

Prescriptions in the professional practice of midwives in Poland – a cross-sectional study

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SUMMARY

Introduction. On January 1 2016, certain groups of Polish nurses and midwives gained competence to order medicines independently and issue prescriptions for them as well as to prescribe medicines ordered by a doctor and refer patients independently for certain diagnostic tests. Competences of midwives depend upon their level of education.

Aim. The study was an attempt to analyze the level of knowledge of midwives working in the Mazovian region in Poland concerning new competences granted to this professional group regarding prescribing medicines.

Material and methods. A survey was conducted between June 1 and September 30 2015 in a group of 129 midwives working in 5 hospitals in the Mazovian region, Poland. The mean age of the respondents was 46 years. The author's own standardized questionnaire contained 13 questions with one correct answer. A qualitative and quantitative analysis of the results was conducted in the STATISTICA 12.5 (license of the Medical University of Warsaw).

Results. Less than a half (45%) of the respondents were able to indicate the legal act which provides the list of medicines that can be prescribed by nurses or midwives independently. A half of the respondents (51%) did not know the criteria which a midwife must fulfill to order and prescribe medicines independently.

Conclusions. The knowledge of midwives regarding new professional competences concerning ordering medicines, issuing prescriptions and referring patients for certain diagnostic tests is unsatisfactory and does not depend on the level of education. There is a need to update the knowledge of midwives regarding their new professional competences.

Key words: professional autonomy of midwives; prescriptions; medicines

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Word count: 1897 **Tables:** 5 **Figures:** 0 **References:** 17

Received: 14.02.2017

Accepted: 24.04.2017

Published: 23.06.2017

INTRODUCTION

Contemporary obstetrics is experiencing dynamic changes. It is therefore important to broaden the scope of activities that can be performed by midwives. Due to the specificity of the profession and intensive development of obstetrics, each midwife has an obligation to update their knowledge and professional skills on a continuous basis. The midwifery diploma currently awarded in Poland is recognized in each country of the European Union [1], and a midwife, as a health care worker, is a specialist in gynecology and obstetrics who combines medical, psychological and pedagogical knowledge on a daily basis.

According to the Act passed in July 2014 amending the Nurses and Midwives act, certain groups of nurses and midwives have had the competence to issue prescriptions since January 1, 2016 [2]. These changes grant new professional competences involving ordering medicines independently to nurses and midwives that possess the master's degree in nursing and midwifery or have the title of a specialist in nursing. Persons with the bachelor's degree (or the specialist title) can issue prescriptions ordered by a doctor. The completion of a specialist course in ordering/prescribing medicines grants them the right to exercise these new competences.

The aim of this amendment [2,3] is to improve the availability of healthcare services, facilitate treatment continuation as well as initiate treatment and diagnosis as promptly as possible without the need to await a doctor appointment. Nurses and midwives can also order certain diagnostic tests, drugs, foods for special medical purposes and medicinal devices in order to improve the standards of care over patients, particularly the residents of rural areas and local communities. It is also important to improve the professional status of nurses and

University of Warsaw, Poland. The survey was conducted between June 1 and September 30 2015. The participation in the study was voluntary and anonymous. The questionnaire contained 13 closed single-choice questions on the new professional competences of midwives concerning issuing prescriptions and referrals for diagnostic tests.

The quantitative and qualitative analysis of the results was conducted at the Division of Teaching and Learning Outcomes, Faculty of Health Sciences of the Medical University of Warsaw using the STATISTICA 12.5 system (license of the Medical University of Warsaw). Statistical relationships between the analyzed groups of midwives with secondary education (Group 1), the bachelor's degree (Group 2) and master's degree (Group 3) were determined using the chi-squared test. The value $\alpha < 0.05$ was deemed statistically significant.

RESULTS

More than a half (65%) of the surveyed midwives were able to correctly identify the act that extends professional competences of nurses and midwives concerning ordering medicines, issuing prescriptions and referring patients for diagnostic tests (Tab. 1). The date on which these changes were to come to force was indicated correctly by 60% of the respondents. Most midwives (84%) correctly stated that the competence regarding drug ordering would not be an obligation, but an entitlement of nurses and midwives. All midwives (100%) from the group with the master's degree answered this question correctly (100%) (Tab. 2). A half of the respondents were not familiar with detailed criteria enabling independent drug ordering and prescribing (Tab. 3) as well as issuing prescriptions ordered by a doctor or referring patients for diagnostic tests (Tab. 4). Sixty-seven per cent (67%) of the midwives knew that the diagnostic tests to which they would have the right to refer patients would be restricted, with the list provided in the regulation. Fifty-five per cent (55%) of the respondents knew that the new competences would encompass ordering not only medications, but also foods for special medical purposes and medical devices (Tab. 5). Sixty-one per cent (61%) of the midwives correctly stated that the level of competences specified in the act would depend upon education. The legal act containing the list of medications (active substances) which nurses and midwives would be able to prescribe on their own was

MATERIAL AND METHODS

The study was conducted in a group of 129 midwives (100% of women) working in 5 hospitals in the Mazovian region in Poland. Forty-one (32%) women worked in the Specialist Provincial Hospital in Ciechanów, 23 (18%) in the Independent Public Healthcare Centre in Miława, 17 (13%) in the Independent Public Healthcare Centre in Płońsk, 30 (23%) in the Independent Public Healthcare Centre Complex in Przasnysz and 18 (14%) in the Independent Public Healthcare Centre Complex in Nowy Dwór Mazowiecki.

The mean age of the respondents was 46 years (mode 45, median 46.5; min. 23, max. 62; SD=7.24). The mean work experience was 24 years (mode and median 25; min. 1, max. 45; SD=8.27). Sixty-two (48%) midwives had secondary education, 40 (31%) had the bachelor's degree and 23 (18%) the master's degree. Four midwives (3%) did not specify their education. Most (74%) respondents lived in a city. The vast majority of the midwives (97%) worked in the public sector. In addition, the midwives took part in certain postgraduate courses: 35 (27%) midwives completed a specialization training program, 85 (66%) - qualification courses, 63 (49%) - specialization courses and 42 (33%) - supplementary training courses. Three (2%) midwives completed postgraduate studies.

The study was conducted using the authors' own standardized questionnaire created at the Division of Teaching and Learning Outcomes, Faculty of Health Sciences of the Medical

Tab. 1. Knowledge of the surveyed midwives on the amended legal acts that specify new professional competences of nurses and midwives

Question		Whole study group n=129	Group 1 n=62	Group 2 n=40	Group 3 n=23
Which act specifies the changes concerning the extension of professional competences of nurses and midwives with respect to independent ordering of certain medications and issuing prescriptions?	Act of 12 May 2011 on reimbursement of drugs, foods for special medical purposes and medical devices	6 (5%)	2 (3%)	1 (3%)	2 (9%)
	Nurses and Midwives Act of 15 July 2011 *	84 (65%)	37 (60%)	30 (75%)	16 (70%)
	Act of 1 July 2011 on the self-governing body of nurses and midwives	2 (2%)	1 (2%)	0 (0%)	0 (0%)
	Nurses and Midwives Act of 5 July 1996	11 (9%)	7 (11%)	2 (5%)	2 (9%)
	I do not know	26 (20%)	15 (24%)	7 (18%)	3 (13%)
	no data	0 (0%)	0 (0%)	0 (0%)	0 (0%)
p value in the chi-squared test for comparison of the 3 groups		p=0,667			
* correct answer					

Tab. 2. Knowledge of the surveyed midwives on whether the new competences will be an obligation or entitlement for nurses and midwives

Question		Whole study group n=129	Group 1 n=62	Group 2 n=40	Group 3 n=23
Will independent ordering and prescribing of certain drugs be an obligation of each nurse and midwife?	yes	4 (3%)	4 (6%)	0 (0%)	0 (0%)
	no *	108 (84%)	45 (73%)	37 (93%)	23 (100%)
	I do not know	17 (13%)	13 (21%)	3 (8%)	0 (0%)
	no answer	0 (0%)	0 (0%)	0 (0%)	0 (0%)
p value in the chi-squared test for comparison of the 3 groups		p=0,010			
* correct answer					

Tab. 3. Knowledge of the surveyed midwives concerning the groups of nurses and midwives that will be able to order certain drugs and issue prescriptions independently

Question		Whole study group n=129	Group 1 n=62	Group 2 n=40	Group 3 n=23
Will each nurse and midwife be able to order certain drugs and issue prescriptions independently?	yes, each nurse and midwife	1 (1%)	1 (2%)	0 (0%)	0 (0%)
	only nurses and midwives with the master's degree	5 (4%)	3 (5%)	0 (0%)	2 (9%)
	only nurses and midwives with the master's degree who have completed a specialist training in this respect	34 (26%)	13 (21%)	13 (33%)	6 (26%)
	only nurses and midwives with the master's degree or specialization who have completed a specialist training in this respect *	69 (53%)	31 (50%)	22 (55%)	15 (65%)
	I do not know	20 (16%)	14 (23%)	5 (13%)	0 (0%)
	no answer	0 (0%)	0 (0%)	0 (0%)	0 (0%)
p value in the chi-squared test for comparison of the 3 groups		p=0,156			
* correct answer					

indicated correctly by 45% of the midwives. One third of the respondents believed that the list would occur in the amendment to the Nurses and Midwives Act, and the correct answer was indicated by 61% of the midwives with the master's degree.

DISCUSSION

Granting new professional competences to Polish nurses and midwives concerning ordering medicines, issuing and extending prescriptions as well as referring patients for certain diagnostic tests is a new issue. These changes became effective on January 1 2016, which is the reason why there are only few available publications on this issue [5,6]. However, the global literature contains numerous articles on the right of nurses to issue prescriptions and refer patients for diagnostic tests [7-17].

Our own studies demonstrate that the level of knowledge of midwives concerning new professional competences is, to a certain degree, satisfactory. Nevertheless, their knowledge is lacking or incomplete in many aspects, in particular with respect to the criteria that a midwife should meet in order to exercise given rights. In the vast majority of questions, there were no statistically significant differences between the knowledge of midwives with different levels of education (secondary, bachelor, master).

Tab. 4. Knowledge of the surveyed midwives concerning the groups of nurses and midwives that will be able to refer patients for diagnostic tests independently

Question	Whole study group n=129	Group 1 n=62	Group 2 n=40	Group 3 n=23	p value in the chi-squared test for comparison of the 3 groups			
					no answer	I do not know	yes, each nurse and midwife	only nurses and midwives with the bachelor's degree who have completed a specialist training in this respect
Will each nurse and midwife be able to refer patients for diagnostic tests independently?	1 (1%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	1 (8%)	1 (25%)	0 (0%)
only nurses and midwives with the bachelor's degree who have completed a specialist training in this respect	21 (16%)	7 (11%)	9 (23%)	5 (22%)	0 (0%)	19 (31%)	12 (30%)	10 (43%)
only nurses and midwives with a specialization or the bachelor's degree *	42 (33%)	19 (31%)	12 (30%)	10 (43%)	0 (0%)	43 (33%)	18 (29%)	17 (43%)
nurses and midwives with the master's degree who have completed a specialist training in this respect	22 (17%)	17 (27%)	2 (5%)	2 (9%)	0 (0%)	43 (33%)	18 (29%)	17 (43%)
I do not know	22 (17%)	17 (27%)	2 (5%)	2 (9%)	0 (0%)	22 (17%)	17 (27%)	2 (9%)
no answer	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

* correct answer
p=0,074

Tab. 5. Knowledge of the surveyed midwives on the drugs that they will be able to order and prescribe

Question	Whole study group n=129	Group 1 n=62	Group 2 n=40	Group 3 n=23	p value in the chi-squared test for comparison of the 3 groups			
					ordering OTC medications	ordering reimbursable medications	ordering drugs, foods for special medical purposes and medical devices *	issuing medications and medical devices as ordered by a doctor
Changes associated with broader professional competences of nurses and midwives will concern:	1 (1%)	0 (0%)	0 (0%)	1 (4%)	0 (0%)	19 (15%)	10 (16%)	1 (4%)
ordering OTC medications	1 (1%)	0 (0%)	0 (0%)	1 (4%)	0 (0%)	19 (15%)	10 (16%)	1 (4%)
ordering reimbursable medications	19 (15%)	10 (16%)	7 (18%)	2 (9%)	0 (0%)	19 (15%)	10 (16%)	2 (9%)
ordering drugs, foods for special medical purposes and medical devices *	71 (55%)	30 (48%)	25 (63%)	14 (61%)	0 (0%)	71 (55%)	30 (48%)	14 (61%)
issuing medications and medical devices as ordered by a doctor	17 (13%)	8 (13%)	4 (10%)	4 (17%)	0 (0%)	17 (13%)	8 (13%)	4 (17%)
I do not know	21 (16%)	14 (23%)	4 (10%)	2 (9%)	0 (0%)	21 (16%)	14 (23%)	2 (9%)
no answer	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

* correct answer
p=0,274

The extension of professional competences of nurses and midwives, which became effective on January 1 2016, has raised controversy, as in other countries where similar changes have been introduced. This issue is addressed by Krozen M et al. [7]. A questionnaire was sent to 20 medical societies, 20 nursing associations and 20 governmental institutions from 10 countries, such as: Sweden, Ireland, Spain, Holland and Great Britain. The most frequently raised concerns included: problems associated with the shortage of medical professionals, legitimization of currently existing practice and reaching patients living far away from medical facilities. The analyses conducted by Krozen et al. [7] and While et al. [8] show that, in Sweden, a training enabling nurses and midwives to prescribe drugs is a part of the primary healthcare specialization course. In Great Britain and Ireland, supplementary training involving drug prescription is offered at the bachelor level. Also, a course on drug prescription is offered as an independent professional development training program at the bachelor level in Finland. Moreover, Gomez et al. [8] claim that extending competences of nurses and midwives results in their greater interest in raising qualifications. In our study, the question about the forms of education necessary for nurses and midwives to independently extend certain prescriptions was answered correctly by 53 respondents. Most correct answers were provided by midwives with the bachelor's degree.

Extending professional competences of nurses and midwives is currently a difficult issue. When analyzing the report of Krozen et al. [7], it can be assumed that other countries have faced a similar problem. Some of them have introduced the criterion of work experience. A nurse and midwife in Great Britain, Finland or Ireland must have at least three-year experience in the clinical practice (in the past 5 years) in order to be able to issue prescriptions.

The preparation of nurses and midwives for prescribing medicines takes place at the master's level and by regular trainings in most countries of Western Europe. This is shown in a review by Davies [10]. In Great Britain, nurses themselves report the need for supplementing their knowledge on pharmacology. Smith S. et al. [11], Cortenay M. [12], Kroezen M et al. [13] and Bawley T. [14] also address the issue of reporting insufficient knowledge on pharmacology by nurses. Davies D. [10] emphasizes that courses for nurses are essential to improve their competences in this respect, and the financial

aspect is a common criterion determining educational weaknesses. Countries such as Sweden or Great Britain address the needs of nurses and allow their further training in the form of e-learning. Great advantages of this method include low cost compared with on-site courses.

The level of knowledge in the surveyed group of midwives was insufficient. Also, a study conducted by Zarzeka A. et al. [5] among charge nurses has revealed that the knowledge about new competences is not satisfactory. Similar studies have been conducted among nurses and nursing students [6]. The results show that the knowledge on the legal changes is general and insufficient.

Despite the lack of knowledge in certain aspects of this issue, the problem should not be generalized. The introduction of changes frequently requires a small-step strategy since only their implementation can show whether or not and to what degree they could improve the healthcare system. Bearing in mind that continuous improvement of qualifications, skills and knowledge is an obligation of each midwife, it is necessary to undertake more intensive educational measures in this area.

This study is not free of limitations. The selection and structure of the study group does not warrant its representativeness for midwives working in the Mazovian region. However, it can provide valuable information for the work associated with improving the system of implementing new competences of midwives to order medications, issue prescriptions and refer patients for certain examinations in Poland.

CONCLUSIONS

1. The knowledge of midwives regarding new professional competences concerning ordering medicines, issuing and extending prescriptions as well as referring patients for certain diagnostic tests is unsatisfactory.
2. Education had no influence on the knowledge regarding new professional competences concerning ordering medicines, issuing and extending prescriptions as well as referring patients for certain diagnostic tests independently.
3. There is a need to update the knowledge of midwives regarding their new professional competences, for example in the form of informative campaigns carried out by the Ministry of Health or self-governing body of nurses and midwives.
4. This study should be continued among midwives working in out-patient health care clinics.

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