

THE NEED FOR ADDITIONAL TRAINING OF NURSES WORKING IN THE DIALYSIS TREATMENT FIELD

Galya Georgieva^{1*}, Pavlinka Dobrilova¹

¹Prof. Dr. Ivan Mitev" branch of MU-Sofia in Vratsa, Department of Health Care, Bulgaria,
e-mail: g.georgieva@filialvratsa.mu-sofia.bg; p.dobrilova@filialvratsa.mu-sofia.bg



Abstract: According to the EU health strategy "Together for Health: A Strategic Approach for the EU", health care specialists have a crucial role in maintaining the proper function of the entire health care system. Today, the education system gives health care specialists the opportunity to develop in different professional fields. Nursing care for patients undergoing renal replacement therapy is specific and requires that nurses have excellent theoretical knowledge and practical skills in the field of nephrology and the extra-renal blood purification methods, and be qualified to administer intensive and specialized procedures. The goal of this research is to study the necessity for nurses working in dialysis facilities attaining additional knowledge and skills on dialysis treatment in this specific field. Materials and methods: For the purposes of this research, 78 nurses working in dialysis facilities in Northwest Bulgaria participated in a survey, which was conducted by distributing a self-developed anonymous questionnaire in the 2020-2022 period. Results: The activity of the nurses caring for dialysis treatment patients is different from the activity in other health care facilities. Conclusion: Dialysis treatment requires that health care professionals have specific knowledge and skills. Currently, it is a fact that this discipline is not being taught in higher education institutions. The research detected a need for additional training in the renal replacement therapy field.

Keywords: CKD, dialysis, additional training, health education

Field: Medical Sciences and Health Care

1. INTRODUCTION

Globally, nationally and regionally we are facing an ageing population and a rise in non-communicable chronic diseases like cardiovascular disease and diabetes, hypertension, prerequisite for the rising spread of Chronic Kidney Disease (CKD). In its end stage, chronic kidney disease (ECKD) necessitates that replacement therapy be performed using hemodialysis, peritoneal dialysis and a renal transplant, which is a challenge for the patient, as well as for the health system and the health care professionals.

In nephrology practice the nurse is a member of the multidisciplinary team. Nurses working in the nephrology sector who provide health care in outpatient and in-patient care, as well as in the specialised dialysis treatment clinics and centres, have a crucial role. High quality health care can be provided in any of the stages in nephrology practice by improving the population's informedness on renal diseases, early detection and delaying of CKD, in case of advanced CKF (together with the multidisciplinary team). In End Stage Kidney Disease (ESKD), preparing and realising the health care during replacement therapy - hemodialysis (HD) and peritoneal dialysis (PD). Providing care to transplant patients, realising healthcare in patients undergoing peritoneal dialysis (PD), etc. Realising the nurse' mission and role wouldn't be possible without consistent and high quality education, training and development. A series of legislative changes determine the importance and role of the nursing profession and its societal importance. After our country's joining the EU, given the recommendations for the EU directives, training nurses during the pre-accession programme of the ES under the chapter "Education" turns into the higher education degree "Bachelor's", "Health care" filed (Directive 2005/36/EO; The European qualifications framework (EQF). In Bulgaria the nursing profession is regulated, i.e. the training is held in accordance with the Unified State Requirements (USR), the European and the global standards outlined in the Higher Education Act. The foundational education nurses get is held in higher education institutions, which are accredited academic structures, under accredited programmes as full-time students, for a length of 4 years. Training is realised by a theoretical and clinic preparation in mandatory, elective and faculty disciplines in accordance with Art. 40, Art. 41 of the HEA and in accordance with Art. 1 (2) of the Regulation for USR with a workload of 4600 hours. The theoretical clinic preparation and the practical classes are directed toward acquiring specific knowledge, skills and competencies. Those are needed for completing tasks assigned by a physicians or independent tasks related to applying complex health care to improve physical and mental health

*Corresponding author: g.georgieva@filialvratsa.mu-sofia.bg



© 2023 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

and to solve medical social problems. With Regulation № 1 from 08.02.2011 the professional activities performed by nurses and health care assistants can perform by assignment of individually. (Higher Education Act, 1995/2022; Regulation № 1, 2015; National Qualifications Framework of the Republic of Bulgaria (NQF); Toncheva, 2018)

The education system gives health care specialists the opportunity to develop in different professional fields in the healthcare system. Universities also provide rewarding training and the acquiring of a Master's Degree in the specialities Health Care Management and Public Health and Health Management, etc. This can lead to nurse developing their career as a chief nurse, a senior nurse, a lecturer in a universities and/or a hospital structure, as well as starting an independent practice. (Regulation № 1, 2011; Ordinance of Unified State Requirements for Acquiring Higher Education in the Nurse, Midwife and Physician Assistant specialities at the Bachelor's Degree level (amended and supplemented - SG 32, 2016; Chaneva, 2015)

When choosing to develop professionally in the dialysis treatment field, nurses need to use all scientific and professional knowledge, skills, experience and qualifications in their disposal to benefit the patients. The nursing of patients undergoing renal replacement therapy is specific and requires that nurses have excellent theoretical knowledge and practical skills in the field of nephrology and the extra-renal blood purification methods, and be qualified to administer intensive and specialized procedures. The development of a health care professional in the dialysis practice is a challenging and continuous process. Unlike in other fields, here the patient and the nurse are constantly interacting. (Chaneva & Stambolova, 2003; Yankova, 2020a) A significant volume of knowledge and skills on the methods and principles of renal replacement therapy, the basic processes, types and manners of dialysis is needed to realise the nurses' professional activities related to the renal replacement therapy. The role of a health care professional in the dialysis practice is a different and extremely dynamic. The nurse's main responsibility is to provide the vascular access impeccably and the master the rules for working with vascular access: arteriovenous fistula (AVF), arteriovenous prosthesis (AVP), central venous catheter (CVC) (temporary, permanent), peritoneal catheter. The preparation, attaching the patient to the dialysis machine, starting the hemodialysis procedure, anticoagulation, and completing the dialysis procedure require excellent technical knowledge. Working in emergency situation is often required. Additional knowledge can also be useful for learning the rules for medicament therapy, the methods for assessing the adequacy of hemodialysis and peritoneal dialysis, dialysis complications, safety and infection control, being aware of the contemporary asepsis and antiseptics principles, complication (non-infectious, infectious), drawing blood, dialysate for laboratory testing. One of the functions of nursing practice is the teaching the patients and giving them psychological and social support. The professional competency of a nurse in the sector of dialysis treatment is its most important capital. Dialysis treatment requires that health care professionals have specific knowledge and skills. Strengthening the mission, functions and the role of nurses makes improving their professional qualifications topical. Maintaining competency when faced with the specificity of the care, the technological progress and the high patient expectations requires that the practising professionals pursue long term continuous development. (Yankova & Dobrilova, 2017)

In Regulation № 41 from 24. 09. 2009 for establishing the "Dialysis treatment" Medical Standard, in the part concerning professional qualification - the personnel of the dialysis structure should have theoretical knowledge, practical experience and skills in the dialysis treatment field

When beginning their professional activity nurses possess fundamental knowledge and skills. Mentorship in the dialysis practice has a crucial role in process of training nurses in the dialysis wards. Introducing and training a new member of the team is a task trusted to the older, more experienced employees.

The European principles of continuous lifelong learning and the preparation of highly qualified health specialists are a condition for pursuing opportunities for post-graduate qualification, especially in the fields like dialysis treatment, which require specific knowledge and skills. After acquiring the right to exercise a profession (in accordance with Article 4, paragraph 1) nurses become members of the professional organization - the Bulgarian Association of Health Professionals in Nursing. BAHPN provides continuous training, in the form of courses, individual training, vocational qualification programmes for the acquisition of certain competences, distance learning programmes, which leads to new knowledge and skill acquisition and the improved competences. This happens in collaboration with universities and hospital structures.

There are different thematic courses provided in the dialysis treatment field, some of which even offer on-line training. All forms of continuous training are credited by the Unified Credit System of BAHPN. Participating in every course or scientific forum carries a certain amount of credit points. The credit system present is related with the professional card (a certificate for the quality of the health care) of the health care specialists. (BAHPN; Health Act / 2005; Chaneva, 2015)

Participating in seminars, congresses, conferences, symposiums, publishing in scientific publications, etc. is also considered to be continuous qualification. There are two main nephrology events in our country, which are organised annually by the Bulgarian Society of Nephrology: The Nephrology Academy and a conference/congress where nurses participate, where they have the opportunity to get informed of treatment and health care innovations and participate with their own research. The members of BAHPN receive a certificate for a higher level of professional competency. There is a crucial part of the professional development and continuous training of medical specialists which involves training through acquiring a specialised qualification. There is no such specialisation established in the dialysis treatment sector. (Dobrilova & Zlatanova, 2012; Yankova, 2020b)

The goal of the current research is to study the necessity for nurses working in dialysis facilities attaining additional knowledge and skills on dialysis treatment in this specific field.

2. MATERIALS AND METHODS

For the purposes of this research, 78 nurses working in dialysis facilities in Northwest Bulgaria participated in a survey, which was conducted by distributing a self-developed anonymous questionnaire in the 2020-2022 period. All persons who participated in the survey gave their informed consent for the survey being held. In order to process the data, the mathematical and statistical methods included in the SPSS60 were used.

3. RESULTS AND DISCUSSION

78 nurses took part in the questionnaire survey. All of the participating health professionals were women with an average age of 49 years (from 24 to 69). The education systems provides nurses with the opportunities to improve their educational level to Bachelor's or Master's degrees in the Health Care Management speciality. The respondents' education level is shown on Figure 1, where it can be seen that the biggest relative share is that of the nurses who have a Bachelor's degree - 44.9 %, followed by the nurses who have received a post-secondary education - 29.5%. There are 10.3% with a Bachelor's in Health Care Management and 10.3% with a Master's in Health Care Management. There is a smaller share of nurses (5.1%) who have the qualification of "specialist"

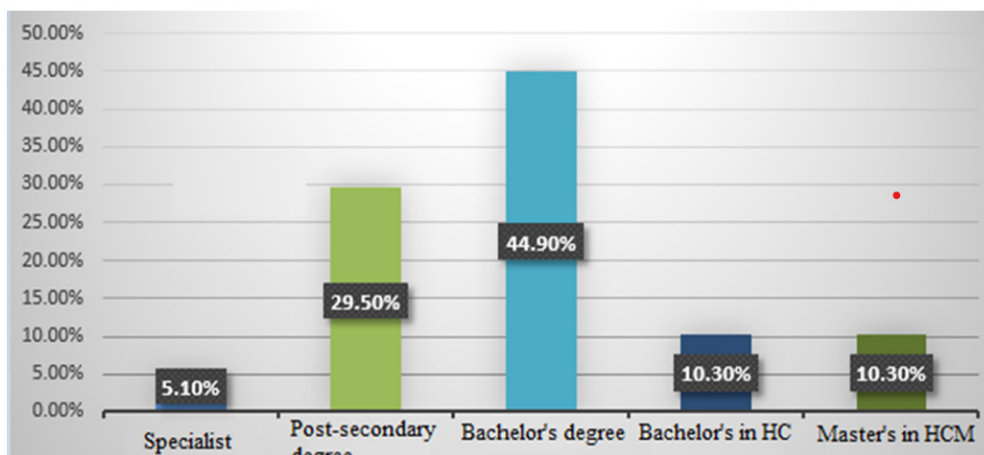


Figure 1. The nurses' distribution by education

Dialysis treatment requires that health care professionals have specific knowledge and skills. Currently, it is a fact that this discipline is not being taught in higher education institutions. When one begins working as a nurse in a dialysis structure, the question of training and adapting to the specific activities arises. The results show that all nurses, at the beginning of their work in a dialysis structure need different time periods to adapt to their workplace

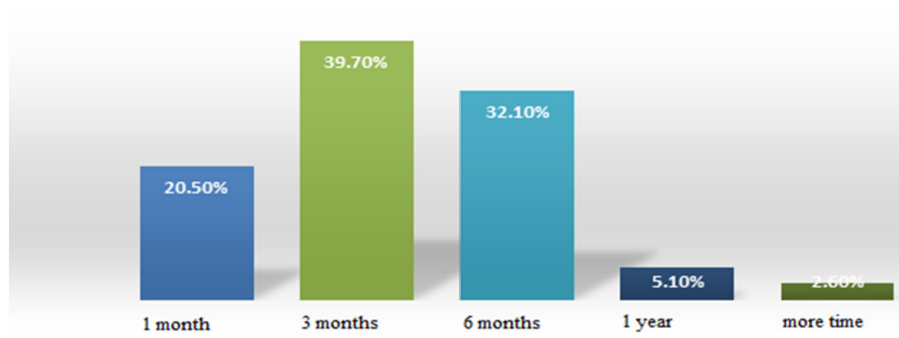


Figure 2. The nurses' distribution according to the time period needed for them to work independently in the dialysis structure.

It is apparent that 20.5% of the nurses participating in the survey needed the shortest training period - one month, 39.7 % started working independently after a three-month training period, while, for 32.1% of them, this adaptive period lasted for six months, for 5.1% - one year, and for 2.6% the training at the workplace was longer than a full year.

In the course of the research, we studied the sources, which a nurses uses to gain the specific knowledge and skills needed. In 66.7% of the cases, nurses were trained by a nurse who is experienced and has a longer period of service, 21.8% were trained by the senior nurse, 6.4% believe that they managed on their own, 2.6% report being helped by a physician and only 2.6% underwent a preliminary course in the basics of dialysis treatment (Figure 3).

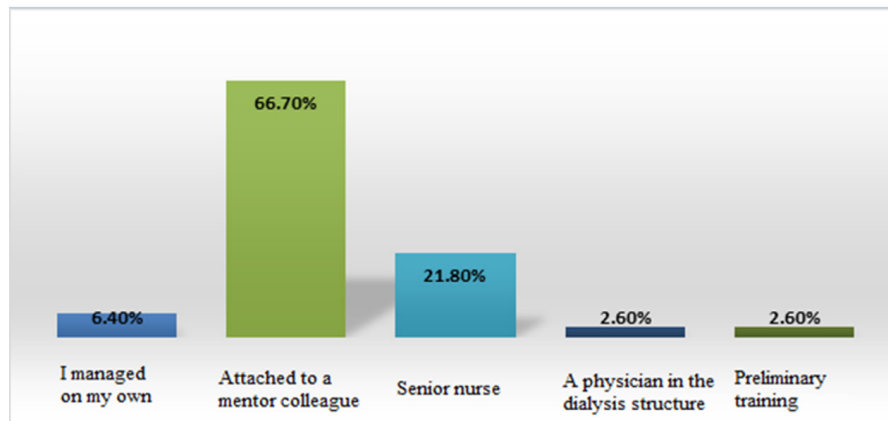


Figure 3 Distribution of the nurses according to the person who trained them to perform the specific activity at the beginning of their practice at dialysis structures.

The tasks of the nurses in dialysis structures are different from these in other health care facilities. This requires that they receive appropriate training and, in the process, learn the fundamental principles of the entire health care organisation. In order to competently exercise their activity, nurses need high quality basic and post-graduate education and training, which continues throughout their whole life. This necessitated studying their additional training for work in dialysis institutions. The data analysis shows that more than half of nurses (64.1%), have participated in additional qualification courses, even though all of them are required to complete a basics course in the first three years since beginning work. When comparing the share of nurses who have participated in those courses with the period of service in dialysis structures, a significant statistical dependence ($p=0.02$) was found, as see on Figure 4. A significant share of the nurse who got additional qualifications have a period of service of over eleven years on the position (from 81.8 % to 100%), and the share of nurses with a service period between 3 and 10 years who completed qualification courses is smaller (from 19.9 % to 32.2 %). The lower relative shares of nurses in this category can be explained with the fact that this training is not in the workplace, but is held in health care facilities accredited to train students and postgraduate students. Those are sometimes far away from the place of residence and may require addition expenses by those working in dialysis wards. It can also

be explained with the fact that staff shortages limit the opportunities for leave and participation in longer training courses, as well as with unsettled pay for higher academic qualifications.

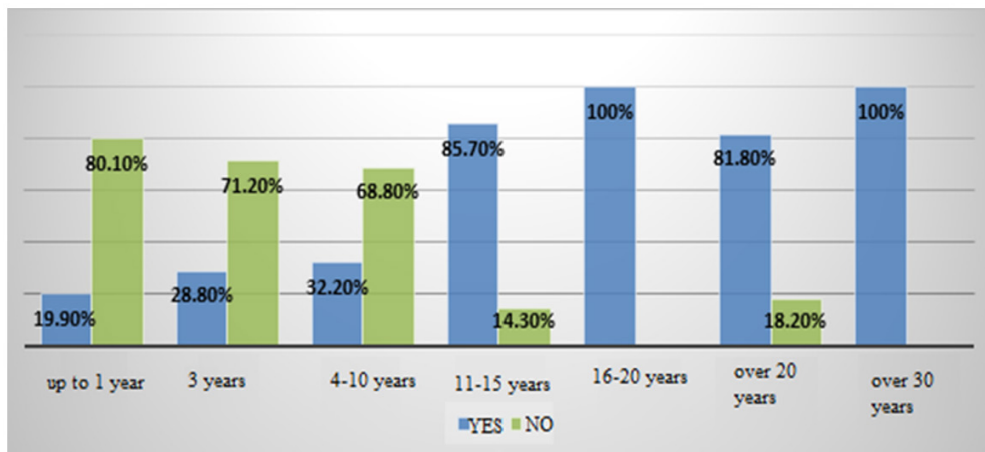


Figure 4. Distribution of the nurses by the additional qualifications they have required depending on their haemodialysis experience.

Specialized training and courses in dialysis treatment play a significant role in maintaining a high competence level and improving the qualifications of nurses working in this medical field. A significant proportion of nurses (98.7%) feel that additional training is necessary to improve their nursing qualifications. Of them 80.8% believe it was absolutely necessary and 17.9% see additional training as only necessary for some nurses. Merely 1.3% hold the opinion that there is no need for other training, but this percentage is not significant (Figure 5).

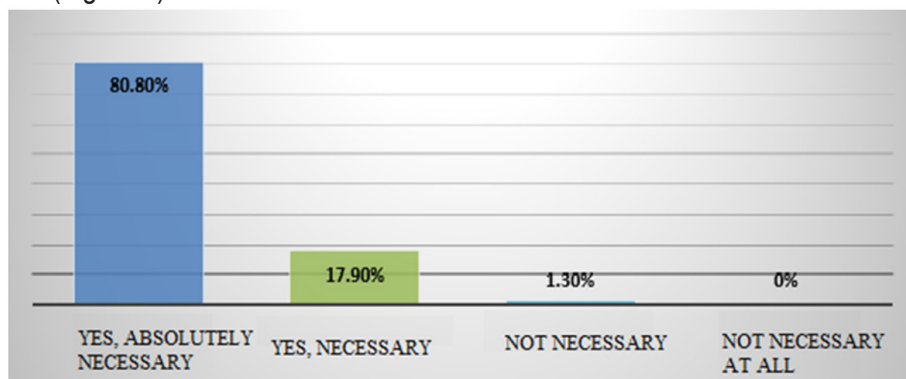


Figure 5. The nurses' opinions on the necessity for specialised training of those working in the dialysis treatment field.

The nurses' opinions on methods for improving their professional training and competencies in the dialysis treatment field was studied. 29.5% out of those who responded to the questionnaire believe that improving their training and competency in the dialysis treatment field can be achieved with additional post-graduate training courses, while 24.4% think that this training should be received during the foundational nursing education by implementing the subject of Specialised Nursing Care for Patients Undergoing Dialysis Treatment. 16.7% believe that there needs to be a more serious training taking the form of specialisation, 14.1% - that this can be achieved by acquiring a certain volume of information and experience from colleagues from national and international institutions in the field. 9% suggest participating in seminars and conferences, 5.1% - organising collegiums, and 1.3% - participating in and developing projects (Figure 6).

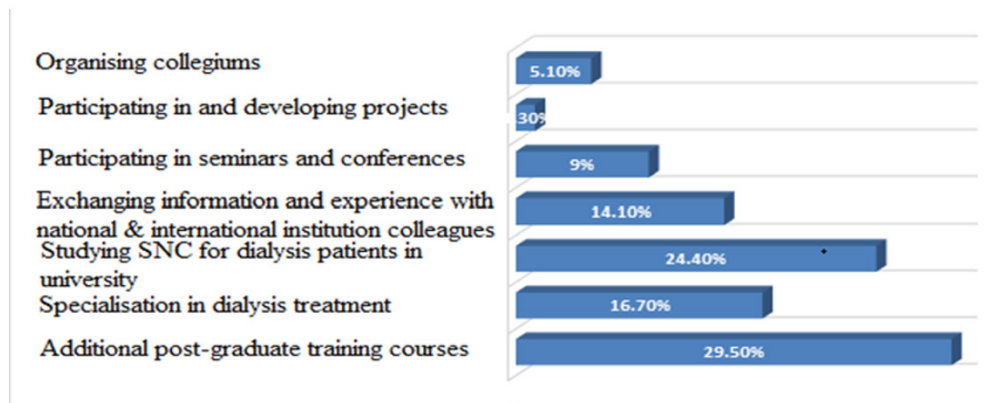


Figure 6. The nurses' opinions regarding the manner of improving the professional training and competency in the dialysis treatment field

Conclusions:

- All nurses (100%) report having needed additional training when beginning working in dialysis wards, and 66.7% of them were trained by a more experienced nurse, 21.8% by a senior nurse and as little as 2.6% report having finished a preliminary basics course.
- A significant share of the nurses who got additional qualifications have a period of service over eleven years (from 81.8 % to 100%), and the share of nurses with a service period between 3 and 10 years who completed qualification courses is smaller (from 19.9 % to 32.2 %).
- According to 98.7% of the nurses special training is needed to work with patients undergoing dialysis treatment, whereby 29.3% prefer additional post-graduate training courses, 24.4% believe this training should be included in university training, and 16.7% think it more there needs to be a more serious training taking the form of specialisation.

4. CONCLUSION

The professional development of nurses working in dialysis structures is a long-lasting process. Dialysis treatment offers a series of challenges to the nurses who have chosen to develop professionally in this field - specific knowledge, skills and competencies, activities during staff shortage conditions and chronic underfunding. There is a steady tendency towards stability and staff retention in this field despite its high demands, the weight of the pathology and the constant patient-nurse interactions. Providing high quality health care in dialysis practice demands that the nurse' knowledge should be constantly updated, expanded and improved. As a specialist, the nurse needs to acquire additional knowledge in the nephrology field and in dialysis treatment rather than rely on intuitive knowledge alone. This is made clear by the pronounced desire for progress. In Bulgaria, there are conditions present for supporting continuous nursing training. It is important for the healthcare system, and for dialysis structure in particular, as well as for society, that the medical specialists trained in Bulgaria have the motivation the develop themselves. This can be achieved sooner by creating beneficial conditions and stimuli.

ACKNOWLEDGMENTS

The present research is conducted in the execution on a scientifically research project which is financed by Consul of Medical Science in Medical University-Sofia, contract №: D-156/03.08.2023 r., from the "Young Researcher - 2023" competition on the topic: "Holistic care as a factor in improving the quality of life of dialysis patients."

REFERENCES

- Bulgarian Association of Health Professionals in Nursing (BAHPN)
Directive 2005/36/EO of the European Parliament
Dobrilova, P., T. Zlatanova, (2012) Nursing training as a quality guarantee for their activity, Ninth international Conference, Challenges faced by current economy, Boyana, 1308-1318
The European qualifications framework (EQF) for the results of studying towards Level 6
Higher Education Act SG 112 of 27 December 1995 (amended and supplemented by SG 102 of 23 December 2022).
Health Act / 01.01.2005 (amended and supplemented by SG No. 8 of 25 January 2023).
EU Health Programme. https://ec.europa.eu/health/funding/programme_bg.
Regulation № 1 from 08.02.2011 for the professional activities, which nurses, midwives, associated medical specialists and health care assistants perform by assignment of individually
Regulation № 1, 22.01.2015 for acquiring a speciality in the healthcare system, MH, SG 7, 27.01.2015.
Regulation № 41, 24. 09. 2009 for establishing the "Dialysis treatment" Medical Standard
Ordinance of Unified State Requirements for Acquiring Higher Education in the Nurse, Midwife and Physician Assistant specialities at the Bachelor's Degree level (amended and supplemented - SG 32, 2016).
National Qualifications Framework of the Republic of Bulgaria (NQF)
Toncheva, S. (2018) *Sotsialna Meditsina Magazine*, Accents in health care, p. 4
Chaneva, G., Stambolova, I., Health care quality and control. *Nursing process management.*, Filvest, Sofia, 2003, 94-100
Chaneva, G. (2015) Nurses' Professional - an establishment guarantee, *Zdravni Grizhi Magazine*, 2015(1)
State of Health in the EU, Bulgaria: Country Health Profile 2021
Yankova, G. (2020) Factors affecting nurses' professional attitudes towards nursing care. *Academic journal "Management and Education"*, 2020, vol. 5 p16(5), 44-50
Yankova, G. (2020) Nursing care assessment and nurses professional attitudes. *Knowledge – International Journal*, 2020, Vol.38.4, 895 – 902
Yankova, G. T, Dobrilova P.P. Degree of applicability of care in practical activities of medical specialists. *International medical scientific journal „MEDICUS“*. 2017. №5(17). p.37-41

