

ABSTRACTS OF SCIENTIFIC WORKS

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Submitted for the purposes of competition for obtaining the academic position “Associate Professor” in the field of higher education 7. Public health services and sport in professional field 7.5. Health care and specialty "Nurse", announced in the State Gazette, issue No. 96/12.11.2024, by

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33 abstracts of scientific papers, which do not repeat the ones already submitted for obtaining the educational and scientific degree „Doctor“, grouped by indicators, were submitted for the participation in the competition.

B.3. Habilitation work - monograph

1. Ninova, M., Conceptual models for prevention and control of healthcare-associated infections, NSA PRESS, NSA Sofia, p. 183, 2024, ISBN 978-954-718-746-7. (in Bulgarian)

Abstract: The management and organization of health care in inpatient and outpatient medical help, and ambulatory health care settings are essential to limit the spread of healthcare-associated infections (HAIs). It is estimated that half of the patients with HAIs/NCI can be saved if NCI (nosocomial infections) prevention and control measures are known and strictly applied. Very often, these infections are difficult to treat due to antimicrobial resistance, therefore increasing hospital costs and length of hospital stay. Organizational gaps, ineffective management decisions at the local level, lack of effective control related to increased bed numbers, lack of screening on admission, reduced staffing levels, non-compliance with hand hygiene by medical professionals and other hygiene requirements also contribute to the significance of the problem. The introduction into clinical practice of health care management and organizational models for the prevention and control of healthcare-associated infections will serve as tools to assess the quality and hazard-free nature of the health care provided, demonstrate adapted organizational change to our surroundings, and professional safety while

adhering to the algorithms. Depending on the specificity, the activities carried out and the type of health care facility, they can be developed at different levels - for inpatient and outpatient care, for urgent care centers, for transfusion hematology centers, for complex cancer centers, for hospices, for dialysis centers and tissue banks.

Г.7. Publications and reports published in scientific journals, refereed and indexed in world-known databases with scientific information (SCOPUS, Web of science)

2. M. Ninova, I. Stambolova, G. Ingilizova. Organization of health care for prevention and control of COVID-19 in a reorganized hospital ward. *Sestrinsko Delo*, 53, 2021, No. 3, ISSN 1310-7496 UDK 641.253.5 (in Bulgarian)

Abstract: At the 73rd World Health Assembly, member states drew attention to the fact that the COVID-19 pandemic has highlighted the crucial role of health professionals during critical situations. The year 2021 will therefore be an occasion to raise awareness of the need for increased efforts and financial investment in the training, education, safe working conditions and practical application of new knowledge and skills of all health care professionals, regardless of their workplace, in order to respond to the pandemic and especially its consequences. The purpose of the paper is to design an algorithm for health care organization for the prevention and control of COVID-19 infection in a reorganized hospital ward. To prepare the algorithm, the method of critical analysis and synthesis of scientific literature on the research problem, documentary method, normative basis (own research and observation) were used. Knowledge and implementation of the algorithm in practice will reduce stress and fear of the unknown among health care professionals, shorten the time for the organization of the diagnostic and treatment process and contribute to ensuring safe and quality health care service.

Keywords: situational management, COVID-19 infection, health care professionals, algorithm

3. Ninova, M, G. Simeonova, V. Ilarionova. Development and introduction of an information dashboard for patients and their close relatives. *Sestrinsko Delo*, 52, 2020, No. 3, ISSN 1310-7496 UDK 641.253.5 (in Bulgarian)

Abstract: The objective of this study was to investigate patients' and relatives' awareness of the characteristics of hospital food and food prepared at home after the introduction of an Information Dashboard for patients and their close relatives on the Role of Hospital Food". The study included 32 health care managers from the University Hospital Alexandrovska - Sofia, as well as 359 patients hospitalized in the Urology Clinic of the hospital. The study period was one month - April 2019. Patients were informed about the study objectives and gave their consent to participate in the study. Sociological, interview and documentary methods were applied. Observational study was also conducted to ascertain the level of awareness of patients and their close relatives regarding patient's dietary requirements and the qualities of food prepared at home and hospital food. We examined the dietary restrictions imposed on patients and how patients rated the benefits to themselves of the "Hospital Nutrition Information Dashboard". The introduction of such an information dashboard is a long overdue project to benefit the patient and their close relatives. Through it, patients are better informed about the appropriate way to eat during their stay in hospital and after discharge. This is a way of providing promotive health care by these medical professionals, in accordance with Regulation No. 1 of 8 February 2011 on the professional activities that nurses, midwives, allied health professionals and health care assistants may carry out independently and under a doctor's prescription.

Keywords: patients/hospital nutrition regime, preventive health care, patient information dashboard

<p>4. Ninova, M, K. Angelov. Study of the knowledge of working health care professionals about the types of occupational health risks. <i>Sestrinsko Delo</i>, 51, 2019, No. 2, pp. 6-12, ISSN 1310-7496 UDK 641.253.5. (in Bulgarian)</p>

Abstract:

The objective of this study is to investigate the knowledge of the types of occupational health risks of the health care professionals working at the University Hospital Alexandrovska and the measures they apply to prevent occupational risks and protect their safety and health. The types of "harmful health and safety factors" are physical (including mechanical, acoustic, electrical, optical, radiation, ionizing, vibration, etc.), chemical, biological, psychological, organizational and other effects that negatively affect the health and safety of employed personnel. The object of the study

were health care professionals working at the University Hospital Alexandrovska - Sofia, from the specialties "Nurse", "Medical Laboratory Technician", "X-ray Laboratory Technician", "Rehabilitator". A total of 635 health care professionals were included in the study. The study period was April-May 2016. For the purpose of the study were applied sociological, statistical and documentary methods. From the analysis of the questionnaire survey data, it is evident that there is a basic knowledge about the types of risks, but they are rather basic and related to daily professional activities. Risks related to the use of work equipment are known by 57%; those related to the exposure of biological agents at work are known by 76%, and 29% know about risks due to not introduced physiological work and rest regimes at work. In order to minimize occupational health risks, planned training of personnel, control of compliance with the instructions approved by the Executive Director for safe work with chemical, biological agents, manual handling of weights; when carrying out loading and unloading operations, as well as the introduction of the Regulations on physiological work and rest regimes at work.

Keywords: health risks, knowledge, health care professionals

5. Ninova, M., M. Evtimova, V. Ivanova, M. Milushev. Nursing care and prevention of nosocomial infections in a complicated case of a patient with staghorn calculus in the kidney. *Sestrinsko Delo*, 51, 2019, No. 2, pp. 19-26, ISSN 1310-7496 UDK 641.253.5. (in Bulgarian)

Abstract: Stones in the kidneys, ureters and bladder affect about 15% of men and 10% of women in Bulgaria and if left untreated they can lead to serious impairment of renal function. The aim of the presentation of the clinical case of a patient with a staghorn calculus is to demonstrate the team approach in the diagnosis, treatment and health care of such patients. A multidisciplinary approach to patient health care is key to a positive outcome of therapy. We present here the case of a 63-year-old female patient who was admitted in the Urology Clinic as an emergency for left lumbar pain and heaviness, subfebrile condition, hematuria, and dysuria. The treatment of such patients cannot be carried out in isolation within the structures of pre-hospital care alone, but requires collaboration between the general practitioner and medical specialists from different fields of medicine. The presented clinical case is intended to demonstrate the need for preventive measures regarding urinary tract infections throughout the diagnostic and

treatment process, which should not be underestimated by healthcare professionals, as their non-compliance leads to numerous postoperative complications and prolonged hospital stay. It describes the importance of adequate health care for the prevention of nosocomial infections and the need for strict adherence to a patient's health care plan at each stage of hospital treatment.

Keywords: health care/multidisciplinary approach, kidney/staghorn calculus, nosocomial infections/prevention

F.8. Publications and papers published in non-refereed peer-reviewed journals or published in edited collective volumes

6. Ninova, M, Sergey Slavov. Knowledge of nursing and midwifery students about the organization of prevention and containment of NCI (nosocomial infections). Conference Proceedings: 3rd International Conference: Nursing care – a contribution to the quality of life, June 7-8, 2021, Conference Proceedings, First edition, Medical University –Varna, pp. 184-189, ISBN 978-619-221-365-7. (in Bulgarian)

Abstract: In the 1980s and 1990s, knowledge of nosocomial infections and the organization of prevention to reduce healthcare-associated infections (HAIs) was not sufficiently covered in the training of nurses and midwives in the Semi-Higher Medical Institute and the Institute for the Training of Health Personnel with Secondary Special Education, because it was believed that the presence of HAIs was an indicator of poor quality health care.

The purpose was to investigate the knowledge of nursing and midwifery students about the organization to contain HAIs.

Material and methods: The object of the study were 340 students with Bachelor's degree in "Nurse" and "Midwife" from: MU (Medical University)-Sofia, MU-Varna, Shumen Branch of MU-Varna and MU-Plovdiv. The study period was April-May 2016. In the study were used a method of critical analysis and synthesis of scientific literature on the research problem, documentary method, sociological (own survey) and statistical method for processing and analysis of the results obtained. The statistical analysis was carried out using SPSS version 19.0.

Results: Knowing the routes of contamination the studied students will be able to organize their activities so that (84%) of them do not contaminate the catheter insertion

site (by extraluminal route), followed by (72%) intraluminal contamination. The results of the responses of the students indicate that they are aware of the principles of prevention of HAIs such as (87%) for observing basic hygiene measures, (81%) for preoperative preparation of the patient, (64%) for aseptic conditions.

Conclusion: Mandatory disciplines provide a solid fundamental training in the chosen broad specialty of the professional field. Given that elective disciplines provide specific, profiled knowledge and competencies in narrower professional areas of the specialty, it would be cost-effective to create such a free elective discipline.

Keywords: students, knowledge, organization of prevention of NCI (nosocomial infections)

7. Ninova, M, Sergey Slavov. Awareness and skills of students with Bachelor's degree in specialties "Nurse" and "Midwife" for the implementation of measures for the prevention of HAIs. Conference Proceedings. 3rd International Conference: Nursing care – a contribution to the quality of life, June 7-8, 2021, Conference Proceedings, First edition, Medical University –Varna, pp. 190-196, ISBN 978-619-221-365-7. (in Bulgarian)

Abstract: The World Health Organization reports that millions people worldwide suffer from healthcare-acquired infections annually, estimating that they account for about 10.1% among hospitalized patients worldwide. **The purpose** of the present study was to investigate the awareness and knowledge of students with Bachelor of Science in Nursing and Midwifery from MU-Sofia, MU-Varna, Shumen Branch of MU-Varna and MU-Plovdiv regarding the implementation of measures for the prevention of HAIs.

Material and methods: The subject of the study were 340 students with educational and qualification degree Bachelor in "Nurse" and "Midwife" from MU-Sofia, MU-Varna, Shumen Branch of MU-Varna and MU-Plovdiv. The study period was April-May 2016. In the study were used method of critical analysis and synthesis of scientific literature on the research problem, documentary method, sociological (own questionnaire survey) and statistical method for processing and analysis of the results obtained. The statistical analysis was performed using SPSS version 19.0. **Results:** Of interest are the answers given by the respondents that their basic knowledge is not complete because (66%) of the students surveyed indicated that "a condition of carrying pathogenic microorganisms in a patient or workers in a health care facility" is a

nosocomial infection and only (25%) know that it is "a healthcare-associated infection". In the responses of the students, it was observed that "measures against the routes of spread of the infection" was ranked first (74%), followed by "measures against the sources of infection" (70%) as an approach to prevent NCI (nosocomial infections) and in third place, but with a lower relative proportion, was "staff training" (38%). **Conclusion:** Students with educational and qualification degree Bachelor in Nursing and Bachelor degree in Midwifery realise that in all future professional roles they can take the lead in infection prevention and control using their awareness, skills and judgment.

Keywords: students, awareness, HAIs prevention measures

8. Ninova, M, Sergey Slavov. Attitudes of students of the specialties "Nurse" and "Midwife" on the need for specialized training in prevention and control of nosocomial infections. Conference Proceedings. 3rd International Conference: Nursing care – a contribution to the quality of life, June 7-8, 2021, Conference Proceedings, First edition, Medical University –Varna, pp. 190-196, ISBN 978-619-221-365-7. (in Bulgarian)

Abstract: Healthcare-associated infections are among the top ten causes of death. Nosocomial infection is any infectious process occurring as a result of medical care of the population during hospitalization, regardless of the time of occurrence - during or after hospitalization or at home. **The purpose** was to study the attitudes about the need for specialized training in prevention and containment of nosocomial infections from the surveyed students. **Material and methods:** The subject of the study were 340 students with Bachelor's degree in "Nurse" and "Midwife" from MU-Sofia, MU-Varna, Shumen Branch of MU-Varna and MU-Plovdiv. The study period was April-May 2016. In the study were used a method of critical analysis and synthesis of scientific literature on the research problem, documentary method, sociological (own questionnaire survey) and statistical method for processing and analysis of the results obtained. The statistical analysis was performed using SPSS version 19.0. **Results:** The data show the categorical nature of the surveyed students who think that it would be useful to conduct training on the current topic in the medical institution (93%) and 35% said that they had participated in forms of continuing education on the relevant issue. The responses are understandable as the students are still in training and are not members of the Bulgarian Association of

Health Professionals in Nursing (BAHPN), which under the Nurses, Midwives and Allied Health Professionals Association Act organizes continuing education courses.

Conclusion: In line with the Global Priorities for Infection Prevention and Control 2017-2021 initiative developed by the Infection Prevention and Control Global Unit at WHO, requiring the inclusion of education in infection prevention best practices for students in tertiary medical education programs, with dedicated funding provided to run them.

Keywords: students, attitudes, HAIs prevention education

9. Ingilizova G, Kovachev E, Ninova M. Clinical features of pregnancy and delivery after IVF (in vitro fertilization). MedCrave Online Journal of Women's Health (MOJWH), Volume 10, Issue 4-2021, pp. 91-95, DOI: 10.15406/mojwh.2021.10.00295. eISSN: 2475-5494

Abstract: The number of multiple pregnancies achieved by in vitro fertilization is steadily decreasing over the last years. This leads to increased interest in the course and complications of singleton IVF pregnancies. The purpose of this review is to examine the specific features of the second half of pregnancy, delivery and the newborn in singleton pregnancies achieved by In vitro fertilization. Key findings include pregnancy duration, frequency of preterm birth, low birth weight and small for gestational age neonates. Complications of pregnancy – preeclampsia, gestational diabetes and placenta previa – were also assessed. Research is done according to the method of delivery and the condition of the newborn from these pregnancies.

Keywords: IVF (in vitro fertilization), preterm birth, LBW (low birth weight), SGA (small-for-gestational-age), placenta previa, cesarean section

10. Ninova, M. Health care management and organizational plan for COVID19 - the new challenge for health care managers. KNOWLEDGE - International Journal Scientific Papers Vol. 46.4. Skopje 2021. pp. 679-683. ISSN 2545-4439, ISSN 1857-923X (in Bulgarian)

Abstract: The World Health Assembly has designated 2020 as the International Year of the Nurse and Midwife, the health care workers responsible for providing timely and high-quality health care in the context of the new SARS-CoV-2 pandemic. **The purpose** of this study is to determine the extent to which health care managers are able to design and implement a health care management and organization plan to prevent and

control COVID-19 infections. **Materials and methods:** The subject of the study was a group of 49 health care managers (HCMs) working at the University Hospital Alexandrovska EAD. The study was conducted in February and March 2020. It used documentary method, sociological method (independent survey) and statistical method to process and analyze the obtained results. The statistical analysis was performed using SPSS version 19.0. **Results:** The analysis of the results showed that the respondents' competence regarding the preparation of health prevention and infection control plan with COVID-19 was 34% and only 5% of the respondents were unprepared. The respondents for preparing a health care organization plan in the context of an emergency epidemic situation who actively applied it in their daily work were only 4%, while the remaining 94% did not apply such plans in their professional routine. The survey revealed which of the following areas required healthcare managers to improve their knowledge and skills regarding the new coronavirus infection, in particular 100% in the area of specific preventive measures needed in the context of the new coronavirus infection, 100% in the area of protection, safety and well-being of medical staff, 77% in the area of proper use of personal protective equipment. **Conclusion:** The low percentage of healthcare managers prepared and implementing the necessary measures is due to the lack of a clinical structure for infectious and communicable diseases in the hospital. In 2013, health care managers in the Pediatrics Clinic, the Skin and Venereal Diseases Clinic, and the head nurse of the hospital prepared and implemented a health care organization plan as a result of the declared measles outbreak. Measles is a highly contagious airborne disease, transmitted in much the same way as the new COVID-19 infection. The COVID-19 crisis continues to be an ordeal for medical professionals.

Keywords: pandemic, coronavirus, health care executives, health care plan

11. Ninova, M. Awareness and knowledge of health care professionals about the nature, causes of occurrence and organization of health care for limiting nosocomial infections. KNOWLEDGE - International Journal Scientific Papers Vol. 45.4. Skopje 2021. pp. 777-781. ISSN 2545-4439, ISSN 1857-923X (in Bulgarian)

Abstract: The study of the significant and topical issue concerning nosocomial infections may have a purely practical application - to provide guidance on the scope of awareness and knowledge of health care professionals on the nature, causes of occurrence as well as organization of health care for the containment of nosocomial

infections. **The purpose** of the present study was to investigate the awareness and knowledge of health care professionals about the nature, causes of occurrence and organization to contain nosocomial infections. **Material and methods:** The subject of the study were 1044 health care professionals working in hospital structures for active multidisciplinary treatment, from 18 medical institutions in Sofia, Varna, Pleven, Kardzhali, Momchilgrad, Pazardzhik, Plovdiv. The study period was April-May 2016. The study used a method of critical analysis and synthesis of scientific literature on the research problem, documentary method, sociological (own questionnaire survey) and statistical method for processing and analysis of the results obtained. The statistical analysis was performed using SPSS version 19.0. **Results:** The results obtained on the study group, confirmed that female gender predominates with 96% in practicing health care professionals. The responses given by the respondents to Question No. 5 of the questionnaire survey are of interest, to which only 10% of the health care professionals surveyed indicated that NCI (nosocomial infection) is an infection related to medical care. Surprising in a positive direction are the responses from health care professionals to Question No. 8 of the questionnaire card because a range of several correct responses were indicated. The cause of NCI (nosocomial infections) is the isolated microorganism when it is unconditionally pathogenic according to 62% of the responded health care professionals. In the second correct response, 36% of the health care professionals indicated that the cause of HAIs is when the isolated microorganism belonging to the normal flora is isolated from an area that is abnormal for that particular microorganism. The third correct response that the cause of HAIs is when the isolated microorganism belongs to the normal microflora but is isolated in increased quantity from areas normal to it was indicated by 21% of the surveyed group of health care professionals. **Conclusion:** Health care professionals in all professional roles can take the lead in infection prevention and control by using their knowledge, skills and judgement to initiate appropriate infection control procedures. Without an effective health care organization to reverse current trends, we may face a return to the preantibiotic era, so that common wounds and infections cause significant harm and even death, and routine medical procedures are associated with very high risk.

Keywords: health care professionals, causes of HAIs, prevention of NCI (nosocomial infections)

12. Ninova, M. Knowledge and application of medical devices for prevention of HAIs by health care professionals. KNOWLEDGE - International Journal Scientific Papers Vol. 42.4. Skopje 2020. pp. 743-748. ISSN 2545-4439, ISSN 1857-923X (in Bulgarian)

Abstract: The World Health Organization reports that millions people worldwide suffer from healthcare-acquired infections annually, estimating that they account for about 10.1% among hospitalized patients worldwide. Many factors are contributing to the alarming increase in healthcare-associated infection rates. One of these is the knowledge and implementation in practice of medical devices for the prevention of healthcare-associated infections. Forms of continuing education are a useful platform to carry out the processes of training, informing and raising awareness of the issue. **The purpose** of the present study was to determine the extent to which healthcare professionals know and use medical devices for the prevention of NCI (nosocomial infections) in practice.

Material and methods: The subject of the study were 322 health care professionals working at the University Hospital Alexandrovska EAD. The study was conducted in the period February - March, 2019. The study used documentary method, sociological (own questionnaire survey) and statistical method for processing and analysis of the obtained results. The statistical analysis was carried out using SPSS version 19.0.

Results: With the highest relative share are the specialists with work experience of more than 30 years (68%), the second place are those from 25 to 30 years (22.67%), the third - from 20 to 25 years (15.33%). The study revealed a statistical correlation between educational level and work experience of respondents working in surgical clinics, intensive care clinics, operating room, emergency department, nuclear medicine and imaging clinics ($p < 0.05$). The results of the study showed that more than 1/4 of the respondents were familiar with the types of medical devices for the prevention of NCI (nosocomial infections) (25.47%) and in practice applied them (18.32%). Lack of knowledge about such medical devices (3.11%) and not using them in practice (3.42%) have not small proportion of respondents. Up-to-date knowledge about the types of medical devices for prevention of HAIs is lacking in 18.01% of the respondents and 13.35% of them are not interested in new medical devices on the market. Respondents indicated that a post graduate training course (32.30%) was the most preferred form of continuing education to update their knowledge and practical skills in the use of modern medical devices for the prevention of HAIs, followed by those who preferred one-on-

one on-the-job training for each new health care professional (24.22%). Analysis of the results showed a statistically significant correlation between work experience and respondents' willingness to participate in post graduate training on the subject ($p < 0.05$).

Conclusion: Training programs for health care professionals on prevention and containment of nosocomial infections with the use of medical devices will be an opportunity to increase the competence of health care professionals, which by medical standard they should apply in their daily professional activities. These programs will be a useful tool in daily clinical practice. Thus, the specialty - Hospital Hygiene, Infection Prevention and Control for Health Care Professionals was also introduced in the country, according to Regulation No. 1 of 22.01.2015 on specializations in the field of health care in the Republic of Bulgaria, due to the growing relevance related to the global problem of NCI (nosocomial infections).

Keywords: health care professionals, medical devices, prevention of NCI (nosocomial infections)

13. H. Petkov, Ts. Mitova, I. Tsenkov, **M. Ninova.** The role of radioisotope diagnostics of the urinary system in children - advantages and disadvantages. Uronet, 2/ 2019, p. 94, ISSN 1312-1960. (in Bulgarian)

Abstract: An increase in kidney diseases in children has been noted by nephrologists in recent years. Radioisotope scanning (scintigraphy) of the kidneys is a method of renal examination alternative to X-ray, ultrasound, computed tomography and magnetic resonance imaging with a number of advantages. **The purpose** is to present its application in cases in children. **Materials and Methods:** Renal scintigraphy is a specialized procedure that can assess the function and structure of the kidney as well as the perfusion of renal tissue. It allows to diagnose kidney function disorders in the initial stages of the disease when other methods are not informative enough. For the period 2017-2018, 132 children aged 45 days to 7 years were examined in the Clinic of Nuclear Medicine at the University Hospital Alexandrovska EAD. Dynamic renal scintigraphy with diuretic stimulation was performed on 74 children and static cortical scintigraphy with DMSA (dimercaptosuccinic acid) on 58 children. **Results:** Radioisotope scanning of the kidneys was performed by introducing a small amount of a radioisotope into the body and monitoring its uptake, accumulation and emission from the kidneys. The test is easy to perform, with low trauma and a high degree of informativeness of the results

obtained, making it suitable for use in children. **Conclusion:** Conducting nuclear medicine research in children lege artis is difficult and responsible. Good and safe injection administration, ensuring immobility during the examination, as well as high professionalism and individual approach are the most important conditions to obtain interpretable data and reliable images.

Keywords: renal diseases, children, scintigraphy

14. M. Evtimova, V. Ivanova, **M. Ninova**, M. Milushev. Clinical case of a patient with renal cell carcinoma. Uronet, 2, 2019, p. 106, Congress issue, ISSN 1312-1960. (in Bulgarian)

Abstract: Kidney tumors are a disease whose treatment requires a multimodal approach and collaboration between specialists from different specialties. The different innovative treatment approaches and the possible complications that may accompany the preoperative and postoperative period present challenges to health care professionals.

Narrative: We present a 62-year-old patient who was admitted with CT (computed tomography) and ultrasonographic findings of a 7.6/6.5/8.1 cm right kidney tumor and intermittent hematuria of renal origin. Urethrocystoscopy was performed to determine the cause of hematuria and to rule out secondary metastases to the bladder. The patient was then transferred to the Cardiology Clinic where renal angiography and renalis dextra artery embolization were performed. As a consequence of the embolization, hematuria ceased, tumor size was reduced and blood flow to the kidney was reduced by 90%. This allowed the patient to be operated on laparoscopically. Laparoscopic nephrectomy was performed. The standard and additional preventive measures for the prevention of nosocomial infections were followed in the treatment of the patient, despite multiple invasive investigations and manipulations in different structures of the hospital. Due to the minimally invasive surgical approach and low blood loss, the patient's postoperative recovery period was very short and the patient was discharged on fifth postoperative day.

Conclusion: The health care of patients with renal tumors requires a team approach, both in the preoperative and in the postoperative period. Successful treatment of such patients requires care not only by health care professionals in urology wards but also in imaging, microbiology and clinical laboratory wards.

15. Б. Sokolcheva, M. Ninova, V. Vassilev. Introduction of checklist for health care in patients with major surgical interventions in urology. Uronet, 2, 2019, p. 91, Congress Issue, ISSN 1312-1960. (in Bulgarian)

Abstract: The shortage of health care professionals on the one hand, and a regulatory requirement to record daily nursing appointments on the other hand, raise the need for issue of a uniform document to record the activities performed in the preparation and treatment of patients undergoing surgical intervention. **The purpose** is to verify the effectiveness and usefulness of introducing a personal "Checklist" in the management and organization of health care. **Materials and methods:** For one month in the Urology Clinic of the University Hospital Alexandrovska EAD, a unified Check-list was kept alongside the commonly used report notebook. It was used to record the quality of the assigned manipulations and procedures, the volume of health care individually applied to the patients. It also recorded the consumables used. At the end of the month, a survey was conducted among the nurses as well as the doctors in the clinic. **Results:** According to the survey conducted with the physicians: 90% felt that the quality of work was improving. 95% think that it is more transparent. 97% believe that gaps are avoided.

The survey conducted with health care professionals shows: 100% think that the volume of writing is significantly reduced; 88% think that "small" omissions are avoided; 90% are of the opinion that the attention given to the patient and his relatives has increased.

Conclusion: The results of the pilot implementation of the checklist showed strongly that it reduced the risk of omissions and errors and led to easier accountability for staff.

Keywords: checklist, health care professionals

16. Г. Simeonova, V. Ilarionova, M. Ninova. Development and introduction of an information dashboard for patients and their close relatives on the role of hospital nutrition. Uronet, 2, 2019, p. 98, Congress Issue, ISSN 1312-1960 (in Bulgarian)

Abstract: A project that has long been envisioned to be of service to the patient, respectively their close relatives. It is done with the idea that patients will be better informed about the diet during their stay in the hospital and afterwards. **The purpose** of the present study is to investigate the awareness of patients and close relatives as well as health care managers about the characteristics of hospital food and food prepared at home following the introduction of a 'Patient and Relative Information Panel on the Role

of Hospital Food. **The subjects** of the present study were: 21 health care managers at the University Hospital Alexandrovska and 359 patients from the Urology Clinic. The study period was April 2018 to April 2019. The following methods were applied during the sociological study: sociological, interview, documentary, methods of collecting the empirical material, method of critical analysis and synthesis of scientific literature on the research problem and observation. **Results:** 96% of the respondents health care managers in the institution welcomed the innovation "Information board for the patient and his close relatives about the role of hospital nutrition"; 100% were introduced to the hospitalized patients in the Urology Clinic and this increased their health nutrition culture; 98% said that for the first time they were informed in this illustrative, systematic and accessible way, which made them think about their diet. **Conclusion:** Proper nutrition is an essential factor of human health and of normal physical and mental development. And we will take here the liberty to quote Hippocrates: "Let food be thy medicine and medicine be thy food".

Keywords: patient information dashboard, role of hospital nutrition, healthy nutrition consultants

17. Natalia Shchereva-Nikolova, Radka Goranova-Spasova, **Magdalena Ninova.** Behavioral risk factors among medical staff in hospital medical institutions. Interdisciplinary Civil Academy (INGA). In: TEMTO – Sofia, (42), 2018, pp. 216-222, ISSN 1313-9134. The publication was realized due to the project funded by the Medical Science Council of MU-Sofia entitled: "Study of personal responsibility for health among physicians and health care professionals in hospital medical institutions", GRANT 2018, Contract No. 97/03.05.2018 and Project No. 7766/22.11.2017.

Abstract: Health of individuals is influenced by a complex set of biomedical, social, economic and environmental factors. Behavioral risk factors are believed to be controllable and therefore their health effects can be reduced or eliminated. In this paper, we examine the risky behavioral factors among medical staff in hospital settings in Bulgaria.

Keywords: risk factors, behavioral factors, hospital, medical staff, doctors, nurses

18. Ninova, M. Career development of health care professionals. Uronet, 2/2017, Congress issue, p. 50, ISSN 1312-1960 (in Bulgarian)

Abstract: Introduction. Effective training is an essential prerequisite for the success of any health care facility and any health care professional. One of the major problems with training is that the investment in it comes later. Very often the need for training and development arises when there is a significant change in the organization (new system, product, organizational change, etc.), or some crisis such as high turnover or problems in structures. In such situations, training is used to deal with the immediate difficulty. The three terms are often used interchangeably. They are education, training and development. Education is usually understood as a broad process that is continuous, throughout a person's life. It includes our socialisation in childhood, our acquaintance with culture and heritage, and the functional skills we will need in our social and work roles in society. **Purpose:** To increase competencies and acquire innovative knowledge in health care to improve the quality of health care. **Conclusion:** In today's ever-changing environment, it is necessary that one is constantly learning and acquiring new or improving old skills. Training is now seen as an investment rather than an expense. Through appropriate training, better outcomes and better quality of healthcare services are achieved.

Keywords: career development, health care professionals

19. Nacheva, M. Ninova, M. Multiplex real-time PCR (polymerase chain reaction). Uronet, 2/2017, Congress issue, p. 52, ISSN 1312-1960

Abstract: In the line of modern genetic technologies, the PCR method occupies a special place. It places diagnostics at a fundamentally different level - at a level where the DNA or RNA itself is determined and which allows to carry out direct detection of an infectious agent or a genetic mutation. Its possibilities are vast, its applications diverse. The PCR method is used in various fields, but its widest application is in research and medicine. **Objective:** To introduce the purpose and principles of tests based on nucleic acid amplification technology, which are extremely sensitive and specific. **Purpose:** N. gonorrhoeae/C. trachomatis/M. genitalium /T. vaginalis Real-Time multiplex real-time PCR assay for qualitative detection of N. gonorrhoeae, C. trachomatis, M. genitalium T. vaginalis in samples from the urogenital tract collected by swab, urine, prostatic secretion and other biological materials. **Principles:** Detection of

N. gonorrhoeae/C. trachomatis/M. genitalium / T. vaginalis by use of multiplex PCR is based on the amplification of a pathogen-specific region of the genome using N. gonorrhoeae-specific PCR primers. gonorrhoeae/ C. trachomatis/M. genitalium / T. vaginalis primers. **Conclusions:** Sexually transmitted infections include a range of bacterial, viral and parasitic infections. Some of these, such as the causative agents of syphilis and gonorrhoea have been known for centuries, while others have been discovered in recent decades. MULTIPLEX REAL-TIME PCR (polymerase chain reaction) is used to detect /C. trachomatis / M. genitalium / T. vaginalis. The method can be extremely useful in diagnosing patients with urological problems.

Keywords: PCR (polymerase chain reaction)., urology, infections

20. Ninova, M. Contemporary practices for the prevention of nosocomial infections NCI in urological practice. Uronet, 2/2017, Congress issue, p. 56, ISSN 1312-1960 (in Bulgarian)

Abstract: Introduction. Infections in hospitals and other healthcare settings are healthcare problems worldwide and are the subject of considerable media and political attention. Different types of interventions and patient health care can in some cases cause harm. The nosocomial infections (NCI) can affect about 1 in 10 patients in the European Union and lead to significant increases in morbidity, mortality and costs. **Purpose:** To present contemporary practices for the prevention of NCI in urology practice. **Methods:** The following methods were applied to collect primary information in the study: the observational study - registration of primary information on targeted perception of the processes of prevention of HAIs from the objective reality in real time. Documentary method - retrospective analysis of the registration of urological infections in the Urology Clinic for the period 2014-04.2017. Statistical method - data entry and processing were performed using Windows Excel. **Results:** In 2014 in the Clinic of Urology at the University Hospital Alexandrovska EAD discharged patients were 2,956, of which 23 patients had registered NCI, i.e. (0.77%). In 2015, hospitalized patients were 2,857, of them 4 patients with registered NCI, i.e. (0.14%). In 2016, the number of patients discharged was 3,186, out of which 26 patients were with registered NCI i.e. (0.8%). First quarter of 2017, discharged patients were 1,030, out of them registered with NCI were 11 i.e. (1%). **Conclusion:** Taking actions to limit or slow down the spread of NCI is important for the control of NCI. Health systems across Europe face common

challenges as they need to adapt to constantly evolving medical science. Cooperation at European level is of great importance and has great potential to bring benefits to both individual patients and health systems as a whole.

Keywords: prevention, urinary tract infections, quality healthcare

21. Ninova, M. Prostate carcinoma - early diagnostics, role of prostate-specific antigen. Minimally invasive treatment of prostate carcinoma. Uronet, 2/2017, Congress issue, p. 59, ISSN 1312-1960 (in Bulgarian)

Abstract: Introduction. Prostate carcinoma is a malignancy of the prostate gland. It ranks third among malignancies in men. The incidence of carcinoma is about 45/100,000 in Bulgaria. The prostatic specific antigen (PSA) plays an important role in early detection of carcinoma. Proven cases can be treated surgically. The traditional treatment is open radical prostatectomy. In recent years, minimally invasive methods, such as laparoscopic and robot-assisted radical prostatectomy, have become the standard for surgical treatment. **Narrative:** PSA is a protein specific only for prostate tissue. An increase in its serum concentration may be due to various causes, one of which is prostate carcinoma. Increased serum PSA values above 4 ng/ml without any other cause for its rise, as well as a suspicious finding on rectal digital ultrasound of the prostate gland by a urologist, are indications for prostate biopsy. A biopsy is a manipulation in which a varying number (8-12) of pieces of the prostate are taken under ultrasonographic control. Histological examination is performed on these materials to confirm or reject the diagnosis of prostate carcinoma. Histologically proven prostate carcinoma can be treated both surgically and by radiotherapy. Either of these treatments may be accompanied by hormone therapy (androgen blockade). In recent years, the classical open radical prostatectomy is gradually being replaced by minimally invasive surgical techniques - laparoscopic and robot-assisted radical prostatectomy. Minimally invasive techniques have many advantages - shorter recovery time, fewer complications (early and late) without compromising the radicality of the surgery. PSA can be used to monitor the effect of treatment. **Conclusion:** Early diagnosis of prostate carcinoma is of great importance for its successful treatment. PSA plays a key role in its detection as well as in monitoring the course of the disease. Prostate carcinoma can be treated surgically, with laparoscopic and robot-assisted radical prostatectomy being modern methods that have proven to be effective.

Keywords: prostate carcinoma, early diagnostics of prostate carcinoma, PSA (prostatic specific antigen), laparoscopic prostatectomy, robotic prostatectomy

22. Nacheva, M. **Ninova, M.** Staphylococcal carriage in high-risk clinics - reality and issues. Results of own studies in the Dialysis Clinic. Zdravni Grizhi, Issue No. 1, 2015, pp. 37-41, ISSN 1312-2592. (in Bulgarian)

Abstract: Staphylococci are a classic example of pathogenic microorganisms that are a major cause of most purulent inflammatory diseases. Staphylococcus aureus and Staphylococcus epidermalis (CNS) are among the leading causes of nosocomial infections (NCI), averaging about 20% of all NCI cases. The colonized nasal mucosa in patients and medical staff represents a major reservoir that supports the circulation of pathogenic staphylococci in healthcare settings. **Purpose:** To study staphylococcal carriage among medical professionals and patients of a dialysis clinic. **Materials and methods:** The sources of information used were textbooks for health care professionals, regulatory documents, medical records at the Central Microbiology Laboratory, and articles published in prestigious medical journals. In the course of the study, conventional methods for identification of pathogenic staphylococci and methods for establishing their antibiotic susceptibility were used. **Conclusions:** This approach should include mandatory isolation of methicillin-resistant staphylococcus aureus (MRSA) from nasal mucosa of staff and patients in high-risk clinics.

Keywords: nosocomial infections (NCI), staphylococci, staphylococcal carriage, health care professionals

23. M. Nikolova, **M. Ninova, N. Vassileva.** Application of pedagogical method for creative thinking in learners by using visual aids for learning. Zdravni Grizhi, issue № 1, 2015, pp. 46-49, ISSN 1312-2592. (in Bulgarian)

Abstract: In the Clinic of General and Hepatic-Pancreatic Surgery in 2012, the idea of the head nurse and the senior nurse of the clinic was developed and used visual aids - boards. They contain information for both students and health care professionals in the clinic. The visual boards are used to present synthesized, relevant and up-to-date information on special health care for various surgical diseases and investigations in real-life settings and in accordance with the regulations in surgical practice.

Keywords: visual boards, training, health care professionals, students

24. M. Evtimova, M. Ninova, A. Terzieva. A contemporary approach to nursing care for patients with urological diseases through the implementation of a nursing care plan. Zdravni Grizhi, Issue № 3, 2015, pp. 36-39, ISSN 1312-2592. (in Bulgarian)

Abstract: The variation in nursing education curricula over the years has been considerable. This necessitated the development of a curriculum display board on "Nursing Care Plan in Urology Clinic" to support the education of students and nurse practitioners in the clinic. To find out what the benefits were, we conducted a survey with 38 nurses from the Urology Clinic between September and December 2012. It proved in an undeniable way the need for continuity in training and the link between the curriculum and its practical application in a teaching facility.

Keywords: medical nurse, professional experience, practical skills

25. B. Ivanova, M. Ninova. Continuous training of X-ray laboratory technicians in synchrony with new technologies. Zdravni Grizhi, Issue No. 4, 2014, pp. 35-40, ISSN 1312-2592. (in Bulgarian)

Abstract: Continuing education of health care professionals / x-ray laboratory technicians is of utmost importance in today's technologically dynamic modern world. Diagnostic imaging is a strategic discipline and one of the fastest growing medical specialties of our time. **The purpose** of this study is to determine the degree of usefulness and necessity for health care professionals of the post graduate training courses conducted at the Clinic of Imaging Diagnostics of the University Hospital Alexandrovska EAD, Sofia. The following **materials and methods** were used: an anonymous questionnaire conducted among the students at the end of the training and sociological observation. Through these methods, information could be gathered about the way the training was conducted, suggestions for optimizing and improving the post graduate training programs and for determining the quality of training. For the period from 2010 to 2012, 36 participants in PGT (post graduate training) courses were surveyed. Analysis of the survey data shows that more than 80% indicated the opportunity to receive updates in the specialty as a motive for participating in the courses. Respondents gave a very high rating, over 90%, to the participation of health care professionals in the courses as lecturers. **In conclusion**, knowledge of the expectations, preferences and attitudes of the health care professional trainees is also very important in relation to the updating of postgraduate training programmes, and

influences the expected beneficial effect of the theoretical and practical training provided. Learning is an essential factor in achieving a high level of professionalism. The results of this process will be reflected in a better attitude, diagnosis and treatment of our patients.

Keywords: continuing education, imaging, utility, optimization, quality

26. Zdravka Viktorova, Magdalena Ninova. Training of attendants in the Clinic of Children's Diseases - promotive health care. Zdravni Grizhi, Issue No. 2, 2010, pp. 27-30, ISSN 1312-2592. (in Bulgarian)

Abstract: The training of patient attendants in a university children's clinic in the use of standard hygiene measures to prevent nosocomial infections was studied. A survey was conducted to evaluate the effectiveness of the training. A total of 253 attendants were interviewed during the observation period. The questionnaire was based on 6 criteria: timeliness, illustration of information, comprehensiveness, clarity and comprehensibility, practical relevance, and effect on improving personal health and hygiene habits. According to 78% of the respondents, they found the information comprehensive and most of them (82%) found the way the information was presented acceptable. Based on the fact that the majority (78%) of respondents reported a significant impact on their knowledge, it was concluded that high quality targeted education was given. Planning, development and expanded implementation of the approach is forthcoming.

Keywords: training, hygiene measures, nosocomial infections, survey.

27. Ninova, M. Todorova, M. Petrovska, M. Nurses' motivation for work at the University Hospital Alexandrovska EAD - an operational managerial approach. Zdravni Grizhi, Issue No. 3, 2009, pp. 20-25, ISSN 1312-2592. (in Bulgarian)

Abstract: The functioning of any dynamic system (in this case health care) is impossible without the process of management. In this sense, the effective functioning of the hospital depends exclusively on the competence, awareness and professionalism of the management team. Management is the skill of communicating and motivating people, organizing and coordinating their actions. Motivation occupies a central place in any management process. It determines the work activity of health care professionals,

their professional development, and the quality of care provided to restore and protect patient health.

Keywords: health care professionals, motivation, patient, remuneration, professional development, management

28. M. Ninova. Normative guidelines in health care management. Zdravni Grizhi, Issue No. 2, 2008, pp. 20-25, ISSN 1312-2592. (in Bulgarian)

Abstract: The market of health care services shows the acute need for high organizational culture and awareness of the health care manager, who has to make managerial decisions within his/her competence, to apply also modern technologies of management and organization of work to ensure continuity and quality of health care. Bearing in mind what Gomini said about change, that "change is our way of life", if we want to continue to work professionally, this means that we have to change, to change our way of thinking, of seeing, of behaving and our style of managing health care.

29. M. Ninova, M. Evtimova, Y. Uzunova. Increasing the professional qualification of health care professionals in the Clinic of Urology at the University Hospital Alexandrovska\ EAD by developing and introducing a program for PGT (post graduate training). Urologia, Issue No. 1, 2007, pp. 24-26, ISSN 1310 6058 (in Bulgarian)

Abstract: Today, at the beginning of the new millennium, the shortage of qualified health care professionals is an obstacle to the provision of quality health care in medical institutions. The purpose of PGT (post graduate training) is to improve professional knowledge and skills in accordance with the new requirements of the health care system. The optimization of the PGT programme will ensure the high level of preparation of nurses who should be familiar with the current trends in health care. The participation of more experienced health care professionals in the Programme enables the creative application of theory in practice and supports the formation of independent professional thinking. Since 2004, health care professionals with extensive experience in conducting practical training have been updated and included in the PGT Program for the first time. The dynamics of health care reform requires continuous training, which from a challenge for the nurses of the Urology Clinic at the University Hospital Alexandrovska EAD is now a reality and is becoming a realized necessity.

30. Z. Viktorova, M. Ninova. Training of attendants in a children's clinic to observe standard hygiene measures for the prevention of nosocomial infections. Bulletin Nosocomial Infections, Issue 1, 2007, Volume 4, pp. 43-46, ISSN 1312-4765 (in Bulgarian)

Summary: The education of patients caregivers in a university pediatric clinic on using the standard hygienic measures for prevention of nosocomial infections was studied. A questionnaire survey was carried out to evaluate the effectiveness of the education. During the period of observation a total of 253 caregivers were interviewed. The questionnaire was based on 6 characteristics for the education criteria: timeliness, illustration of information, comprehensiveness, clear and understandable presentation, practical importance, effect on the improvement of personal health and hygienic habits. According to the data 78% of the participants in the survey considered the education satisfactory and meeting their needs of information and most of them (82%) found quite acceptable the way the information was provided. Based on the fact that the majority (78%) of participants reported a substantial impact on their knowledge it was concluded that a high quality of purposeful education was provided. A future development and expanded implementation of the approach was planned.

Keywords: education, hygienic measures, nosocomial infections, questionnaire survey

31. M. Ninova. Historical development of nursing at the University Hospital Alexandrovska. An almanac of health care professionals at University Hospital Alexandrovska. pp. 11-13. Princeps. First edition. ISSN 954-8067-79-X (in Bulgarian)

Abstract: The Hospital Alexandrovska was founded in 1879. During all these 125 years it has been the largest hospital on the Balkan Peninsula, it has employed the most outstanding doctors, pharmacists and nurses of charity. Unfortunately, due to a fatal misunderstanding, the archives of the hospital were destroyed in 1927. But we are obliged to bring into the public domain, albeit in an incomplete form, the history of nursing at University Hospital Alexandrovska, because of the dedicated Samaritans and Sisters of Charity who worked at Hospital Alexandrovska in the early years after its founding and to whom it also owes its name, fame and prestige.

32. M. Ninova. Organizational culture - necessity and peculiarities. An almanac of health care professionals at the University Hospital Alexandrovska. pp. 16-18. Princeps. First edition. ISSN 954-8067-79-X (in Bulgarian)

Abstract: We are witnessing a fact of a new organizational culture in the health care institution, namely the overcoming of the conflict "Clinical freedom - health management", i.e. the priorities of the health care organization to stand above clinical or managerial decisions, to work in professional partnership. Another part of organisational culture is treating both old and new employees fairly - helping them to understand, feel and see what the healthcare organisation cares about. This is a step in creating behaviors for success and reinforces a winning organizational culture. Considering that health needs are constantly increasing, resources are insufficient and the introduction of market mechanisms in health care and with a deficit of special management competence, lack of high qualifications and morale of the health manager, it is impossible to provide high quality health care. Therefore, the new organizational culture will be the criterion for the progress of health reform.

33. M. Ninova. Time management - an underestimated resource in healthcare. Almanac of health care professionals at University Hospital Alexandrovska. pp. 19-20. Princeps. First edition. ISSN 954-8067-79-X (in Bulgarian)

Abstract: According to Pareto's law, 20% of a manager's time produces 80% of his results and 80% of his time produces 20% of his results. This indicates that 20% of the manager's time is spent on priority tasks and 80% of the manager's time is engaged in mundane tasks that can generally be delegated to others on the management team. The operational management carried out by the senior nurses is the leadership link in the people-organisation relationship. The main objective of the senior nurse as a manager at the operational level is to convert available resources including 'time' into concrete outcomes and optimal health care - through 'purposeful influence'. How many of the health care managers and what is the relative proportion of their working time that they define as "thinking time" in developing work plans at the beginning of the working week or month. Weekly plan-programmes where tasks to be completed are categorised into three groups are considered to be most useful for the health care manager:

- Ongoing recurring work;

- Activity recurring over an extended period of time;
- Activity not always subject to prior planning.

Management of the resource "time" means making full use of working time in order to achieve the objectives of the health facility and to translate it into desired outcomes related to meeting the health needs of patients.