

# NURSES' QUALIFICATIONS TO ORDER AND PRESCRIBE MEDICATIONS – EXPECTATIONS VERSUS REALITY

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A. Study design/planning • B. Data collection/entry • C. Data analysis/statistics • D. Data interpretation • E. Preparation of manuscript • F. Literature analysis/search • G. Funds collection

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## ABSTRACT

From 1<sup>st</sup> January 2016 nurses and midwives, proportionally to their qualifications are eligible to order and prescribe medications self-dependently; they are also eligible to continue writing medications in accordance with doctors' recommendations. They can also refer patients to medical examinations. It is an important step, which should improve functioning of healthcare system, facilitate patients' access to healthcare services and strengthen the status of nurses and midwives. The aim of this paper is to show the scope of qualifications to write prescriptions in comparison to a degree such qualifications are exercised by the nurses of the Świętokrzyskie region. The object of the analysis is the extent and character of nurses' competencies to order medications and write prescriptions and their practical usage. The range of data includes number of nurses writing prescriptions as well as the number of prescriptions written by nurses and filled in around Świętokrzyskie region between 2016 and the first 6 months of 2018.

**Key words:** nurse, competencies, prescriptions, qualifications.

## INTRODUCTION

For many years nursing profession has been developing, strengthening its position in the healthcare system. Owing to acquisition of qualifications staying in compliance with the European and world standards and gaining competencies being the result of both changeable surroundings and the necessity to meet patients' needs, nurses undertake new challenges. Growing demand for diverse care and medical services in the context of medical staff shortage in comparison to a wide range of nurses and midwives' competencies was the basis for acquiring new eligibilities by this group of service providers. The scope and character of these competencies included ordering of medications, writing prescriptions and diagnostic tests referrals. Acquiring new eligibilities by nurses and midwives was possible both due to an updated system of nurses and midwives' academic education and further training (postgraduate education) as well as experiences of other countries where nurses are authorized to write prescriptions.

## AIM OF THE STUDY

The aim of this paper is to show the scope of qualifications to write prescriptions in comparison to a de-

gree such qualifications are exercised by the nurses of the Świętokrzyskie region.

## MATERIAL AND METHODS

The research method for this paper is document analysis. The object of analysis is the scope and character of the nurses' competencies to order medications and writing prescriptions and the way these competencies are used in practice. The range of data includes number of nurses writing prescriptions as well as the number of prescriptions written by nurses and filled in around the Świętokrzyskie region between 2016 and the first 6 months of 2018.

### Ordering of medications and writing prescriptions by nurses – benefits for patients and the healthcare system

Research points to benefits of ordering of medications and writing prescriptions by nurses both for the system, their patients and the nurses themselves. It is one of the ways to increase the degree patients should comply with the therapeutic recommendations, which nowadays remains a huge problem for doctors and healthcare economists. Nurses are perceived as profes-

sionals, they are good at maintaining effective communication with patients, as the latter are not afraid of asking questions. The quality of communicating, informing, explaining and assessing are those aspects of cooperation between therapeutic teams and patients which help patients manage their own health and treatment. The research results among patients, the aim of which was to assess the advantages of writing prescriptions by nurses points to benefits such as longer periods of nurses - patients relations and a higher frequency of these types of contacts as well as accessibility and openness in terms of conveying information [1].

### Eligibility and experience of nurses concerning ordering of medications and writing prescriptions in selected countries

In Great Britain, the first research into assessing the implementation of eligibility to write prescriptions by nurses showed improvement of both healthcare standards and patients' satisfaction as well as time conservation for doctors and patients. Above all, patients pointed to a better access to prescriptions, appreciated nurses' competencies in the field of a given speciality [1]. At times, patients pointed out that because of good understanding of patients and products, nurses were better at writing prescriptions [2].

In Australia the main factor justifying the implementation of eligibility write prescriptions by nurses was the improvement of medical services effectiveness. Because of the nature of that country it applied to the patients living in rural areas in particular, who remained far away from the service providers and were thus difficult to reach by medical workers [1].

In the USA where a different model of education is in operation, it is difficult to make direct comparisons. That country has got a proven and effective model of ordering medications by non-medical staff and it does not pose any problem, although there are no satisfactory and detailed cross-sectional research which could include different groups of patients [3].

In the United States, the evaluation of the ways and treatment effects was researched in diseases such as arterial hypertension, diabetes and asthma. The research was carried out for six months and it did not show any discrepancies between doctors and Nurse Practitioners. The preferences of patients concerning the choice between a nurse and a doctor, and a degree of patients' satisfaction with healthcare service were evenly spread between those two working groups. In turn, different research in this field confirmed that "patients were more satisfied with healthcare provided by Nurse Practitioners. The consultations with patients were longer, medical histories more precise, preventive treatment and the number of follow up visits was higher [4].

### Legal regulations concerning ordering of medications and writing prescriptions by nurses in Poland

Changes in provisions in the Nurses and Midwives Act as well as executive measures to that act were aimed to improve the access to healthcare services, begin diagnostics, start treatment as soon as possible and facilitate therapy continuation without the necessity to wait for doctor's appointment. The essence of proposed changes was acquiring a wider range of eligibilities than before to nurses and midwives which was connected to the eligibility to order medications and foods for particular nutritional purpose as well as medical products in order to provide patients with better healthcare standards with special consideration to places of health care provisions in the rural areas and local community. What was also important was the improvement of nurses and midwives' professional status confirmed by gaining wider professional eligibilities and competencies.

The assumption was that the results of the change should, for the most part, be enjoyed by the Basic Healthcare posts and those providing care and nursing. Doctors would be able to delegate ordering medications and writing prescriptions to nurses which could reduce the number of duties for doctors and improve their work all the more that nurses are substantially prepared to make therapeutic decisions in certain aspects.

The viewpoint of the Supreme Medical Council from the very appearance of the idea of acquiring eligibilities by nurses and midwives to order medications and write prescriptions was critical and the main argument was the lack of adequate scope and character of competencies of nurses and midwives to perform new tasks [5].

45% of doctors interviewed by Konsylium24.pl portal expressed an opinion that such a change would be unfavourable to polish patients and only 14% of respondents presented a contrary opinion.

On 18 January 2018 the Ministry of Health Regulation concerning the register of active substances present in medications, foods for particular nutritional purpose and medical products ordered by nurses and midwives as well as a register of diagnostic tests for which nurses and midwives have the right to write referrals, one can find products such as:

- antiemetics,
- anti-infectious drugs for local application,
- gynaecological anti-infectious drugs,
- medications used in anaemia,
- anti-infectious medications used in diseases,
- anti-infectious medications used in ear and sinuses,
- anti-infectious medications used in urinary tract diseases,
- anti-infectious medications used in periodontium and bone diseases,

- anti-infectious medications used in skin diseases,
- anaesthetics active locally,
- analgesics,
- anxiolytics,
- anti-parasitic medications,
- broncholytic medications,
- vitamins,
- infusion fluids [6].

In accordance with this regulation nurses have the right to write prescriptions on supplies for special medical purposes. Among others, they can prescribe to a patient:

- urinary catheters,
- urine bags,
- stoma bags,
- absorption means, such as diapers or primers,
- compression stockings,
- anti-pressure sore mattress and pillows [6].

Among diagnostic tests which can be ordered to a patient by a nurse are:

- haematological tests, such as erythrocyte sedimentation rate reaction,
- biochemical and immunochemical tests in the blood serum, e.g. towards toxoplasmosis,
- coagulation system tests, e.g. prothrombin time,
- general urine examination with microscope estimating of sediment,
- stool examination, e.g. for parasites,
- chest AP erect view and lateral,
- ECG in rest [6].

Updated register of medications and preparations for self-prescribing by nurses and midwives is short, but the advantages resulting from ordering them and patient satisfaction will be the basis for deliberations over lengthening the register. A high level of qualifications and competencies of BSc and MSc nursing diversified by gained qualifications within nursing post-graduate education (developing, specialist, qualifying training courses and specializations in individual fields of nursing) can raise doubts whether the proposed register is not too short and is consistent with the present nursing practice. The register of medications, preparations and means of special nutritional purpose as well as examinations ordered by nurses is the first step to extend the qualifications for nurses in the future adequately to their professional competencies and the place in therapeutic and interdisciplinary teams.

Within the limits of carrying out diagnostic and medicinal services nurses and midwives having the nursing education graduation certificate and/or academic studies of at least the first grade (BSc nursing) nursing or midwifery faculty and nurses as well as midwives being specialists in the field of nursery have the right to prescribe medications excluding drugs which contain potent substances, narcotic drugs, psychotropic substances and foods of special nutritional purpose necessary for treatment continuation if they

completed a specialized training course in this respect, namely "Ordering drugs and writing prescriptions for nurses and midwives" which consists of two parts

Part I dealing with ordering medications and writing prescriptions is addressed to nurses and midwives holding second degree of academic studies graduation certificate nursing or midwifery faculty and to nurses and midwives holding a specialist certificate in the field of nursery [7].

After having completed part I of the course nurses and midwives are eligible to perform healthcare services concerning:

1. Self-dependent ordering of medications containing certain active substances excluding medications containing potent substances, narcotic and psychotropic medications. Ordering include writing prescriptions for these medications.
2. Self-dependent ordering of foods of special nutritional purpose including prescribing them.
3. Self-dependent ordering of medical products including prescribing them or writing orders.
4. Writing prescriptions for medications as part of writing medical orders in the process of diagnosing, treatment and rehabilitation, excluding medications containing potent substances, narcotic and psychotropic medications as well as for foods of special purpose necessary for treatment continuation.
5. Writing prescriptions for medications or writing orders as part of writing medical orders in the process of diagnosing, treatment and rehabilitation.
6. Self-dependent drug ordering from the OTC category.

Part II which deals with writing prescriptions as part of treatment continuation is primarily addressed to nurses and midwives certified with academic studies graduation certificate of at least first degree, nursing faculty [7].

After completion of Part II of the course nurses and midwives are eligible to perform healthcare services within the scope of:

1. Writing prescriptions for medications as part of writing medical orders in the process of diagnosing, treatment and rehabilitation, excluding medications containing potent substances, narcotic and psychotropic medications necessary for treatment continuation.
2. Writing prescriptions for foods of special purpose as part of writing medical orders in the process of diagnosing, treatment and rehabilitation.
3. Self-dependant ordering of medications from the OTC category.

Individuals starting their education in the nursing or midwifery professions since 2016/2017 academic year and nurses holding BSc certificates who continue their education at academic studies of the second degree (MSc academic education) since 2017/2018 academic year study on the basis of amended educational standards, containing education effects connected

with new professional qualifications, that is, ordering of medications and writing prescriptions and referring for medical examinations. It means that they “do not need to complete specialized courses in this field and by gaining BSc and/or MSc nursing they will hold adequate competencies required for ordering and treatment continuation resulting from the level of education.

In the system of healthcare insurance (data received from the National Health Fund as at 30<sup>st</sup> June 2017) the number of nurses and midwives who are certified by regional departments of the National Health Fund with eligibilities to take unique prescription identification numbers was 1 054. 533 of them were individual nursing and midwifery practices and 521 were healthcare insurance nurses and midwives for whom service providers take unique prescription numbers. The number of filled prescriptions written by certified nurses and midwives (as at 30 June 2017) was 95 736 and 1 319 of prescriptions were written as part of self-dependant ordering of medications, foods of special nutritional purpose and medical products whereas 94 417 od prescriptions were written as part of filling of medical orders (continuation) [8]. The medication most frequently ordered by certified nurses and midwives were medications used in hypertension treatment. Apart from those drugs nurses and midwives ordered drugs used in diabetes treatment and medical products such as diabetes diagnostic strips, bandages and milk replacers for children [8].

## RESULTS

### Order and prescribe medications by nurses in the Świętokrzyskie region

In the Świętokrzyskie region as at December 31<sup>st</sup>, 2017, 12,199 professionally active nurses were registered. According to the statement of Nurses and Mid-

wives Postgraduate Training Centre 267 nurses and midwives completed the courses concerning drug ordering and writing prescriptions in the Świętokrzyskie region as at 30 June 2018. Part I of the course (concerning ordering of medications and writing prescriptions) was completed by 170 nurses and midwives whereas Part II of the course (concerning writing prescriptions as part of treatment continuation) was completed by 97 nurses and midwives [9]. For comparison, in the whole country between January 1<sup>st</sup>, 2016 and December 31<sup>st</sup>, 2017, the first part of the course was completed by 6484 nurses, whereas 3505 nurses completed the second part of the course [10].

According to the data received from the National Health Fund as at 30 June 2018 the number of nurses and midwives who are made eligible by National Health Fund of the Świętokrzyskie region to taking unique prescription identification numbers is 107. In 2016 there were 6 nurses, in 2017 – 83 and in the first 6 months of 2018 – 70 nurses. The above-mentioned data show that within the healthcare system there are still more and more nurses and midwives who are eligible to order medications and write prescriptions [11].

The number of filled prescriptions up-to-date written by eligible nurses and midwives is 43 084 (as at 30<sup>st</sup> June 2018) out of which the largest number 29 363 of prescriptions was written within the basic healthcare service and 8846 of care services[11].

Data analysis showed that the most frequent groups of medications prescribed by nurses in the Świętokrzyskie region include: medications used in cardiovascular system diseases (hypertension, hyperlipidemia, arrhythmia), medications used in metabolic diseases (diabetes) and painkillers [11].

The largest number of orders issued by nurses concerning medical supply are those for adult diapers or their alternatives as well as stoma equipment [11]. This data refer only to reimbursable prescriptions.

A detailed compilation of the scope and character of ordering medications and writing prescriptions in the Świętokrzyskie region show Tables 1, 2 [12].

**Table 1.** Number of nurses eligible to writing prescriptions versus number of written prescriptions (overall) from 1<sup>st</sup> January 2016 to 30 June 2018 in the Świętokrzyskie region [12]

Scope of services	Number of nurses	Number of prescription written by nurses
Basic healthcare	33	29353
Specialist outpatient care	7	686
Hospital treatment	23	102
Psychiatric care and treatment of addictions	6	3
Therapeutic rehabilitation	2	15
Dental treatment	1	3
Nursing and care services	11	8846
Palliative and hospice care	1	2
Prescriptions written for private patients	23	4064

## DISCUSSION

Extension of competencies of nurses by ordering medications and writing prescriptions made nurses integral partners in therapeutic teams. The range and character of nurses' competencies is compliant to the description of BSc and MSc nursing profession. A new competency included in 2016 as part of nursing profession is the law and not a duty in relation to all areas of nursing. The fulfilment of a new task connected to ordering medications and writing prescriptions for medications, foods of special nutritional purpose and medical products as part of professional practice is clearly seen in the areas in which nursing services and prevalent. By analysing the positive aspects of order-

**Table 2.** Number of nurses eligible to writing prescriptions and number of prescriptions written in relation to the range of services between 2016-2018 in the Świętokrzyskie region [12]

Range of services	Number of nurses			Total number of nurses writing prescriptions between 2016 and 1 <sup>st</sup> half of 2018	Number of prescriptions written by nurses			Total number of prescriptions written by nurses between 2016 and 1 <sup>st</sup> half of 2018
	2016	2017	2018 (until 30 June 2018)		2016	2017	2018 (until 30 June 2018)	
Basic healthcare	1	29	25	33	120	15528	13705	29353
Out-patient specialist care	2	7	3	7	134	428	124	686
Hospital treatment	1	15	15	23	16	52	34	102
Psychiatric care and addiction treatment	0	6	2	6	0	11	2	13
Therapeutic rehabilitation	0	2	0	2	0	15	0	15
Dental treatment	0	1	1	1	0	2	1	3
Nursing and care service	1	7	6	11	16	5319	3511	8846
Palliative and hospice service	0	1	0	1	0	2	0	2
Prescriptions written for private patients	1	15	15	23	58	3606	400	4064
Total	6	83	70	107	344	24963	1777	43084

ing medications and writing prescriptions by nurses it is important to pay attention to substantial conditions of the competency to evaluate health condition. It requires achieving a high level of educational efficiency both on specialist courses dealing with ordering medications and writing prescriptions as well as – during studies – while achieving successful educational results in the field of physical examinations, general and clinical pharmacology by drawing particular attention to the issue of interaction of medications, and the scope and character of human care depending on the condition of health and age of a patient. Since 2007 students in nursing faculty have been gaining qualification in terms of physical examination, which is the basis for the evaluation of the health condition of a patient, and is the necessary condition to order medications and write prescriptions.

New legal regulations have sparked both positive and negative emotions among nurses. The majority of positive opinions show that new qualifications raised the rank of the profession and contributed to the development of nursing profession; they also create a possibility of taking holistic care of patients and are a challenge and motivational force to permanent development. What is more, they help use acquired knowledge of patient care. Nurses also point to doubts and opinions that it is a new duty for them without sufficient financial spending. Many of them are afraid of the sanctions and penalty payments for their unintended mistakes, and of the responsibility for patients' life and health [4].

The amendment of the nursing and midwifery professions law and some other laws which give the right to nurses and midwives to order medications, writing prescriptions and writing referrals for diagnostic examinations raised discussions among medical staff. It is vital for these new eligibilities to be seen not as additional burden, but as a huge chance, which could strengthen the prestige of the nursing profession, their social position and, in overall, the level of care over patients and its better availability. It is worth hoping that nurses will use the chance and fulfil patients' expectations which, in turn, will result in raising the level of their social position, greater job satisfaction and, in consequence, better and more accessible care over patients.

Did the possibility of writing prescriptions by nurses and midwives increased the accessibility of healthcare services for patients and shortened the queues of waiting patients? Did new eligibilities for nurses and midwives strengthen their professional position? These questions will certainly be answered by research conducted in the future.

## CONCLUSIONS

1. More and more nurses start using "ordering medications and writing prescriptions" as the new competence of nurses.
2. The rising trend of prescriptions having been written by nurses shows their support of health services and the healthcare system as well as accessibility



improvement of patients to this scope of services which, up until now fell exclusively within the competence of doctors.

### Disclosure

The authors declare no conflict of interest.

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