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Midwifery Education in Practice

## Multicenter study on midwifery students' attitudes towards abortion and its place in their future practice – Comparison of respondents at early and late stages of the university education<sup>☆</sup>



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## ABSTRACT

Evidence based midwifery education and practice are fundamental to assure high quality care of childbearing women, also with complications. In Poland, midwifery education includes aspects of participation in the abortion. A cross-sectional study was designed to describe the attitudes towards abortion at the beginning and at the end of students' university education. The study was aimed to verify change of attitudes throughout the course of the university education.

Most of the students approved abortion if the pregnancy constitutes a threat to woman's health or life, results from a rape, or whenever the fetus presents with a lethal defect. More than a half did not approve participation in the abortion if the fetus presents with a non-lethal defect. Generally, the acceptance rates were significantly higher among the final year students, but more than a half of them stated, that the abortion-related topics were inadequately addressed in their study curriculum.

That bring to the conclusion that higher rates of abortion acceptance among the final year students, were not necessarily a manifestation of informed approval for this procedure, but rather a form of a "systemic" adjustment. Midwifery program need to be revised to support students in developing informed and evidence-based attitudes toward abortion.

## 1. Introduction

In line with current Polish legislation (effective since 1993), women may undergo legal abortion under three circumstances: 1) when the woman's life or health is endangered by the continuation of pregnancy, 2) when the pregnancy is a result of a criminal act (rape, incest) – up to 12 weeks of gestation, or 3) whenever prenatal findings imply that the fetus may present with a lethal disease or a non-lethal condition that may affect quality of life in future, after "becoming capable to life independently ex utero", which in practical terms means 23–24 weeks of gestation (Act of 7 January 1993 on Family Planning, Protection of the

Human Fetus and Conditions for Pregnancy Termination, 1993a).

Although Poland is a country with one of the most restrictive abortion laws in Europe, the issue is still a subject of emotional socio-political debate, additionally perpetuated by different worldviews and religious attitudes (Michalik and Preis, 2014) (Žuk and Žuk, 2017a) (Mishtal, 2010a) (Zareba et al., 2017). Abortion is not a relatively common procedure in Poland: according to the data of the Ministry of Health, a total of 1044 legal abortions have been performed in 2015; in 2016–1098; in 2017–1061, respectively (Report of the Ministry Council about prosecution and application's results in 2016 of the Act of 7 January 1993 on Family Planning, Protection of the Human Fetus and

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Conditions for Pregnancy Termination, 2018b). It is important to remember, that total size of Polish population approximates 38 million, including more than 9 million women of childbearing age (Demographical Atlas of Poland, 2017). Beyond the official data, according to the estimates, there are 80–150 thousands of illegal abortions every year. (Polish women abortion experience., 2013).

Abortion has been criminalized and stigmatized in the public sphere and in public health care facilities in Poland. It has been pronounced to be morally wrong, legally prohibited and made inaccessible in public hospitals (Chełstowska, 2011a). Only 10% of public hospitals realize the abortion services (The newest data about legal abortion in Poland in 2017, 2018).

Public opinions about the legitimacy of abortion reflect strong polarization of attitudes presented by the participants of the sociopolitical debate. Some groups that classify this procedure as morally wrong, irrespective of the situation, use various media to spread a religion-oriented pro-life attitude; owing that Poland is a state dominated by a single religion having strong influence on state-funded media, this attitude is currently a predominant message (Mishtal, 2010b) (Chełstowska, 2011b) (Žuk and Žuk, 2017b). The vast majority of Polish population adheres to Catholicism (The religious and social involvement of Poles in local parishes, 2011). Church unequivocally precludes abortion, stating that each embryo must be treated as a person from conception. Under such circumstances, academic, medical teachers have a difficult and vitally important task to deal with, not infrequently well pre-established, attitudes of their students, and to provide them with a theoretical and practical knowledge regarding the abortion procedure. Not only this will enable future midwives to fulfill their professional duties towards their patients objectively and independently, but will also support them in making wise decisions whether to perform or refuse the abortion procedure (Steinauer et al., 2003a) (Foster et al., 2006) (Loi et al., 2015) (O'Grady, Doran and O'Tuathaigh, 2016a).

The choice should be informed, because it is crucial to find balance between the woman right to abortion in certain, allowable situations and the particular legal clause attached to laws in Poland, when a healthcare professional is permitted to refuse certain medical services for reasons of conscience or universal values the person follows. The Polish conscience clause applies to some specific cases in which it does not pose a threat to patient's life, including abortion procedure and prescription of contraceptives (Act of 5 December 1996 on Physician and Dentist Profession [in Polish], 1996a) (Act of 15 July 2011 on Nurse and Midwife Profession, 2011a).

Owing these controversies, as well as the ongoing hot debate about the legitimacy of abortion, and constant presence of this topic in public media, midwifery students who begin their university education, already present with some established attitudes towards the problem in question, which is going to be addressed during the course of their studies. At same point in their training, midwifery students will have to find the answer of declared degree of involvement in the abortion.

Based on theoretical and empirical knowledge concerning the performance of abortions in Poland and the functioning of the Polish conscience clause, we hypothesized that a midwife chooses to participate in an abortion at one of the three following levels of involvement:

1. She provides counselling on abortion or refuses to do so;
2. She participates actively in an abortion (administers drugs that stimulate uterine contractions, delivers premature induced labour, assists at curettage of the uterine cavity) or refuses to do so;
3. If the performance of abortion is refused in the specific place, she may indicate another medical facility where the procedure is available, or refuse to do so.

### 1.1. Education of Polish midwifery students with regards to abortion

Midwifery care is central to achieving national priorities and

securing the rights of women. With no midwife involvement, quality of perinatal care drops in every field and is less satisfying for women (Sandall et al., 2016). Thus, professional competencies of midwives are not limited solely to the management of uncomplicated pregnancies; whenever complications occur, a midwife should assist obstetrician during prenatal diagnosis. If a serious lethal condition is diagnosed in the fetus, midwives are involved in decision-making process about the pregnancy outcome. Polish curricula for bachelor (1st degree) and master (2nd degree) programs have been regulated at the national level (Act of 9 Mai 2012 on the Teaching Standards for the Following Fields of Study: Medicine, Dentistry, Pharmacy, Nursing and Midwifery, 2012).

During the 3-year bachelor degree program (including no less than 4720 h of theoretical and practical classes, which corresponds to 180 ECTS credits), each midwifery student should be theoretically and practically prepared for work with woman seeking for abortion and woman with complicated pregnancy. During the education curricula should be prepared to take the informed choice, whether to participate actively in abortion, follow the conscience clause and deny to be actively involved or limit involvement to accepted procedures (e.g. post abortion care, consultation, referral to another facility). Although midwifery graduate programs should cover a broad spectrum of topics including prenatal diagnosis and pregnancy complications, there is no research or feedback, how future midwives are prepared (in their own opinion), for participation in decision-making process regarding abortion and providing care to the woman who decided to continue or terminate their pregnancies.

Midwifery is taught at 11 medical universities in Poland. The universities are located in big cities, usually provincial capitals, and therefore, may cooperate with specialized clinical centers. Obstetrical clinics whereby the students participate in practical classes, offer advanced options of prenatal diagnosis, advise about available treatment options in cases of abnormal fetal development, and conduct the procedures of abortion in accordance with current legislation (Act of 7 January 1993 on Family Planning, Protection of the Human Fetus and Conditions for Pregnancy Termination, 1993c).

The aim of the study was to compare the attitudes of the 1st and final (3rd) year midwifery students (i.e. individuals at the beginning and at the end of their university education, respectively) towards abortion, and to assess changes throughout the course of the studies. Further to this was the objective of identifying the concerns and proposals that the teaching staff had in terms of improving the training in this topic, what is linked with quality of prenatal care for women in very unique area.

## 2. Methods

A cross-sectional descriptive survey, which provided quantitative data was conducted. A structured survey was developed on the basis of previously used instrument (Gleeson et al., 2008a). To begin with, the questionnaire was validated in a group of 10 students to verify if its questions were easily understandable by the respondents and provided researchers with a key information necessary to satisfy the study objectives. Final version of the survey included 20 questions, divided on three sections:

1. Section A. Demographic characteristics;
2. Section B. Religiousness, self-identification with pro-life or pro-choice ethics and Polish law regulations towards abortion acceptance. We met students' religiousness declaration and the degree how they identified themselves with their religion (involvement in religious practices) using 5-time Likert-type scale, where 1. was "I'm not religious and I'm not involved in religious practices", 2. "I'm religious but I'm not involved in religious practices", 3. "I'm religious and moderately involved in religious practices", 4. "I'm religious and frequently involved in religious practices", 5. "I'm

religious and I'm devotedly involved in religious practices”.

The respondents presented their opinions opinion about current Polish abortion law and acceptance thereof using a 5-time Likert-type scale or choosing the response they identified themselves most. Likert scale is a 5-point ordinal scale used by respondents to rate the degree to which they agree or disagree with a statement, where 1 meant Strongly disagree; 2 Disagree; 3 Neither agree nor disagree; 4 Agree and 5 Strongly agree.

We also asked students about their opinion of adequacy of university education with regards to abortion and acceptance of Polish conscience clause.

- Section C. Opinion about possible involvement in abortion in future practice. In section 3 students could make a choice, which activity is acceptable for them: 1. “I can offer an objective consultation and support”; 2. “I can actively perform abortion or assist during the abortion. I can apply drugs, deliver inducted pre term labor or assist during the instrumental procedure of abortion”; 3. “I can point the medical facility, where woman can perform abortion”. Those three choices were possible for different situations: 1. “Participation in abortion when woman's life is endangered by the continuation of pregnancy”; 2. “Participation in abortion if pregnancy results form a rape”; 3. “Participation in abortion if fetus presents with a severe defect”; 4. “Participation in abortion if fetus presents with a lethal defect”; 5. “Participation in abortion if fetus presents with a non-lethal defect that may considerably affect quality of future life, e.g. Down syndrome”; 6. “Participation in abortion if pregnancy is unwanted”.

Each student was handed out a hard copy of the questionnaire in presence of an investigator. A total of 334 out of 450 distributed forms (199 from the 1st year students and 135 from the final year students) were suitable for the analysis, which corresponded to a 74% response rate. All respondents were females with Polish nationality. The study was conducted from September 2016 to December 2016 at three medical universities from various regions in Poland. All the 1st and 3rd year midwifery students were invited to participate in the survey after being familiarized with the study objectives and ensured about anonymous character of the project and their right to access to its results.

Statistical analysis of the results was carried out with Statistica v. 12 packages. The significance of intergroup differences between the 1st and final year students was verified with Pearson's chi-squared test and Student t-test ( $p < 0.05$ ).

### 3. Results

The study group included both the 1st year students who had just started university education ( $N = 199$ ) and the final year students who had completed education and received bachelor's degree along with the license to practice as a midwife ( $N = 135$ ). The majority of the study subjects lived in large cities ( $> 300,000$ ) or in the countryside and considered themselves religious persons (with the vast majority declaring being moderate practitioners). More than 52% of the respondents were unable to reply whether abortion-related topics were addressed adequately in their study curricula, and 37% stated that definitely not (Table 1).

The 1st and final year students differed significantly in terms of their attitudes towards abortion. The proportions of final year students who declared their willingness to participate in the abortion when pregnancy poses a threat to woman's life (71.9% vs. 57.3%) or health (61.5% vs. 36.7%), or results from a rape (59.3% vs. 38.7%) were significantly higher than the respective percentages of the 1st year students. The same referred to declared participation in the abortion when a severe fetal defect is suspected; under such circumstances, the willingness to participate in the abortion was declared by the majority

**Table 1**  
Characteristics of the study subjects.

	1st year (N = 199)	final year (N = 135)	All (N = 334)
Age; mean $\pm$ SD	19.5 $\pm$ 1.6	21.8 $\pm$ 1.09	20.5 $\pm$ 1.8
Place of residence			
City > 500,000	63 (32%)	56 (41%)	119 (36%)
City 200,000–500,000	10 (5%)	14 (10%)	24 (7%)
City 100,000–200,000	6 (3%)	4 (3%)	10 (3%)
Town 20,000–100,000	36 (18%)	25 (19%)	61 (18%)
Town < 20,000	18 (9%)	10 (7%)	28 (8%)
Village	66 (33%)	26 (20%)	92 (28%)
I consider myself a religious person			
Yes	152 (76%)	103 (76%)	255 (77%)
No	47 (24%)	31 (23%)	78 (23%)
Degree of involvement in religious practices			
Non-believers, non-practitioners	23 (12%)	19 (14%)	42 (13%)
Believers, non-practitioners	32 (16%)	22 (16%)	54 (16%)
Moderate practitioners	60 (30%)	49 (36%)	109 (33%)
Frequent practitioners	62 (31%)	35 (26%)	97 (29%)
Devoted practitioners	22 (11%)	10 (7%)	32 (9%)
Abortion-related topic are addressed adequately within the study curricula			
Yes	21 (11%)	16 (12%)	37 (11%)
No	52 (26%)	71 (53%)	123 (37%)
I do not know	123 (63%)	48 (35%)	171 (52%)

(60.7%) of the final year students and only 35.7% of the 1st year students. Similar intergroup differences were also observed for the question about the readiness to participate in the abortion procedure when fetus presents with a lethal defect (72.6% of the final year students and 48.2% of the 1st year students). However, only 4% of the 1st year students and 7% of the final year students stated that they would be ready to participate in the abortion on request (abortion with no medical indications; currently ban in Poland) (Table 2.). Polish conscience clause states, that medical personnel may decline to perform abortion or to be involved into abortion procedure, even on consultation stage, on the grounds that it conflicts with their personal values (Act of 5 December 1996 on Physician and Dentist Profession, 1996b)

**Table 2**  
Attitudes towards various aspects of abortion among the 1st and final year students.

	Yes	No	I do not know	P <sup>a</sup>
Participation in abortion when woman's life is endangered by the continuation of pregnancy				
1 <sup>st</sup> year		60 (30.2)	25 (12.6)	.01
final year	97 (71.9)	31 (23.0)	7 (5.2)	
Participation in abortion when woman's health is endangered by the continuation of pregnancy				
1 <sup>st</sup> year	73 (36.7)	85 (42.7)	41 (20.6)	
final year	83 (61.5)	41 (30.4)	11 (8.1)	.00
Participation in abortion if pregnancy results form a rape				
1 <sup>st</sup> year	77 (38.7)	80 (40.2)	42 (21.1)	
final year	80 (59.3)	36 (26.7)	19 (14.1)	.00
Participation in abortion if fetus presents with a severe defect				
1 <sup>st</sup> year	71 (35.7)	86 (43.2)	2 (21.1)	
final year	82 (60.7)	38 (28.1)	15 (11.1)	.00
Participation in abortion if fetus presents with a lethal defect				
1 <sup>st</sup> year	96 (48.2)	73 (36.7)	30 (15.1)	
final year	98 (72.6)	29 (21.5)	8 (5.9)	.00
Participation in abortion if fetus presents with a non-lethal defect that may considerably affect quality of future life, e.g. Down syndrome				
1 <sup>st</sup> year	35 (17.6)	127 (63.8)	37 (18.6)	
final year	44 (32.6)	67 (49.6)	24 (17.8)	.01
Participation in abortion if pregnancy is unwanted				
1 <sup>st</sup> year	14 (4.19)	165 (49.40)	20 (6.0)	
final year	23 (7.0)	95 (82.9)	17 (10.1)	.02

<sup>a</sup> Pearson's Chi Squared Test.

**Table 3**  
Attitudes of the 1st and final year students towards abortion under various circumstances.

	1 <sup>st</sup> year		final year		t <sup>a</sup>	p
	M	SD	M	SD		
Satisfaction with the way abortion-related topics are addressed in the study curricula	2.52	0.72	2.24	0.65	3.71	0.00
Fetus is a person	2.07	1.28	2.37	1.33	−2.07	0.04
Human life starts from conception	1.99	1.34	2.38	1.47	−2.46	0.01
Each woman has a right to decide about her pregnancy outcome	1.75	1.10	1.87	1.22	−0.98	0.33
Unborn children are adequately protected by law	2.89	1.17	2.36	1.30	3.95	0.00
Current legislation provides women with an adequate freedom of choice	3.28	1.35	2.96	1.49	2.00	0.05
Mothers and fathers have an equal right to decide about the pregnancy outcome	2.83	1.31	2.90	1.33	−0.51	0.61
Acceptance of Polish conscience clause	2.01	1.39	2.26	1.52	−1.54	0.12

<sup>a</sup> Student's *t*-test.

(Act of 15 July 2011 on Nurse and Midwife Profession, 2011b).

The study groups did not differ significantly in their opinion that each woman has a right to decide about the outcome of her pregnancy, and that both mothers and fathers have equal right to participate in the decision-making process. Furthermore, no significant intergroup differences were observed with regards to the acceptance of Polish conscience clause.

The final years students were significantly less often satisfied with the way abortion-related topics were addressed in their study curricula, but showed more acceptance for abortion. Additionally, being already involved into medical practice, abortion related topics included, this group more frequently declared that under current Polish legislation, pregnant women have a sufficient freedom of choice regarding the outcome of their pregnancies. In turn, the group of the 1st year students included significantly larger proportion of respondents who believed that fetus is a person, human life begins from conception, and Polish legislation provides adequate protection of unborn children (Table 3), what identify this group more with “pro-life” ethic then the final year students group. This change in attitudes during the midwifery study curricula is observable.

#### 4. Discussion

To the best of our knowledge, our work was the first Polish multicenter study to analyze the attitudes of midwifery students towards abortion; we hypothesized, that the 1st and final year students differ in their opinions in this matter, and that this intergroup difference is at least partially influenced by the study curricula. Aside from supervising uncomplicated pregnancies, midwives should also provide care to women with an unfavorable prenatal diagnosis, and whenever necessary, participate in the procedure of abortion. Confrontation of personal attitudes driven by one's system of values (ethics of justice) with the attitudes enforced by professional obligations towards patients (ethics of care) may create moral dilemmas and conflicts at a workplace (Klingberg-Allvin et al., 2007a). Social pressure and the sense of acceptance of abortion or the lack of it in the individual's professional and personal environment, are also described as strong determinants of attitudes towards abortion among future midwives. Considering the problem from a broader perspective, based on the previously described and validated models of undertaking or refraining from concrete actions, the feeling of social support in a particular situation is one of the main factors influencing the final decision of an individual. Our findings, documenting changes in the attitudes of students surveyed at the beginning and at the end of their university education should constitute a form of guideline for the decision-makers who define theoretical and practical study curricula for midwifery students, especially with regards to abortion.

The vast majority of Polish population adheres to Catholicism which was also reflected in our sample; approximately three-fourths of surveyed students declared being religious persons, and most of them described themselves as “moderate religious practitioners”. Church

unequivocally precludes abortion, stating that each embryo must be treated as a person from conception. Most previous studies demonstrated a direct link between religiousness and lesser acceptance of abortion, not only in general population but also among medical professionals (Musgrave and Soudry, 2000) (Gleeson et al., 2008b) (Ostrowska et al., 2016) (Murphy et al., 2012) (O'Grady, Doran and O'Tuathaigh, 2016b) (Aitken et al., 2017a). We assumed that attitudes to life and religiousness directly affect the acceptance or disapproval of abortion (in all situations or depending on the indications), which directly influences the professional functioning of future midwives. Our goal was also to answer the question whether midwifery students accept the potential direct involvement (as part of their future professional duties) in the abortion procedure and whether it is in line with their personal views on abortion. Only 4% of the 1st year students, and no more than 7% of the final year students who completed our survey stated that they would participate in abortion procedure in a situation when pregnancy is not accepted by the women and is to be terminated solely on her request. This statement represents a purely “pro-life” attitude. The results of similar European studies conducted in other countries are quite contradictory. For example, up to 62% of medicine students from the UK stated that they would accept abortion procedure as a part of their future practice (Gleeson et al., 2008c). Also approximately 60% of medicine students from Ireland had no reservations to perform abortions (Fitzgerald et al., 2014a) (O'Grady, Doran and O'Tuathaigh, 2016c). Essentially similar results were also reported by researchers from other countries (Steinauer et al., 2003b) (Rominski et al., 2017a). Compared to these data, the proportion of Polish female midwifery students who declared their acceptance for abortion on request is dramatically low. Markedly more respondents would accept abortion, or even participate in the abortion procedure under the exceptional circumstances specified in Polish law, i.e. whenever the woman's life or health is endangered by the continuation of pregnancy (36% and 61% of the 1st and final year students, respectively), pregnancy is the result of a rape (38% and 59%, respectively), or fetus presents with a lethal defect (48% and 72%, respectively). However, the percentage of students who would participate in abortion of the fetus with a non-lethal defect, e.g. Down syndrome, was markedly lower (17% and 32% of the 1st and final year students, respectively). Noticeably, the most common indication for abortion in Poland is a lethal defect in the fetus or a non-lethal defect with an impact on the quality of future life, e.g. Down syndrome (Michalik and Preis, 2014). Importantly, approximately 20% of the 1st year students replying this question chose a response “I have no opinion”, which seems to be a vital guideline for their teachers.

Greater acceptance of the final year students for abortion under the three specific circumstances mentioned above implies that experience gained throughout the course of the studies and direct contact with patients subjected to the abortion procedure, may promote a reversal towards the ethics of care (Klingberg-Allvin et al., 2007b). However, the acceptance of abortion among either the 1st or final year students decreased dramatically when no medical indications existed to this

procedure. This observation is consistent with the results of previous studies conducted among other groups of healthcare professionals: general practitioners, nurses and midwives (Musgrave and Soudry, 2000) (Gleeson et al., 2008d) (Murphy et al., 2012). Furthermore, declared acceptance of midwifery or medicine students for abortion does not necessarily corresponds to the readiness to perform the procedure (Gleeson et al., 2008e) (Fitzgerald et al., 2014b). The 1st and final year students participating in our survey did not differ significantly in their acceptance rates for the Polish law permitting healthcare professionals to refuse certain medical services for reasons of conscience (i.e. the so-called conscience clause).

Moreover, our study documented a difference in the attitudes towards abortion presented by the 1st and final year students; the 1st year students significantly more often agreed with the statement that embryo must be treated as a person from conception. Available evidence suggests that in countries where abortion is a controversial topic or a kind of social taboo, midwives need to find a balance between the desire to provide professional care for their patients, and social, cultural and political pressure resulting from the lack of acceptance to certain medical procedures (Klingberg-Allvin et al., 2007c) (Nieminen et al., 2015) (Holcombe et al., 2015) (Rominski et al., 2017b). A study examining attitudes towards abortion among Irish medicine students demonstrated that most of the respondents who stated against abortion on request, recognized human embryo as a person. Moreover, 21% of the study subjects pointed to their religiousness as a principal argument for the abortion ban (Fitzgerald et al., 2014c) (at the time of the study).

More than a half of the study subjects (including a considerable proportion of the 1st year students) were unable to reply unequivocally if the abortion-related issues have been adequately addressed in their study curricula, and 37% of the respondents (especially the final year students) claimed that they were not. During the course of their education, students require a support from experienced teachers who should assist them in establishing their own attitudes towards abortion. Instrumental participation in this procedure, being a result of an “adjustment” rather than understanding of values driving persons who perform abortion or refuse this procedure, as well as the motivation of pregnant women who want to legally terminate their pregnancies, may easily lead to job burnout and lack of identification with the midwife's profession (Begun et al., 2017). The fact that nearly one-fourth of surveyed students emphasized that they are not adequately prepared to the practice in this matter should motivate their teachers to verify the effects of education. Students from Ireland, a country with complete ban on abortion (at the time of the study), clearly stated that the abortion-related topics are inevitable component of their study curricula (Fitzgerald et al., 2014d) (O'Grady, Doran and O'Tuathaigh, 2016d) (Aitken et al., 2017b).

One potential limitation of this study may stem from the fact that the opinions presented by the 1st and final year students might be highly subjective and showed considerable variability. To eliminate this potential source of bias, the sample of the 1st year students participating in this study will be resurveyed again at the end of their university education.

The vast majority of Polish midwifery students were against active participation in the abortion on request (with no medical indications). Most Polish students approved active participation in the abortion if the pregnancy constitutes a threat to woman's health or life, results from a rape, or whenever the fetus presents with an established lethal defect. The acceptance rate increased considerably throughout the course of the studies; compared to the newly admitted students, graduates more often approved abortion and more frequently declared their willingness to participate in this procedure if the pregnancy threatens women's life, results from a rape, or if the fetus presents with a lethal defect. Alarmingly, more than a half of the final year students stated that the abortion-related topics were inadequately addressed in their study curricula. This implies that higher rates of abortion acceptance in this group were not necessarily a manifestation of informed approval for

this procedure, but rather a form of a “systemic” adjustment to professional duties. This in turn suggests that the study objectives need to be revised to maximize satisfaction of the students and to fully satisfy their needs. More than a half of Polish midwifery students did not approve active participation in the abortion if the fetus presents with a non-lethal defect having a considerable impact on future quality of life, e.g. Down syndrome. However, this indication is the second most common cause of legal abortion in Poland. This implies that during the course of their education, Polish students dealt primarily with women who decided to terminate their pregnancies due to this particular indication. Due to high level of disapproval for abortions performed due to this indication, future midwives may experience a conflict of values and put into question decisions undertaken by their patients. This is another aspect in which students should receive additional support from their teachers.

The attitudes of midwifery students to abortion described in our study are a reflection of social trends concerning this phenomenon in Poland. Stigmatization and far-reaching reservedness are reflected, as has been proven, also in the group of future midwives who will be responsible for the quality and access to this procedure in perinatal care. This is confirmed by the revealed paradox: statistical data show that abortion is the experience of every third woman (Polish women abortion experience., 2013), while officially access to abortion is very limited and professionals declare a far-reaching reservedness towards this procedure. Post-abortion care does not exist and there is no data on the functioning of women after abortion.

It is worrying that midwifery students are not provided with sufficient knowledge concerning practical and theoretical aspects of termination of pregnancy. This refers in particular to the near-graduates, who are about to start their professional career. Students are not prepared to make an informed choice concerning their own involvement. It is likely that they will have to face a painful, problematic confrontation with their workplace, where abortion procedures are performed. They will also worry about the quality of the perinatal care and women's problems with access to evidence based midwifery care. It turns out that theoretical and practical education at midwifery field of study modifies the attitudes of future midwives to abortion only to a limited extent. This conclusion is a significant challenge for educator at medical faculties.

## Conflicts of interest

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