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### *Attitudes of young doctors from eastern and western areas of Poland*

It is recognized and many voices are raised in the newest publications that for appropriate fulfilling of his duties, a doctor – besides technical medical education and skills – should possess specified attitudes making him acceptable in relations with patients, colleagues and other health-care workers (5). Conscious, planned forming of attitudes during studies is set as an important objective of medical education. However, there is controversy about whether attitudes can be taught (1, 8). May be a professional profile of a doctor is carved by parents starting from childhood and then altered in processes of building moral imperatives in adolescence and can not be changed later, during professional education. By such readings an idea was born of searching what social and economical factors, properties of home and faith characterize young Polish doctors and if they have any connection with feeling of being matched with a profession and desire of work in it.

The separate problem is anxiety about the future in the profession. In Poland doctors get bad remuneration both in relation to GNP *per capita* and in relation to average income of persons working in other professions. Average yearly income of a doctor makes 1.8 GNP *per capita*, when in Germany 2.0, France 2.2, Great Britain 3.1, Canada 4.5. Average Polish doctor's income is smaller than income in other professional groups, whereas in other countries doctors are somehow privileged in societies, except Norway (4). Also prestige of the profession is in decline which causes frustration and applying for a job abroad.

For women the choice of doctor's profession ignites conflicts with a role of mother, which often obstructs career (9). At the same time a Norwegian author shows a positive influence of gender balance in doctor's profession on the quality of medical service in Scandinavia (3). In British publications it can be found that specific hospital professional culture is emerging that demands renouncements in personal and family life that frustrates many doctors (2).

The next stressor – perhaps prevailing in Eastern and Middle Europe – is inappropriate work organization. Polish and Czech surveys point out that numerous reforms of routines, lack of resources in the systems and insufficiency in interpersonal communication abilities stress more than responsibility for a patient (7, 10). At last we notice global changes in the role of doctors in health care systems that influence individuals (6).

It can be supposed that doctors just beginning their career are not conscious of all problems they will have to face in the future. In spite of this we can not neglect what they feel about the future in the profession. We hope that results of our surveys will become an inspiration for Minister of Health and Members of Parliament.

The objective of the study was to prove if doctors from two distant Polish regions who work the first year in the profession (obligatory traineeship in Poland) differ with respect to the level of psychological motivation to work in the profession and anxiety about the future in the profession. Also differences in social and economic factors, factors related to bringing up and attitude to religion were investigated.

## MATERIAL AND METHODS

A survey form was built for this study and anonymously filled by 286 young doctors: 192 having obligatory traineeship under the governance of Lower Silesian Doctor's Chamber in Wrocław (Western region of Poland) and 94 under governance of Lublin Doctor's Chamber (Eastern region of Poland). Nearly 100% of forms were returned.

1. Questions that allow to recognize social and economic situation during school education and studies were separated as well as those revealing attitude to religion and recollection of doctor's ideals. Analysis of answers was done aiming at verification of hypothesis "representative groups of young doctors from Eastern and Western Poland do not differ in informal contacts from doctors before studies, social and economic situation, having life partner, attitude to religion and recollection of professional ideals." Chi square test was used.

2. Numerical analysis of attitudes to statements (answers grading 1–2–3–4–5) supposed to be indicators of desire of working as a doctor (DESIRE) and anxiety about the future in the profession (ANXIETY) was carried out. A list of statements diversifying doctors in values of DESIRE and ANXIETY was verified by factor analysis with rotation Varimax. Statements proved to pass examination (got highest loads on respective factors called DESIRE and ANXIETY). On that base two synthetic indicators of DESIRE and ANXIETY were built. The following hypothesis was verified: "Doctors from Eastern and Western Poland do not differ in desire to work in the profession and anxiety about the future in the profession."

3. Multivariable data on all 286 doctors had undergone statistical grouping (tree clustering and k-means clustering). These methodology allowed to divide doctors into four groups showing internal resemblance. Groups were characterized and frequency of appearance of doctors from East and West in each group was analyzed as well as frequency of appearance of women in each group. Calculations were done with STATISTICA 6 software as a tool.

## RESULTS

We looked for indicators describing gender, parents traits, economic status, faith in God and recalling of ideal (model) doctors met in life that differentiate young doctors from Eastern (Lublin) and Western (Wrocław) regions of Poland. It was found that of all the investigated indicators only frequency of practising religion significantly differentiates regional groups.

Distribution of the indicator of desire for doctor's work (DESIRE) is asymmetrical and significantly differs from normal (Shapiro-Wilk test  $W=0.9066$ ,  $p=0.0000$ ,  $McWRO=83.3$ ,  $MeLUB=86.6$ ). Differences between regions are not significant (Mann-Whitney U test,  $p=0.27$ ). DESIRE is in fact an indicator of an expressed tendency for quenching certain internal needs of helping others and is expected to have positive correlation with internal motivation to work in the doctor's profession that is not measurable. Values of this indicator are significantly higher in female doctors, both in the whole investigated group and in regions separately.

Distribution of the indicator of anxiety about the future in the profession slightly differs from normal (Shapiro-Wilk test  $W=0.9900$ ,  $p=0.0557$ ). There is no justification for claiming difference between regions (U test,  $p=0.0619$ ), though values in Lublin (East) are somehow higher.

By means of statistical grouping (based on answers showing the relation to 43 statements) four characteristic groups of doctors were separated. Persons who were gathered in Group 4 (66 cases, that is 23% of the examined, 24% of Western, 21% of Eastern doctors – no significant difference) were characterized by the lower indicator for desire to work in the profession. They showed (p from Student test in parentheses) a higher tendency to leave their profession than others ( $p=0.0000$ ); attending patients was more stressing for them ( $p=0.0000$ ). They had lower religious motivation to attend patients ( $p=0.0005$ ), showed a weaker belief that they were able to keep balance between professional work and family life ( $p=0.0006$ ). Gaining medical knowledge and making use of it gave them less satisfaction ( $p=0.0000$ ); they were to a lesser extent interested in discussions on ethical issues; they believed that they put less work in medical studies ( $p=0.0000$ );

they had lower opinions of their own knowledge and professional skills ( $p=0.000$ ), more often felt depression ( $p=0.0000$ ) and doubted to fit the profession ( $p=0.0000$ ).

Table 1. Investigated factors that could affect doctor's attitudes

Factors	Wroclaw (Western Poland)	Lublin (Eastern Poland)	Does statistically significant difference occur? (chi-square test)
Gender	44% males	33% males	lack of statistically significant difference
Country of childhood	97% Poland	95% Poland	lack of statistically significant difference
At least one of parents has university education	74% answers yes	74% answers yes	lack of statistically significant difference
One or two parents are doctors	19% yes	21% yes	lack of statistically significant difference
Has a doctor among close relatives	39% yes	41% yes	lack of statistically significant difference
Had social relations with doctors before medical studies	38% yes	43% yes	lack of statistically significant difference
Became a doctor because family insisted	67% answers no	67% answers no	lack of statistically significant difference (Student test)
Medical studies were first studies	81% yes	88% yes	lack of statistically significant difference
Studied more than half a year abroad	7% yes	10% yes	lack of statistically significant difference
Number of languages spoken	87% (2 or 3) 5% (4 or 5)	85% (2 or 3) 6% (4 or 5)	lack of statistically significant difference
Reads much non-medical literature	66% yes	54% yes	lack of significant difference, $p=0.0553$
Has a partner in life	67% yes	75% yes	lack of statistically significant difference
Material conditions in childhood and adolescence	93% very good or good	93% very good or good	lack of statistically significant difference
Uses financial support of family to crucial extent	50% yes	45% yes	lack of statistically significant difference
Intends to work abroad in the EU	49% yes	27% yes	significantly more often in Wroclaw, $p=0.0012$
Believes in God	94% yes	97% yes	lack of statistically significant difference
Is praying often	51% yes	78% yes	significantly more often in Lublin, $p=0.0000$
Follows religious observances	59% yes	78% yes	significantly more often in Lublin, $p=0.0016$
Recalls ideal of attitudes of doctors met among academic teachers	82% yes	80% yes	lack of statistically significant difference
Recalls ideals of doctor's attitudes met while being a patient	35% yes	37% yes	lack of statistically significant difference
Recalls ideals of doctor's attitudes met during traineeship after studies	69% yes	76% yes	lack of statistically significant difference
Recalls ideals of doctor's attitudes from the literature or other media	37% yes	49% yes	significantly more often in Lublin, $p=0.0523$

The connection between belonging to Group 4 and factors listed in Table 1 was investigated. Belonging to Group 4 correlated significantly only to non-practising religion ( $p=0.01$ ) and non-reading of literature ( $p=0.00$ ) but did not show any connection with: university education of par-

ents, receiving financial help from parents, having life partner, having a doctor neither among parents nor among relatives, bringing up received abroad. Mean notes for studies were little lower (in both regions) in Group 4 than in other students, but the difference was not significant.

Each of groups 1–2–3 had its features. Table 2 lists attributes significantly discriminating groups (ANOVA and Student tests). It should be kept in mind while interpreting this table that all the groups consist of doctors positively disposed towards doctor's profession and lower diligence does not mean low diligence but the lowest value of the respective indicator in the three compared groups. The most distinct and suggestive was Group 2. It was featured by attributes particularly predisposing to professional career. The choice of profession was in this group enhanced by family more often than in members of other groups ( $p=0.0000$ ).

Table 2. Features of Groups 1, 2, 3 significantly discriminating the group from others

Features of Group 1	Features of Group 2	Features of Group 3
	"combative", challenging spirit	fears about the future, sensitivity
Optimism – lack of anxiety		highest level of anxiety
The lowest criticism in respect to the system and the world	high criticism in respect to the system	
Low level of engagement in discussions	vivid engagement in discussions on ethical issues	
	"own", original opinions – tendency to disrespect rules	
Lower sense of work input in studies	diligence (laboriousness)	
	good organization of life	
	assertiveness	
	high ambitions	
Lower sense of having broad interests	broad interests, extensive reading of literature	

Table 3. Young doctors splitted into four groups in Western and Eastern Poland

	Group 1	Group 2	Group 3	Group 4
Percentage of Lower Silesian doctors (West)	31%	21%	24%	24%
Percentage of Lublin doctors (East)	17%	27%	35%	21%
Difference in frequencies observed (chi-square test)	significant difference $p=0.0105$	lack of significant difference	significant difference $p=0.0476$	lack of significant difference

Distribution of doctors into four groups was inspected in both regions. There were no significant differences (Table 3) in the frequency of assignment to Group 2 (most valuable professional attributes) and to Group 4 (least valuable professional attributes) between regions. Also percentage of female doctors in these groups was not significantly different (Table 4).

Table 4. Percent of female doctors in western and eastern regions

	Group 1	Group 2	Group 3	Group 4
Percentage of Lower Silesian doctors (West)	34%	18%	25%	23%
Percentage of Lublin doctors (East)	15%	21%	47%	18%
Difference in frequencies observed (chi-square test)	significant difference p=0.0060	lack of significant difference	significant difference p=0.0047	lack of significant difference

## REMARKS

Backing for thesis that doctors' attitudes are of crucial value in their professional work and that attitudes should be measured can be found in the literature – irrespectively to the author's view on the issue of the possibility of altering attitudes by university education (5). Methods applied in this study did not allow to detect differences between groups of young doctors from distant regions of Poland, who had been brought up differently and then educated at different medical universities. Higher anxiety about the future was expected in women but it was not confirmed. It remains an open question if distant Polish medical universities form students' attitudes so similarly or if they do not alter at all attitudes of candidates who enter the faculty. It cannot be excluded that family home, formation of personality adolescence and autoselection during the process of choice of the direction of studies had formed doctor's attitudes in candidates before they started professional education, some of them made very good doctors.

## CONCLUSIONS

1. Young doctors from Eastern and Western Poland compose internally differentiated groups with respect to attitudes but differences between these regional groups with regard to their desire for work in the profession, anxiety about the future in the profession, percent of doctors showing most valuable attitudes and least valuable attitudes are not significant.

2. As to social, economic and religious indicators, there are no significant differences between groups of young doctors from Eastern and Western Poland with respect to: university education of parents, percentage of doctors among parents and relatives, economic situation, having partner in life and recalling ideals of doctor's attitudes met in their lives. Doctors from Eastern Poland, most of whom studied in Lublin, practice religion significantly more often than their colleagues from Western Poland. Doctors from Lower Silesia (Western Poland) significantly more often plan to work (short of long time) in EU countries. It relates to half of them.

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### SUMMARY

A group of 286 young doctors from eastern and western regions of Poland were anonymously surveyed with our own form during their 13-month obligatory traineeship following medical studies. Attitudes to 86 statements were measured. The groups from the two regions do not show significant differences with regard to education of parents, relations with doctors before studies, economic situation, having life partner and recalling their ideals of doctor's attitudes. Doctors from Eastern Poland follow religious observances significantly more often and doctors from Western Poland more often think seriously about looking for work in the European Union – it regards half of them. Factor analysis and statistical agglomeration led to dividing doctors into four groups of different personalities and attitudes. Doctors – trainees from Eastern and Western Poland are diversified as regards motivation to work and anxiety about the future in the profession but there are no significant differences in the level of professional motivation, anxiety about the future in the profession, percentage of doctors showing most valuable attitudes and least valuable attitudes in the profession (gender is not a predictive factor of attachment to these groups).

### Charakterystyka postaw lekarzy stażystów ze wschodniej i zachodniej Polski

Własną ankietą zbadano 286 młodych lekarzy, odbywających staż w Dolnośląskiej Izbie Lekarskiej we Wrocławiu i w Lubelskiej Izbie Lekarskiej. Badania były anonimowe. Grupy lekarzy stażystów ze wschodniej i zachodniej Polski nie różnią się pod względem wykształcenia i zawodu rodziców, elementów wychowania, sytuacji ekonomicznej, posiadania partnera życiowego i świadomości napotykania żywych wzorów postawy lekarza. Lekarze ze wschodniej Polski są istotnie częściej osobami praktykującymi religijnie. Lekarze z Dolnego Śląska istotnie częściej poważnie myślą o wyjeździe do pracy za granicę. Dotyczy to około połowy z nich. Analizowano stosunek do 86 stwierdzeń za pomocą analizy czynnikowej i analizy skupień. Porównania wykazały, że lekarze stażyści ze wschodniej i zachodniej Polski stanowią zbiorowości wewnętrznie zróżnicowane pod względem poziomu motywacji do pracy w zawodzie lekarza oraz poziomu lęku o przyszłość w zawodzie, jednak brak między tymi zbiorowościami różnic co do poziomu motywacji, lęku o przyszłość, odsetka lekarzy o najlepszym profilu postawy, odsetka lekarzy o najmniej wartościowym profilu postawy.