllability over health was measured on a scale of 0 to 10. Information about some health behavior characteristics (the yearly check-ups, frequency of fresh fruit and vegetable consumption, physical activity, smoking, alcohol consumption) was sought. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied.

**Results and discussion:** The majority of patients evaluated their health as fair (42,5%) and good (27,8%). The positive health reduced with age ( $p=0.001$ ). The proportion of persons who perceived their vulnerability as high increased with SRH deterioration ( $p<0.05$ ). Initially measured significance between the self-rated health and regular fresh fruit consumption was not confirmed by Spearman's correlation test. The same hold true for statistical relation SRH – PAP test. The significant associations were not found between the perceived illness vulnerability and the health behavior ( $p>0.05$ ). The perceived controllability over health did not affect health behavior.

**Conclusion:** Health behavior changes of persons require a longitudinal survey, which includes all variables influential of the model (self-rated health, perceived illness vulnerability, health problem severity, perceived benefits and barriers to performing health positive activities and participation of the individuals in preventive programs).

**Key words:** self-rated health, perceived illness vulnerability, perceived controllability over health, health behavior

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#### УДОСТОВЕРЕНИЕ

№.....

05.06.2014

Съюзът на учените – Стара Загора, издава настоящето  
На: Маян Костадинова  
В уверение на това, че научните доклад / и  
доклад са представени на Международна научна конференция – Стара Загора 05-06.06.2014 г.

Председател  
На СУ-Стара Загора :

Проф. д-р Велко Видев

44. Стефанова, П., А. Велкова, П. Христова, Й. Симеонова, М. Камбурова, С. Георгиева, С. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов. Кадрова обезпеченост на първичната извънболнична медицинска помощ и влиянието ѝ за изпълнение на програмата за профилактика на здравноосигурените лица над 18 г. XXIV Международна научна конференция на СУБ, 5-6 юни, 2014, Стара Загора, 308.

### SUMMARY

**INTRODUCTION:** One of the main activities of general practitioners (GPs) is to perform prophylactic medical examinations to the compulsory health insured people (CHIP) over 18 years old and working with groups that are in an increased health risk. Staffing of the program for prevention is essential for its implementation.

**PURPOSE:** The purpose of this study is to determine the impact of collateralization with GPs and nursing staff working in medical institutions for primary support for the implementation of the prevention program for CHIP over 18 years old.

**Methods:** The data that has been used is from the official data volumes of the NHIF, the annual accounts of the NHIF and from the current regulatory. Statistical methods are used for processing the data.

**RESULTS:** The availability of the population with GPs in Bulgaria is below the average for the EU countries. There is a steady trend for a reduction in the number of GPs. The average age of the GPs is over 50. The majority of the GPs do not have an acquired specialty in general medicine or internal medicine, pediatrics or emergency medicine (about 35% in the region of

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Medicine

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### УДОСТОВЕРЕНИЕ

№.....

05.06.2014

Съюзът на учените – Стара Загора, издава настоящето  
На: Панде Стефанова, Костадинов, А. Велкова, П. Христова, Й. Симеонова,  
М. Камбурова, С. Георгиева, С. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов  
В уверение на това, че научните доклад / и  
Кадрова обезпеченост на първичната извънболнична медицинска  
помощ на възрастните лица за извънболнична медицинска  
профилактика на здравноосигурените лица над 18 г.

са докладвани на Международна научна конференция – Стара Загора 05-06.06.2014 г.

Председател  
На СУ-Стара Загора :

Проф. д-р Видя Видев



45. Simeonova V., B. Stamenov, V. Tomova, **P. Stefanova**. Clinical description of patients with recidivous venous brain infarctions and with factor ii (protrombin) - mutation G/A 20210 and with erytema nodozum. *XXIV Международна научна конференция на СУБ*, 5-6 юни, 2014, Стара Загора, 441.

The aim of the current investigation was to describe the clinical history of two patients; treated at the Clinic of Neurology of UMHAT „D-r G. Sranski” – Pleven. They were admitted from the emergency department with recidivous venous brain infarctions.

**Material and methods:** The patients were admitted from the emergency department of the University Hospital – Pleven in the Clinic „Neurology and Neurosurgery”. They were at severe condition, at epileptic status. Complete anamnestic data were taken. Double brain MRT and CT scan, ECG, Ultra sound of the abdomen and heart, X-ray of the lungs, EEG, biochemical, microbiological, immunological, serologic and genetic tests, lumbar puncture were applied. The patients were discussed with neurologist, neurosurgeon, cardiologist, ophthalmologist, anesthesiologist and infectionist. Coagulation tests were complied. The fibrinolytic and antiepileptic treatment was continued successfully. The patients were discharged in good condition without motor deficit and epileptic symptoms.

**Results:** The analysis of the received results and data of the laboratory investigations revealed challenges and alternatives concerning the clinical interpretations, diagnosis and differential diagnosis.

**Conclusions:** It's necessary to be provided more investigations in the Genetic and Molecular pathology laboratories for the correct final diagnosis.

**Key words:** venous brain infarctions, risk of thrombophylia, factor II (Protrombin) – mutation G/A 20210, erytema nodozum, differential diagnosis.

# УДОСТОВЕРЕНИЕ

№...16.....

05.06.2014

Съюзът на учените – Стара Загора, издава настоящето  
На.....В. Симеонова, Б. Стаменов, В. Томова.....

В уверение на това, че научните доклад /и  
Описание на клинични случаи, резултати от изследвания  
на венозни инфаркти, дължащи се на фактор II (Протромбин)  
мутация G/A 20210 и Еритема нодозум.....

са докладвани на Международна научна конференция – Стара Загора 05-06.06.2014 г.

Председател  
На СУ-Стара Загора :



Проф. д-р Вадим Видев

46. Стоилова И., **П. Стефанова**. Вредни фактори на производството и увреждания на здравето при работещи в шивашката промишленост. *XXIV Международна научна конференция на СУБ*, 5-6 юни, 2014, Стара Загора, 401.

The clothing industry is traditionally well developed in Bulgaria. The work process involves operations q associated with the use of various raw materials, machines and tools. Harmful factors of manufacture are forced posture, monotonous work, noise, vibration and poisons.

Examining is subject to 106 persons. There have been diseases of the nervous system, musculoskeletal system, acute respiratory diseases, kidney and gynecological diseases and others.

Conclusions and recommendations are made for the prevention of occupational diseases.

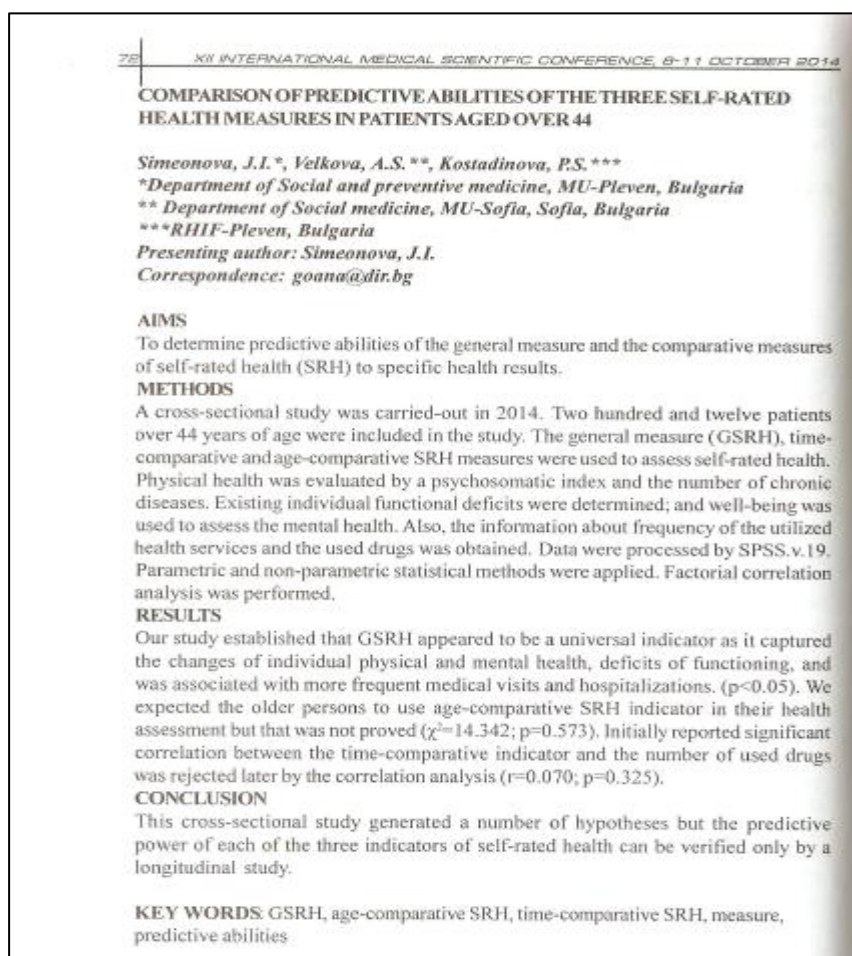
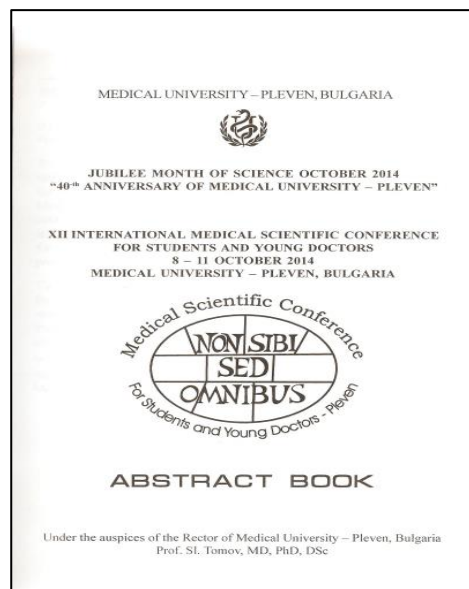
**Keywords:** *clothing industry, harmful factors, occupational diseases.*

47. Цветкова С., И. Стоилова, **П. Стефанова**. Проучване на фактори-стресори от работната среда и трудовия процес при производството на цимент. *XXIV Международна научна конференция на СУБ*, 5-6 юни, 2014, Стара Загора, 425.

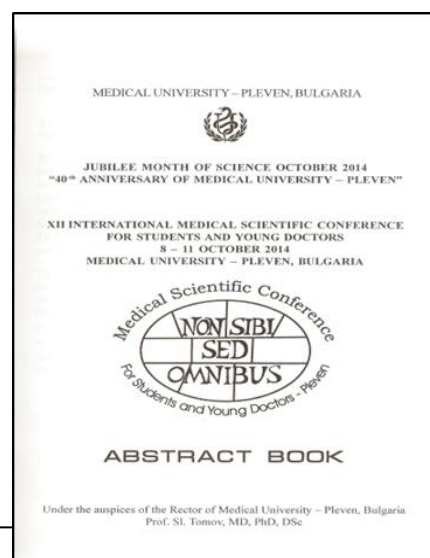
The theme of work-related stress is up to date and relevant to the holistic health of working people. In a dynamic and complex labor production, what is the production of cement, sought by free opinion poll structured working in Titan AD-Golden Panega satisfaction on the activity, the conditions and the type of labor, presence/absence of stress and chronic diseases and others. Of the total number of questions (26) are addressed in those that are relevant to the stated theme and some demographic data of 70 persons engaged in production. The data are factors-stressors or less would affect negatively health.

**Key Words:** *holistic health of working people, production of cement, factors-stressors*

48. Simeonova, J., A. Velkova, **P. Kostadinova**. Comparison of predictive abilities of the three self-rated health measures in patients aged over 44, [XII<sup>th</sup> International Scientific Conference for students and young doctors Pleven](#), Bulgaria. 8-11 October 2014, Abstract Book, **Resume**, p. 72



49. Atanasova G., P. **Stefanova**, A. Atanasova, S. Kostadinov. Prevalence of metabolic syndrome in Bulgarian population, XII Medical scientific conference for students and young doctors – Pleven, Медицински Университет – Плевен, 08-10.10.2014, Abstract book, 177.



## POSTER SECTION 2

### P.40. PREVALENCE OF METABOLIC SYNDROME IN BULGARIAN POPULATION

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*\*\*\*Student in Medical University of Plevan*

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#### OBJECTIVE

The purpose of this study was to examine the prevalence of individual risk factors for metabolic syndrome (MetS) as well as the prevalence of metabolic syndrome in Bulgarian population.

#### METHODS

Descriptive, cross-sectional study of representative sample of the Bulgarian population for the period 2008-2009 year was done. They were included 820 (344 men and 475 women). The National Cholesterol Education Program's Adult Treatment Panel III (NCEP/ATP III) guidelines were used to identify adults who met their criteria for MetS. Prevalence estimates were calculated for each risk factor for MetS in addition to the prevalence of MetS. The following biomarkers were measured: fasting blood glucose, total cholesterol, NDL-cholesterol, serum triglycerides, LDL-cholesterol.

#### RESULTS

Approximately 34% of adults in our study met the criteria for MetS. There was noted a marginal increase in the average (mean) and median almost all risk factors. It was observed trend of increasing systolic blood pressure (SBP) with increasing age - over 30 years for men and women. SBP in both sexes with age up to 54 years it has increased, and then declined in women and men.

#### CONCLUSION

These results demonstrated MetS prevalence and that increased with age and with BMI. The groups of 46-54 for men and 66-75 for women were with the highest risk for the metabolic syndrome.

**KEYWORDS:** metabolic syndrome, risk factors, BMI.



50. **Kostadinova, P., A. Velkova, P. Hristova, J. Simeonova, M. Kamburova, S. Georgieva, S. Kostadinov, I. Stoilova, V. Simeonova, S. Kostadinov.** Research about the consumption of outpatient medical care by insured people over 18 years old in the region of Pleven according to the frequency of their prophylactic medical examination financed by the NHIF. Jubilee Scientific Conference "40 years Medical University - Pleven", October 30 – November 1, 2014, *In: Journal of Biomedical & Clinical Research*, 1(7), supplement 2, 2014, 84-85.



*J. Biomed. Clin. Res.* Volume 7, Number 1, Supplement 2, 2014

# **BUSINESS ETHICS AS PART OF THE TRAINING OF STUDENTS IN MASTER PROGRAMS OF THE FACULTY OF PUBLIC HEALTH AT THE MEDICAL UNIVERSITY OF PLOVDIV**

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## **Summary**

The objective of this study was to analyze the attitude of students towards the subject Business Ethics.

An inquiry was conducted among students in two Master programs of the Faculty of Public Health at the Medical University of Plovdiv. The study was conducted using the individual direct poll method during the Fall term of the 2013/2014 academic year. The study was exhaustive for the students in the Master programs Management of Health Care and Management of Medical and Social Activities.

The results from the study show that (75.8%) of the respondents expected the subject Business Ethics to be included in their training course. The students believe that the knowledge that they acquired in this subject could be applied in the following areas of their daily activities: communication with patients and their relatives (82.3%), communication with peers to improve ethical relationships within the team (70.2%), communication with superiors (62.1%), etc.

**Key words:** business ethics, master program, management of health care, public health

**Petka St. Kostadinova, Angelika Velkova, Petkana Hristova, Joana Simeonova, Mariela Kamburova, Stela Georgieva, Sergey Kostadinov, Irena Stoilova, V. Simeonova, Stefan Kostadinov\***

*Regional Health Insurance Fund - Pleven Department of "Social and Preventive Medicine, Medical Statistics, Faculty of Public Health, Pedagogy and Psychology", Medical University - Pleven*

*\*Department "General Medicine, Forensic Medicine and Dentistry", Faculty of Public Health, Medical University - Pleven*

*\*Department "Hygiene and Occupational Disease, Faculty of Public Health, Medical University - Pleven*

*\*Dept. Neurology and Neurosurgery, UMILAT "Dr. G. Straniski" - Plovdiv*

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## **Summary:**

**Introduction:** Limited resources for health care are an undesirable fact. Prevention and early detection of diseases are part of the tools that should lead to lower costs and improve population health.

**Objective:** The aim of this study is to establish the use of outpatient medical care by the insured people over 18 years old in the Plevna region depending on the frequency of their prophylactic medical examinations. **Sources and Methods:** Official information from the databases of the National Health Insurance Fund and the Regional Health Insurance Fund - Pleven has been used. Data processing is performed with statistical methods. **Results:** For the period 2005 – 2012 y., with annual prophylactic medical examinations in the country are covered from 35.8% to 48.3% of eligible, as for the region of Plevna ranged from 33 to 45%. For the same period, only 6% of insured have gone regularly (annually) to a prophylactic examination, 65% have gone only in a few years, and 29% never went. Most regularly people over 65 years old go to a prophylactic medical examination. Men less often attend health check with a more significant difference between the sexes at a younger age. Women who



# **RESEARCH ABOUT THE CONSUMPTION OF OUTPATIENT MEDICAL CARE BY INSURED PEOPLE OVER 18 YEARS OLD IN THE REGION OF PLEVEN ACCORDING TO THE FREQUENCY OF THEIR PROPHYLACTIC MEDICAL EXAMINATION FINANCED BY THE NHIF**

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regularly go to a prophylactic examination have five times as many medical research as compared to those who have not gone even once on such examination, while for men the difference is even bigger - about seven times. The average cost of medical diagnostic tests for the attends of prophylactic examination in 2013 is 15.20 lv for men and 16.9 lv for women and 2.5 lv for men and 3.9 lv for women who have never been to such an examination. **Conclusions:** People that regularly go to a prophylactic medical examination are greater consumers of outpatient medical care. **Key words:** health insured people, prophylactic examination, medical diagnostic tests

51. Kamburova, M., P. Christova, S. Georgieva, J. Simeonova, **P. Kostadinova**, I. Christova. Epidemiological and socio - medical consequences of prematurity. Jubilee Scientific Conference "40 years Medical University - Pleven", October 30 – November 1, 2014, *In: Journal of Biomedical & Clinical Research*, 1(7), supplement 2, 2014,70.



# METHODS OF DEALING WITH FATIGUE AND STRESS DURING EXAMS

Nevenka R. Boninska, Nora B. Perwa,  
Natalia I. Netzeva, Elizabeth I.  
Markova, Petranka I. Gagova

„X-ray laboratory“ specialty, MC „V.  
Filaretova“, MU, Sofia

Corresponding Author:  
Nevenka R. Boninska  
e-mail: nevenrbon@abv.bg

## Summary:

Twice a year, there is a period with stress and panic for the students. The exam session starts and builds on students' stress, nerves, fatigue, studying. This leads to neuro-physiological stress and high emotional tension, which can adversely affect both the successful completion of the exam and their health. Objective: The purpose of this study was to establish if the students in specialty "X-ray laboratory" in MC "V. Filaretova", Sofia experiencing stress and fatigue during this session and with what methods they most effectively overcome it. Materials & Methods: A documentary and questionnaire method is used. A poll is made, through its own direct anonymous questionnaire, including 13 questions. The participants are 56 students from first and second course of specialty. The results are compared by mathematical and graphical analysis. Results: From the studies it can be argued, that tension and stress during a session, accompany 83.92% of respondents, while fatigue is a significant by 58.92% of them. Students, that take breaks through learning /71.43%/, play sport /41.07%/, and have fun with friends /62.79%/. manage to cope effectively with fatigue. Conclusion: The results show, that recourse to various appropriate methods of relaxation, we will effectively manage fatigue and will feel more mild.

**Key words:** fatigue, students, exam session, relax methods

## EPIDEMIOLOGICAL AND SOCIO - MEDICAL CONSEQUENCES OF PREMATURITY

Maricla S. Kambourova, Petkanta A.  
Christova, Stela I. Georgieva,

Joana I. Simeonova, Penka S.  
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## Summary

Studies on prematurity are crucial to progress in the implementation of the fourth objective of the Millennium Development Goals and target 4 of the Health 2015: the health for all policy framework for the WHO European Region. The study aims to explore, analyze and present the main epidemiological and socio-medical public health impacts of prematurity. The review is based on a critical analyses of more than 50 literary sources. There is a tendency to increase the proportion of children born with low birth weight of 6.1% in 1985 to 7.23% in 2011 in the European Union. In Bulgaria those indicator increased from 6.1% in 1985 to 8.4% in 2011 and it is more than twice as high in Finland - 4.1%, where the index is stationary during the all observed period. Prematurity is the cause of death and is the long run for the loss of human potential. Its complications are the most important independent and direct cause of neonatal mortality and the second leading cause, after pneumonia, for deaths up to 5 years of age. Conclusion: The challenge for researchers and practitioners is to identify and implement interventions to prevent prematurity, leading to a reduction in morbidity and mortality of infants and lower postponed prevalence of preterm children.

**Key words:** prematurity, neonatal mortality, postponed prevalence of preterm children, prevention of prematurity

## CHALLENGES OF PREMATURITY NOWADAYS

Rosica K. Enikova, Katerina  
Stoyanova, Vania A. Kambourova,  
Cvetan P. Dimitrov, Neliya

52. Georgieva, S., M. Kamburova, J. Simeonova, **P. Kostadinova**, A. Velkova. Guidelines for improving school health education. Jubilee Scientific Conference "40 years Medical University - Pleven", October 30 – November 1, 2014 *In: Journal of Biomedical & Clinical Research*, 1(7), supplement 2, 2014,75.



#### **GUIDELINES FOR IMPROVING SCHOOL HEALTH EDUCATION**

**Stela L. Georgieva, Mariela S. Kamburova, Joana I. Simeonova, Penka S. Kostadinova\*, Angelika S. Velkova\***

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#### **Summary**

**Background:** Health education is a process of improving health knowledge and developing life skills which are conducive to individual and community health. Its objectives are to provide information about health-related problems of prevent interest, create positive attitude to health and guiding into healthy lifestyle.

The aim of this paper is to observe the characteristics of health education at schools in terms of the school nurses, teachers and students as participants in this process.

**Methods:** Data were collected by self-administered questionnaire among school staff, students and their families in the comprehensive study of health promotion at schools in the region of Pleven. Some of the questions examine the attitude of individuals and groups to the health education at school, their opinion for its efficiency and preferred topics and methods of conducting.

**Results:** All of the respondents consider that health education is an important part of school health promotion but there is different opinion about its quality in different groups under study.

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*J Biomed Clin Res* Volume 7, Number 1, Supplement 2, 2014

Three quarter of school nurses versus only 25.6% of teachers assess it as systematic and adequate. Over 80% of health education at school is carried out by traditional and unattractive methods of health education or don't correspond with information needs of students. In 74.1% of cases they define themselves as a passive audience in this process. 60% of the respondents realize better effectiveness of team-work for health education. **Conclusion:** To reach its aims school health education should be more appropriate to user's interests and needs.

**Key words:** school health promotion, health education, school nurses, healthy lifestyle



53. Simeonova, J., A. Velkova, S. Tsvetkova, **P. Kostadinova**, P. Hristova, M. Kamburova. Correlation between self-rated health and socioeconomic and psychological characteristics of ambulatory and hospitalized patients over 44 years of age. Jubilee Scientific Conference "40 years Medical University - Pleven", October 30 – November 1, 2014, *Journal of Biomedical & Clinical Research*, 1(7), suppl.2, 72.

# **SUICIDE ATTEMPTS IN BULGARIA 2009-2013**

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## **Summary**

**Aim:** Presentation of data on suicide attempts and completed suicides in Bulgaria for a five year period. We present the information using statistical regions in Bulgaria that are most suitable for data comparability. Methodological approaches: There are standard forms "death notification" and "card for suicidal action" of the Ministry of Health. The information is collected by the regional health inspections and summarized by the National Center for Public Health and analyses.

**Main results:** In the six statistical regions in Bulgaria we observe the prevalence of suicide attempts and completed suicides among the rural population. Leading methods of suicide are poisoning with drugs and hanging. Financial reasons are not the leading cause of suicide. **Conclusion:** Each of the statistical regions in Bulgaria is characterized by features that allow specific preventive measures in this area.

**Key words:** attempts, suicide

# **CORRELATION BETWEEN SELF-RATED HEALTH AND SOCIOECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF AMBULATORY AND HOSPITALIZED PATIENTS OVER 44 YEARS OF AGE**

**Joana I. Simeonova, Angelika S. Velkova<sup>1</sup>, Silvia B. Tsvetkova, Penka S. Kostadinova<sup>2</sup>, Petkana A. Hristova, Mariela S. Kamburova**

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## **Summary**

**Aim:** To identify socioeconomic and psychological determinants of self-rated health among ambulatory and hospitalized patients. **Methods:** A cross-sectional study was carried-out in 2014. Two hundred and twelve patients over 44 years of age filled in a self-administrated questionnaire. Self-rated health (SRH) was measured by 5-point range scale. The level of well-being (WB), sources of social support, personal financial capacity, social status, etc. were studied as well. Data were processed by SPSS, v.19. Parametric and non-parametric statistical methods were applied. **Results:** Over 70% of the patients evaluated their health as fair and good. The persons with higher WB had higher SRH, that correlation was moderate ( $r=0.452$ ;  $p=0.001$ ). In regard to the social status the differences were significant - the unemployed, old age retirees or ill health retirees evaluated their health lower ( $p<0.05$ ). A proportion of patients indicated two or more sources of emotional and instrumental support, but increased number of support sources had no effect on SRH ( $p>0.05$ ). **Conclusion:** Identification of socioeconomic and psychological factors of self-rated health allows clarifying better their effect mechanisms and planning appropriate health services.

**Key words:** self-rated health, well-being, social support, social status, financial capacity

# **RISK SEXUAL BEHAVIOR IN STUDENTS AGED 12-18**

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## **Summary**

**Aim:** To identify risk sexual behavior in students



54. Simeonova V., B. Stamenov, V. Tomova, **P. Stefanova**. Clinical descriptions of patients with epileptic status and with diagnostic and differential diagnostic alternatives. Jubilee Scientific Conference "40 years Medical University - Pleven", October 30 – November 1, 2014, *Journal of Biomedical & Clinical Research*, 1(7), suppl.2, 109-110.

**CLINICAL DESCRIPTIONS OF PATIENTS WITH EPILEPTIC STATUS AND WITH DIAGNOSTIC AND DIFFERENTIAL DIAGNOSTIC ALTERNATIVES**

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**Summary**

The aim of the current investigation was to describe the clinical history of four patients; treated at the Clinic of Neurology of UMHAT „D-r G. Stranski” – Pleven. They were admitted from the emergency department with symptomatic epileptic status. Material and methods: The patients were admitted from the emergency department of the University Hospital – Pleven in the Clinic „Neurology and Neurosurgery”. They were at severe condition, at epileptic status. Complete anamnestic data were taken. Double brain MRT and CT scan, ECG, Ultra sound of the abdomen and heart, X-ray and CT of the lungs, EEG, biochemical, microbiological, immunological, serologic and genetic tests, lumbar puncture were applied. The patients were discussed with neurologist, neurosurgeon, cardiologist, ophthalmologist, anesthesiologist and infectionist. Coagulation tests were complied. The fibrinolytic and antiepileptic treatment was continued successfully. The

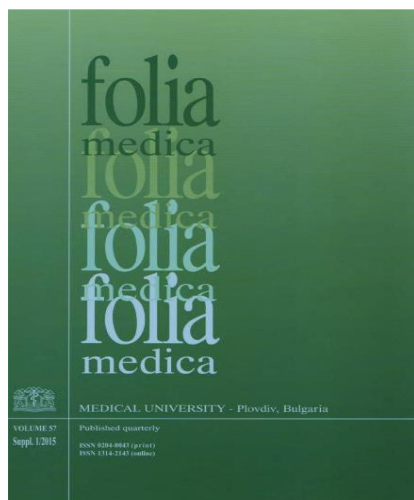
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patients were discharged in good condition without motor deficit and epileptic symptoms. Results: The analysis of the received results and data of the dynamic clinical neurological examination, laboratory investigations, revealed therapeutic challenges and alternatives concerning the clinical interpretations, diagnosis and differential diagnosis. Conclusions: It's necessary to be provided more investigations in the Genetic and Molecular pathology and microbiology laboratories for the correct final diagnosis.

**Key words:** epileptic status, venous brain infarctions, risk of thrombophilia, factor II (Prothrombin) – mutation G/A 20210, differential diagnosis



55. Simeonova J., A. Velkova, S. Tsvetkova, **P. Kostadinova**, S. Georgieva, M. Kamburova. Social characteristics and their effect on self-rated health in persons over 18 years of age. Jubilee scientific conference "Science for Health", 20-23.05.2015, Plovdiv. In: *Folia medica*, 57, supplement 1, 2015, 87. (SJR 0.183)



*Folia Medica* 2015; 57; Suppl. 1  
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summary are presented the results, concerning the health behavior regarding tobacco smoking in medical professionals, working in St. Marina University Hospital, Varna. The results the following: Despite the high result of regular smokers - 42.0% in 2007 and 40.4% in 2013 there is a decrease of 2%, which we consider a result of the ongoing government policy concerning the restriction of tobacco smoking. Nurses have all the instruments to influence patients during the hospital stay, therefore attracting them to the side of the global fight against the tobacco smoking will be a big success for our health system. Prevention of damage from tobacco smoking should be included in the training syllabuses for educational programs for the nurses.

**Key words:** restriction of tobacco smoking, nurses, basic competences, strategy

#### PH 19. SOCIAL CHARACTERISTICS AND THEIR EFFECTS ON SELF-RATED HEALTH IN PERSONS OVER 18 YEARS OF AGE

Joana Simeonova, Angelika Velkova, Silvia Tsvetkova, Penka Kostadinova, Stela Georgieva, Mariela Kamburova  
*Medical University - Pleven, Bulgaria*

**Introduction:** One of the basic mechanisms through which social inequalities influence health is stratification of people in social classes according to their control over resources. This social stratification results from differences in education, occupation and income, as people from lower social classes are exposed to different health risks and are deprived of ability to control their health.

**Aim:** To study the effect of individual social status on self-rated health.

**Material and methods:** A qualitative study was performed among 90 persons over 18 years of age in 2013. Self-rated health (SRH) and social status (education, income, property ownership, qualification) of the respondents were studied by an interview. Data were processed by SPSS v.19. Non-parametric statistical methods were applied.

**Results:** Most of the participants (47.8%) assessed their health as good. Stratification by some basic social characteristics showed that 5.6% of the respondents had elementary education, 12.4% were unemployed. One third of them existed on monthly income less than 310 BGN, 30% defined their financial resources as insufficient, and 12.2% lived in rented accommodation. Every third person reported a disparity between the current job position and the professional competences they had. Education was the only variable significantly associated with self-rated health - those with elementary education perceived their health as poor more often ( $p = 0.001$ ). Symmetrical distribution of poor SRH among the groups with lower incomes explained partly the lack of significant difference between groups ( $p = 0.469$ ).

**Conclusion:** Education was the sole variable significantly associated with self-rated health among all studied social factors.

**Key words:** self-rated health, education, property ownership

#### PH 20. STRESS MODERATORS AMONGST MIDWIFE STUDENTS THROUGH THE PROCESS OF EDUCATION AT THE MEDICAL UNIVERSITY OF PLOVDIV

Ivanka Dimitrova, Diruhi Amadiyan, Elena Mihaylova, Sofka Kutryanska, Teodora Momchilova, Boris Kuzmanov

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Under conditions of restructuring higher education system, the evaluation of stress factors

*Folia Medica* 2015; 57; Suppl. 1  
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56. Atanasova G., **P. Stefanova**, A. Atanasova, St. Kostadinov. The single nucleotide polymorphism in CYP2C8 is associated with myocardial infarction in Bulgarian population with cardiovascular risk profile. Jubilee scientific conference "Science for Health", 20-23.05.2015, Plovdiv. In: *Folia medica*, 57, supplement 1, 2015, 97. (**SJR 0.183**)



*Folia Medica* 2015; 57; Suppl. 1  
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**METHODS AND MATERIALS:** A total of 4739 patients with non-central nervous system malignancy were studied between October 2011 and November 2014. The patients were scanned on GE Discovery 16 slices scanner from the top of the head to mid-thigh one hour after administration of 5MBq/kg 18F-FDG. All images were interpreted by nuclear medicine physician and radiologist with experience in oncologic imaging. Fifty-seven patients out of 4739 patients (1.2%) had pathological brain PET/CT findings which were retrospectively analyzed. Thirty-one patients out of 57 were female and 26 were male. The mean age was 58.5 years (range 35-86 yrs).

**RESULTS:** The most common abnormalities are brain metastases (14 patients), postoperative findings without metabolic activity (12 patients), residual formation or recurrence (5 patients), meningioma (2 patients), extra-axial metastases (5 patients), cerebrovascular accidents in chronic stage (16 patients) and arachnoid cyst (3 patients). Detecting new metastatic lesions changed management in 19 patients. The most common primary malignancy was lung carcinoma (26 patients), breast carcinoma (14) and melanoma (7).

**CONCLUSION:** Including the brain in the scanned field of the whole-body PET/CT may provide crucial information which is important for patient's management.

**Key words:** PET/CT, oncology, brain findings

## TH 7. THE SINGLE NUCLEOTIDE POLYMORPHISM IN CYP2C8 IS ASSOCIATED WITH MYOCARDIAL INFARCTION IN BULGARIAN POPULATION WITH CARDIOVASCULAR RISK PROFILE

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<sup>1</sup>Department of Propaedeutics of Internal Diseases, University Hospital; <sup>2</sup>Department of Social and Preventive Medicine, Medical Statistics, Pedagogy and Psychology, Medical University - Pleven, Regional Health Insurance Fund - Pleven; <sup>3</sup>Medical University - Pleven, Bulgaria

In the present study we analyzed the impact of a genetic variant in CYP2C8\*3 and on myocardial infarction (MI) in Bulgarian population. We conducted a case-control study to determine whether the common genetic variation rs890293 (CYP2J2\*7) in CYP2J2 gene was associated with the risk of MI.

The study included 99 patients with MI and 377 population control subjects. To determine the genotypes of the samples real time PCR with predesigned TaqMan SNP Genotyping Assays (Applied Biosystem) was used. The deviation of allele polymorphism CYP2C8 \* 3 on the balance of Hardy-Weinberg and the frequency of the T allele with  $\chi^2$  test was studied.

The rare allele CYP2C8\*3 was found in 16% of the affected and 10% of the non affected cases and it showed statistical significance [OR (95% CI): 1.64 (1.00-2.56),  $P = 0.03$ ]. The CYP2C8\*1/\*1 genotype occurred more often in the control group compared with the patients with MI [OR (95% CI): 0.58 (0.35-0.96),  $P = 0.039$ ]. The heterozygous genotype of CYP2C8 was found to be significantly associated with a risk of myocardial infarction [OR (95% CI): 2.25 (1.06-4.75),  $P = 0.036$ ] in women.

Possession of the rare genetic variant rs1050968 in CYP2C8 gene is associated with a modestly increased risk of MI in Bulgarian population.

**Key words:** genotype, risk, myocardial infarction





57. **Костадинова П.,** А. Велкова, П. Христова, Й. Симеонова, С. Д. Костадинов, И. Стоилова, Г. Найденова, С. Костадинов. Проучване мнението на ОПЛ за провежданите профилактични прегледи на лица над 18 год. *XXV Международна научна конференция на СУБ, 4-5 юни, 2015, Стара Загора, 223.*



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на XXV Международна научна конференция  
на Съюза на учените Стара Загора  
4-5 юни 2015г.  
издава настоящия

**СЕРТИФИКАТ**  
на  
**Пенка Костадинова**  
за участие в работните заседания  
и принос в развитието на форума

Председател на Организационния комитет :  
.....  
доц. д-р Масдалена Обиднова

4-5 юни 2015 година  
гр. Стара Загора

**ПРОУЧВАНЕ МНЕНИЕТО НА ОПЛ ЗА ПРОВЕЖДАНИТЕ ПРОФИЛАКТИЧНИ ПРЕГЛЕДИ НА ЛИЦА НАД 18 ГОД**

**Пенка Стефанова Костадинова<sup>1</sup>, Ангелика Велкова<sup>2</sup>, Петкана Христова<sup>1</sup>, Йоана Симеонова<sup>1</sup>, Сергей Деянов<sup>3</sup>, Прена Стоилова<sup>4</sup>, Галя Найденова<sup>5</sup>, Стефан Костадинов<sup>6</sup>**  
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<sup>6</sup> МУ – Плевен, студент IV-ти курс, специалност „Медицина“

**A SURVEY IN REGARD TO THE OPINION OF GPs FOR THE CARRIED OUT PROPHYLACTIC MEDICAL EXAMINATIONS OF PEOPLE OVER 18 YEARS OLD**

**Penka Stefanova Kostadinova<sup>1</sup>, Angelika Velkova<sup>2</sup>, Petkana Hristova<sup>1</sup>, Joana Simeonova<sup>1</sup>, Sergey Deyanov Kostadinov<sup>3</sup>, Irena Stoilova<sup>4</sup>, G. Naydenova<sup>5</sup>, Stefan Kostadinov<sup>6</sup>**  
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**ABSTRACT**

**Introduction:** One of the main activities of general practitioners (GPs) in the execution of their contracts with the NHIF is carrying out preventive examinations of people over 18 and the formation of groups at risk. Despite the mandatory nature of these examinations annually is reported a lower range of insured people - about 50% of the subject.

**Objective:** The aim of this study is to identify the main reasons for the low coverage with preventive examinations on health insured people over 18 years old.

**Materials and Methods:** Official data from the arrays of NHIF and the annual reports of the NHIF have been used. A direct individual survey of 229 GPs from the regions of Plevен, Montana and Yambol has been carried out. Statistical processing of the raw data was carried out with software packages Microsoft Office Excel 2010 and SPSS for Windows v.13.0.

**Results:** All GPs surveyed believe that it is necessary to undertake an annual check-ups of people over 18, but less than half of them believe that the package of preventive activities for individual groups are well chosen. Over 70% of respondents indicated a need for better awareness of the population, over 45% have indicated the need for inclusion of new activities in preventive examinations and 50% accept the imposition of sanctions on defaulting prophylactics as an appropriate measure. About a quarter of GPs have no difficulty in carrying out preventive examinations. Others commented mainly on the difficulties with the notification of patients, increased requirements of the NHIF, lack of time and lack of motivation.

**Findings and conclusion:** It is necessary to be taken to improve information to patients, optimizing the activities included in preventive package, and application of regulatory penalties for the health insured people that have not attended an annual prophylactic examination.

**Keywords:** general practitioners health insured people, prophylactic examinations.

**Въведение:** Една от основните дейности на общопрактикуващите лекари (ОПЛ) по изпълнение на договорите им с НЗОК е извършване на профилактични прегледи на лица

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58. Симеонова Й., А. Велкова, П. Костадинова. Възрастови различия в здравната самооценка при пациенти над 44 – годишна възраст. XXV Международна научна конференция на СУБ, 4-5 юни, 2015, Стара Загора, 323.



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**СЕРТИФИКАТ**

на  
**Пенка Костадинова**

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Плeдceдaтeл нa Oргaнизaциoнния кoмитeт :

доц. д-р Магдалена Облчарова

4-5 юни 2015 година  
гр. Стара Загора

## ВЪЗРАСТОВИ РАЗЛИЧИЯ В ЗДРАВНАТА САМООЦЕНКА ПРИ ПАЦИЕНТИ НАД 44-ГОДИШНА ВЪЗРАСТ

Йоана Симеонова, Ангелика Велкова, Пенка Костадинова  
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## AGE DIFFERENCES IN SELF-RATED HEALTH AMONG PATIENTS OVER 45 YEARS OF AGE

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5800, Bulgaria, [joana@dir.bg](mailto:joana@dir.bg)

### ABSTRACT

**Introduction:** Many studies found deterioration of self-rated health with aging that is associated to deterioration of personal physical functioning. However, some elderly people perceive their health more positively regardless of their health problems. It has been shown that elderly people often used persons of the same age as a prototype for comparison and they assessed their performance as better than the others. Such optimistic assessment was important in the process of creating positive role models for coping.

**Aim:** To study the relationship between age and self-rated health in patients over 44 years of age.

**Material and methods:** A cross-sectional study was carried-out in 2014. The study was a part of Project N0 11/2014, which was funded on Medical University of Plevan. Two hundred and twelve patients over 44 years of age were included in the study. The age, sex and residence distributions of Bulgarian population in 2012 were applied in the process of sampling. We selected 115 hospital patients and 97 patients from general practice setting. Self-perceived health was measured by two instruments - general measure (GSRH) and comparative measure (ASRH). Some variables of physical health were also included in the study (frequency of psychosomatic symptoms and sickness, chronic diseases, frequency of utilized health services and medicines). Standardized questionnaire EQ-5D was used in measuring functional status of patients. Data was processed by SPSS.v.19. Parametric and nonparametric methods were applied.

**Results and discussion:** Most of the patients (61.8%) assessed their health as fair and poor. Deterioration in self-rated health was observed with aging ( $p=0.001$ ). That pattern was associated with a higher frequency of some psychosomatic symptoms and functional deficits ( $p<0.05$ ). We expected the majority of elderly to report more favorable ASRH, but that was not proved ( $p>0.05$ ).

**Conclusions:** A deterioration of GSRH was found with aging which is partly explained by poor physical health of patients. The possible effect of other factors (psychosocial stress, depression, lack of social support) on negative self-perception of health requires further studies.


**Key words:** self-rated health, age differences, physical health, functioning

**Въведение:** Редица проучвания отчитат влошаване на здравната самооценка с напредване на възрастта, като свързват тази негативна промяна основно с влошаване на физическото функциониране на лицата. Немалка част от по-възрастните лица, обаче, възприемат по-позитивно своето здраве, независимо от наличните здравословни проблеми. Доказано е, че старите хора използват често като прототип за сравнение лица на същата възраст, но оценяват собственото си представяне като по-добро от това на другите. Подобна оптимистична оценка има важно значение при изграждането на позитивни ролеви модели за справяне.

**Цел:** Да се изследва зависимостта между здравната самооценка и възрастта при пациенти на възраст над 44 години.

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59. Стоилова И., Й. Велчева, П. Костадинова, А. Вълков. Клинични аспекти на пренапрежението като вреден фактор на производството при съвременните условия на труд. *XXV Международна научна конференция на СУБ*, 4-5 юни, 2015, Стара Загора, 150.

 <p><b>СЪЮЗ НА УЧЕНИТЕ</b> - Стара Загора бул. "Цар Симеон Велики" 140; ПК 304; тел: 042/ 64 60 41; факс: 042/ 63 91 05 sustz@abv.bg, http://www.sustz.com</p> <p>Организационният комитет на XXV Международна научна конференция на Съюза на учените Стара Загора 4-5 юни 2015г. издава настоящия</p> <p><b>СЕРТИФИКАТ</b> на <b>Пенка Костадинова</b> за участие в работните заседания и принос в развитието на форума</p> <p>Председател на Организационния комитет : ..... доц. д-р <b>Магдалина Облудова</b> 4-5 юни 2015 година гр. Стара Загора</p>	<p><b>КЛИНИЧНИ АСПЕКТИ НА ПРЕНАПРЕЖЕНИЕТО КАТО ВРЕДЕН ФАКТОР НА ПРОИЗВОДСТВОТО ПРИ СЪВРЕМЕННИТЕ УСЛОВИЯ НА ТРУД</b></p> <p><b>Ирена Стоилова<sup>1</sup>, Йорданка Велчева<sup>2</sup>, Пенка Костадинова<sup>3</sup>, Александър Вълков<sup>1</sup></b> <sup>1</sup> Отделение по Професионални болести, УМБАЛ "Д-р Г. Странски" ЕАД - Плевен, <sup>2</sup> Клиника по Нервни болести, УМБАЛ "Д-р Г. Странски" ЕАД - Плевен, <sup>3</sup> РЗОК - Плевен, 5800, Плевен, България irena.stoilova444@abv.bg</p> <p><b>CLINICAL ASPECTS OF STRAIN AS A HARMFUL FACTOR OF PRODUCTION IN THE MODERN WORKING CONDITIONS</b></p> <p><b>Irena Stoilova<sup>1</sup>, Yordanka Velcheva<sup>2</sup>, Penka Kostadinova<sup>3</sup>, Alexander Valkov<sup>1</sup></b> <sup>1</sup> Department of Occupational diseases, University Hospital - Plevan, <sup>2</sup> Clinic of Nervous diseases, University Hospital - Plevan, <sup>3</sup> Regional Health Insurance Fund - Plevan, 5800, Plevan, Bulgaria</p> <p><b>ABSTRACT</b></p> <p>The modern working conditions create factors of production, which under certain circumstances and sufficient exposure have a detrimental effect on the health and work capacity of workers.</p> <p>The purpose of the research is clarifying the role of the strain in damage to the musculoskeletal system and the peripheral nervous system of actively working persons from different branches.</p> <p>Object of the research are 70 patients hospitalised in Department of Occupational diseases, University Hospital - Plevan during the period 2013 - 2014.</p> <p>In the research statistical methods and clinical methods of diagnostics are used.</p> <p>Conclusions have been made and suggestions given for refining diagnostics and prevention of damage to health, caused by strain.</p> <p><b>Key words:</b> strain, occupational diseases</p> <p><b>Увод</b></p> <p>При съвременните условия на труд са налице фактори на работната среда и трудовия процес, които при определени обстоятелства и експозиция оказват вредно въздействие върху здравето и работоспособността на заетите в производството.</p> <p>Професионалните вредности са резултат от неправилна организация на труда, свързана с наднормена експозиция, нерационален режим на труд и почивка, принудителна работна поза, извършване на бързи, стереотипни движения с горните крайници и пренапрежение на нервната система.</p> <p>Целта на настоящото изследване е изясняване ролята на пренапрежението за възникване на увреждания на опорно-двигателния апарат и периферната нервна система при активно работещи лица от различни производства.</p> <p><b>Материал и методи</b></p> <p>Обект на изследването са 70 активно работещи лица в различни отрасли на производството. Изследваните работници са подбрани с оглед упражняваните професии и са жители на областите Плевен, Ловеч и Велико Търново. Лицата са хоспитализирани в</p>
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60. Simeonova J., A. Velkova, S. Tsvetkova, P. **Kostadinova**, S. Georgieva, M. Kamburova. Gender differences in self-rated health among patients over 44 years of age. Abstracts from Jubilee Scientific Conference "Public Health Policy and Practice", 1-3 October 2015, Pleven, J Biomed Clin Res Volume 8, Number 1, Supplement 1, 2015, 40-41.

Journal of Biomedical and Clinical Research

Vol. 8, No. 1, Suppl. 1, 2015

JUBILEE SCIENTIFIC CONFERENCE  
"PUBLIC HEALTH POLICY AND PRACTICE"

Dedicated to the 10<sup>th</sup> anniversary of the Faculty of Public  
Health, Medical University – Pleven  
1 – 3 October 2015

PROGRAMME AND ABSTRACTS

**GENDER DIFFERENCES IN SELF-RATED  
HEALTH AMONG PATIENTS OVER 44 YEARS  
OF AGE**

**J. Simeonova<sup>1</sup>, A. Velkova<sup>2</sup>, S. Tsvetkova<sup>1</sup>,  
P. Kostadinova<sup>1</sup>, S. Georgieva<sup>1</sup>, M. Kamburova<sup>1</sup>**

<sup>1</sup>Department of Public Health Sciences, Faculty of Public  
Health, Medical University – Pleven, Bulgaria

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**Introduction**

Gender differences in self-rated health are reported constantly. Most studies detect lower self-rated health in females, which is associated with poor physical functioning, depression and anxiety, limited psychosocial control of females in some communities

and some other factors.

**Aim**

To determine gender differences in self-rated health among patients over 44 years of age.

**Material and methods**

A cross-sectional study was carried out in 2014. Two hundred and twelve patients over 44 years of age were included in the study. The study was a part of the Project N0 11/2014, which was funded by the Medical University of Pleven. General measure of self-rated health (GSRH) was used. The influence of some variables (chronic diseases and functional deficits, well-being index, physical activity and body-mass index) on self-rated health of females and males was determined. Data were processed by SPSS.v.19. Parametric and non-parametric statistical methods were applied.

**Results and discussion**

Although the majority of females (68.8%) assessed their health as fair or poor, there were not significant gender differences in GSRH ( $p=0.235$ ). Functional deficits in each of the five dimensions of GSRH were significantly associated with lower self-rated health. After controlling for the effect of gender the relationship between well-being index and GSRH remained significant ( $r=-.435$ ;  $p=0.001$ ). Significant gender differences were not found for the relationships of GSRH with the average number of chronic diseases, physical activity and body-mass index ( $p>0.05$ ).

**Conclusion:** Our study did not find significant gender differences in self-rated health while studying the effect of several variables of physical and mental health, and health behavior.

**Key words:** self-rated health, gender differences, chronic diseases, well-being index, physical activity



61. **Kostadinova P.,** P. Hristova, J. Simeonova, I. Stoilova, G. Naydenova, S. Kostadinov. Prophylactic examinations for insured persons over 18 years. conducted by GPs and their effect on hospitalizations in Pleven region. *XXVI Международна научна конференция на СУБ*, 2-3 юни, 2016, Стара Загора, In: *Science&Technology*, 1(VI), 2016, 199.



Science & Technologies

**PROPHYLACTIC EXAMINATIONS FOR INSURED PERSONS OVER 18 YEARS. CONDUCTED BY GPs AND THEIR EFFECT ON HOSPITALIZATIONS IN PLEVEN REGION**

**Penka Stefanova Kostadinova<sup>\*</sup>, Petkana Hristova<sup>\*</sup>, Joana Simeonova<sup>\*</sup>, Irena Stoilova<sup>\*\*</sup>, G. Naydenova<sup>\*\*\*</sup>, Stefan Kostadinov<sup>\*\*\*\*</sup>**

<sup>\*</sup>M U - Pleven, Faculty of Public Health, Department of "Public Health Sciences" ;

<sup>\*\*</sup>MU- Pleven, Faculty of Public Health, Department "Hygiene and Occupational Disease

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Correspondence: e-mail: [ptefanova\\_pl@abv.bg](mailto:ptefanova_pl@abv.bg)

**Abstract:**

**Introduction:** One of the main activities of the GPs in execution of contracts with the Health Insurance Fund is carrying out prophylactic examination of insured persons over 18 years. The purpose of these reviews is the early detection of disease and identify patients at increased risk of developing some major diseases. Late detection of the disease leads to higher disability, mortality, as well as more costly hospitalization of the patients.

**Objective:** The purpose of this study was to determine the effects of the preventive examinations of adults by the GPs on hospitalizations in Pleven District.

**Materials and Methods:** Used official data provided by the NHIF and data from the annual reports of the NHIF. Statistical processing of the raw data was carried out with software packages Microsoft Office Excel 2010 and SPSS for Windows v.13.0.

**Results:** Both the country and the region of Pleven, was relatively low coverage of the population with annual preventive examination - for the period from 2006 to 2013 annually under 50% for the same period in Pleven region only 6% of insured persons each year went to such examination. Regular check-ups are mostly people over 60 who are chronic diseases and visiting their doctor in relation to health problems. This explains the results that these people are big consumers of both outpatient and hospital care. They are more often hospitalized than others, but mostly on the occasion exacerbated chronic diseases. Persons who have irregular prevention are often hospitalized on the occasion of chemotherapy and those who have carried on prevention in 2013 have a higher frequency of hospitalizations in connection with hemorrhagic strokes, heart attacks and surgeries on the occasion of some malignant malignancies in the same year. From hospitalized in 2013, they have not walked in the same year of prophylactic examination had a higher average cost of hospital care to others.

**Conclusion:** There is no proactive approach in conducting medical check-ups. They are made mostly of people who visit the GPs in another health problem. Lack of prevention leads to more frequent hospitalizations regarding untreated and later discovered diseases. It is necessary to take measures to improve coverage of the population with preventive examinations.

**Keywords:** GPs, insured persons, prophylactic examinations, hospitalization.

**Introduction:** One of the main activities of the GPs in execution of contracts with the Health Insurance Fund is carrying out prophylactic examination of insured persons over 18 years. The purpose of these reviews is the early detection of disease and identify patients at increased risk of developing some major diseases. Late detection of the disease leads to higher disability, mortality, as well as more costly hospitalization of the patients.

**Objective:** The purpose of this study was to determine the effects of the preventive examinations of adults by the GPs on hospitalizations in Pleven District.

**Materials and Methods:** Used official data provided by the NHIF and data from the annual reports of the NHIF. Statistical processing of the raw data was carried out with software packages Microsoft Office Excel 2010 and SPSS for Windows v.13.0.

**Results:** As for the country (Figure 1) and for the region of Pleven (Figure 2), was relatively low

**Volume VI, 2016, Number 1: MEDICAL BIOLOGY STUDIES, CLINICAL STUDIES, 199  
SOCIAL MEDICINE AND HEALTH CARE**



62. Atanasova G., P. Kostadinova, S. Kostadinov. Mean arterial pressure new and perspective indicator for metabolic syndrome. XXVI Международна научна конференция на СУБ, 2-3 юни, 2016, Стара Загора, In: Science & Technologies (online), 2016; 6(1): 223.



#### Science & Technologies

### MEAN ARTERIAL PRESSURE NEW AND PERSPECTIVE INDICATOR FOR METABOLIC SYNDROME

Galya Naydenova Atanasova\*, Penka Kostadinova\*\*, Stefan Kostadinov\*\*\*

\* Medical University Pleven – PhD, Cardiologist, Assistant professor, Department of Internal Medicine

\*\* Medical University Pleven, Faculty of Public Health, Department of Public and Health Sciences

\*\*\* Medical University Pleven – Medical Student, 5<sup>th</sup> year

#### Purpose

Objectives of this study were to evaluate opportunities of using of mean arterial pressure (MAP) as a component of the metabolic syndrome (MS) instead systolic and diastolic blood pressures (SBP and DBP) and to create a model, using logistic regression.

#### Methods

A total of 104 persons without any apparent disease were selected. Among these people MS was found in 35, according to NCEP-ATP III definition. One way ANOVA test, multiple comparison tests of means and multiple logistic regression analyses were used. The MAP was obtained by the formula  $MAP = SBP/3 + 2 \cdot DBP/3$ .

#### Results

The mean values and standard deviations of the clinical characteristics of the investigated individuals were obtained (Table 1). There were clear differences between mean values of SBP, DBP and MAP for people with and without metabolic syndrome. The average value of mean arterial pressure for all persons was 95.17 [mm Hg] and the standard deviation was 10.65 [mm Hg].

The mean values of SBP, DBP and MAP in three age groups for men and women were shown on Figures from 1 to 6. The analysis of results indicated that the variation of values of the mean values were relatively small with the age for men. The mean values increased with the age for women, but the changing wasn't so great. The results showed that the age wasn't a major factor influencing on mean values of blood pressures.

The four groups used in ANOVA were men and women with and without MS. The ANOVA F-statistic is 17.71 with p-value less than 0.00001 (Table 2). The box plot of ANOVA was shown on Figure 7. The multiple comparison tests showed statistically significant differences between groups of people with and without MS and negligible differences between men and women (Table 3). Regarding MAP, the differences between the groups of men and women with MS, as well as between the groups of men and women without MS are small. There was a statistically significant difference between the persons with MS and the health ones, irrespective of the gender. For the women, the difference between the mean values of MAP for those with MS and those without MS was greater than the differences registered between the respective groups of men. These results confirmed that the mean arterial pressure is a major risk factor, and it is better expressed in females as compared to males.

Multiple logistic regressions were used to determine odds ratio (OR) of MS. The first model included the following components of MS - waist (WS), HDL cholesterol, blood glucose (GLU) and serum triglycerides (TG). The second model included WS and TG. MAP was used as the last variable in the both models:

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63. Stoilova I., Valkov A., **Kostadinova P.** Raynaud's phenomenon in work-related vertebral radiculopathy. *XXVI Международна научна конференция на СУБ*, 2-3 юни, 2016, Стара Загора, In: Science & Technologies (online), 2016; 6(1): 217-222.



#### Science & Technologies

### RAYNAUD'S PHENOMENON IN WORK-RELATED VERTEBRAL RADICULOPATHY

Irena Stoilova<sup>1</sup>, Alexander Valkov<sup>2</sup>, Penka Kostadinova<sup>3</sup>

<sup>1,2</sup> Department of Occupational Diseases, University Hospital - Pleven, <sup>3</sup> Department of Public Health Sciences, Medical University – Pleven, 5800 Pleven, Bulgaria

#### Abstract

Damage to the peripheral nervous system is developed as a result of chronic stress on the structures of the spinal cord. Typical clinical manifestations of occurring disorders are digital ischemic hands crises on type of Raynaud's phenomenon.

The subject of the study included 38 persons, treated in the Department of Occupational Diseases, University Hospital – Pleven. The patients were selected with a view to pursuing a related strain of upper limbs.

There are used clinical, laboratory and functional methods of diagnosis.

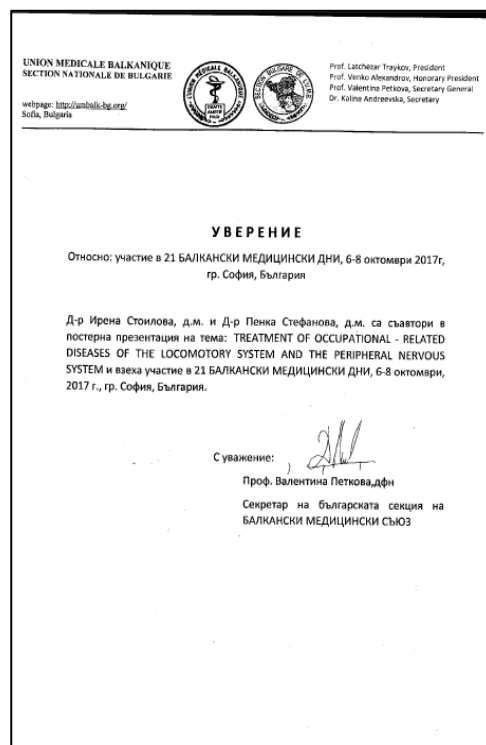
Conclusions are made and recommendations are given for timely diagnosis, adequate treatment and prevention of work-related vertebral radiculopathy.

**Key words:** work-related vertebral radiculopathy, Raynaud's phenomenon.

64. Krastanova M. Stoilova I., **Stefanova P.** Treatment of occupational-related diseases of the Locomotory system and the peripheral nervous system. The 21<sup>st</sup> Session of the Balkan Medical Days, 06-08 October 2017, Sofia, In: Archives of the Balkan Medical Union, Vol.52, Supplement1 Copyright!©2017 Balkan Medical Union October 2017, p. A64. **SJR = 0.192**



The aim of this report is to present a collaborative study of the Physical and Rehabilitation Clinic and the Department of Occupational Diseases of University Hospital Pleven, Bulgaria, regarding the therapeutic approach in patients with carpal tunnel syndrome and median nerve neuropathy, both of which caused by excessive strain during labour activities. Methods and materials. Object of the examination are 45 patients (33 female and 12 male aged 28 to 60), who were admitted in the Department of Occupational Diseases in a time period from 2015 to 2017. The patients were treated collaboratively with the Physical and Rehabilitation clinic. Clinical, laboratory, electrophysiological and imaging diagnostic methods were applied. Medical and physical treatments were conducted. Results and discussion. A positive effect from the treatment was observed in 32 of the patients. The analysis of the treatment results proves the excellent response to the applied treatment in our patients.



## РЕЗЮМЕТА ОТ НАУЧНИ ФОРУМИ В БЪЛГАРИЯ НЕСВЪРЗАНИ С ДИСЕРТАЦИОННИЯ ТРУД:


65. Вълков А., Д. Райнова, П. Стефанова. Национална конференция по токсикология – гр. Смолян, 29-30.09.1995 г. Анализ на заболяемостта от професионални интоксикации в Плевенския регион /1991-95г./.

Министерство на здравеопазването  
Висш медицински институт - Пловдив  
Обединена районна болница, гр. Смолян  
Национална асоциация по клинична токсикология

# ПРОГРАМА

## НАЦИОНАЛНА КОНФЕРЕНЦИЯ ПО ТОКСИКОЛОГИЯ

гр. СМОЛЯН  
29-30 септември 1995 година



**ТЪ "ЕКСПРЕСБАНК" АД  
СМОЛЯН**

9.40 - 9.50 ч.	Василева, А. Николова, НИХ, София. Нови биофилизиращи концентрати в хранителна биопрофилактика на интоксикации с някои видове тежки метали - А. Георгиева, ЦВ. Цветков, ИВ. Роджов, П. Динев, НИМЛ, София.
9.50 - 10.00 ч.	Техко хронично битово олово отравяне - П. Маринов, С. Кателова, М. Ценева, В. Георгиев, М. Аспарухова, ВМБ, Варна.
10.00 - 10.30 ч.	Разисквания. Почивка
<b>VI заседание /10.30 - 13.00 ч./</b> Председатели: ст.н.с. д-р В. Христова, доц. д-р Л. Тонева Секретари: маг. фарм. И. Малчева, хим. Ст. Ветринска	
10.30 - 10.40 ч.	Клинично-функционални и алергологични отклонения сред работници експонирани на торфол, ацетон дървен прах - П. Маринов, Н. Маринова, М. Аспарухова, С. Прокоп, ВМБ, Варна.
10.40 - 10.50 ч.	Нива на олово и кадмий в кръвта при металургия - Т. Цветкова, ЦВ. Коцев, ИВ. Сиралова, ВМБ, Пловдив.
10.50 - 11.00 ч.	Клинични и лабораторни изследвания на работници от олово производство - Д. Черъкчиев, Р. Стефанова, С. Павлова, СВ. Кръстева, В. Петкова.
11.00 - 11.10 ч.	Съдържание на метал в кръвен серум на работници експонирани на олово и кадмий - С. Павлова, М. Апостолова, Д. Черъкчиев, Р. Стефанова, СВ. Кръстева.
11.10 - 11.20 ч.	Удължаване на заболяемостта от професионални интоксикации в Плевенския регион /1991-95 г./ - П. Вълков, Д. Райнова, П. Стефанова, ВМБ, Пловдив.
11.20 - 11.30 ч.	Хистоморфско изследване на препарати за респираторна защита в биологичен материал - Ст. Ветринска, Б. Сахаличиев, Г. Стоянова, Хр. Златаров, ВМБ, Пловдив.
11.30 - 11.40 ч.	Лабораторна химикотоксикологична диагностика на коматозните състояния - К. Дружина, НИСМ, "Пирогов".
11.40 - 11.50 ч.	Церебротоксични увреждания при остри отравяния с сиворозов и сивобялород - М. Николова, И. Бръчков, НИСМ, "Пирогов".

### АНАЛИЗ НА ЗАБОЛЕВАЕМОСТТА ОТ ПРОФЕСИОНАЛНИ ИНТОКСИКАЦИИ В ПЛЕВЕНСКИ РЕГИОН ЗА ПЕРИОДА 1991 - 1995 ГОД.

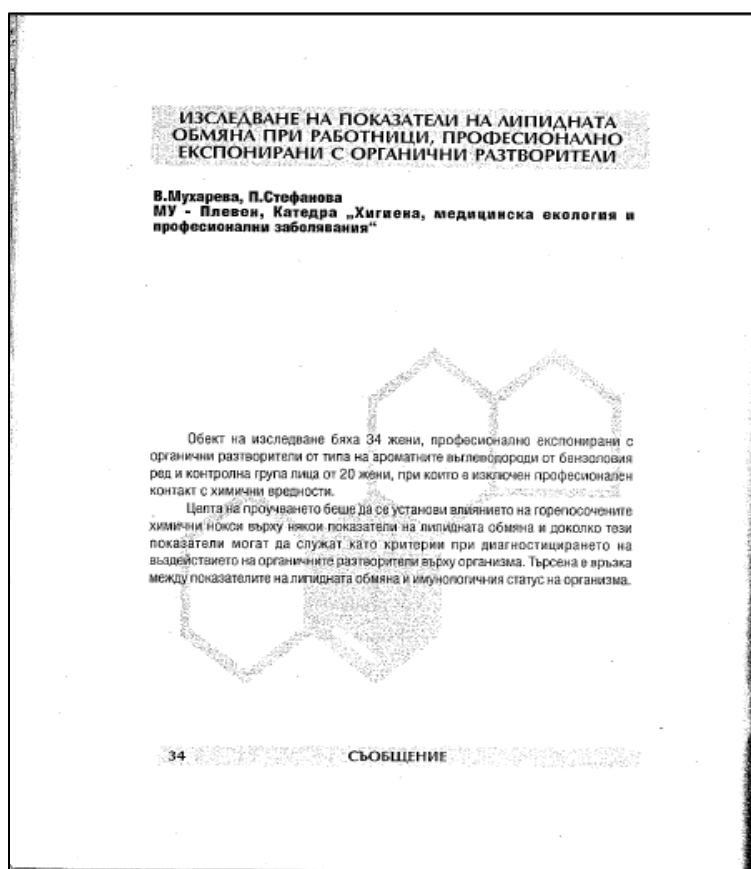
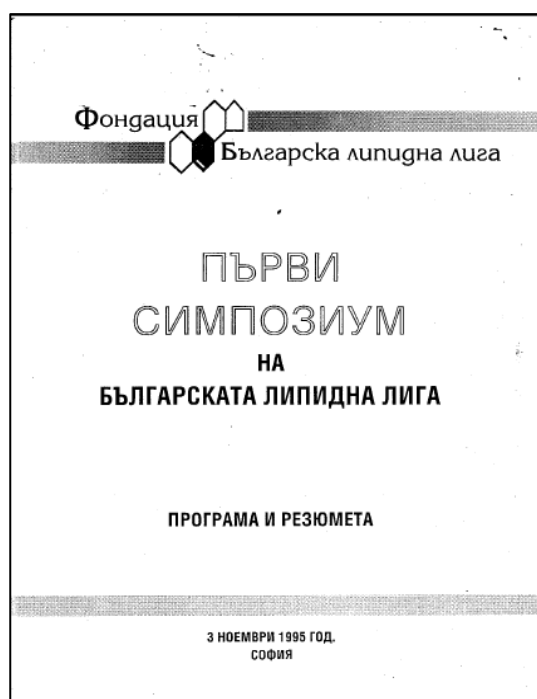
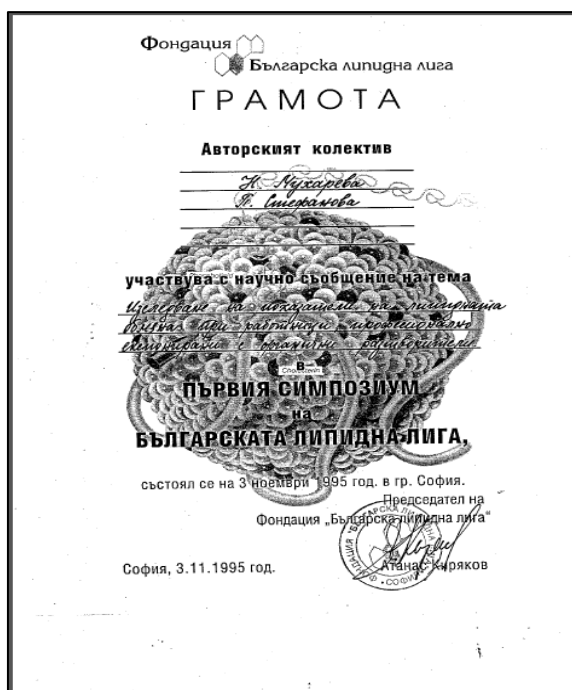
А. Вълков, Д. Райнова, П. Стефанова, Т. Андонова  
МУ-гр. Плевен, Катедра "Хигиена, Мед. екология и професионални заболявания" - Клиника по професионални заболявания

В настоящата работа бе направен анализ на заболяемостта от професионални интоксикации в Плевенски регион за периода 1991г. - н. май 1995 год. по материал на Клиника по професионални заболявания при МУ гр. Плевен.

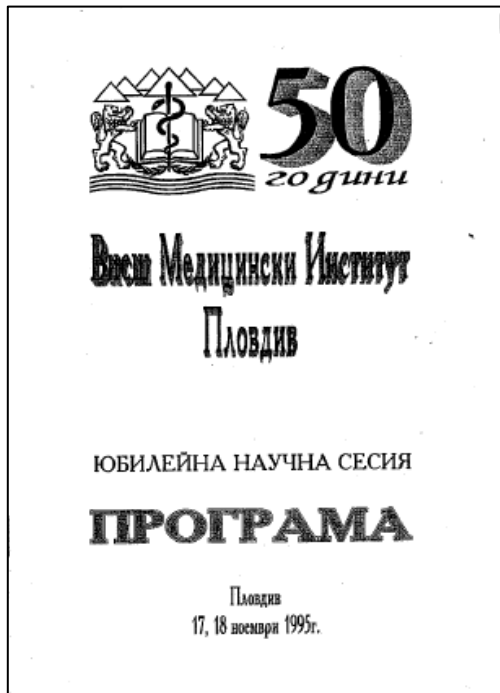
**Обект** на проучването бяха 108 случая хоспитализирани със съмнение за професионална интоксикация от: Органични разтворители от типа на ароматните въглеводороди от бензолова ред - бензол, толуол, ксилол; бензин; анилин; тежки метали - олово, цинк, хром, никел, маган; нестичиди; фенолформалдехидни смоли; диоктилфталат. При 43 % от изследваните случаи бе установен клиничен стадий на заболяване.



66. Мухарева В., П. Стефанова. Изследване на показатели на липидната обмяна при работници, професионално експонирани с органични разтворители. Първи симпозиум на Българската липидна лига – гр. София, 03.11.1995 г., 34.



67. Вълков А., Д. Райнова, П. Стефанова. Анализ на заболяемостта от професионални интоксикации в Плевенския регион /1991-95г./. Юбилейна научна конференция на ВМИ - Пловдив; 17-18.11.1995 г.



П. Гацова, А. Александрова, И. Илкан, К. Ступаров, ВМИ-Пловдив, ХЕМ-Пловдив	7. СЪСТОЯНИЕ НА ПРАЗОВИТЕ БЕЛОДРОБНИ БОЛЕСТИ СЕГА И МЕРКИ ЗА ПОДОБРЯВАНЕ НА РАБОТАТА В ТАЗИ ОБЛАСТ В БЪЛГЕШЕ Е. Липарова, М. Димитрова, П. Чернева, Р. Лулманова, ВМИ-София, Национален център по лезии, хронични и метаболитни заболявания, София
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**АНАЛИЗ НА ЗАБОЛЯЕМОСТТА ОТ ПРОФЕСИОНАЛНИ ИНТОКСИКАЦИИ В ПЛЕВЕНСКИ РЕГИОН ЗА ПЕРИОДА 1991 - 1995 ГОД.**  
А. Вълков, Д. Райнова, П. Стефанова, Т. Андонова  
МУ-гр. Плевен, Катедра "Хигиена, Мед. екология и Професионални заболявания" - Клиника по Професионални заболявания

В настоящата работа бе направен анализ на заболяемостта от професионални интоксикации в Плевенски регион за периода 1991г.-и. май 1995 год. по материал на Клиника по професионални заболявания при МУ гр. Плевен.

Обект на проучването бяха 108 случая хоспитализирани със съмнение за професионална интоксикация от: Органични разтворители от типа на ароматните въглеводороди от бензоловия ред-бензол, толуол, ксилол; бензин; анилин; тежки метали- олово, цинк, хром, никел, маган; нестигмиди; фенолформалдехидни смоли; диоктилфталат. При 43 % от изследваните случаи бе установен клиничен стадий на заболяване.

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**УДОСТОВЕРЕНИЕ**

Оперативното бюро на Юбилейната научна сесия на ВМИ - Пловдив, състояла се на 17. 11. 1995 г. удостоверява, че .....  
от .....  
е /са/ участвал /и/ в работата на сесията с научното съобщение: .....  
.....  
.....

ПРЕДСЕДАТЕЛ: .....  
/доц. д-р П. Стефанова/

68. Камбурова, М., П. Христова, С. Георгиева, Й. Симеонова, П. Стефанова. Превенция на раждането на недоносени деца. В: Сборник резюмета от VI национална конференция по превантивна медицина, 12 – 14 ноември, 2014, Вършец, 17.

ПРЕВАНТИВНА МЕДИЦИНА

**ПММ**

**14.11.2014г. - ПОСТЕРНА СЕСИЯ**

Шеста национална конференция по превантивна медицина. 12-14.11.2014г. гр. Вършец  
Умоляват се представящите да присъстват за отговор на въпроси

**ПРЕВЕНЦИЯ НА РАЖДАНЕТО НА НЕДОНОСЕНИ ДЕЦА**

Камбурова М.<sup>1</sup>, П. Христова<sup>1</sup>, С. Георгиева<sup>1</sup>, Й. Симеонова<sup>1</sup>, П. Стефанова<sup>2</sup>

<sup>1</sup> - МУ-Плевен, ФОЗ, <sup>2</sup> - РЗОК - Плевен

Цел: Акцентиране върху необходимостта и възможностите за превенция на недоносеността, чрез проучаване на протективните фактори за раждането на недоносени деца. Материал и методи: Проучването обхваща периода 2007 г. – 2013 г. Събрана и обработана е информация за всички недоносени деца, родени в УМБАЛ „Георги Страшки“ ЕАД гр. Плевен, през 2007 г. Проведено е проучване от типа „случай-контрол“. В проучването са обхванати 298 новородени в т. ч. 154 недоносени и 144 доносни деца. Първичната информация е извлечена от лист „История на новороденото“ на 2004 новородени чрез разработен въпросник с 39 въпроса. Значимостта на резултатите, изводите и заключенията е определена при  $p < 0.05$ . Резултати и обсъждане: От проучените 298 новородени 52% (154) са преждевременно родени с нормално (ПНрТ) и с ниско тегло (ПННТ) и 48% (144) са контролна група от родени на термин с нормално (ПНрТ) и с ниско тегло (ПННТ) деца. В структурата на новородените момчетата са 52,4%, а момичетата - 47,6%. Заключение: От проучените 28 протективни фактори са идентифицирани 20 със статистически значими OR вероятности, в пъти намаляващи риска за раждане на недоносени деца - ранен обхват на бременните под наблюдение по програмата „Майчино здравеопазване“, възраст между 20 и 35 г., наличие на семеен партньор, наличие на работа и др. Необходимо е да бъдат предприети мерки на ниво семейство/общество, доброволна помощ, болнична помощ и комплексни междусекторни действия.

Ключови думи: недоносеност, протективни фактори, програма „Майчино здравеопазване“

**ПММ**

**Сертификат**

на Пенка Стефанова Жоспадинова

за участие в Шестата национална конференция по превантивна медицина на тема:  
„Превантивна дейност в областта на общественото здраве  
в ситуации на бедствия и кризи“

гр. Вършец  
12-14.11.2014

ПРЕДСЕДАТЕЛ НА УПРАВИТЕЛНИЯ СЪВЕТ  
НА БЪЛГАРСКОТО СДРУЖЕНИЕ ПО ПРЕВАНТИВНА МЕДИЦИНА  
Д-Р АНДРЕЙ ГАЛЕВ, Д

ПММ

69. Георгиева, С., М. Камбурова, **П. Стефанова**, Й. Симеонова. Експертна оценка на дейностите и компетентностите по промоция на здравето в училище. В: *Сборник резюмета* от VI национална конференция по превантивна медицина, 12 – 14 ноември, 2014, Вършец, 17.

**Цел:** Обсъждане на данни от проучване на експертно мнение за промоцията на здравето в училище.

**Материал и методи:** Резултатите са част от комплексно проучване за промоцията на здравето в училищата в Плевенски регион и компетентностите на училищния персонал в тази сфера. Експертната оценка е базирана на мнението на 30 лица на длъжност главен експерт и директор на Дирекция „Профилактика на болестите и промоция на здравето“ към Регионалните здравни инспекции в Плевен, Ловеч, Враца и Кърджали. Информацията е събрана чрез пряка индивидуална анкета. Поради малкия брой на респондентите резултатите са представени в абсолютни числа.

**Резултати и обсъждане:** Мнението на експертите за националната политика за промоцията на здравето в училище е разнопосочно. Относителното равновесие на положителни (13) и отрицателни (17) мнения говори както за съществуващи пропуски в реализирането на здравнопромотивни дейности, така и за постигнати положителни резултати. Като важни проблеми са посочени липса на последователност и системност в здравнообразователния процес, недостатъчна мотивация на персонала. Изтъкната е необходимостта от неотложно прилагане на мерки за ограничаване на поведенческите рискови фактори сред децата в училищна възраст и повишаване на вниманието към факторите за психично и социално благополучие на учениците и персонала. Компетентностите по промоция на здравето на училищния персонал са оценени от експертите като добри. Критериите за поставената оценка са регулярност на провежданите дейности (17), документация (11), проучвания на постигнати здравни резултати (9).

**Изводи:** Експертната оценка за промоцията на здравето в училище се концентрира около категорията „добра“, но съществува хетерогенност на експертното мнение по редица въпроси. Липсва система от ясни критерии за оценяване на резултата от здравнопромотивните дейности.

**Ключови думи:** експертна оценка, промоция на здравето в училище, компетентности по промоция на здравето





70. Георгиева С., **П. Костадинова**, М. Камбурова. Разпределение на бюджета на РЗОК – Плевен по видове дейности за периода 2010 – 2017 година. Втора Национална конференция „Общественото здраве – глобален приоритет в науката и практиката“ 14-15 юни 2018 г. (под печат)

**Резюме:** Националната здравна стратегия и планът за нейното реализиране подчертават, че ключ към подобряване на общественото здраве в България е промоция на здравето и профилактика на болестите и активизиране на дейностите по едновременната политика. Целта на настоящата разработка е да анализира динамиката на разходите по политика „Промоция, профилактика и контрол на общественото здраве“ в област Плевен за периода 2010 - 2017 година. Проведено е документално проучване и анализ на годишните отчети на Районна здравноосигурителна каса (РЗОК) – Плевен за обхванатия период. Област Плевен има най-висока в страната задоволеност с лечебни заведения и персонал в първичната здравна помощ (ПЗП). Въпреки това са отчетени по-ниски от средните за страната дейности по профилактични програми. Разходите на РЗОК - Плевен за ПЗП през изучавания период нарастват и се променя структурата им по видове дейности. Делът за капитационни плащания е намалял от 62% на 42,9%, този за диспансерно наблюдение е нараснал от 12,7% на 26,7%. Увеличили са се плащанията за профилактични прегледи на лица над 18 г., но леко е намалял делът на средствата по програма „Детско здравеопазване“. Повишаването на паричните потоци за превантивни дейности е голяма част от случаите е свързано с увеличаване на единичната цена на прегледите и консумативите, а не на броя на извършените дейности.

**Summary:** The National Health Strategy and its implementation plan underline that the key to public health improvement in Bulgaria is the health promotion and disease prevention. The aim of the present study is to analyze the dynamics of expenditures on the policy "Promotion, prevention and control of public health" in Plevan region for the period 2010 - 2017. A documents review and analysis of the annual reports of the Regional Health Insurance Fund (RHIF) - Plevan was carried out. Plevan District has the highest coverage in the country with medical institutions and staff in primary health care (PHC). Nevertheless, lower than average for the country preventive activities were reported. The expenses of RHIF - Plevan for PHC during the observed period have increased. The structure of expenses by types of activities has changed. The share of capitation has decreased from 62% to 42.9%, dispensary monitoring increased from 12.7% to 26.7%. Payments for regular checkups of insured persons over 18 have increased, but the share of funds for the Child Health Program has slightly decreased. The increase in cash flows for prevention in most cases is related to an increase in the unit price of examinations and an increase in the cost of consumables rather than the number of activities.

**Key words:** disease prevention, health promotion, Regional Health Insurance Fund - Plevan

71. Takuchev N., **P. Kostadinova**, G. Naydenova, I. Stoilova. Ground level and satellite monitoring of air pollution over Ruse, Bulgaria as a means of assessing both the number of people diseased as a result of the air pollution in the area and the cost of their hospital care. Втора Национална конференция „Общественото здраве – глобален приоритет в науката и практиката“ 14-15 юни 2018 г. (под печат)

**Introduction.** In recent years, the population of a number of major cities in Bulgaria, particularly in Ruse, has often expressed a civil protest against the failure of the responsible authorities to deal with the problem of polluted urban air. The aim of the study is to clarify the extent to which the protests are justified in terms of morbidity in the Ruse district, whose inhabitants are mainly concentrated in the city of Ruse (nearly 70%), i.e. are exposed to polluted air with similar composition and concentration.

**Material and methods.** Data for the annual number of patients treated in the hospitals of Ruse district distributed in clinical pathways (the most accurate diagnoses possible) for the year interval 2006 - 2012 were collected from Bulgarian National Health Insurance Fund (NHIF), branch Ruse. The study included only clinical pathways with patients through all seven years – 125 out of 296 clinical pathways (2012). Data on meteorological parameters and concentrations of air pollutants in Ruse for the same year interval were received by the Executive Environmental Agency, Bulgaria. NASA's site also provided data on meteorological parameters and ground level air pollutants concentrations. The data were averaged over the year and were processed by statistical methods of correlation and regression analysis. The correlation method was used to detect a link between pollutants and clinical pathway morbidity, and the regression method was used to assess the impact of pollutants on the clinical pathways.

**Results and discussion.** Statistically significant positive correlations were found between the investigated air pollutants and the annual number of the Ruse patients in 73 of the 125 clinical pathways studied. The pollutant with the greatest impact on health, estimated by the number of patients treated in the hospital, was the methane in the ground level air of Ruse, often in combination with benzene and fine particulate matter.

Average 31025 patients per year were treated in 125 clinical pathways involved in the study. The assessment is that 4719 of them, i.e. 15%, have been affected by air pollutants over Ruse. On average, over the years of the survey, NHIF, branch Ruse has paid for 47695 patients per year for hospital treatment. Assuming that the relative share (15%) of the patients affected by the air pollution over Rouse is preserved also for the clinical pathways not included in the study, there were 7255 patients (yearly averaged) who are treated in the hospital due to the air pollution in the Ruse.

The yearly averaged cost for the treatment of the patients on the 125 clinical pathways was calculated at the 2007 clinical pathways prices for the study interval: 15681358 BGN, of which 2688937 BGN, 17%, were the costs of treating the patients as a result of air pollution over Ruse. The assessment cost for one patient on a clinical pathway due to air pollution over Ruse, is 570 BGN. In particular, in 2007 NHIF Ruse paid for treatment in the district hospitals of 45475 patients on all clinical pathways. If 15% (6821 patients) of them have been hospitalized as a consequence of the pollution, NHIF Ruse has paid to the hospitals in the area due to the pollution 3886822 BGN for 2007.

**Conclusions.** The morbidity of a number of diseases in the Rouse region is influenced by air pollution over the city. The study showed that combined ground-based and space-based air pollution monitoring is a reliable source of pollution information. Efforts have been made to be uncovered the connection of the air pollutants over Ruse with the hospital morbidity in the area. On this basis, a quantitative estimate of the number of patients due to air pollution as well as of the relative share of public expenditure on hospital care due to air pollution was made.